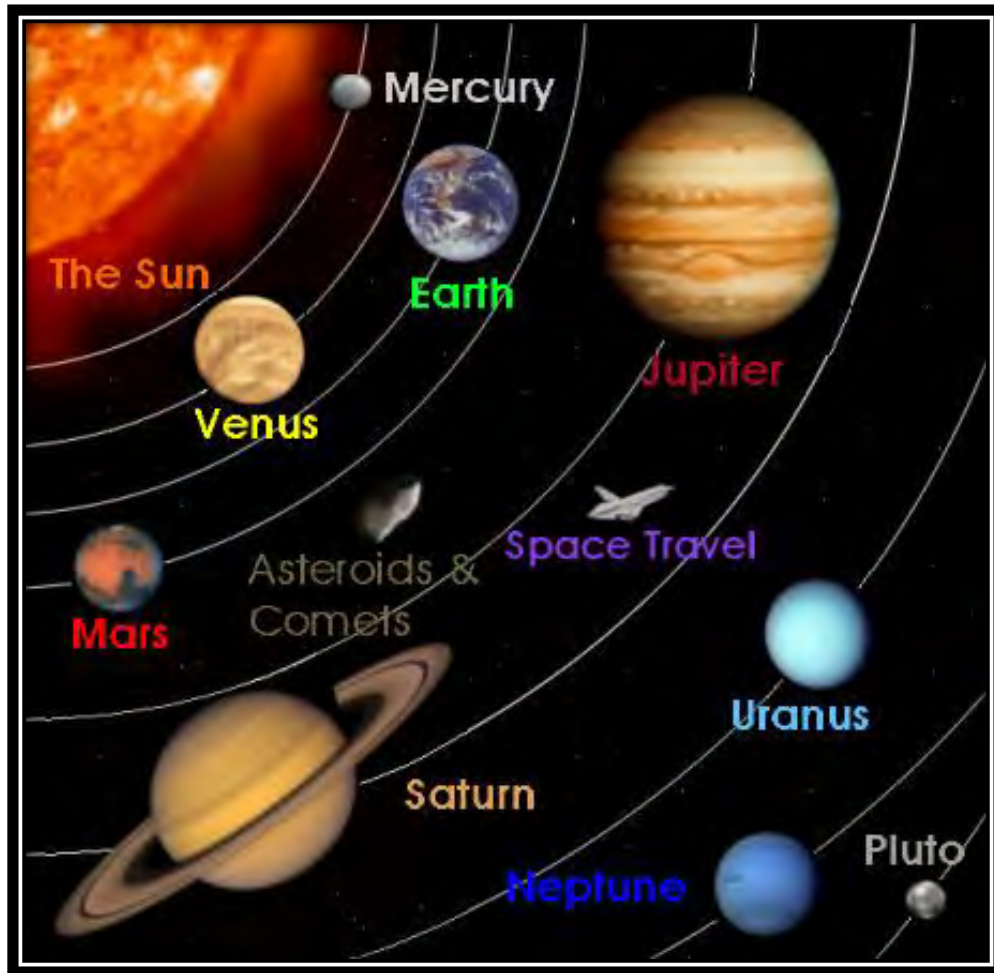


Lesson Title: The Solar System

Subject: Science and Art

1st Grade



March 21, 2012

Created By: Erica Nation, Marissa Whitman, Cyley Wytko, Sara Houser, Adam Pearce & Katie Bond

Title of lesson: Science in Space

Subject: Space

Grade: 1-4

Authors: Katie Bond, Sara Houser, Erica Nation, Adam Pearce, Marissa Whitman, and Cyley Wytko

Paragraph for the unit: All of our units center on space science. We hope to inspire students to be more interested in science and take pride in the things they create. For the first lesson created by Katie Bond, students will role play planets in the solar system as well as draw and find facts about their given planet. The second lesson plan by Sara Houser consists of students journaling the phases of the moon and sharing their journal findings with their peers. The third lesson plan by Erica Nation involves students making clay models of all the planets, making sure they understand the physical appearance of all the planets in the solar system. For the fourth lesson plan by Adam Pearce he has created a lesson where students demonstrate the universe through role playing the paths the planets take and their relation to the sun. The fifth lesson plan was created by Marissa Whitman and she has students researching all the planets in the solar system until they determine their favorite, once they pick a favorite planet they will paint that planet on a foam ball. The sixth and final lesson plan by Cyley Wytko allows the students to create a brochure of planet earth in order to convince extraterrestrials that it is the best planet in the solar system to visit. All these lesson plans were created with diligence and hard work in order to provide quality lessons to teach our future students.

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Instructional Plan

Revised 3/2/2011

Teacher Candidate: Katie Bond **Date:** 3/21/12
Cooperating Teacher: Mrs. Pollestead **Grade:** 2nd
School District: Pullman **School:** Jefferson Elementary School
University Supervisor: Pauline Sameshima
Unit/Subject: Art
Instructional Plan Title/Focus: Planet Rotation: Bringing the Solar System to Life

Learning Targets/Purpose/Previous Learning

- a. **Instructional Plan Purpose:** This instructional plan will help students gain an understanding of the solar system planets, as well as their rotation around the sun. This lesson involves having the students learn about their respective planet, draw and color their planet, and understand the rotation of it around the sun. The students will then be involved in a role play that demonstrates the universe and its connection to the sun. This will teach the entire class different aspects of each planet, and serve as a solid understanding for how the planets revolve around the sun.
- b. **State Learning Standards:**
Science:
EALR 1:2-3 SYSA A system is a group of interacting parts that form a whole
2-3 SYSB A whole object, plant, or animal may not continue to function the same way if some of its parts are missing
EALR 2: 2-3 INQE Models are useful for understanding systems that are too big, too small, or too dangerous to study
EALR 4: Earth is a spherical shape. It spins on its axis and orbits the sun.

Art:
EALR 2: The student uses the artistic processes of creating, performing/presenting and responding to demonstrate thinking skills in dance, music, theatre and visual arts.
2.2 Applies a performance and or presentation process to the arts
- c. **Content Objectives:**
SWBAT describe and explain one of the eight planets and what its physical properties are
SWBAT explain how the planets revolve around the sun
SWBAT understand the terms revolve, orbit, and rotation
- d. **Language Objectives:**
SWBAT use terms such as orbit, rotation, and revolution to describe the planets movement around the sun.
SWBAT use an artistic process and apply it in a role play performance with the planets revolving around the sun
- e. **Previous Learning Experiences:** The students will have already had a lesson on the eight different planets, and been given a chance to research their planet of choice. They have then been able to draw their planets using what they learned about their physical properties.

Assessment Strategies

Attach questions, worksheets, tests or any additional documentation related to your assessment strategies. Also attach appropriate marking rubrics, criteria lists, expectations, answer keys, etc.

- **Formative:** measures process/progress toward mastery of target(s)
- **Summative:** measures outcomes/achievement of target(s)

Content Objectives	Assessment Strategies
Describe and explain one of the eight planets, and what its physical properties are	Formative: The teacher will check on the student's drawings of the planets during the process, making sure they are correctly drawn and their physical properties show. Summative: The students will share their drawings and two interesting facts in front of the class.
Explain how the planets revolve around the sun	Formative: The teacher will explain this during the role play.

	Summative: Students will get to write in their science journals at the end of the lesson to show what they have learned.
Understand the terms revolve, orbit, and rotation.	Formative: The teacher will introduce these terms, and write down what they mean during the role play. Summative: The students will be given a short review about these terms and one thing they learned during this project.

Student Voice:

K-12 students will:	Student-based evidence to be collected (things produced by students: journals, work samples, projects, papers, etc.)	Description of how students will reflect on their learning
1. <i>Communicate the learning targets and their progress toward them.</i>	Students will write in their journals	The students will write what they want to learn, and one question they have about the planets rotation around the sun.
2. <i>Communicate the relationship between the assessment and the learning targets.</i>	Students will participate in a role play	The students will participate in a role play outside, where they will be guided by the teacher to represent their own planets, and learn about what a revolution and orbit is.

Grouping of Students for Instruction

- This lesson is specifically made so all students can participate. The teacher will make sure that there is an even amount of children doing each planet. Once the teacher places the children in their separate orbits, and shows them what a revolution is, the next set of children will come and be placed by the teacher so that all the children have a chance to partake and can also watch so they gain a solid understanding. If there is a child in a wheel chair, the teacher will make sure that the lines are far enough apart for them to still be able to rotate around the sun, or they could practice being in the middle to be the sun. Any other child with special needs could also have this task of being the sun that the planets rotate around.

Learning/Teaching Experiences

- Introduction:** Have any of you ever wondered what is going on up there in our Solar System? Well today we are going to make the solar system come alive by role playing what happens when the planets rotate! Now, how many of you are familiar with the planets? Let's name them all!
 - Students will be asked before the unit to draw upon experiences that they have had about any planets they are interested in or know something about. I will then explain that we will be learning about the planets and their orbits around the sun.
- Questions:**
 - At the beginning of the class discussion we are going to have a piece of white construction paper to write on, and the teacher will ask the children, "Now, who can tell me one of the eight planets we have in space?"
 - Does anyone know what happens in space? What do the planets do?
 - Does the sun play a role in the planets? Does it move?
 - Who can define the words rotate? Orbit? How about revolve? Write it down in your journal if you know.
 - What have you learned so far that you didn't know?
- Learning Activities:**
 - We will have a class discussion about each of the eight planets, and the sun. The children will talk about what they know about each planet.
 - The teacher will then assign each child a planet to research from the website, <http://kids.nineplanets.org/intro.htm>, and tell the children that they will need to know two facts about their planets to share.
 - Each child will be given a piece of thick construction paper to draw their planet. They will cut their planet out with scissors and label the name on the back.
 - After the planets are drawn, each group of planets will shortly explain their two facts to the class and show their drawing.
 - The class will then move outside, or to the gym, and the teacher will take the chalk and mark eight paths to show the planets.
 - Each child will be placed, by the teacher, in their respective spots. The teacher will have any extra students gather around to watch, and one lucky student will get to stand in the middle and be the sun.

7. The teacher will need to be sure that each planet is in its correct place and has the correct name. The children will hold up their planet name to be sure when the teacher asks.
8. We will start the role play by having the children walk in their path around the sun, which is called an orbit. The teacher has to stress that the planets never leave their own orbits.
9. Once each “planet” has walked around the sun once, the teacher needs to stop the children and explain that this is called a revolution, when the planet goes in a full circle around the sun. Bring in the concept of “rotation”, while the children are moving around the sun tell them that they can start spinning (like tops) which is called rotation.
10. Explain to the children that it takes one year for the earth to revolve around the sun. Ask them to tell you what revolving is one more time as well.
11. Point out that rotation is spinning on one’s own axis takes less time than a revolution.
12. Once the children are done, and each has been given a chance to rotate with their different planets around the sun they will return to the class.
13. The students will be given a review worksheet to see what they have learned.
14. The students will be prompted to write in their journals about their experiences, what they liked and what they didn’t like about the project.

4. Instructional Considerations:

- a) Instructional procedures:
 - I. Teacher will introduce lesson and facilitate discussion (audio)
 - II. Teacher will assign students with planet go over what they need to research by showing them the website (audio/visual)
 - III. Teacher will show the students what the drawn and cut out planets will look like (audio)
 - IV. Teacher will let students work on planets by drawing and cutting them out (audio/visual/haptic)
 - V. Teacher will have students role play their planets rotation around the sun with the class (audio/visual)
 - VI. Teacher will give a review worksheet to the children (visual)
 - VII. Teacher will have students write in their journals about their experiences (visual)
- b) Multiple means of access:
 - I. Teacher will present project through class discussion.
 - II. Teacher will present assignment using a visual model
 - III. Teacher will present a planet by modeling their own with a verbal instruction.
- c) Multiple means of engagement:
 - I. Students will participate in facilitated discussion
 - II. Students will draw planets and find two facts about it
 - III. Students will present work to class
 - IV. Students will complete review worksheet
 - V. Students will role play their planets rotation around the sun
- d) Multiple means of expression:
 - I. Students will write in their journals to demonstrate understanding
 - II. Students will complete review worksheet to show understanding of the project
 - III. Students will show learning by correctly rotating around the sun, and being active in the role play of the solar system
 - IV. Students will show learning by getting two facts about their planet, and sharing it with the class.
- e) Methods of differentiation:
 - I. Struggling students will be provided with a print out of their planets from the website, as well as a vocabulary list, and students will be allowed to get into groups of the same planets to compare if needed
 - II. Advanced students will be asked to find out which number their planet is, and how far away from the sun it orbits. They will also be given the book *The Planets in Our Solar System* by Franklyn M. Branley to think further about all the given planets.
- f) Language learning objectives:
 - I. Science #8, 9, 10
 - II. Art #8
- g) Cultural responsive pedagogy:
 - I. All cultures around the world learn about and are affected by the solar system
 - II. All cultures live on the same planet, which orbits the sun in the same way but is in a different location
- h) Remedial activities:
 - I. Students will be given review worksheet to show understanding
 - II. Students will write in their journals about what they have learned, and what they liked about this project

- i) Extension activities:
- I. Students will be given the option to read, *The Planets in Our Solar System* by Franklyn M. Branley
 - II. Students can visit the website <http://kids.nineplanets.org/intro.htm> to learn more about each planet they are interested in.

5. **Closure:**

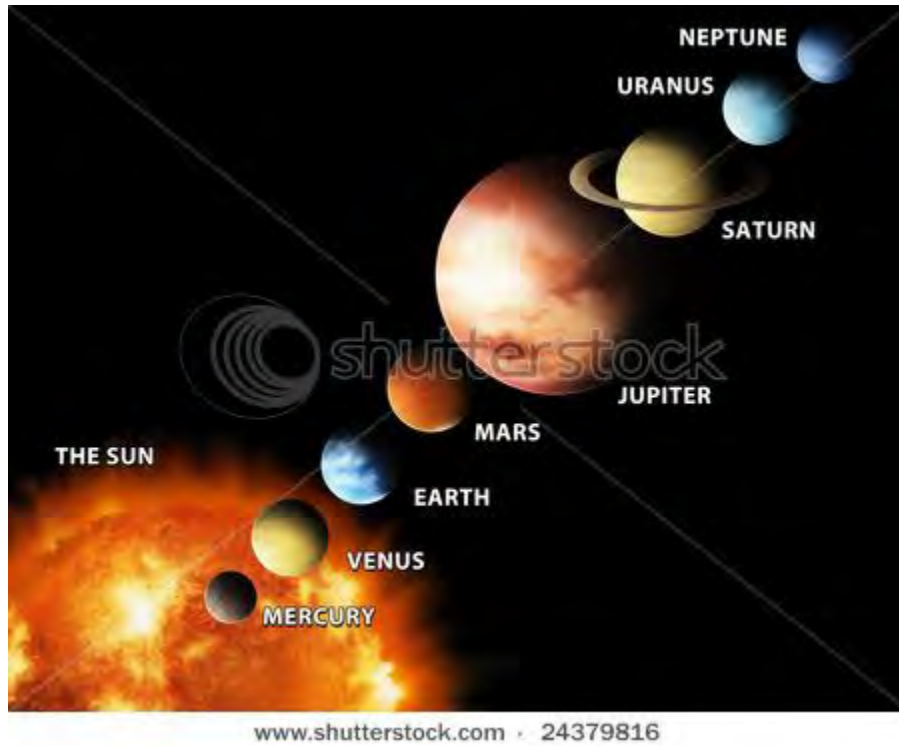
- I. Students will share what they have learned through the review worksheet and their journal entries.
 1. Will anyone share one interesting fact they have learned today from their journals?
 2. Does anyone have any questions or comments about the role play we did today?
 3. Anything else you want to learn more about in the solar system?
- III. Students will talk about their new findings about the solar system and how all of the planets rotate around the sun. It can relate to the students lives because they are part of the solar system, Earth, and can know a little something about each of the eight planets.

6. **Independent Practice:** Describe how students will extend their experiences with the content and demonstrate understanding beyond the scope of the lesson outside the class.

- a. Possible Family Interaction: Students can make models of the solar system at home by using different size balls and painting them, hanging them on the inside of a shoe box. They could also look through a telescope to see if they can see any of the eight planets with their parents.

Instructional Materials, Resources, and Technology Additional Requirements

- **Integration with Other Content Areas:** Other content areas that could be integrated into this lesson are art for drawing the planets, and history to go back and look at the history of their given planets.
- **Materials**
 1. Colored pencils, markers, and crayons for drawing the planets
 2. Chalk to mark the orbits
 3. Computer lab to get the planet information: <http://kids.nineplanets.org/intro.htm>
 4. Resource material to check the orbits of the eight planets (<http://kids.nineplanets.org/intro.htm>)
- **Acknowledgements:**
 - Instructional Plan adapted from http://www.totally3rdgrade.com/lesson_plan_eight_planets.html, and <http://kids.nineplanets.org/intro.htm>
- Instructional Plan Created by “Katie Bond”



Once you get your assigned planet, we will use the computer lab for one day and go to this website, <http://kids.nineplanets.org/intro.htm>, to find TWO interesting facts about your planet. You will be responsible for drawing your planet, it doesn't have to look exactly like the one you see, but the colors should be similar. Let's see the artists you are!! After you complete this assignment, you will present your planet and two interesting facts to the class.

Grading Criteria	Points possible
Two Interesting Facts	4
Planet Drawing (completed with effort)	10
Total Points	

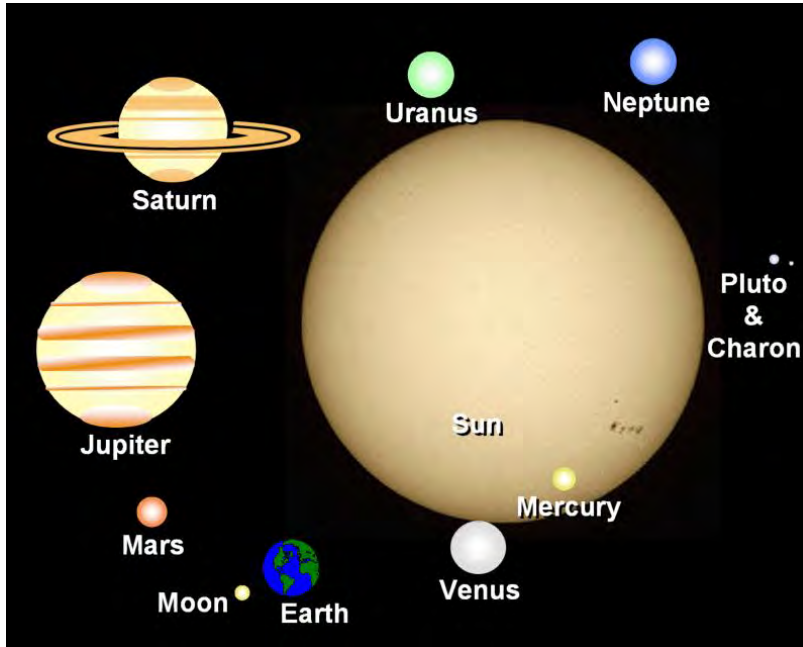
Planet Role Play Grading Criteria

Scale

1. Progressing
2. Meeting Expectation
3. Exceeding Expectation

Student Name	Participation	Understanding	On Task
Sally White	2	2	2
Olivia Rose	3	2	1
Ben Root	1	2	1

Bringing the Solar System to Life: Review



Match each word with its correct definition

1. Revolve	Paths planets make around the sun
2. Orbit	The travel around the sun that planets make
3. Rotation	Moving around the sun, the spinning the planet does

Provide a Sketch of a planet you liked, or got assigned for this project.

Instructional Plan

Revised 3/2/2011

Teacher Candidate: Erica Nation **Date:** 3/21/12
Cooperating Teacher: _____ **Grade:** 1st
School District: Pullman **School:** Jefferson Elementary
University Supervisor: Pauline Sameshima
Unit/Subject: Science
Instructional Plan Title/Focus: Phases of the Moon

Learning Targets/Purpose/Previous Learning

f. Instructional Plan Purpose:

The goal of this instructional plan is for the students to learn about the different phases that the Moon has. Students will learn the vocabulary used within the phases of the moon. Also, students will be able to incorporate science and art into the same activity. By creating the Phases of the Moon, students will be able to visually see the changes in the Moon.

g. State Learning Standards:

Grade 1
Science

EALR 4 Earth and Space Science

Observing the Sun and Moon: The Sun and the Moon appear to have patterns of movement that can be observed and recorded.

K-1 ES1C – The *Moon* can be seen sometimes during the day and sometimes during the night. The *Moon* appears to have different shapes on different days.

Art

EALR 2 Visual Arts: The student uses the artistic processes of creating, performing/presenting, and responding to demonstrate thinking skills in dance, music, theatre, and visual arts.

2.1 Applies a creative process to visual arts.

h. Content Objectives:

SWBAT identify the phases of the moon. [Science K-1 ES1C]

SWBAT explain why the moon has different phases. [Science K-1 ES1C]

SWBAT use artistic processes to create visual arts. [Art 2.2.1]

i. Language Objectives:

SWBAT use the correct terms for each phase of the moon. (Refer to Phases of The Moon Vocabulary) [Science K-1 ES1C]

SWBAT identify the artistic process for visual arts. [Art 2.2.1]

j. Previous Learning Experiences:

Previously the students would have observed the moon and the sun, allowing them to recognize that the moon changes how it looks. Also, the students would have worked with visual arts in creating other art projects.

Assessment Strategies

Content Objectives	Assessment Strategies
SWBAT identify the phases of the moon. SWBAT explain why the moon has different phases. SWBAT use the correct terms for each phase of the moon.	Formative: The students will complete a sheet that has pictures of moons, they will identify the phase and color it in. Summative: The students will put their moon phases in the correct order and name them.
SWBAT use artistic processes to create visual arts. SWBAT identify the artistic process language for visual arts.	Formative: The students will write in their journal what else they could make with these visual arts skills. Summative: The students will demonstrate their understandings by presenting their creation to their elbow partner.

Student Voice:

K-12 students will:	Student-based evidence to be collected (things produced by students: journals, work samples, projects, papers, etc.)	Description of how students will reflect on their learning
3. <i>Communicate the development and</i>	Students will complete the worksheet where	Students will ask questions about what

<i>maintenance of a learning community.</i>	they identify each of the phases of the moon.	they want to learn more about.
4. Communicate how the learning from a series of lessons connects with communities within and outside of the school.(5.3)	Students will present their moon phase book to their elbow partner to show why the moon changes.	Students will explain why the moon has different phases to the teacher.

Grouping of Students for Instruction

Students will work with elbow partners when answering questions.

Students will be broken up into table groups for creating the Moon Phase book.

Students will present their moon phase book to their elbow partners.

They will work individually when completing the worksheet.

Students will work independently or with parental guidance when completing the nightly moon phases sheet.

Students will work with elbow partners when putting the plates in order.

Learning/Teaching Experiences

7. Introduction:

The lesson will begin by showing the class a variety of pictures of the moon at different phases. We will discuss how the earth and moon circulate and look at the different angles the sun and moon are at for different phase. To connect to their own lives, we will have students raise their hands when they have seen each of the phases. Students will also be able to share when the moon has looked different.

8. Questions:

Students will be actively engaged in responding to these questions because in elbow partners each student will only have 30 seconds to discuss each question, this will stimulate thoughts.

Why does the moon change?

Do you know what the different phases are called?

What are the phases of the moon?

How often does the moon change?

Have you seen the moon in each phase before?

9. Learning Activities:

1. The lesson will begin by the teacher showing their students the different pictures of the moon. (see list under references of the pictures)
2. The students will have a discussion with their elbow partners to stimulate thinking about the moon phases.
3. The teacher will ask the students why they think the moon changes.
4. After listening to the responses, the teacher will reiterate or explain why the moon changes.
5. The teacher will show a video of the phases (http://www.harcourtschool.com/activity/moon_phases/ and http://www.youtube.com/watch?v=2aFGNGEcDOK&feature=player_embedded#!).
6. The teacher will explain they are going to make a visual art project to represent each phase of the moon.
7. The students will gather each of their materials to complete the project.
8. The teacher will show them an example of each of the plates. Each plate will have a different moon phase on it, can label the back side to remember it. Punch a hole and tie a string around the plates to keep them in order.
9. Students will make their own moon phase book.
10. Students will share their Moon Phase Books with their elbow partners.
11. The teacher will pass out worksheets on the phases of the moon.
12. The students will complete the phases of the moon worksheet.
13. The teacher will explain how often the moon changes.
14. The teacher will explain that the students are going to record what phase the moon is in every night for a week and shows an example. Address what to do if the moon is not visible.
15. Students receive their moon sheet
16. Every night students will record the phases of the moon.
17. Once the students have recorded 7 nights, they will discuss what they saw with the class.
18. The students will reflect in their journal what they learned about the moon and about visual arts.
19. The students will review the phases of the moon by mixing up the plates and putting them in order with an elbow partner.

10. Instructional Considerations:

j) Instructional procedures:

1. Pictures of the moon
2. Partner practice
3. Whole class discussion
4. Students practice listening skills while teaching explains
5. Video with projector of the phases
6. Students practice listening skills while teaching explains
7. Students gather materials, responsibility approach of supplies

8. Students practice listening skills while teaching explains, using document camera and Moon Phase Book
 9. Independent practice
 10. Partner practice
 11. Worksheet, independent practice
 12. Independent practice
 13. Students practice listening skills while teaching explains
 14. Independent practice
 15. Worksheet, independent practice
 16. Independent practice
 17. Whole class discussion
 18. Reflection, independent practice
 19. Partner practice
- k) Multiple means of access
- Teacher will present the Moon Phases Book by showing and explaining it to the class
 - Materials will be set out on a table for students to pick up
 - Teacher will pass out the moon phases worksheet
 - Teacher will present an example of the nightly moon phases worksheet
 - Teacher will pass out the nightly moon phases worksheet
- l) Multiple means of engagement
- Students will participate in a discussion with their elbow partners with the questions
 - Students will explain their thoughts to the class
 - Students will create their own Moon Phase Book
 - Students will present their book to their elbow partner
 - Students will complete the moon phases worksheet
 - Students will record the moon each night
 - Students will share with the class what they recorded
 - Students will reflect their learning in their journals
 - Students will put their plates in order with an elbow partner
- m) Multiple means of expression
- Students will show their learning by making the Moon Phases Book
 - Students will show their learning by completing the worksheet
 - Students will show their learning by recording the phases of the moon every night
 - Students will reflect their learning in their journals
 - Students will put the plates in order to express their learning
- n) Methods of differentiation
- Struggling Students:
- Provide students with a copy of each phase and the vocabulary prior to making the book
 - Allow advanced student to explain to struggling student
- Advanced Students:
- Provide students with the book *The Moon Seems to Change* by Franklyn Mansfield Branley, to stimulate further thinking
- o) Language learning objectives:
- Science – Beginning in step # 5
- Art – Beginning in step # 8
- p) Cultural responsive pedagogy:
- All cultures around the world can see the moon
 - Coastal cultures can see the moon more vividly and use as a light source
 - Third world countries can use the moon as a light source
 - Inner city cultures may not be able to see the moon very well
 - Farming cultures look for the harvest moon
 - Some spiritual cultures like Native Americans give extreme value to the Moon as a god
- q) Remedial activities:
- Students can have a copy of the vocabulary worksheet
 - Students can go over the moon phases worksheet with an advanced student or teacher
 - Students can reference moon phases site (<http://visual.merriam-webster.com/astronomy/celestial-bodies/moon/phases-moon.php>)
- r) Extension activities:
- Students can read *Phases of the Moon* by Gillia M. Olson
 - Students can make an illustration of the moon rotating around the earth
 - Students can practice going through the plates and identifying the phases

11. Closure:

- To bring closure to the lesson, the whole class will have a discussion about the phases of the moon and why it changes. This will stimulate thoughts about previous knowledge and help them remember it for the future. Students can be reminded that the moon will be like this for the rest of their lives and it a daily occurrence.
- Questions to ask about learning
 - I. What phase is this? (Present picture of phase)
 - II. Why does the moon change?
- Connection to students' lives: the moon is always around and apparent in every ones lives. Students can check nightly to see what phase it is and how it is different depending on the day of the year.
- Connection to future lessons: the moon rotates around the earth, like how earth and other planets rotate around the sun.

12. Independent Practice:

- Students will explain the phases of the moon to someone outside of the class
- Student can explain the phases of the moon to their family and show them pictures of each phase
- Families can help students record the phase of the moon each night
- Students could go to a star lab

Instructional Materials, Resources, and Technology

Materials attached:

- Criteria
- Phases of the Moon Worksheet
- Nightly Moon Phases Worksheet
- Phases of the Moon Vocabulary

Technology needed:

- Document Camera
- Projector
- Internet Connection

Resources needed:

- Copies of worksheets for each student
- Paper plates (8 per student or pair)
- Black markers, paint or paper

Additional Requirements

- **Integration with Other Content Areas:**
 - Integrating art and science in one lesson
- **Acknowledgements:**
 - Instructional plan created by Erica Nation
 - Phases video - http://www.harcourtschool.com/activity/moon_phases/ and http://www.youtube.com/watch?v=2aFGNGEcDOK&feature=player_embedded#
 - Reference sheet - <http://visual.merriam-webster.com/astronomy/celestial-bodies/moon/phases-moon.php>
 - Pictures in slide show reference (step 1):
 - <http://rolandvb.topcities.com/Weather/image6.htm>
 - <http://thebookofshadowsblog.blogspot.com/2012/02/moon-phases.html>
 - <http://www.3towers.com/s3towers/viewImage.asp?Caption=Moon+Halo+and+Venus&ImagePath=%2FNikon%2FMoonHalo%26Venus.jpg>
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Criteria for the Phases of the Moon

Name: _____

	Far exceeds expectations	Exceeds expectations	Meets expectations	Progressing
The Moon				
Correctly puts plates in order				
Identifies each plate accurately				
Reflection demonstrates understanding of art skills				
Artistic Capabilities				
Complete journal reflection				
Reflection demonstrates understanding of art skills				

Additional Comments:

Phases of the Moon Vocabulary

First Quarter: The left side of the moon appears dark while the right half of the moon appears light. Between the New Moon and First Quarter Moon.

Full Moon: The side of the Moon that faces earth is lighted up. There is an almost straight line from the moon, sun and earth.

New Moon: The lighted side of the moon is not facing earth. The Moon is in a straight line between the sun and earth.

Third Quarter: The right side of the moon appears dark while the left half of the moon appears light. Between the Full Moon and the New Moon.

Waning: When the moon looks smaller each night.

Waxing: When the moon looks larger each night.

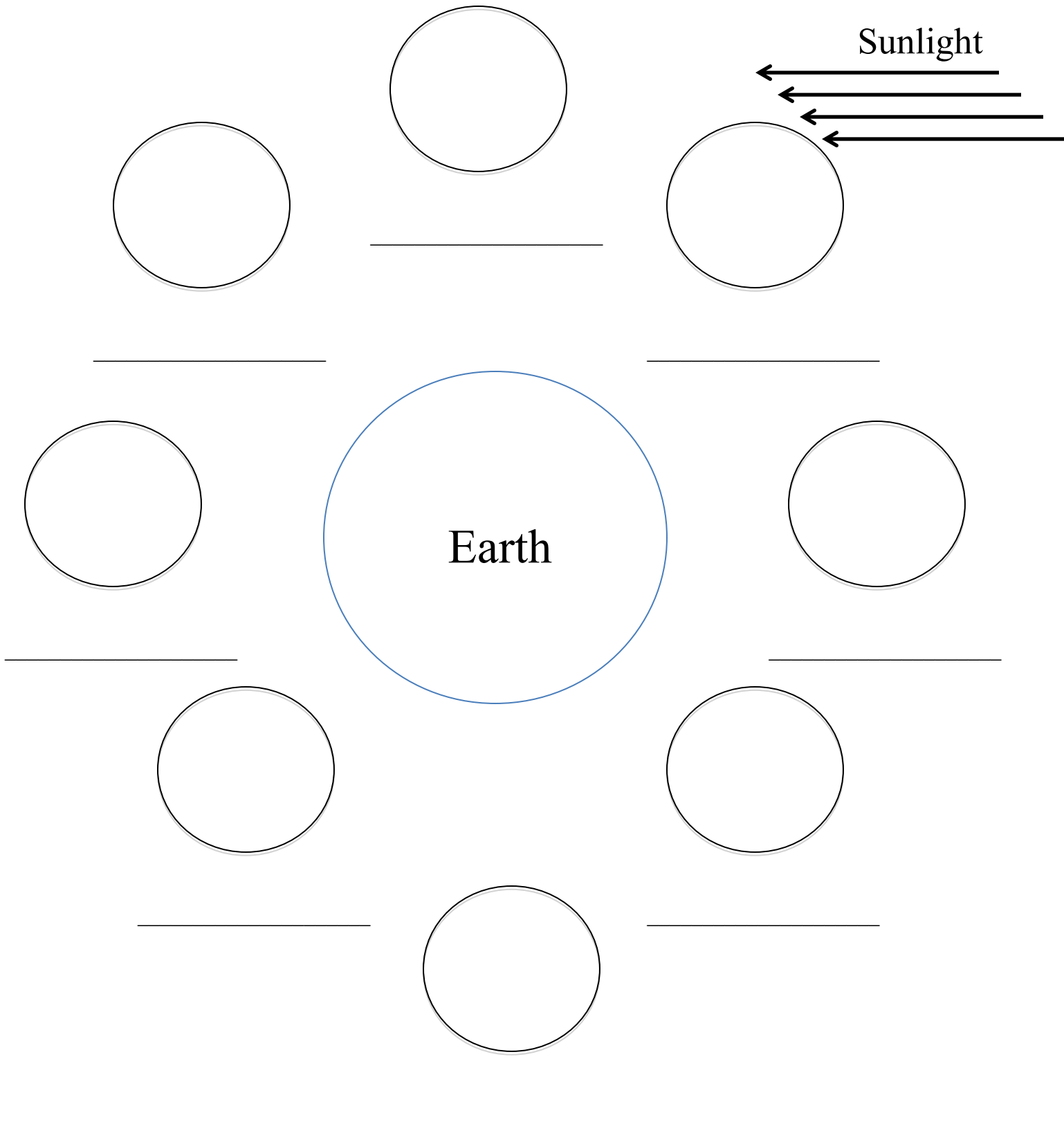
Crescent: When the moon is at any stage between New Moon and First Quarter.

Gibbous: When the moon is more than half but not a Full Moon.

Phases of the Moon

Name: _____

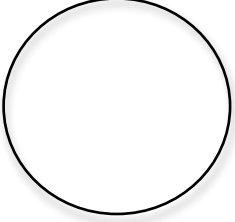
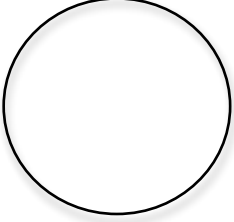
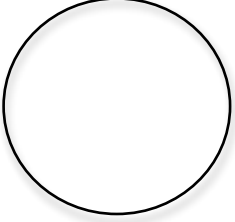
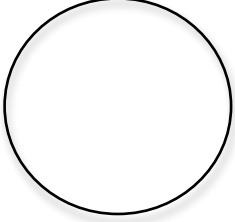
Directions: Write the name of each phase on the line, shade in the circle depending on what the moon looks like during that phase.

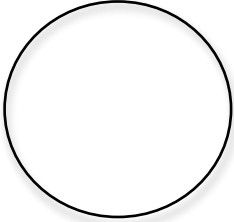
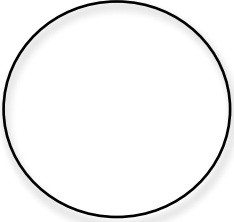
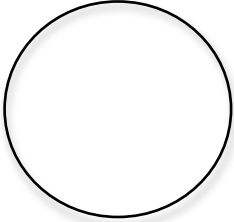


Nightly Moon Phases

Name: _____

Directions: Each night record what the moon looks like, identify what day it is and what phase it is in. Reference plates for the phases or the worksheet.

<p>Day: _____</p>  <p>Phase: _____</p> <p>Comments: _____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>	<p>Day: _____</p>  <p>Phase: _____</p> <p>Comments: _____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>	<p>Day: _____</p>  <p>Phase: _____</p> <p>Comments: _____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>	<p>Day: _____</p>  <p>Phase: _____</p> <p>Comments: _____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>
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<p>Day: _____</p>  <p>Phase: _____</p> <p>Comments: _____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>	<p>Day: _____</p>  <p>Phase: _____</p> <p>Comments: _____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>	<p>Day: _____</p>  <p>Phase: _____</p> <p>Comments: _____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>
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Instructional Plan

Revised 3/2/2011

Teacher Candidate: Adam Pearce Date: 2/27/12
Cooperating Teacher: Sameshima Grade: 2-3
School District: Pullman School District School: Jefferson
University Supervisor: Lori White
Unit/Subject: Science
Instructional Plan Title/Focus: Planet's and their Relationship with the Sun

Learning Targets/Purpose/Previous Learning

1. **Instructional Plan Purpose:** This Science activity, part of a unit on the Solar System, uses role playing to demonstrate the universe and its connection to the sun. Students will act out the parts of the planets to learn the order and paths of them. This not only creates an opportunity to learn about the solar system, but also gives the students a chance to express themselves through roleplaying and drama.
2. **State Learning Standards:**

Science EALR's Grade level 2-3

- a. **EALR 1: Systems. Big Idea: Systems (SYS).**
 - i. **Core Content:** *Role of Each Part in a System*
 1. **Content Standard:** 2-3 SYSA A system is a group of interacting parts that form a whole
- b. **EALR 4: Earth and Space Science. Big Idea: Earth in Space (ES1).**
 - i. **Core Content:** *The Sun's Daily Motion*
- c. **EALR 4: Physical Science. Big Idea: Force and Motion (PS1).**
 - i. **Core Content:** *Force Makes Things Move*

Art EALR's Elementary Grade Level

- d. **EALR 2.** The student uses the artistic processes of creating, performing/presenting, and responding to demonstrate thinking skills in dance, music, theatre, and visual arts.
 - i. **Component 2.1:** Applies a creative process to the arts (dance, music, theatre, and visual arts).
 1. **GLE 2.1.E:** Creates, experiences, and develops artworks and/or performances/presentations utilizing the creative process structure.
- e. **EALR 3:** The student communicates through the arts
 - i. **Component 3.1:** Uses the arts to communicate for a specific purpose
 1. **GLE 3.2.E:** Creates and/or performs an artwork to communicate for a given purpose in dance, music, theatre, and visual arts.

3. Content Objectives:

- a. SWBAT
 - i. Act out the paths of the planets through the arts
 - ii. Demonstrate revolution and rotation of the planets around the Sun.
 - iii. Use the arts (dance, theatre) to communicate the paths of the planets and their interactions with the sun

4. Language Objectives:

- a. SWBAT
 - i. Define revolution
 - ii. Define rotation
 - iii. Define orbit

5. **Previous Learning Experiences:** Students should at least have an understanding of the solar system to know that there are 8 planets and they revolve around the Sun. Students should also be aware that there are days and nights for each of the planets.

Assessment Strategies

Attach questions, worksheets, tests or any additional documentation related to your assessment strategies. Also attach appropriate marking rubrics, criteria lists, expectations, answer keys, etc.

- **Formative:** measures process/progress toward mastery of target(s)
- **Summative:** measures outcomes/achievement of target(s)

Content/Language Objectives	Assessment Strategies
Demonstrate the revolution, rotation, and orbit through the arts.	<p>Formative: Students will be told to revolve, rotate, or orbit while circling the “Sun” with their planet objects and being told what each action needs to be done to complete it.</p> <p>Summative: Students will take a short quiz after the activity to demonstrate their knowledge of the lesson. Teacher will have a checklist to check off if students can define revolution, rotation, and orbit correctly.</p>
Act out the paths of the planets around the Sun correctly.	<p>Formative: Students follow the tape pathways on the ground without deviating from them.</p> <p>Summative: Students can identify the pathways of the planets around the Sun. Students will be asked what shape the planets travel in around the Sun and checked off whether they correctly identified the path.</p>

Student Voice: Select two components of student voice and identify how students will reflect and/or communicate on their learning or progress toward meeting the goals. You may eliminate the components not being addressed.

K-12 students will:	Student-based evidence to be collected (things produced by students: journals, work samples, projects, papers, etc.)	Description of how students will reflect on their learning
5. <i>Communicate the learning targets and their progress toward them.</i>	Students will break into small groups and draw a map of the solar system, including the Sun and the 8 planets.	Students will discuss in the same groups what rotate, revolution and orbit mean, as well as discuss what they think the planet’s movements purpose is.
6. <i>Communicate the support and resources that can be accessed to help them achieve the learning targets.</i>	Students will be given a website name nasa.gov to refer to when talking about the planet orbits. They will create a help book that they can refer to as well.	Students will be asked to talk about why they put what they put in their books with group members.

Grouping of Students for Instruction

- Students will be doing the majority of this lesson in a large group with the whole class.

Students will however be divided into small groups to discuss their paths around the Sun and what the terms used during the exercise meant.

Learning/Teaching Experiences

13. **Introduction:** Identify how you are going to introduce the concept, skill or task in a way that gains students’ attention and gets them involved.

- So we all know that there are days and nights here on Earth. Are there days and nights on other planets? We’re going to learn why this happens today.

14. **Questions:** Identify at five questions that will drive student learning. Be sure that higher-level thinking questions are included and framed in open-ended ways that elicit students’ curiosity, critical thinking, problem-solving, and build on their prior experiences and knowledge. These questions should show that you can scaffold students’ learning.

- What do you think the planet’s path around the Sun affects?
- How do the planets travel around our solar system?
-

15. **Learning Activities:** Give detailed, step-by-step instructions on how you will implement the instructional plan. Describe exactly what students will do during the lesson. Please use a numbered list.

1. Teacher will say, “Today we are going to learn the order of the planets, how they travel around the Sun, and how they move while traveling around the Sun.
2. Teacher says, “We are going to hold balloons to represent ourselves as an individual planet. Outside there are pathways marked with different colored tape. Each tape matches the balloon you will get.

3. Children will blow up a yellow balloon to its fullest and balloons of nine different colors to sizes representing the nine planets.
4. Walk the class outside and show them the tape paths on the ground.
5. Pass out the balloons to each student and have them blow it up.
6. Have the student with the yellow balloon stand in the center to represent the Sun. Have 8 other students use their balloons and stand on their respective tape lines. Teacher will then tell the students what planet they are representing.
7. Teacher will ask students to walk the paths marked out on the ground. Explain that these paths are called orbits.
8. After the students have made one or two orbits around the sun, introduce the concept that a complete path around the Sun is called a revolution.
9. After explaining the concept of revolution, explain what rotation is. Have the students practice rotating (spinning around) while traveling around the orbit of the planet. Explain that Earth takes an entire year to revolve around the Sun, and only a day for the Earth to rotate on its own axis.
10. After one group of students has had a chance to act out the planets and their orbit, select another group of students to act it out.
11. When all the students that want to participate have had a chance to, have the class discuss what they have learned from this lesson. Sample questions could be "What is it called when the planet circles the Sun?" or "What is the planet spinning on its own axis called?".

16. Instructional Considerations:

- s) Instructional procedures:
 - a. Students will have the activity explained to them. They will be told how to make the parts to the apparatus they will be utilizing for the activity. They will then be told that nine students will represent the planets and the Sun. Paths on the ground are marked for each individual planet.
 - b. It will be explained that the paths are the planetary movements involved in the turning of days and nights and also the seasons. Teacher will stress the fact that the "planets" cannot leave their paths and must stay on the lines.
 - c. After traveling around the Sun, students will switch out and be told that they can rotate while moving (like a top). This is what causes days and nights on the planets.
 - d. Teacher will explain to students that a rotation takes a day, while a revolution takes an entire year.
- t) Multiple means of access (list ways the teacher will present the materials)
 - a. Teacher will present the materials through a lecture based demonstration
 - b. Teacher will let students practice and experiment on their own to learn the material
- u) Multiple means of engagement (list ways the students will participate in the learning)
 - a. Students will experience the paths of the planets through dramatic role playing
 - b. Students will engage in discussion with other students
- v) Multiple means of expression (list ways the students can show their learning)
 - a. Students will show their learning by doing the activity without guidance
 - b. Students will show their learning through the help books they make
- w) Methods of differentiation, (list accommodation or differentiation strategies)
 - a. If students don't understand the concept of revolution, rotation, and orbit, they will be asked to participate in the activity again. Only this time, the student will be telling the other students what they are doing and explaining the process the whole time.
 - b. If students still don't understand the concepts, they will be asked to discuss the lesson with other students who can explain the activity to them.
- x) Language learning objectives: (Where will you integrate these?)
 - a. Language learning goals will be integrated when explaining and defining terms used in the lesson and also in the help books that students will create on their own
- y) Cultural Connections
 - a. Students will discuss what astronomy in other countries might look like. Discuss who came up with the concept of revolution and rotation.
 - b. Talk to students about different countries' space program.
- z) Remedial activities: (Do you have a review sheet, scaffolding worksheet or plan?)
 - a. Students that do not have the full understanding of the lesson will be given worksheets to test their knowledge.
- aa) Extension activities: (What will students who finish early do?)
 - a. Students who finish early can work on their help books, or become teacher assistants and help other students that are not done yet.

17. Closure: Explain how you are going to bring closure to the lesson.

- After returning to the classroom, demonstrate the principle just learned with the globe. Let someone spin the globe and walk around a "sun" to show "rotation" and "revolution". For children who have trouble keeping "rotation" and "revolution" straight, here is a tip: the middle sound of "rotation" has the same vowel sound as "day" and it takes the

earth one day to rotate. This same type of activity can be used to show the relationship between the moon and the earth. Role play is an excellent way to teach primary children and makes these abstract concepts come to life.

18. Conversation Starters

- Ask the students these questions that can start a conversation over what they have learned from this lesson.
 - I. What are the different ways a planet moves in our solar system?
 - II. How long does it take the Earth to complete a day? A year? How is this process completed?

19. Independent Practice:

- After this lesson, you could extend it by explain that each planet has a number of moons that orbit the planet, that is orbiting the Sun.
- Talk about gravity and inertia, and how they are the reason that planets orbit.

20. Possible Family Interaction

- Give students a list of websites to take home to their parents that they can check out additional information (if computers are accessible)
- If computers are not accessible, parents can request worksheets or a printed page version of the websites from the teacher to practice the knowledge they have gained from this lesson

Instructional Materials, Resources, and Technology

- one yellow balloon
- nine balloons of different colors
- chalk or string to mark orbits
- resource material to check orbits of the nine planets

Additional Requirements

- **Integration with Other Content Areas:** Identify content areas/other subjects that are integrated into this lesson and explain how these are addressed.
- **Acknowledgements:** You might use language such as "Instructional Plan adapted from John Kurilec's lesson plan, "Bringing the Solar System to Life"

Instructional Plan

Revised 3/2/2011

Teacher Candidate: Sara Houser **Date:** 03/20/12
Cooperating Teacher: Erin Thompson **Grade:** 4th Grade
School District: Pullman School District **School:** Sunnyside Elementary
University Supervisor: Lori White
Unit/Subject: Science/Art
Instructional Plan Title/Focus: The Phases of the Moon

Learning Targets/Purpose/Previous Learning

- k. Instructional Plan Purpose:** The purpose of this lesson plan is to have students understand the different phases of the moon by observing the moon during the whole month of March and taking detailed notes and drawing in their journals. Students will be given a journal packet and they are expected to make a minimum of five journal entries with at least four days in between each observation. This will help students actually see a difference in the moon over a month's period of time. Students will be working independently on their project, but are encouraged to compare with their classmates and get their family involved. After students have made their five journal observations, the students will be creating one of their observations on scratch art paper. The combination of science and art will allow students to become extremely involved in the project be excited to learn about the different phases of the moon.

l. State Learning Standards:

Science - Grade Level: 4

EALR 1: The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.

Component 1.3: Understand how interactions within and among systems cause changes in matter and energy.

GLE 1.3.1: Know how the appearance of the Sun, Moon, and stars changes as seen from Earth.

GLE 1.3.2: Describe how the appearance of the Moon changes in a predictable pattern (e.g., new Moon to full Moon every 28 days)

Art - Grade Level: Elementary Standards

EALR 4: The student makes connections within and across the arts (dance, music, theatre, and visual arts) to other disciplines, life, cultures, and work.

Component 4.2: Demonstrates and analyzes the connections among the arts and between the arts and other content areas.

GLE 4.2.1: Demonstrates and applies the skills, concepts, and vocabulary common among and between the arts disciplines (dance, music, theatre, and visual arts) and other content areas at beginning levels

m. Content Objectives:

SWBAT apply scientific concepts and principles to understand how interactions within and among systems cause change in properties, structures, physical, earth/space, and living systems. [Science EALR 1 and Component 1.3]

SWBAT know that the appearance of the Sun, Moon and Stars change when seen from earth. [Science GLE 1.3.1]

n. Language Objectives:

SWBAT make visual connections by demonstrating and analyzing the connection between the arts and other content areas. [Art EARL 4 and Component 4.2]

SWBAT describe and illustrate the appearance of the Moon from observations made from their journals. [Science GLE 1.3.1 and Art GLE 4.2.1]

SWBAT see the predictable pattern from new moon to full Moon every 28 days from their journal observations for the month of March. [Science GLE 1.3.2]

Vocabulary terms needed to know: Lunar, phase, gravity, eclipse, half moon, crescent, blue moon, first quarter, gravity, last quarter, longitudinal, latitude, magnitude, moon, new moon, rotation, waning, waxing, and more. (The list of vocabulary terms is attached to the lesson plan).

- o. Previous Learning Experiences:** Students will draw from previous learning experiences from lessons about the rotation of the sun, the shadowing of the sun and moon, and the appearance of the stars in the sky. They will need to have understood these previous lessons to fully understand the vocabulary terms used within this lesson plan. Other tasks that students will have previously learned are simple tools such as: coloring, observing, scratching, writing, completing sentences, and drawing.

Assessment Strategies

- a. The following assessment strategies are attached to the end of the lesson plan:
 - a. Journal
 - b. Vocabulary Words
 - c. Moon Phases Check Off
 - d. Phases of the Moon Unit Project

Content/Language Objectives	Assessment Strategies
SWBAT make visual connections by demonstrating and analyzing the connection between the arts and other content areas. [Art EARL 4 and Component 4.2]	<p>Formative: The teacher will be observing the class and making comments for students who do not understand the different phases of the moon. The students have already been previously taught about the different phases of the moon, and this journal project will be more of a review so the students will be able to see the different phases first hand in their journal. Students will be required to turn in two journal assignments half way through the month, (March 15th). This will be enough time for students to have done at least two journals about the moon and as the teacher I will have compared the two journals illustrations and explanations to see if the students visually saw the difference in the moon. Attached to the end of the lesson plan is a list of students who understood the phases of the moon, had trouble understanding, and who needed extensive help. This list will be able to help the teacher understand if the students are progressing towards fully understanding the different phases of the moon by comparing them to their journals on March 15th.</p> <p>Summative: Since this project has many different parts to it, the students will be summatively assessed by their journals. When student’s journals are due at the beginning of April, the teacher will be able to understand if the students compared the differences between each journal and illustrations. If students fail to make comparisons and recognize that the moon had been changing throughout their journal entries, then the teacher will be able to understand that the students were not visually able to make connections through art and science.</p>
SWBAT describe and illustrate the appearance of the Moon from observations made from their journals. [Science GLE 1.3.1 and Art GLE 4.2.1]	<p>Formative: The teacher will be observing the class and making comments for students who do not understand the different phases of the moon. The students have already been previously taught about the different phases of the moon, and this journal project will be more of a review so the students will be able to see the different phases first hand in their journal. Students will be required to turn in two journal assignments half way through the month, (March 15th). This will be enough time for students to have done at least two journals about the moon and as the teacher I will have compared the two journals illustrations and explanations to see if the students visually saw the difference in the moon. Attached to the end of the lesson plan is a list of students who understood the phases of the moon, had trouble understanding, and who</p>

	<p>needed extensive help. This list will be able to help the teacher understand if the students are progressing towards fully understanding the different phases of the moon by comparing them to their journals on March 15th.</p> <p>Summative: Since this project has many different parts to it, the students will be summatively assessed by their journals. When student's journals are due at the beginning of April, the teacher will be able to understand if the students compared the differences between each journal and illustrations. If students fail to make comparisons and recognize that the moon had been changing throughout their journal entries, then the teacher will be able to understand that the students were not visually able to make connections through art and science. Furthermore, students will be summatively assessed by their final illustration of the moon from their scratch artwork. On the final day the journals are due, the students will be doing scratch art and recreating one of their favorite journal illustrations. They will also be describing the scratch art illustration in a neatly, error free paragraph. The final art work will be hung out in the hallway for the rest of the school to see.</p>
<p>SWBAT see the predictable pattern from new moon to full Moon every 28 days from their journal observations for the month of March. [Science GLE 1.3.2]</p>	<p>Formative: Students have already been previously taught about the phases of the moon. They will already have understood the predictable pattern that occurs from new moon to full moon every 28 days. There understanding of this is also represented on the check off list attached to the end of the lesson plan. All students who did not completely understand the moon phases, they had extended lessons until caught up with the rest of the class. *See Moon Phases Check off for more understanding.</p> <p>Summative: Students will be assessed in many ways to know if they understand the pattern the moon creates, but their final understand of the moon phases project will be a short test that shows the teacher they completely understood. *See the attached test for the students to take at the end of the lesson. This is located at the end of the lesson plan.</p>

Student Voice:

K-12 students will:	Student-based evidence to be collected (things produced by students: journals, work samples, projects, papers, etc.)	Description of how students will reflect on their learning
<p>7. <i>Communicate the learning targets and their progress toward them.</i></p>	<p>The learning targets will be written on the board and discussed before the students learn about the activity. This will promote their learning by the students understanding what they are supposed to understand after the activity.</p>	<p>As a class, we will reflect on our learning by having a class discussion about the learning targets at the end of the day. I will have the students show me a thumbs up if they felt the learning targets were addressed, a thumbs sideways if they felt they could of learned more, and a thumbs down if they felt the learning targets were not addressed during the activity. I will also have students with the variety of opinions comment so I know what was good about the lesson and what I may need to reemphasize the following day.</p>
<p>8. <i>Communicate the support and resources that can be accessed to help them achieve the learning targets.</i></p>	<p>Students will have the opportunity to turn in two of their journals by March 15th which will allow the teacher to see if the students have completed any of their journals thus far. This will be collected and returned to the students</p>	<p>As a class, we will reflect on our learning by having a class discussion about the learning targets at the end of the day. I will have the students show me a thumbs up if they felt the</p>

	and will be physical evidence for the teacher to see the students understanding the journal observations.	learning targets were addressed, a thumbs sideways if they felt they could of learned more, and a thumbs down if they felt the learning targets were not addressed during the activity. I will also have students with the variety of opinions comment so I know what was good about the lesson and what I may need to reemphasis the following day.
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Grouping of Students for Instruction

- **Whole Class** – The whole class will sit together on the carpet in front of the teacher for the interactive read-aloud and will participate in the group discussion to get the students interested in the lesson. The teacher will be reading *The Magic School Bus Takes a Moonwalk* by Joanna Cole to get the students interested in learning about the moon.
- **Partner Learning** – The students will share their think on several occasions with their elbow partners during the read aloud, the interactive questions, the halfway journal check off, and finally the scratch art project.
- **Group Learning** – Students will be comparing and contrasting the differences in their journal entries with a group of 4-5 students. This will allow them to see the differences in the phases of the moon that their peers observed too. When students are working on the Scratch Art assignment, they will be allowed to work with other students and have fun while completing this art assignment in class.
- **Individual Learning** - Students will be working on their Phases of the Moon project individually. They are encouraged to compare journals with their classmates and get their family involved, but each student will be turning at least five (5) journals in on their own. When students will be working on the Scratch Art assignment following the journals, they are also going to be doing this assignment on their own and be recreating one of their favorite journals of the moon they observed.

Learning/Teaching Experiences

21. **Introduction:** The teacher will introduce the lesson by reminding the students that they have been working on learning about the different phases of the moon. Then the students will listen to the teacher read the book *The Magic School Bus Takes a Moonwalk* by Joanna Cole. This book will transition the students from coming back from lunch and recess and start to relax and become focused to be engaged in further learning. Students will be making connections to their lives by the teacher pausing while reading the book, and ask the students questions. The teacher is going to ask them questions about how they have observed the moon before and seen the different stages it goes through. Furthermore, asking to students to think of a time when someone pointed out what the moon looked like at a particular evening. This will help students make connections to how they have seen the moon at home, camping, during the summer, and more.
22. **Questions:** These questions are for the teacher to get the students involved and focused. The questions will be for students to raise their hand and opening share with the class, and some questions can be open ended for the students to think about quietly to themselves.
 - At the beginning of the class discussion, the teacher will ask the students: “What does everyone think that this book is going to be about?”
 - “Can anyone tell me one of the phases of the moon?” Then continue to ask about the other phases of the moon to refresh the student’s memory.
 - After the book is over, ask the students “What else do you remember learning during our lesson yesterday about the moons phases?” When students have good ideas, make sure to recognize that

it was a good idea, and then elaborate off of that concept to help students dig deeper about what they already know.

- “Has anyone ever noticed when the moon is different than it was the night before? Or even just a week before?” Have them just raise their hand if they have, the teacher should call of a few students to hear their comments.
- “Has anyone been told by their parents, siblings, friends, grandparents or anyone else to look up at the moon because it is big and bright or different than normal?” Have them just raise their hand if they have, the teacher should call of a few students to hear their comments. Make sure to tell them they have been noticing the different phases of the moon possibly without even realizing!

23. Learning Activities:

- The teacher will ask the students to come to sit on the carpet after they come in from recess.
- The teacher will introduce the lesson by reminding the students that they have been learning about the different phases of the moon. The teacher will explain that today they will review what they have learned about the phases of the moon and be introduced to their Phases of the Moon unit project. The teacher will then say how great the students have been doing while learning about the different phases of the moon and since everyone understands the information so well; the class is now ready to start their unit project.
- Before the Phases of the Moon until project is introduced, the students will be read the book *The Magic School Bus Takes a Moonwalk* by Joanna Cole. This book will transition the students from coming back from lunch and recess and start to relax and become focused to be engaged in further learning. They are going to be excited to learn about their new project, so this book will be a great tool to get the students focused before the directions start.
- Before the teacher starts to read the book, the teacher will ask the students: “What does everyone think that this book is going to be about?” The students should all be able to shout out that this book is about the moon.
- After the students understand they are learning more about the moon, you can ask the students “Can anyone tell me one of the phases of the moon?” The teacher will then facilitate discussion about this question and will help the students remember the different phases of the moon. Continue to ask about the other phases of the moon to refresh the student’s memory. By asking the students about what they had learned the previous days, they will be able to engage in conversations that will allow them to be prepared for their unit project.
- When the students all remember what the phases of the moon are then the teacher will start reading the book. You can see if all the students understand the phases of the moon before starting by asking the students “Thumbs up if you are confident and can remember the phases of the moon, Thumbs side-ways if you still need a little more information to review the phases of the moon, and thumbs down if you are completely lost and do not remember anything about the phases of the moon.” The students will then show the symbol in which they are feeling and if there are students not ready, continue to go over the phases of the moon until all students are ready.
- Begin reading *Magic School Bus Takes a Moonwalk* by Joanna Cole.
- After the book is over, ask the students “What else do you remember learning during our lesson yesterday about the moons phases?” When students have good ideas, make sure to recognize that it was a good idea, and then elaborate off of that concept to help students dig deeper about what

they already know.

- The teacher then will ask the students, “Has anyone ever noticed when the moon is different than it was the night before? Or even just a week before?” Have them just raise their hand if they have, the teacher should call of a few students to hear their comments.
- Next, the teacher will ask the students to “talk to their elbow partner about a time when their parents, siblings, friends, grandparents or anyone else to look up at the moon because it is big and bright or different than normal?” Give the students about a minute to converse with their elbow partner and bring the students back together. Have 2 or 3 pairs share something interesting. Let the students know that they have been noticing the different phases of the moon possibly without even realizing!
- After the introduction is done, have the students go back to their desk and discuss the unit project they are about to be introduced. Students are probably getting tired of sitting on the floor, so changing where they are may help regain their focus so they are giving the teacher their full attention once again.
- Pass around the Phases of the Moon Unit Project Packet. This packet will include: phases of the moon explanation on top, 6 journals (1 extra), and vocabulary words for the students to review. Go over the entire packet in depth for the students to understand the entire project. *See Phases of the Moon Unit Project sheet for more details.
- Explain to the students the following: They will be observing the moon during different day throughout the month of March. Have them flip to the page where they can see the journals. They will need to complete five journals about what they observed. The journals will need to be able least four days apart from each other so they are able to observe the difference in the phases of the moon. The students will have to complete an illustration of the moon from that nights observation and complete a detailed paragraph explaining the observation. They should compare the journals with previous journals they have completed so they are able to see the different in the moon’s phases. Explain to the students the important deadlines they will need to meet.
 - I. March 1st – Introduced to the Phases of the Moon Unit Project. March 15th – Students are required to turn in at least two (2) of their journals for the teacher to be able to see they have started their project. Students will also be comparing with other students about their two journals of the moon they brought in.
 - II. March 31st – All journals are due! Students can be creative and create a cover page for their journals and place them in a booklet. Students are allowed to be as creative as they please. They will not be docked points for not having a cover page or in a booklet, it is simply up to the student to be as creative as they wish.
 - III. April 1st – Students will be creating their Scratch Art from their favorite journal entry. They will also be writing out what they observed in that entry in their nicest handwriting and error free. (Done in Class)
 - IV. April 2nd- Students who are not complete will be given additional in class time on their Scratch Art and paragraphs. If students are not finished today, they are able to take home and finish over the weekend.
 - V. April 4th – Scratch art projects and Journal entries will be displayed in the hall way for the other students, teachers, and parents to be able to see.
- After the students understand the deadlines and their responsibilities for completing the project, ask them if they have any questions thus far. If students completely understand the project, then you are

done explaining what the project is about. They are able to move onto social studies.

- Make sure to check in with student's progress throughout the month of March.
- On March 15th, students are required to bring in at least two journals. On this day, they will be comparing their illustrations and explanations with other members in the class. Students can either share with their elbow partners or share with a group of 4-6 students.
- On March 31st when all the journals are due, have students get in groups of 4-6 students and share their journals with one another. The teacher needs to be walking around and checking that students are sharing with one another. The teacher should also be promoting further thinking by asking the students questions about their work and what they saw on that particular night of their journal.
- When students are done sharing, have the students turn in their journals.
- On April 1st, students will be introduced to scratch art. Scratch art is when students are given a paper and they have utensils that scratch away the paper and leave the paper as the picture. For example, if the students are scratching away the moon, then they are scratching away the moon and leaving the black to stand out around the moon.
- Hand out a piece of scratch art paper to each student. Have students chose their favorite observation in their journals. The students will be creating the journal on scratch art paper and writing their observations on paper. Along with the scratch art paper, the students will be writing a polished paragraph about the scratch art piece they are doing. Students can work in groups to create a fun working environment in the classroom. Students will have about 30 minutes to work on their scratch art and their paragraph. If students do not finish today, they will have time to work on it the following day. If students do not finish it the following day, then they will have to take their scratch art home over the week and their paragraph and complete it to be ready to be hung up in the hallways by Monday.

24. Instructional Considerations:

bb) Instructional procedures:

- a. Teacher will facilitate class discussion.
- b. Teacher will read the book *The Magic School Bus Takes a Moonwalk* by Joanna Cole.
- c. Teacher will facilitate class discussion about what students have learned from the book.
- d. Teacher will know if students understand phases of moon.
- e. Teacher will introduce Unit Project.
- f. Teacher will check in with student's project.
- g. Teacher will have students work in groups to discuss their projects with one another and discuss what they learned.

cc) Multiple means of access (list ways the teacher will present the materials)

- a. Students will participate in class discussion.
- b. Students will listen to *The Magic School Bus Takes a Moonwalk* by Joanna Cole.
- c. Students will participate in partner discussion.
- d. Students will listen to project instructions.
- e. Students will complete project and bring back two different dates.
- f. Students will engage in partner comparisons.
- g. Students will learn to compare and contrast as they share their work with their classmates.
- h. Students will learn how to complete a project outside of school and collaborate with other classmates or family.

- i. Students will learn how to share their opinions and work collaboratively.
- dd) Multiple means of engagement
 - a. Students will learn through group discussion.
 - b. Students will learn as they make their own connections with the different phases of the moon.
 - c. Students will learn as they participate in a class discussion about connections and questions.
- ee) Multiple means of expression
 - a. Students can demonstrate their learning by participating in class discussion.
 - b. Students can demonstrate their learning by their participation in partner discussion.
 - c. Students will demonstrate their learning by what they illustrate and write about in their journals.
 - d. Students can demonstrate their learning by completing the observations of the different phases at the moon at home.
- ff) Methods of differentiation:
 - a. This activity supports multiple access levels because the students can write their own thoughts about their observations from the changes of the different phases of the moon. Some students may be more detailed than other students and will go more in depth about their observations that they see.
 - b. There are 6 students in the class who needed extra help when it came to understand what the phases of the moon were. They were taken out in the hallway by a parent volunteer, who went through the phases of the moon extensively until the students who were behind were caught up.
- gg) Language learning objectives:
 - a. The language learning objectives are incorporated in the lesson. The students will have the chance to write down their own journals and make connections with the moons phases. They will be illustrating and explaining the connections of the moon in their journals. Their journals will also show the moon goes through a pattern which is a learning objective that the students will need to know.
- hh) Cultural responsive pedagogy:
 - a. The teacher selected completing the phases of the moon activity at home to allow for a variety of outcomes. The teacher is hoping that the students will get their families interested and involved in the different phases of the moon. Students have different types of learning environments and family dynamics which will allow for a variety of projects.
- ii) Remedial activities:
 - a. The teacher will be able to see if students have started their journal activity when there is a checkpoint on March 15th. The students will also have their journals completed before they will be able to do the extended activity of scratch art on one of the journals.
- jj) Extension activities:
 - a. Students will be doing a scratch art on one of the journals that they really enjoyed. They will be recreating one of the illustrations and then writing out the observations into an error free paragraph for students to be able to be able to hang out in the

hallway. Since the journals are done at home, students will all be on the same page when they bring their journal completed on April 1st.

25. Closure:

- Students will be able to share what they have learned with their classmates during discussions. When they bring their final journals on April 1st, they will be sharing with a group of students their final work and this will allow students to compare and contrast the differences in the phases of the moon that they observed. Ways that students can begin the conversation when comparing and contrasting their different journals is by asking students how they began their project? Who helped them? Did their family get involved? What was their favorite part about the project? Were you able to see the different phases of the moon throughout the month of March? These questions will allow students to begin an educated discussion with their peers to understand how they completed their project.
- Students will connect this to their lives because they will notice the different phases of the moon from now on. They will look up at the moon at night and remember the project that they completed to help them understand the different phases and recognize that the moon is always changing. Students will be able to expand this lesson by completing more than five journals and by completing the scratch art work after their journals are complete.

26. **Independent Practice:** Students will be completing this project outside of the classroom so they can be involved with families and friends throughout the entire project. They have the ability to get the whole family involved and make it a family event to observe the moon every few days so they can make observations and complete their journal requirements.

27. Instructional Materials, Resources, and Technology

- *Magic School Bus Takes a Moonwalk* by Joanna Cole
- Journal
- Vocabulary Words
- Moon Phases Check Off
- Phases of the Moon Unit Project
- Scratch Art Paper
- White Board
- Pencils
- Colored Pencils

Additional Requirements

- **Integration with Other Content Areas:** This lesson integrates some of the content from the communication EARLS, in which students use communication skills and strategies to interact and work effectively with others. They will be able to understand the similarities and differences when it comes to the different phases of the moon.
- **Acknowledgements:**
 - Instructional Plan adapted from:

<http://www.k12.wa.us/Science/default.aspx>

<http://www.k12.wa.us/Arts/default.aspx>

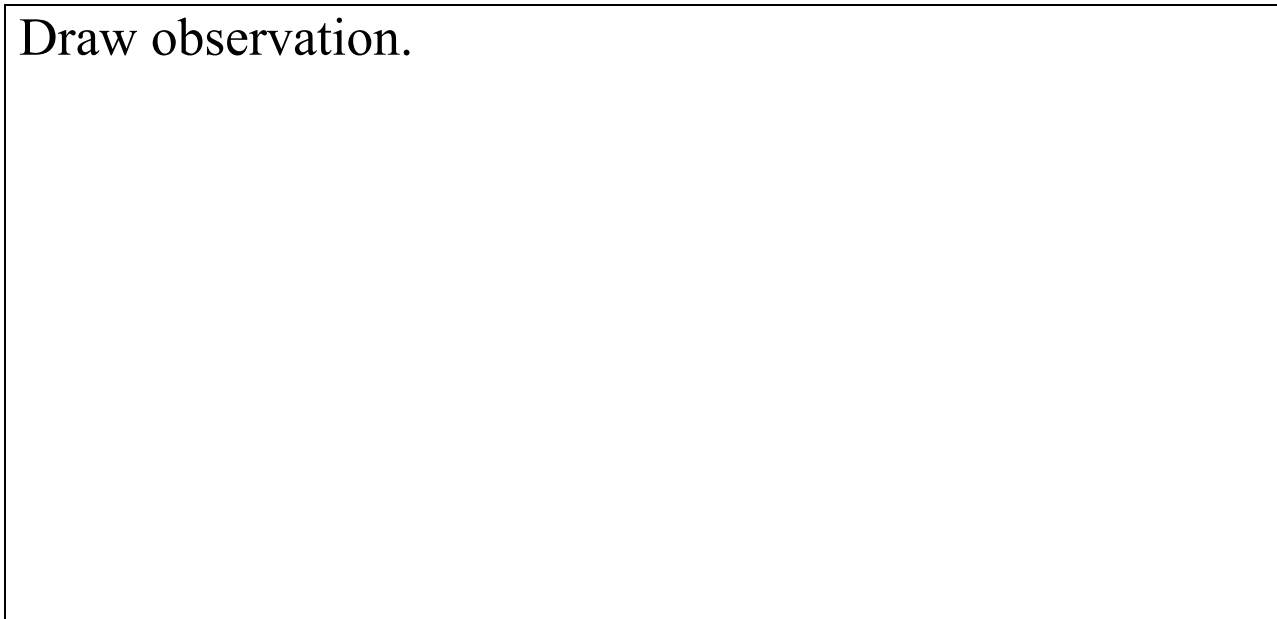
<http://www.moonconnection.com/moon-glossary.phtml> (vocabulary terms)

Journal # _____

Name: _____ Date: _____

On the following space, please write down your observations about the moons phase. Identify the phase that it is in, color, surrounding features, and more. Compare the similarities or differences from your previous observations (unless this is your first observation). After you have made your observations, make sure to complete a drawing of your observation and color the drawing accordingly.

Draw observation.



Moon Phases Check-off

	Understood Completely	Had Trouble	Need Extensive Help	Journals Show Understanding
Abby	X			

Bennett	X			
Brittany		X		
Bre	X			
Carlos			X	
Damon	X			
Gabrielle	X			
Halee	X			
Johnny	X			
Karen	X			
Lucy			X	
Lunette	X			
Mike		X		
Maddie		X		
Natasha	X			
Peter	X			
Samuel	X			
Susan			X	
Tracy	X			

*Students who needed extensive help and had trouble understanding the phases of the moon were given extra time with a classroom helper to understand, until caught up with rest of class. All students understood on a level where they were able to move onto the journal project.

Vocabulary Terms

These vocabulary terms were either previously learned in earlier lessons, or are going to be taught during this lesson

Annular Eclipse — Refers to an solar eclipse where the Moon is between the Sun and the Earth, but with the Moon appearing smaller than the Sun to the observer, leaving a bright ring around the circumference of the Moon.

Crescent Moon — The famous image of the Moon frequently used in the media, consisting of only a thin crescent slice of the Moon being visible from Earth. This phase of the moon occurs just after the New Moon phase, which is also known as Dark of the Moon. There is also a Crescent Moon phase just prior to the next New Moon as well.

Dark of the Moon — So named because during this phase, the Moon is not visible in the sky, Dark of the Moon is also known as New Moon.

Diurnal — In astronomy, diurnal generally refers to the motion of an object in a 24 hour period. An example would be Moon-rise. These activities repeat every 24 hours. The diurnal arc describes the amount of time a celestial object takes to transition from fully risen to fully set.

DST — Daylight Savings Time.

Eclipse — Any interference between the light from the Sun and the object being illuminated. The Moon frequently moves between the Earth and the Sun, blocking out the Sun's rays.

Ecliptic — A term applied to the invisible path in the sky that the Sun moves through during the year, in relation to Earth and the other planets.

Far Side — The side of the Moon which faces away from the Earth and which is not visible via planetary observation.

First Quarter Moon — During this phase of the Moon fifty percent of it is illuminated and visible from the Earth. It occurs after the Crescent phase and before the Waxing Gibbous phase.

Full Moon — During this phase of the Moon it is entirely illuminated and visible from the Earth. The Moon is opposite the Sun in this phase, with the Earth in between.

Gibbous Moon — There are two Gibbous phases of the Moon, with the first representing the growing moon between the First Quarter and the Full Moon and the second when it describes the Moon growing smaller as it shrinks down from the Full Moon to the Last Quarter. These phases are referred to as the Waxing and Waning Gibbous, respectively.

Gravity — Gravity is the attractive force which governs the motion of the celestial bodies. Gravity controls the orbits of all planets in our solar system as well as our solar system's relative motion to the Universe. It also plays a significant role in the distribution of mass throughout the Universe.

Half Moon — Term that is used to describe the First Quarter Moon and the Last Quarter Moon.

Intercalation — The source of leap years, or the addition of an extra day or other period of time in order to reconcile the solar year with that of the calendar we use. This is necessary because the solar year contains approximately 365.25 days, making it necessary to add a full extra day to the calendar every four years. In the past, much longer periods of time were used during intercalation. Intercalary days or months can also be added to the lunar calendar.

Last Quarter — The phase of the Moon between the Waning Gibbous and the Waning Crescent, where fifty percent of the Moon is still visible before the Waning Crescent phase wipes it from the sky.

Latitude — Coordinate system used on a planetary body to give the location of a point in relation to its equator. There are ninety degrees of latitude north and south of the equatorial line.

Longitude — Coordinate system used on a planetary body to give the location of a point in relation to a reference meridian. Meridians are lines drawn by cartographers and astronomers that pass through the northern point on the horizon, meeting at the celestial pole. As there is no natural starting meridian, the base or center meridian is chosen arbitrarily on each planet or moon. On Earth's Moon, Sinus Medii represents the zero degree point for longitude, with ninety degrees of longitude available to the east and west.

Lunar Day — There are two definitions of this term. The first refers to the period of time it takes for the Moon to spin completely on its axis in terms of its position to the sun. The second is the amount of time it takes for the Moon to complete a single orbit around the Earth. Due to the eccentric orbit, a Lunar Day varies in length. **Lunar Eclipse** — This event occurs when the Full Moon moves through the shadow cast by the Earth as it passes between the Sun and the Moon.

Magnitude — The brightness of a celestial body. A lower magnitude number indicates a brighter object.

Meteoroid — A meteoroid is any body drifting in space that has a large enough mass to be detected but which is significantly smaller than an asteroid. The exact limit at which a meteoroid is reclassified as an asteroid is up for debate, but generally, any object smaller than 50 meters in diameter is considered a meteoroid.

Moon — The natural satellite in orbit around the planet Earth. Also the classification for any natural satellite found in orbit around any other planet.

Moon Rise — Similar to sunrise, it is the first appearance that the Moon makes over the Earth's horizon, and as such it is relative to the geographical position of the observer.

Moon Set — The opposite of Moon Rise, it is the when the Moon disappears behind the Earth's horizon, relative to the observer.

Neap Tide — When the Moon is at its First Quarter or Last Quarter, its forces are partially cancelled out by the Sun. This leads to a lower high tide than normal.

Near Side — The side of the Moon that is visible from the Earth.

New Moon — If the Moon is on the same side of the Earth as the Sun, then the face of the Moon that can be seen from the Earth is no longer illuminated by the Sun's rays — as only the opposing side is facing the Sun. As a result, it is invisible in the Earth's sky.

Old Crescent Moon — Phase of the Moon that occurs between the Last Quarter and the New Moon. In this phase, the Moon is visible only as a very thin crescent.

Partial Eclipse — When a celestial body gets between another object and a light source, it casts 2 shadows. The umbra blocks all of the light from the light source (usually a sun), and the penumbra blocks only a portion of that light. A partial eclipse occurs when an object finds itself in the penumbra.

Phases — When applied to the Moon, the phases refer to the different illumination that it undergoes during its orbit around the Earth and the Sun. The most commonly known phases of the Moon include Full Moon and the Quarter Moon.

Radius — Half the diameter of any sphere or circle.

Rotation — The motion of a sphere which is spinning around its own axis. An example would be a basketball spinning on the tip of a finger.

Satellite — Any object that orbits another celestial body.

Solar Eclipse — Term that describes when the Sun is obscured by the Moon from the perspective of Earth.

Waning Moon — The term used to describe the period of the Moon as it moves from a Full Moon to a New Moon, decreasing in visibility with respect to an Earth-bound observer.

Waxing Moon — The term used to describe the period of the Moon as it moves from a New Moon to a Full Moon, increasing in visibility with respect to an Earth-bound observer.

Young Crescent Moon — Name for the initially visible crescent of the Moon immediately after the New Moon.

Phases of the Moon Unit Project

Our class has been learning about the different phases of the moon, and it is time to put their creativity to test! They are going to be making at least five (5) different journals during the month of March about the different phases of the moon. Students have to make their journals with at least four (4) days in between each journal to help them see the different phases of the moon. Please look at the following dates and this will help explain the project more in depth.

Important Dates:

March 1st – Introduced to the Phases of the Moon Unit Project

March 15th – Students are required to turn in at least two (2) of their journals for the teacher to be able to see they have started their project. Students will also be comparing with other students about their two journals of the moon they brought in.

March 31st – All journals are due! Students can be creative and create a cover page for their journals and place them in a booklet. Students are allowed to be as creative as they please. They will not be docked points for not having a cover page or in a booklet, it is simply up to the student to be as creative as they wish.

April 1st – Students will be creating their Scratch Art from their favorite journal entry. They will also be writing out what they observed in that entry in their nicest handwriting and error free. (Done in Class)

April 2nd - Students who are not complete will be given additional in class time on their Scratch Art and paragraphs. If students are not finished today, they are able to take home and finish over the weekend.

April 4th – Scratch art projects and Journal entries will be displayed in the hall way for the other students, teachers, and parents to be able to see.

Much of this project will be completed at home and during the student's family time. If there are any conflicts with this project being unable to complete, please feel free to contact me and we can work together to make other arrangements.

Miss Houser

shouser@riverview.wednet.edu
425-844-4800

Instructional Plan

Teacher Candidate: Marissa Whitman

Date: 3/22/12

Cooperating Teacher: Mrs. Patera

Grade: 1st

School District: Pullman, WA

School: Jefferson Elementary School

University Supervisor: Lori White

Unit/Subject: Integrating Science into Art- Painting

Instructional Plan Title/Focus: Colors of the Planet

Learning Targets/Purpose/Previous Learning

- p. **Instructional Plan Purpose:** This lesson has the students participate in discussion on what they think the planets in the Solar System look like. The teacher models different types of colors and strategies to figure out the true color of the planets in a group discussion. The have the students discuss their thoughts in their desk groups. Then each student will pick his or her favorite planet in the Solar System to do research on and finally paint his or her planets color on a Styrofoam ball. This lesson is designed to allow students to learn about the different planets and how they are all different colors from discussions, research, and constructing learning through an art project on one planet. The lesson also gives students the chance to practice their painting skills as well as learning about all the planets in a fun and interactive project. Once they have chosen their certain planet they will then do some research on that planet. The teacher will provide books and computer lab time for students to do so.

- q. **State Learning Standards:**

Art:

Grade Level: 1

EARL 1. Visual Arts: The student understands and applies arts knowledge and skills in dance, music, theatre, and visual arts.

Component: 1.1 Understands and applies visual arts concepts and vocabulary.

Grade Level Expectations: 1.1.6 Remembers, applies, and creates the elements of visual arts when producing a work of art.

Elements of Visual Arts: Line, Shape, Form, *Color*, Value, Texture, Space

Grade Level: 1

EARL 2. Visual Arts: The student uses the artistic processes of creating, performing/presenting, and responding to demonstrate thinking skills in dance, music, theatre, and visual arts.

Component: 2.1 Applies a creative process to visual arts. (Identifies, explores, gathers, interprets, uses, implements, reflects, refines, and presents)

Grade Level Expectations: 2.1.1 Applies a creative process to the visual arts.

Science:

Grade Level: 2-3

EARL 1. Systems

Big Idea: Systems (SYS)

Core Content: Role of Each Part in a System

Description: In prior grades students learned to recognize part-whole relationships. In grades 2-3 students learn to think systematically about how the parts of objects, plants, and animals are connected and work together. They realize that the whole object, plant, or animal has properties that are different from the properties of its parts, and that if one or more parts are removed, the whole system may not continue functioning the same way. Students also note cases in which the same part may play a different role in a different system. Finally, they learn to define system as "a group of interacting parts that form a whole." Understanding that an object, plant, or animal is more than the sum of its parts is a deep insight that has value in investigating all natural and human-made systems.

Content Standard: 2-3 SYSA A system is a group of interacting parts that form a whole.

Grade Level: 2-3

EARL 1. Inquiry

Big Idea: Inquiry (INQ)

Core Content: Conducting Investigations

Description: In prior grades students learned that scientific investigations involve trying to answer questions by making observations or trying things out. In grades 2-3 students learn to conduct different kinds of investigations. Although students may not yet be able to plan investigations alone, they can carry out investigations in collaboration with other students and support from the teacher. Actions may include observing and describing objects, events, and organisms, classifying them and making and recording measurements. Students should also display their data using various tables and graphs, make inferences based on evidence, and discuss their results with other students.

Content Standard: 2-3 INQE-Model- Models are useful for understanding systems that are too big, too small, or too dangerous to study directly.

r. Content Objectives:

SWBAT understand and apply art knowledge and skills in dance, music, theatre, and visual arts when producing a work of art with color.

SWBAT use the artistic processes of creating, performing/presenting, and responding to demonstrate thinking skills in dance, music, theatre, and visual arts.

SWBAT a system is a group of interacting parts that form a whole.

SWBAT models are useful for understanding systems that are too big, too small, or too dangerous to study directly.

s. Language Objectives:

SWBAT understand vocabulary words related to the solar system.

SWBAT describe and write down connections about the solar system that is related to the class discussion and provide questions that they have about the information given during the discussion.

SWBAT give their opinions about the planets they have researched and participate in-group discussions.

t. Previous Learning Experiences:

The students have been recently working on painting, the vocabulary that goes with it, how to paint, and objects you can paint with and on. They have been able to make visual arts by taking different colors and mix them together to make a new color. This goes along the lines of how the students have also learned that scientific investigations involve trying to answer questions by making observations or trying things out. Also, they have previously learned how to conduct different kinds of investigations. Although students may not yet be able to plan investigations alone, they can carry out investigations in collaboration with other students and support from the teacher. Actions may include observing and describing objects, events, and organisms, classifying them and making and recording measurements. Students should also display their data using various tables and graphs, make inferences based on evidence, and discuss their results with other students.

Assessment Strategies

Attach questions, worksheets, tests or any additional documentation related to your assessment strategies. Also attach appropriate marking rubrics, criteria lists, expectations, answer keys, etc.

- **Formative:** measures process/progress toward mastery of target(s)
- **Summative:** measures outcomes/achievement of target(s)

Content Objectives	Assessment Strategies
SWBAT understand and apply art knowledge and skills in dance, music, theatre, and visual arts when producing a work of art with color.	<p>Formative: The teacher will have each student's listen to her talk about the different types of art and how to create a visual piece of art by using watercolor. The students will then listen to the teacher talk about the Solar System and the different planets that are in it. The students will then talk to an elbow partner about the different types of planets and pick which one they want to paint. They will then do some research with books provided to figure out the true colors of the planets and write it down on a piece of paper.</p> <p>Summative: There is no summative assessment of this objective planned for this lesson.</p>
SWBAT use the artistic processes of creating, performing/presenting, and responding to demonstrate thinking skills in dance, music, theatre, and visual arts.	<p>Formative: The teacher will then demonstrate how to mix colors together to form a different color. Then the teacher will model how to use watercolor paint on a Styrofoam ball. Then the students will get their own Styrofoam ball to paint the color of their planet on it.</p> <p>Summative: There is no summative assessment of this objective planned for this lesson.</p>
SWBAT a system is a group of interacting parts that form a whole.	<p>Formative: The teacher will then discuss with the students that within the solar system are different planets that come together to make a whole. The students will then discuss it with an elbow partner.</p> <p>Summative: There is no summative assessment of this objective planned for this lesson.</p>
SWBAT models are useful for understanding systems that are too big, too small, or too dangerous	<p>Formative: The teacher will then put together all the students paintings of the planets into order to create the solar system for</p>

to study directly.	<p>students to see it as a model. The students will then paint their own on a piece of paper.</p> <p>Summative: The teacher will have the students present their planet to the class in a presentation about the information they found researching about it. While the students present the teacher will assess them based on the information they present and how well they have researched all the information.</p>
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Student Voice: Select two components of student voice and identify how students will reflect and/or communicate on their learning or progress toward meeting the goals. You may eliminate the components not being addressed.

K-12 students will:	Student-based evidence to be collected (things produced by students: journals, work samples, projects, papers, etc.)	Description of how students will reflect on their learning
9. Communicate the support and resources that can be accessed to help them achieve the learning targets.	The students will use books and computers to get the information of the planets colors.	The students will use their resources such as books and computers to find the information about the different planets in the solar system. They will then pick watercolor paint that reflects those colors and paint them on a Styrofoam ball.
10. Articulate the thinking strategies used to achieve the learning targets.(5.1)	The students will write in their journals.	The students will then write in their journal the different strategies they used to find the color of their planet, how they mixed the different colors, and how they painted it on the ball. They will then reflect on the process as a whole.

Grouping of Students for Instruction

- **Whole Class-** The whole class will listen to the teacher talk about the solar system. Then the class will have a group discussion at their desk about the different planets in the solar system and the colors that they are.
- **Partner Learning-** The students will share their thinking on several occasions with their elbow partner during the discussion.
- **Individual Learning-** The students will have a chance to research on their own and create a planet out of a Styrofoam ball and paint. Then they will write a journal entry on the process and reflect and give a two-minute presentation on their planet.

Learning/Teaching Experiences

- u. **Introduction:** To start, the teacher will hook the children by asking if anyone knows what the solar system is and let the children share their ideas. Next, she will tell them what the solar system is and about the planets that are in the solar system. The teacher will ask the students how this relates to their own personal life and discuss it as a class. The point is to get the students relating the solar system to Earth, the planet that we live on and how there are other planets out there. Then, the teacher will introduce the project and what the expectations of the outcome are. The teacher will explain that there are many steps to this project and each step is very important. Next, the teacher will remind the students that they have been recently working on painting, the vocabulary that goes with it, how to paint, and objects you can paint with and on. They have been able to make visual arts by taking different colors and mix them together to make a new color. This goes along the lines of how the students have also learned that scientific investigations involve trying to answer questions by making observations or trying things out. Today they will be focusing on the artistic processes of creating, performing/presenting, and responding to demonstrate thinking skills in dance, music, theatre, and visual arts. The teacher will facilitate a discussion about those topics and will have the class come up with the different planets and ways to research them and create a planet with paint.
28. **Questions:** Identify at five questions that will drive student learning. Be sure that higher-level thinking questions are included and framed in open-ended ways that elicit students’ curiosity, critical thinking, problem-solving, and build on their prior experiences and knowledge. These questions should show that you can scaffold students’ learning.
- At the beginning of the class discussion, the teacher will ask the students: “Who can tell me what the solar system is?”
 - “What are the planets within the solar system?”
 - The teacher will then ask the students to share with each other, “how the solar system is related to their lives?”

- Before the students begin picking their favorite planet, the teacher will ask the students what are some ways to research information about the solar system and the planet you have chosen.
- During the research process, the teacher will ask the students to consider the questions, “What planet am I researching? What is the color of that planet? What colors will I have to mix to create the right color?”
- On the home connection activity, the teacher asks the students to write about “What’s one thing they like about living on Earth? What is the difference in color from the planet you researched compared to Earth?”

29. **Learning Activities:** Give detailed, step-by-step instructions on how you will implement the instructional plan.

Describe exactly what students will do during the lesson. Please use a numbered list.

1. The teacher will ask the students to sit at their desk with a piece of paper to write on.
2. The teacher will introduce the lesson by reminding the students that they have been working on painting, the vocabulary that goes with it, how to paint, and objects you can paint with and on. They have been able to make visual arts by taking different colors and mix them together to make a new color. He/she will go over these strategies, making connections and asking questions, then asking the students if they remember what each are. The teacher will explain that today they will continue to work on the artistic processes of creating, performing/presenting, and responding to demonstrate thinking skills in dance, music, theatre, and visual arts.
3. The teacher will then ask the students, “Who knows what the solar system is?” Talk about it with an elbow partner. The teacher will then have the student’s write on their papers what they think the solar system is.
4. The teacher will then ask students, “What are the planets within the solar system?” The teacher will facilitate a discussion about the planets and will help the students realize that Earth, the planet we live on is part of the solar system.
5. The teacher will then explain to the students that each planet is a different color and several different colors mixed together can make that exact color. The teacher will discuss with the students that when you paint you can mix different colors together to get unique colors.
6. The teacher will then have the students pick their favorite planet. Once each student has chosen his or her planet, the teacher will introduce the project behind the lesson. The teacher will tell the students that they will be researching the planet they have chosen by using books, computers, and any other resources possible. Computer lab time will be set aside for this project. They will be finding information about the planet and what color it is.
7. The teacher will then have the students write down the information about their planet in their journals.
8. After all the research is all done the teacher will provide paints, Styrofoam balls, paintbrushes and water for the students. The teacher will then have the students take one Styrofoam ball and the rest of the items will be shared throughout the desk groups. The teacher will have the students refer back to their journals for the color of their planet. Once they have located the color they will begin painting their Styrofoam ball the color of their planet my mixing and experimenting with different color paint.
9. The students will then give a two-minute presentation about the planet they have chosen. The teacher will ask them to include, “What planet they chose? Why they chose that planet? What the color of the planet is? How did they do their research?”
10. The teacher will then assess them on their information given.

30. **Instructional Considerations:**

kk) Instructional procedures:

- Teacher will facilitate class discussion about the solar system (audio)
- Teacher will have students write down what they think the solar system is (haptic)
- Teacher will write what the solar system is on the white board (visual)
- Teacher will facilitate class discussion about the planets within the solar system (audio)
- Teacher will have students connect their relation to the planet Earth and write it down (audio/haptic)
- Teacher will discuss with the students the colors of the planets and the act of painting (audio)
- Teacher will have students pick their favorite planet and research information on it and the color of it (visual)
- Teacher will have students write down information in their journal (haptic)
- Teacher will provide students will painting supplies to paint their planet on a Styrofoam ball (visual)
- Teacher will have the students do a presentation to share information about their planet (audio)
- Teacher will assess the presentation based on the information the student provided
- Teacher will have the students complete a home connection activity

ll) Multiple means of access (list ways the teacher will present the materials)

- Students will participate in class discussion
- Students will write down what their own thoughts in their journal
- Students will listen to the teacher model there thinking and strategies
- Students will participate in class discussion

- Students will make connections with information given and write it down
 - Students will participate in group discussion
 - Students will pick a planet and begin researching
 - Student will write down information found
 - Student will paint Styrofoam ball
 - Student will give a presentation
 - Student will be assessed on presentation
 - Student will fill in the home connections activity
- mm) Multiple means of engagement (list ways the students will participate in the learning)
- Students will learn through class discussion, by sharing ideas about the solar system and coming to a class wide definition of what it is.
 - Students will learn as they listen to the teacher talk about the planets within the solar system
 - Students will learn by making connections to the planet within the solar system known as Earth and writing them down in their journals
 - Student will learn through class discussion about the colors of the planets and the act of painting
 - Student will construct meaning by picking their favorite planet
 - Student will learn through researching information about their favorite planet
 - Student will learn by making connections with the color of the planet and writing it down in their journal
 - Student will learn by painting a Styrofoam ball to represent their planet by choosing and mixing the correct colors of paint that resemble the actual color of the planet chosen
 - Students will learn by presenting the information about their planet to the class
 - Students will learn by researching on their own, practicing strategies of asking questions and making connections and filling out their home connection activity.
 - Students will learn by participating in the artistic processes of creating, performing/presenting, and responding to demonstrate thinking skills in dance, music, theatre, and visual arts
- nn) Multiple means of expression (list ways the students can show their learning)
- Student can demonstrate their learning by their participation in the class discussion
 - Students can demonstrate their learning by their participation in partner discussion.
 - Students can demonstrate their learning by what they write in their journals.
 - Students can demonstrate their learning by their participation in the group discussion.
 - Students can demonstrate their learning by taking notes on their research in their journal.
 - Students can demonstrate their learning by creating and painting a Styrofoam ball.
 - Students can demonstrate their by presenting their information to the class
 - Students can demonstrate their learning by completing the home connection activity.
- oo) Methods of differentiation, (list accommodation or differentiation strategies)
- This activity supports multiple access levels because the students can write their own thoughts in their own journals. Some students can write in advanced sentences, others might just jot down a word or two.
 - There are 5 students in the room who receive special education help in reading and writing. The reading and writing specialist has asked the teacher to make sure to let her know what these students are working on during class so that she can provide additional support during their pullout time. The teacher will make sure to let the reading specialist know that these students are working on the artistic processes of creating, performing/presenting, and responding to demonstrate thinking skills in dance, music, theatre, and visual arts. If necessary, the teacher will have the specialists look at these students' journal so that he/she can focus on their individual needs. In this way, these students can receive additional support.
 - There are 4 ELLs in the room at varying levels of ability. For those students who have weaker writing and speaking skills, the teacher will talk to them ahead of time and encourage them to draw pictures in their journals if they are not able to write their connections and questions in words. The teacher will also make sure to check on these four students during the group discussions. Sometimes these students hesitate before sharing their thinking with the group. The teacher will support them by asking a leading questions if necessary, and making sure that the rest of the group listens respectfully as they share.
- pp) Language learning objectives: (Where will you integrate these?)
- qq) The language learning objectives are incorporated in the lesson. The students will have the chance to write down connections that they have with Earth and questions they have about the solar system during the class discussion. The students will then use their journals as a reference during a small group discussion about the different planets. The students will also have the chance to share their opinions about the artistic processes of

creating, performing/presenting, and responding to demonstrate thinking skills in dance, music, theatre, and visual arts. The students will show this during a class discussion, painting project, and presentation.

rr) Cultural responsive pedagogy: (List the cultural connections)

- In their desk groups we will assign each group a different country to research about what that country calls the planets within the solar system. They will write down the different names and any additional information they find that is different from what the USA say. They will also write down what different countries use to paint items and write them down. They will compare and contrast that to the USA. Once they have a solid understanding, the students will have a class discussion about how each country is different. This will show the students that not every country is the same but have the same routes. However, some things are the same.

ss) Remedial activities: (Do you have a review sheet, scaffolding worksheet or plan?)

- At the end of the lesson, the teacher will have a review worksheet that will be due the following day. The worksheet will ask what the solar system is and to list three planets within it and the color of one. The next question will ask them about how they painted their planet and the colors they mixed and what the final color was.

tt) Extension activities: (What will students who finish early do?)

- If the students finish early, they will be asked to draw a picture of the solar system and label the planets within it. Once they do that they can color it for fun. This will be an individual assignment.

31. **Closure:** Explain how you are going to bring closure to the lesson.

- The students will share what they have learned in the lesson in a few different ways. First, the students have the chance to explain how the artistic processes of creating, performing/presenting, and responding to demonstrate thinking skills in dance, music, theatre, and visual arts help their understanding of the home connection activity. The teacher will also begin the next day's lesson by asking the students "Thinking back from yesterday's lesson, who tell me what the solar system is?" The teacher will also ask the students, "What artistic processes of creating, performing/presenting, and responding to demonstrate thinking skills in dance, music, theatre, and visual arts can you say we used in this lesson?"
- The home connections activity will give the students additional practice in their artistic process and looking for a ways to relate the solar system, Earth, to their everyday life. The teacher will continue to have the students to practice their artistic skills as they continue to research more information in the future on different topics. The teacher will also build on this exploration of artistic process in the next several mini-lessons.

32. **Independent Practice:** Describe how students will extend their experiences with the content and demonstrate understanding beyond the scope of the lesson outside the class.

- The students will have a home connections activity to complete. The home connections activity will provide additional practice in making connections and asking questions. It will also ask the students to consider the artistic process in everyday activities in their home. Additionally, the students have a daily time to research new information about different topics. Frequently they have the opportunity to practice asking questions and making connections and are asked to record their thinking in their journals. The concept of artistic process and the solar system will be one on which the teacher will continue to focus in several additional lessons throughout the next couple weeks.

Instructional Materials, Resources, and Technology

- White Board
- Pencil
- Paper
- Watercolor Paint
- Styrofoam Ball
- Computer
- Books on Planets

Additional Requirements

- **Integration with Other Content Areas:** This lesson plan incorporates some of the content from the art and science EARLs, particularly component 1 and 2 for art and for science systems and inquiry. The group's work and discussions, research, and artistic skills with painting help provide the students with practice in this content area.
- **Acknowledgements:**

- Instructional Plan created by Marissa Whitman
- Instructional Plan adapted from:
 - Smith, A., (2010). Illustrated Guide to the Solar System. KS: Anness Publishers.

The Solar System

1st Grade Art and Science -- Project

Name: _____ Date: _____

Good afternoon students! Today we will be starting a new unit on the Solar System and the Planets that are in the Solar System. This will be done through a science and art project. We are going to make a planet out of a Styrofoam ball, paint, and conduction research. Please remember to take your time, do as much research as possible, be creative with the paint colors, and go slow during your presentation. I will grade you on all those parts of the project. Below is the rubric. Good Luck class. Have fun this is an exciting project! Turn this in during your presentation.

Rubric

Points	7-10	3-6	0-3
The student understands and applies art knowledge and skills in dance, music, theatre, and visual arts when producing a work of art with color.	Student clearly shows understanding of how art can be related to the solar system and that by mixing colors it can create a new and unique color to produce their planet	Student identifies that he/she understands the relation, but lacks the art of mixing new colors to produce their planet.	Student cannot understand the relation, and cannot mix colors to produce their planet.
The student understands the artistic processes of creating, performing/presenting, and responding to demonstrate thinking skills in dance, music, theatre, and visual arts.	Student clearly demonstrates their understanding of the artistic process by researching information, creating and painting a planet, and presenting it to the class.	Student identifies that he/she demonstrates the artistic process through researching information, creating and painting but does not present their information to the class.	Student cannot demonstrate the artistic process in any way or form.
The student understands a system is a group of interacting parts that form a whole.	Student understands what the solar system is and how many other things, like the planets can make up one big group of interacting parts that form a whole.	Student understands what the solar system is but is not able to connect it to a group of interacting parts that make up a whole.	Student cannot demonstrate that they understand what the solar system is.
The student models are useful for understanding systems that are too big, too small, or too dangerous to study directly.	Student understands that the planets within the solar system are far away and too small for us to physically see from earth but can be modeled through the painting of a Styrofoam ball.	Student understands that the planets within the solar system are far away and hard to see but does not understand how a small Styrofoam ball can represent it.	Student does not understand the modeling of a Styrofoam planet and that the solar system is too small to see
Creativity	Student uses new and interesting ideas	Student uses some creativity but is not	Student does not show any creativity

		completely original	
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Solar System Lesson Vocabulary

Please fill out the vocabulary words as best as you can. We will go over them as a class once everybody is done. Thank you!

1. Solar System:

2. Planets:

3. Sun:

4. Mercury:

5. Venus:

6. Earth:

7. Mars:

8. Jupiter:

9. Saturn:

10. Uranus:

11. Neptune:

12. Pluto:

13. Moon:

14. Paint:

15. Styrofoam Ball

Instructional Plan

Revised 3/2/2011

Teacher Candidate: Cyley Wytko Date: 2/29/12
Cooperating Teacher: _____ Grade: 4-5
School District: _____ School: _____
University Supervisor: _____
Unit/Subject: Space Science
Instructional Plan Title/Focus: How is Earth different from other planets?

Learning Targets/Purpose/Previous Learning

v. Instructional Plan Purpose

The purpose of this project is for students to identify and note the differences in the planets in our solar system. Students will understand the qualities of Earth that allow us to live here.

w. State Learning Standards:

Science EALR: 4- Earth and Space Science

In prior years, students learned that water plays an essential role in Earth systems, including shaping landforms and weather. In grades 4-5 students learn how Earth materials change and how they can be used for various purposes. They learn that Earth materials include solid rocks and soil, water, and gases of the atmosphere. People use many of these materials as resources to meet their needs. One of the most important Earth resources is soil, since people depend on fertile soil to grow food. The processes that produce soils offer an excellent opportunity for students to understand how Earth materials change gradually over time, and provide a solid grounding for later study of landforms and large-scale changes of Earth's surface that students will learn in middle school.

4-5 ES1A Earth is approximately *spherical* in shape. Things on or near the Earth are pulled toward Earth's center by the *force of gravity*.

4-5 ES2A Earth materials include *solid* rocks and soil, water, and *gases* of the *atmosphere*. Materials have different physical and *chemical properties* which make them useful in different ways. Earth materials provide many of the resources that humans use.

4-5 ES1D The Sun is a star. It is the central and largest body in our *Solar System*. The Sun appears much brighter and larger in the sky than other stars because it is many thousands of times closer to Earth.

Visual Arts EALR: 1 Grade 4: The student understands and applies arts knowledge and skills in dance, music, theatre, and visual arts.

Visual Arts Component 1.1 Understands and applies visual arts concepts and vocabulary.

GLE 1.1.1 Applies, analyzes, and creates the elements of visual arts when producing a work of art. Elements of Visual Arts: Line, Shape, Form, Color, Value, Texture, Space

GLE 1.1.2 Applies, analyzes, and creates the elements of visual arts when producing a work of art. Elements of Visual Arts: Line, Shape and Form, Color, Value, Texture, Space

GLE 1.1.3 Applies, analyzes, and creates the elements of visual arts when producing a work of art. Elements of Visual Arts: Line, Shape, Form, Color, Value, Texture, Space

GLE 1.1.4 Applies, analyzes, and creates the elements of visual arts when producing a work of art. Elements of Visual Arts: Line, Shape, Form, Color, Value, Texture, Space

GLE 1.1.5 Applies, analyzes, and creates the elements of visual arts when producing a work of art. Elements of Visual Arts: Line, Shape, Form, Color, Value, Texture, Space

GLE 1.1.6 Applies, analyzes, and creates the elements of visual arts when producing a work of art. Elements of Visual Arts: Line, Shape, Form, Color, Value, Texture, Space

Visual Arts EALR: 2 Grade 4: The student uses the artistic processes of creating, performing/presenting, and responding to demonstrate thinking skills in dance, music, theatre, and visual arts.

COMPONENT 2.1: Applies a creative process to visual arts. (Identifies, explores, gathers, interprets, uses, implements, reflects, refines, and presents)

x. Content Objectives:

SWBAT: Describe Earth materials and list their physical and chemical properties [Science 4-5 ES2A]

SWBAT: Explain the properties of Earth and why they are/aren't useful [Science EALR 4]

SWBAT: Know the difference between human made and raw materials [Science 4-5 ES2A]

SWBAT: Understand and apply arts knowledge. [Art EALR 1 Grade 4]

SWBAT: Gather and use information to create works of art [Visual Arts EALR 2 Grade 4]

SWBAT: Uses ideas, skills, foundations and techniques to create works of visual art [Visual Arts Component 2.1 Grade 4]

SWBAT: Present works of art to others in the school and community. [Visual Arts Component 2.1 Grade 4]

y. Language Objectives:

SWBAT: Understand the different characteristic terms that describe the Earth such as; spherical, force, eclipse and gravity. [Earth and Space Science 4-5 ES1A]

SWBAT: Recognize and define different planets in our *solar system*. [Earth and Space Science 4-5 ES1D]

SWBAT: Recognize the different art terms and techniques such as; line, shape, form, color, value, texture, and space. [GLE 1.1.1, 1.1.2, 1.1.3, 1.1.4, 1.1.5, 1.1.6]

z. Previous Learning Experiences: Students will have background knowledge of space, knowing that there are other planets in the solar system and they all have different properties very different to Earth. Students will have learned basic art techniques such as watercolor painting, drawing, cutting, and gluing that will be perfected when making this brochure.

Assessment Strategies

- **Formative:** measures process/progress toward mastery of target(s)
- **Summative:** measures outcomes/achievement of target(s)

Content Objectives	Assessment Strategies
<p>SWBAT: Describe Earth materials and list their physical and chemical properties [Science 4-5 ES2A]</p> <p>SWBAT: Explain the properties of Earth and why they are/aren't useful [Science EALR 4]</p> <p>SWBAT: Know the difference between human made and raw materials [Science 4-5 ES2A]</p> <p>SWBAT: Understand and apply arts knowledge. [Art EALR 1 Grade 4]</p> <p>SWBAT: Gather and use information to create works of art [Visual Arts EALR 2 Grade 4]</p> <p>SWBAT: Uses ideas, skills, foundations and techniques to create works of visual art [Visual Arts Component 2.1 Grade 4]</p> <p>SWBAT: Present works of art to others in the school and community. [Visual Arts Component 2.1 Grade 4]</p>	<p>Formative: Students will be talking with elbow partner, they will also be researching differences between Earth and other planets. They will compile a list or Venn Diagram of these differences.</p> <p>Summative: Students will have created a brochure that is filled with both art and science demonstrating their ability to create tasteful landscapes as well as provide scientific facts about these landforms in correlation to what we have learned in previous lessons.</p>

Student Voice:

K-12 students will:	Student-based evidence to be collected (things produced by students: journals, work samples, projects, papers, etc.)	Description of how students will reflect on their learning
<p>11. Communicate the support and resources that can be accessed to help them achieve the learning targets.</p>	<p>Students will research the differences between Earth and other planets on computers and print off a list of website resources used. They will also turn in the brochure which has the actual evidence of the characteristics that they understand makes Earth unique.</p>	<p>Students will recognize other resources that could be used for this project for example National Geographic Magazines, science movies, or journal articles.</p>
<p>12. Communicate how the learning from a series of lessons connects with communities within and outside of the school.(5.3)</p>	<p>Since this lesson covers both science and art students will be able to connect this to the outside world. Brochures are a combination of art and information, students will recognize other combinations of art and science or art and information. Such as a website,</p>	<p>To reflect on their learning students will bring in examples of other combinations of art and another topic. Such as a brochure, flyer, advertisement or toy.</p>

Grouping of Students for Instruction

- Describe how students will be divided into groups, if applicable (random, ability, interest, social purposes, etc.)

Students will be in one group for the instruction of what this project entails

Students will be split into elbow partners in order to research the differences between other planets and Earth

Students will do each brochure on their own but will paint/color in groups of 4 at their desks

Learning/Teaching Experiences

33. Introduction:

- First I will ask students if they have ever seen a brochure and if they know what a brochure is
- Then briefly explain what a brochure is and how it helps people get a better idea of whatever the brochure covers such as places to travel, restaurants, new food, classes to take or vacations.
- This will relate to their lives because when they are unsure or curious about new things brochures help to provide an overview
- The real attention grabber is telling students they will be creating a travel brochure for aliens
- In a hypothetical situation extraterrestrials are trying to decide what planet to visit for vacation in our solar system and we need to convince them to visit Earth

34. Questions:

- What are examples of other times in your life that you would need/want a brochure?
- Why DO we live on Earth? What makes it so great compared to other planets?
- If you could live on any other planet why would you? How would you survive?
- Why are our resources on Earth so precious to us?
- What is one thing that you think will persuade aliens to visit Earth?
 - To actively engage students in answering this question I would first give an example or two of my own answering, and then tell them to come up with something different. After asking each question I will instruct students to discuss their answer with an elbow partner for 30 seconds. Then I will tell them the first people to respond to the class will be the first to pick out their supplies for their brochures. So the students who answer first determine the order by which the supplies get chosen.

Learning Activities:

- 1) For today's class we will be making a travel brochure about the Earth for a pretend activity in which we must convince aliens to visit the Earth instead of another planet.
- 2) We will be using both art and science to complete this activity, we will combine the knowledge you learned about art in your previous classes with factual science to complete these brochures.
- 3) I have included a list of both art and science vocab that we have gone over so far in this unit to help remind you of what we covered, this way you can include these terms and techniques in your brochures.
- 4) I will hand out a criteria list and a rubric explaining what I expect you to include in your brochures, which will include colorful detailed drawings with descriptions of the Earth's formations and what makes them so special to us.
- 5) Before we start this activity I am going to ask you some questions, the first students to answer will be the ones who get to go up and choose what materials they want to use in their brochure first. The rest of the students will follow until everyone has 1 piece of construction paper, 1 set of drawing/coloring materials (either markers, watercolor, colored pencils or crayons), 1 pair of scissors, and glue.
- 6) Now you will all come up with a compare and contrast list or venn diagram that will compare the Earth to other planets. I will show you an example of a venn diagram comparison.
- 7) In order to come up with this list I want you to look up facts about the Earth, solar system, and planets within the solar system on the computer, or in our national geographic magazines or in a book from basket of space books from the library.
- 8) Once you have compiled your sources in a list or venn diagram you will show them to me and I will check them off on your rubrics, then you may start your brochure.
- 9) Feel free to share your markers and watercolors with other people so we each may have diverse brochures with a variety of textures.

- 10) After you are completed with your brochure turn it into me, after I grade it you will have the option to present it in front of the class or we will post them in the hall outside our door. If there is still time after you finish I have a Which Planet Am I? worksheet for you to do.

1. Instructional Considerations:

- uu) The beginning of the lesson (introduction) will be lecture style, upon presenting an example of what the brochure and Venn Diagram will look like, I will use a document camera. When I ask them the 5 questions to promote thinking they will use partner practice.
- vv) I will present the materials in the front of class by speaking, by demonstrating, by showing examples I have already created
- ww) Students will talk with elbow partners, research with elbow partners, they will create their brochures in groups of 4 so they many interact and share ideas, and I as the teacher will be available through the whole activity to answer questions and clear up confusion.
- d) Students will show their learning by compiling a list of sources for their brochure, making a list or Venn diagram of the differences between Earth and other planets in the solar system, creating a brochure, coloring land formations and explaining why they are important, and having the option to present their brochure to the class.
- xx) For lower kids in the class I can create a separate vocabulary list, and a separate criteria list for them to make their brochure with.
- yy) These are integrated into the lesson because they are required to use 3 vocab terms from what they learned in art and 3 vocab terms to what they learned in science within their brochure.
- zz) Cultural connections include how we have brochures for people visiting different countries because all part of the world are different, they contain different land formations, weather, climate and people.
- aaa) There is a planet worksheet, and a vocab list, along with a rubric and a criteria list (instructions)
- bbb) Students who finish early can complete the planet worksheet, and if they finish that they can make a shopping or packing list for the aliens to use. The list can include types of clothing the aliens should bring, sun protection, snow gear, things that correlate to the places that are advertised on the brochure.

Closure:

- Two questions that will help me understand what students learned during the lesson are: 1. What were 3 differences between Earth and any other planet in space? 2. What makes Earth such a special place to visit?
- The brochure idea is a great connection because there are so many informational brochures that allow people to learn about things that are foreign in a short amount of time.

Independent Practice: Students will be encouraged to look for brochures they find interesting and bring them into class to show everyone a real life example.

- b. One way to involve students families in this instructional plan is to have the students interview their parents on whether or not they have ever found travel brochures useful.

Instructional Materials, Resources, and Technology

Attach a copy of ALL materials the teacher and students will use during the lesson; e.g., handouts, questions to answer, overheads, powerpoint slides, worksheets.

Additional Requirements

- **Integration with Other Content Areas:** Art and science are combined in this lesson plan
- **Acknowledgements:** crayolalessonplan.com

What Planet Am I?

Use the words in the list below to complete the sentence

1. is the closest planet to the sun
2. The hottest planet is _____
3. The only planet to have intelligent life is _____
4. _____ has the biggest mountain
5. Out of all the planets _____ is the biggest
6. The biggest rings belong to _____
7. _____ is sideways compared to the other planets
8. The windiest planet is _____

Word Bank

	Saturn
	Earth
	Jupiter
	Venus
	Mars
	Mercury
	Neptune
	Uranus



KEY: What Planet Am I?

Use the words in the list below to complete the sentence

1. **Mercury** is the closest planet to the sun
2. The hottest planet is **Venus**
3. The only planet to have intelligent life is **Earth**
4. **Mars** has the biggest mountain
5. Out of all the planets **Jupiter** is the biggest
6. The biggest rings belong to **Saturn**
7. **Uranus** is sideways compared to the other planets
8. The windiest planet is **Neptune**

Saturn
Earth
Jupiter
Venus
Mars
Mercury
Neptune
Uranus

Rubric for Scoring Brochures

Brochure includes:	Score
Colorful drawings depicting the Earth's surface/features	/10
A variety of techniques used throughout the brochure	/5
Written facts below each picture that explain what the land formation is and what it is useful for	/10
A convincing paragraph on the back of the brochure to persuade "alien visitors" to visit Earth	/5
List of resources used to compare other planets in the solar system to Earth	/5
At least 3 science terms and 3 art techniques from the handout are used in the brochure	/5
Total:	/40

Instructions for Brochure

1. Research individual planets of the solar system with your elbow partner to learn about the characteristics that make each planet unique. Create a list or Venn Diagram comparing the characteristics of each planet with characteristics of Earth. Discuss how to make Earth sound more appealing than the other planet you researched.
2. Cover your work area with newspaper. Work with your table group to create a travel brochure advertising the most appealing aspects of Earth that would attract aliens to visit. Draw scenes such as an ocean, or mountain or volcano, things that you think make Earth unique and interesting. Share your supplies with everyone so there is a variety of textures and styles on each brochure.
3. If you are using watercolor paint that first on a separate piece of paper, then once it is dry you may add more details to it with marker or colored pencils. Keep drawing different scenes on different pieces of paper, we will be cutting these scenes out and gluing them onto our large construction paper brochure.
4. Arrange drawings on a large piece of construction paper folded into thirds to make a giant brochure. Attach drawings with glue sticks. Write captions under each picture describing the terrain, weather, climate, and other interesting reasons you find it special. Make sure you are using science terms as well as saying what artistic technique you are using to create your masterpiece
5. On the very back of the brochure write a paragraph with reasons why extraterrestrials should visit planet Earth rather than another planet. What features do we have on Earth that no other planet has? What can they learn from visiting Earth? What are some of the most beautiful places to visit on Earth?
6. You now have finished your brochure! Present it in front of class or we can hang it in the hallway outside our classroom door for everyone to learn interesting facts about our Earth and how it compares to other planets.

Example of a Venn Diagram

Earth

Other Planets

- Oxygen
- Water
- Trees
- Human life
- Sun
- Protective atmosphere
- Moon
- Snow

- Gases
- Rings surrounding the planet

- Mountains
- Wind
- Stars/constellations
- Hurricanes
- Asteroids

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Axie Dompier
Jordyn Brown
Megan Williams
Molly Hill
Tiffany Jack
Elle Christenson

Biomes

Subject:
Science

Grade:
Third Grade

Authors:

The Antarctica Food Chain – by Axie Dompier
Layers of the Rain Forest – by Jordyn Brown
Exploring Ocean Animals – by Megan Williams
Biomes and the Plants/Animals in them – by Molly Hill
Local Ecosystems – by Tiffany Jack
Black and White African Savannah – by Elle Christenson

Unit Description:

This unit introduces students to different environments, or biomes, around the world. In the first lesson, students receive a brief overview of the six different biomes by choosing a specific one to draw and fill with flora and fauna. Next, students learn about the African savannah by creating a collage of the different plants and animals found there. In the third lesson, students will explore Antarctica by making a flow chart depicting animals of the Antarctic and its food chain. The rainforest is introduced in the next lesson through a watercolor activity in which the students paint a layer of the rainforest and the animals that live in that layer. Next, students learn about the ocean and its wildlife by drawing and labeling an ocean creature of their choice. Finally, students will learn about the importance of biodiversity in an ecosystem by simulating the removal of one species from an ecosystem.



Lesson 1: The Antarctica Food Chain
by Axie Dompier

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Lesson 4: Biomes and the
Plants/Animals in them
by Molly Hill

Lesson 5: Local Ecosystems
by Tiffany Jack

Lesson 6: Black and White African
Savannah
by Elle Christenson

Instructional Plan
Revised 3/2/2011

Teacher Candidate: Axie Dompier

Date: February 29th, 2011

Cooperating Teacher: Pauline Sameshima

Grade: 3rd grade

School District: Pullman School District

School: Jefferson Elementary

University Supervisor: Lori White

Unit/Subject: Antarctica/Science

Instructional Plan Title/Focus: The Antarctica Food Chain/Antarctica

Learning Targets/Purpose/Previous Learning

- a. **Instructional Plan Purpose:** The purpose of this plan is to introduce students to the animals of Antarctica and the food chain there. The students will draw pictures of a variety of animals and attach pictures of these animals to a collage on the wall. They will then draw arrows to which animals eat which and it will show the importance of krill to the Antarctic ecosystem

b. **State Learning Standards:**

Arts:

- a. EALR 1: The student understands and applies arts knowledge and skills in dance, music, theatre, and visual arts
- i. Component 1.4: Understands and applies audience conventions in a variety of settings and performances of the arts.
- b. EALR 2: The student uses the artistic processes of creating, performing/presenting, and responding to demonstrate thinking skills in dance, music, theatre, and visual arts.
- i. Component 2.2: Applies a performance and/or presentation process to the arts (dance, music, theatre, and visual arts)
- c. EALR 3: The student communicates through the arts (dance, music, theatre, and visual arts).
- i. Component 3.1: Uses the arts to express feelings and present idea
- d. EALR 4: The student makes connections within and across the arts (dance, music, theatre, and visual arts) to other disciplines, life, cultures, and work.
- i. Component 4.2: Demonstrates and analyzes the connections among the arts and between the arts and other content areas.

Science

- a. EALR 4: Life Science
Big Idea: Structures and Functions of Living Organisms (LS1)
Core Content: Life Cycle
2-3 LS1B: Animals have life cycles that include being born; developing into juveniles, adolescents, then adults; reproducing (which begins a new cycle); and eventually dying. The details of the life cycle are different for different animals.

Communication

- a. 1.1.2 Applies a variety of listening and observation skills/strategies to recall and interpret information

c. **Content Objectives:**

- a. SWBAT
- i. Draw and cut out pictures of Antarctic animals (art 3.3.1)
 - ii. Paste the animal pictures onto a collage (art 2.1.1)
 - iii. Draw arrows to illustrate the ecosystem's food web (art 2.2.1, science 4)

d. **Language Objectives:**

- a. SWBAT
- i. Define *ecosystem* (communication 1.1.2)
 - ii. Define *food chain* (communication 1.1.2)

- e. **Previous Learning Experiences:** Prior to this lesson we will read *The Magic School Bus: Penguin Puzzle* and start our understanding of Antarctica. We will also previously have discussed the differences in cold deserts vs. hot deserts and how the ecosystems vary.

Assessment Strategies

Attach questions, worksheets, tests or any additional documentation related to your assessment strategies. Also attach appropriate marking rubrics, criteria lists, expectations, answer keys, etc.

- **Formative:** measures process/progress toward mastery of target(s)
- **Summative:** measures outcomes/achievement of target(s)

Content/Language Objectives	Assessment Strategies
Draw and cut out pictures of Antarctic animals	<p>Formative: As students are working on the assignment, I will be watching students and see if they need help or if they are finding the correct animals.</p> <p>Summative: After the students have finished drawing and cutting pictures I will look over all of them before they paste them onto the collage.</p> <p>Assessment: see appendix A for checklist to use during summative assessment.</p>
Paste the animal picture onto a collage	<p>Formative: I will watch students as they post pictures onto the collage. If I feel like something doesn't look right I will ask them questions for them to double check their work.</p> <p>Summative: After the students are done posting pictures I will look over the collage and see if all the pictures are posted in the correct place. If they are they get to move on to the next step.</p> <p>Assessment: see appendix B for checklist to use during summative assessment.</p>
Draw arrows to illustrate the ecosystem's food web	<p>Formative: Students will research which animals each which, and after they find out they will start drawing arrows with pencils. If I see something that isn't looking right, I will once again ask them questions.</p> <p>Summative: Students will fill out a questionnaire.</p> <p>Assessment: see appendix C for questionnaire for students to fill out as summative assessment.</p>
Define ecosystem	<p>Assessment: Students will have a quiz when we are done with the unit and show that they know the meaning and how it played into this lesson.</p>
Define food chain	<p>Assessment: Students will have a quiz when we are done with the unit and show that they know the meaning and how it played into this lesson, as well as its importance.</p>

Student Voice: The first way student voice will be conducted is by giving the students a questionnaire at the end of the project and asking what they learned and how comfortable they feel with the material. The second way student voice will be conducted will be through a class discussion asking them what they thought of the project and if they want to do more class projects that include charts and comparing.

K-12 students will:	Student-based evidence to be collected (things produced by students: journals, work samples, projects, papers, etc.)	Description of how students will reflect on their learning
1. <i>Communicate the learning targets and their progress toward them.</i>	Class Discussion	As a class we will discuss the different learning targets for this project. We will talk about the different types of deserts and how ecosystems vary in the different types. We will talk about how the project will take place and what is expected of students.
2. <i>Review their performance and set personal learning goals based on those assessments.</i>	One-on-one	I will sit down with students individually after we finish doing the collage and see what students thought of this project. I will see if it is something they will want to do again and we will set goals for next time we do a project like this

Grouping of Students for Instruction

- Students will draw out of a hat a type of animal (whale, seal, penguin, birds, fish and squid, and krill). They will work individually to research information on their animal and then as a group will paste on their animal and draw the arrows. It is best to research individually so that each student can know about their animal.

Learning/Teaching Experiences

- 1. Introduction:** Grabber: “Hey students. Who can point out where the biggest *cold* desert in the world is? What about the biggest *hot* desert? Do you know the differences in the food chains in these two areas? Today we will be going over ecosystems in Antarctica and why krill are important.”
- 2. Questions:**
 - a. What is krill?
 - b. How do ecosystems work?
 - c. How do we draw an ecosystem?
 - d. How do we decide who eats who?
 - e. What are the differences between animals in hot deserts and animals in cold deserts?
 - f. Student involvement:
 - i. Students will discuss these questions in their groups and with their partners. Then as a class we will go over what each group had to say.
- 3. Learning Activities:**

- a. I will write out the different assigned animals on paper (krill, fish and squid, birds, penguins, seals, and whales).
- b. I will place slips of paper into a bowl and have each student draw a piece of paper.
- c. Students will go onto a computer to research their animal individually.
- d. Each student will then draw a picture of their animal on a piece of paper I provide them.
- e. I will ask a few students who finish early to draw phytoplankton.
- f. I will hang a piece of butcher paper on the classroom wall.
- g. Each group of students will place their drawings onto the collage.
- h. The krill should be placed toward the center.
- i. I will then read off different statements and will have students draw arrows from their assigned animal to the animal(s) it eats:
 - i. Krill eat phytoplankton.
 - ii. Gentoo penguins eat krill and fish.
 - iii. Adilie penguins eat krill.
 - iv. Macaroni penguins eat krill and squid.
 - v. Chinstrap penguins eat krill and fish.
 - vi. King penguins eat fish and squid.
 - vii. Emperor penguins eat krill, fish, and squid.
 - viii. Crabeater seals eat krill.
 - ix. Fur seals eat krill, fish, and squid.
 - x. Leopard seals eat krill, fish, penguins, and other seals.
 - xi. Weddell seals eat krill, fish, and squid.
 - xii. Humpback whales eat krill.
 - xiii. Squid eat krill and fish.
 - xiv. Fish eat krill and other fish.
 - xv. Skuas eat krill, fish, and penguin eggs and chicks.
 - xvi. Petrels eat fish, squid, krill, and dead seals, penguins, and whales.
 - xvii. Albatross eat fish and squid.
 - xviii. Killer whales eat fish, squid, Adilie penguins, emperor penguins, Weddell seals, crabeater seals, and leopard seals.
- j. We will then discuss the importance of krill in Antarctica and how important they are to penguin and other animals.

4. Instructional Considerations:

- a) Instructional procedures:
 - a. I will show students the differences in animals in the hot and cold deserts.
 - b. I will let students draw their animal.
 - c. I will let students work as I walk around and see how they are doing.
 - d. As a class we will decide who eats who.
 - e. We will have a class discussion about the ecosystem in Antarctica.
- b) Multiple means of access (list ways the teacher will present the materials):
 - a. I will present the information by first reading *The Magic School Bus Penguin Puzzle*. Then we will discuss ecosystems and the ecosystem in Antarctica.
- c) Multiple means of engagement (list ways the students will participate in the learning):
 - a. Each student will be given a different animal that they need to research and draw a picture of. They will then listen to the different statements and if it applies to their animal they will draw arrows.
- d) Multiple means of expression (list ways the students can show their learning):
 - a. The students can show their learning by drawing the different animals as they should be drawn. Also by drawing arrows from the different animals to each other.
- e) Methods of differentiation, (list accommodation or differentiation strategies)

- a. For high students, they can do more research about the animal they chose and make a brochure to present to the class. For low students, they will be given the opportunity to work with a partner.
 - f) Language learning objectives: (Where will you integrate these?)
 - a. I will integrate the learning objectives at the beginning of the assignment. We will go over the definition of ecosystems and how cold and hot deserts vary. We will also take a vocabulary test at the end of the unit, defining ecosystems and food chains.
 - g) Cultural responsive pedagogy: (List the cultural connections)
 - a. We can relate this project to the other continents and comparing the different cultures. We can also compare food, animals, and living situations on each continent.
 - h) Remedial activities: (Do you have a review sheet, scaffolding worksheet or plan?)
 - a. For the lower students, I will give them a checklist to read off of as they go along. Have they looked up the animal, have they drawn it, etc. I can also give them questions to help them such as “what animal do you have?”, “what does your animal look like?”, and “what does the animal eat?”
 - i) Extension activities: (What will students who finish early do?):
 - a. Students who finish early can research their specific animal and talk about anywhere else it lives, why it lives in Antarctica, and any other fun facts they find.
5. **Closure:** Explain how you are going to bring closure to the lesson.
- a. Students will share what they have learned by drawing the arrows when we do the statements, and the kids explaining why they think this happens.
 - i. 2 questions:
 - 1. Why is the krill so important?
 - 2. What would happen if krill were to die out?
 - b. This can connect with students’ lives because it shows ecosystems and how important just one animal is in any ecosystem, it doesn’t have to be just in Antarctica.
6. **Independent Practice:** Describe how students will extend their experiences with the content and demonstrate understanding beyond the scope of the lesson outside the class.
- a. Students can go beyond what we did and do research about the animal and information they find (what they eat, where they live, etc.).
 - a. One way to incorporate students’ families is to have them help the student with this extra research. I can also have students research their background with their parents, and we can compare cultures around the world.

Instructional Materials, Resources, and Technology

Teachers will need markers, computer paper, a hat, and computers. They can also use the different assessment methods attached.

Additional Requirements

- **Integration with Other Content Areas:** This project deals with science and ecosystems. Through this project it shows how important ecosystems are and how everyone plays a role in life.
- **Acknowledgements:**
 - Instructional plan adopted from:
<http://www.nationalgeographic.com/xpeditions/lessons/08/gk2/antarcticfood.html>
 - State Standards for this assignment were found on the OSPI website, www.k12.wa.us
 - Instructional Plan Created by Axie Dompier

Appendix A

Name	Understanding the process of drawing animals	Needs help

Appendix C

1. Why is the phytoplankton so important?
2. What would happen if one animal dies out?
3. Is every ecosystem this way?

Instructional Plan
Revised 3/2/2011

Teacher Candidate: Jordyn Brown

Date: March 1, 2012

Cooperating Teacher: Carol Myers

Grade: Third Grade

School District: Colfax School District

School: Jennings Elementary

University Supervisor: Pauline Sameshima

Unit/Subject: Rain Forests/Science

Instructional Plan Title/Focus: Layers of the Rain Forest

Learning Targets/Purpose/Previous Learning

- a. **Instructional Plan Purpose:** This lesson provides students with an opportunity to learn about the animals and plant life that live in various layers of the tropical rain forests. Students will read an article about the animals and layers of the rainforest and fill out a Venn Diagram. They will then use watercolors to create a painting of their choice layer of the rainforest including at least one animal.

- b. **State Learning Standards:**

SCIENCE:

EALR 4: Life Science

2-3 LS1B Animals have life cycles that include being born; developing into juveniles, adolescents, then adults; reproducing (which begins a new cycle); and eventually dying. The details of the life cycle are different for different animals.

2-3 LS3A There are variations among the same kinds of plants and animals.

2-3 LS3B The offspring of a plant or animal closely resembles its parents, but close inspection reveals differences.

2-3 LS3C Sometimes differences in characteristics give individual plants or animals an advantage in surviving and reproducing

ART:

EALR 1: The student understands and applies arts knowledge and skills in dance, music, theatre, and visual arts.

1.4 Understands and applies audience conventions in a variety of settings and performances of the arts.

EALR 2: The student uses the artistic processes of creating, performing/presenting, and responding to demonstrate thinking skills in dance, music, theatre, and visual art.

2.2 Applies a performance and/or presentation process to the arts (dance, music, theatre, and visual arts)

EALR 3: the student communicates through the arts (dance, music, theatre, and visual arts).

3.1 Uses the arts to express feelings and present ideas

3.2 Uses the arts to communicate for specific purpose

EALR 4: the student makes connections within and across the arts (dance, music, theatre, and visual arts) to other disciplines, life, cultures, and work.

4.2 Demonstrates and analyzes the connections among the arts and between the arts and other content areas.

- c. **Content Objectives:**

SWBAT understand that rain forests have four distinct layers: emergent, canopy, understory, and forest floor [**SCIENCE EALR 4**]

SWBAT identify the different animals and plants that live in each layer [**SCIENCE EALR 4**]

SWBAT create a watercolor painting showcasing the distinguishing features of their layer in the rain forest. [**ART EALR 1,2,3,4**]

- d. **Language Objectives:**

SWBAT define the four distinct layers: emergent, canopy, understory, and forest floor; see attached vocabulary sheet [**SCIENCE EALR 4**]

SWBAT define the animals that live in each rain forest layer [**SCIENCE EALR 4**]

SWBAT define the plants that live in each rain forest layer [**SCIENCE EALR 4**]

- e. **Previous Learning Experiences:** Students will need to know how to use a Venn Diagram and be able to read through an article as a small group. Students should also have a background in using watercolor paints.

Assessment Strategies

Content/Language Objectives	Assessment Strategies
SWBAT create a watercolor painting showcasing the distinguishing features of their layer in the rain forest.	Formative: the teacher will watch participation and the amount of work put into the watercolor paintings as they are being worked on. They will also need to make sure each painting is accurate.
SWBAT understand that rain forests have four distinct layers: emergent, canopy, understory, and forest floor SWBAT identify the different animals and plants that live in each layer	Summative: Assigned vocabulary sheet will be graded to assess student learning

Student Voice: Select two components of student voice and identify how students will reflect and/or communicate on their learning or progress toward meeting the goals. You may eliminate the components not being addressed.

K-12 students will:	Student-based evidence to be collected (things produced by students: journals, work samples, projects, papers, etc.)	Description of how students will reflect on their learning
1. Communicate the learning targets and their progress toward them.	Student work sheets and painting	Students will write a reflection of where they are according to our learning targets based on their worksheets and the painting
2. Articulate the thinking strategies used to achieve the learning targets.(5.1)	Journal	Students will discuss how they filled in their Venn Diagram and how they decided what layer and animals to paint

Grouping of Students for Instruction

- **Whole Group Work:** Students will be in a whole group during the introduction of vocabulary and a class discussion of what they believe the words mean. They will then come back to a whole group after the vocabulary worksheet is done to discuss the actual meaning of each vocab word.

Small Group Work: Students will work in small groups (3-4 students) while reading the article: Layers of the Rain Forest”. They will also work in these small groups for the worksheet Venn Diagram and Vocabulary.

Individual Work: Students will work as individual on their water color painting.

Learning/Teaching Experiences

1. Introduction:

1. Grab the student's attention by asking them to tell you what they already know about the rain forest. If a student brings up the idea of the rainforest having many layers use that as a transition. If they don't allow them to go on for the amount of time you as the teacher have available and then introduce the idea that there are multiple layers.

2. Questions:

1. Where are rain forests located?
2. What characteristics do animals need to live in the canopy?
3. What animals do you think live on the forest floor?
4. What impact do plants have on animal life?
5. How do rain forest differ from a forest you can think of?

Students will be actively involved in answering these questions because if there are no volunteers to answer the question random students will be chosen and more than one student (at least 3) will answer the same question.

3. Learning Activities:

1. I will print of the number of worksheets needed.
2. I will write forest floor, understory, canopy, and emergent layer on pieces of paper for students to draw from later.
3. I will place these papers in a bowl.
4. I will have students work together during a class discussion to come up with a definition for the layer vocabulary: forest floor, understory, canopy, and emergent layer.
5. Students will be placed into groups of three or four.
6. Students will read the article aloud with their group.
7. After students are done with the article I will bring them into a whole group to discuss Venn diagrams and show an example
8. Students will go back into groups and complete the vocabulary and Venn diagram sheets
9. Groups will come back into a whole group to discuss their new definitions of the layer vocabulary: forest floor, understory, canopy, and emergent layer.
10. Together as a class we will discuss our answers for the rest of the vocab sheets.
11. I will ask students to name some of the animals they put in each Venn diagram section and put them on my white board example to make sure students have a correct understanding.
12. I will then hand out a piece of ledger size cardstock and watercolor palette to each student.
13. Students will choose a rain forest layer out of the bowl
14. After picking their layer each student will create a watercolor painting of their layers plant and animal life.
15. After the students are done with their paintings I will help the students clean up their areas.
16. Students will present their paintings to the class and discuss what plants and animals they incorporated into their painting.

4. Instructional Considerations:

- a) Instructional procedures:
 - a. I will introduce key vocabulary
 - b. I will hand out worksheets
 - c. I will allow students to work on worksheets
 - d. I will present students with a example Venn diagram
 - e. I will let students finish work sheets
 - f. I will involve students in a group discussion about vocab
 - g. I will present students with the watercolors
 - h. I will watch students as they create their paintings.
 - i. I will encourage students to present paintings and explain the plant/animal life in it

- b) Multiple means of access
 - a. I will present the information by involving the students in a whole group discussion about what they already know about the rainforest and then ask them if they know about the layers if a student had not already introduced the concept.
 - c) Multiple means of engagement
 - a. Students will work in groups on their worksheets and then they will be given a rain forest layer that they will paint using watercolors that they will work on individually
 - d) Multiple means of expression
 - a. Students will show their learning by completing the reading and worksheets, participating in group discussion, painting a picture of their rain forest layer, and their presentation of poster
 - e) Methods of differentiation
 - a. If a student is unable to work individually they will be given the option to work in a pair.
 - b. If a student is unable to work in a group they will be given the option to work individually.
 - c. Students can be given an extension project that will be graded for bonus points (see independent project.)
 - d. If a student is in need of a shorter project due to a special need a shorter extension such as no vocabulary or venn diagram will be assigned. Also different or less vocabulary words can be used.
 - f) Language learning objectives:
 - a. The language objectives will be presented at the beginning of the lesson when we discuss as a group what they think the key vocab means. After reading the article and filling out worksheets students will come back with new definitions for the key vocabulary. Animals and plant life will be integrated through the worksheets.
 - g) Cultural responsive pedagogy:
 - a. We can discuss the various cultures that exist in the rainforests and who calls it home. During a rain forest unit vs. one plan you could create a transition to the next lesson that you might do tomorrow about the people of the rain forest.
 - b. Another option would be to look at different geological locations of rainforests on a map.
 - h) Remedial activities:
 - a. This activity is simply for students to gain an understanding of the rainforest layers. The worksheets will be discussed as a whole group and will not be graded. Participation points will be given for discussion, group work, and artwork/presentation.
 - b. Instead of a paragraph explaining the vocabulary words a picture could be used to match to the vocabulary words instead.
 - i) Extension activities:
 - a. Challenge students to create their own Venn diagram with more animals and plants found in the rainforest. They will be encouraged to do research on the computer for this activity.
 - b. Have students write in their journal about why some animals can live in the canopy and why others cannot. (I.e. why can a spider monkey live in the canopy and not the anteater?)
5. **Closure:** Explain how you are going to bring closure to the lesson.
- 1. Students will present their paintings of the layer they were assigned to and explain what animals and plant life they incorporated into it and why.
 - i. Why do certain animals live in specific layers?
 - ii. What would happen if we were to lose the rain forest?

2. This lesson will connect with other lessons they may do because it shows the students that although the layers are in the same area and not far from each other the type of animals that live in each area are different. It shows how different animals are adapted to certain living areas and how devastating it could be to lose the rain forest.
6. **Independent Practice:**
- a. Students can complete a 3D version of the layers by creating a diorama by doing research at home.
 - b. Families could be incorporated by helping their student create the diorama. Parent supervision may be necessary. See attached lesson plan.

Instructional Materials, Resources, and Technology

Attached Materials: Rainforest Article, Vocabulary worksheet, Venn Diagram worksheet.

Other materials needed: 11x17 cover stock paper, water color palettes

Additional Requirements

- **Integration with Other Content Areas:** This lesson plan is for a science lesson but intergrates art into the learning process.
- **Acknowledgements:**
 - Instructional Plan adapted from TeacherVision
 - <http://www.teachervision.fen.com/rain-forest-ecology/lesson-plan/3409.html?detoured=1>
 - Instructional Plan created by Jordyn Brown
 - State standards found at <http://www.k12.wa.us/>

Name _____

Date _____

Layers of the Rain Forest

Did you know that rain forests are home to over half of the world's plants and animals?

The trees of the tropical rain forest provide shelter for many animals, such as birds, monkeys, cats, butterflies, insects, snakes, and frogs. Because most of the trees in the rain forest are very tall, they are equipped to hold many different animals. Some animals live at the bottom of the trees, where it is dark and damp. Others live towards the top of the trees where it is light.

Picture a tree in the rain forest and divide it into four layers: the bottom layer is the **forest floor**; the second layer is the **understory**; the third layer is the **canopy**; and the fourth is called the **emergent layer**.

The **emergent layer** is where the treetops join together to form the roof of the forest. This is where trees soak up the most sun. The harpy eagle lives and hunts here. Other animals, such as the toucan, sloth, macaw, and parrot can be found here as well.

The **canopy** is a bright and colorful place, full of animals and plants. That's right, there are plants that grow on trees! These plants are called **epiphytes**. Epiphytes grow along the branches of a tree. They dangle their roots and collect moisture from the damp air; they also get nutrients from decayed leaves, algae, and moss.

The canopy is also home to many wonderful creatures such as howler monkeys, spider monkeys, orangutans, sloths, and fruit bats. These animals love to eat the sweet fruit that grows in the canopy. Other animals that live in the canopy are tree frogs, parrots, hummingbirds, butterflies, toucans, and bees.

The **understory** is darker than the canopy as it is farther away from the sun. Boa constrictors, emerald tree snakes, anole lizards, and monkeys cling to **lianas**. Lianas (thick woody vines) grow up trees and act as ladders for animals to climb up from the forest floor to the understory. Many cats, such as the jaguar, leopard, and ocelot, hide in the branches of the understory waiting to pounce on their prey below.

The **forest floor** is the darkest and dampest part of the forest. Not much sunlight penetrates through here, so little plant life grows. The soil is covered by **leaf litter** (decayed leaves), which provides nutrients for tree roots. Leaf cutter ants, spiders, termites, mice, anteaters, jaguars, leopards, panthers, and gorillas live here.

Now we know how just one tree in the rain forest can provide many different habitats for various animals and plants to live.

Name _____

Date _____

Layers of the Rain Forest Vocabulary

Draw a line from the definition that best describes the word to the right.

Woody vines that grow up a tree and act as ladders for some animals to climb.	CANOPY
This is the bottom and darkest layer of the rain forest, home to insects and fungi, rotting leaves, tree trunks, and roots.	LEAF LITTER
Underneath these decaying leaves is thin soil with few nutrients. Tree roots grow shallow to the ground so that they can suck the nutrients from this top layer of the forest floor.	FOREST FLOOR
Plants that grow along branches of a tree and let their roots dangle in the air. These plants get nutrients from moss, algae, and decayed leaves.	EPIPHYTES
The particular environment in which a plant or animal usually lives.	EMERGENT LAYER
This is the top layer, or “roof”, of the rain forest. It is home to the harpy eagle.	HABITAT
This is the second highest layer of the rain forest, home to monkeys, sloths, birds, butterflies, insects, and lizards.	UNDERSTORY
This is the layer beneath the canopy and above the forest floor. It is shaded from the sun by leaves above. Snakes, monkeys, and cats can be found here.	LIANAS

Name _____

Date _____

Layers of the Rain Forest Venn Diagram

Draw three circles that intersect at the center. Label one **Forest Floor**, the second **Understory**, and the third **Canopy**. Write in the animals where they belong on the Venn diagram. Remember, some animals live in more than one layer of the rain forest.

boa constrictor

parrot

leaf cutter ants

lianas

fungi

orangutan

anteater

passion flower butterfly

leaf litter

fruit bat

toucan

leopard

emerald tree snake

anole lizard

epiphytes

tree frog

sloth

spider monkey

jaguar

ocelot

Name _____ **KEY** _____

Date _____

Layers of the Rain Forest Vocabulary

Draw a line from the definition that best describes the word to the right.

Woody vines that grow up a tree and act as ladders for some animals to climb.	CANOPY
This is the bottom and darkest layer of the rain forest, home to insects and fungi, rotting leaves, tree trunks, and roots.	LEAF LITTER
Underneath these decaying leaves is thin soil with few nutrients. Tree roots grow shallow to the ground so that they can suck the nutrients from this top layer of the forest floor.	FOREST FLOOR
Plants that grow along branches of a tree and let their roots dangle in the air. These plants get nutrients from moss, algae, and decayed leaves.	EPIPHYTES
The particular environment in which a plant or animal usually lives.	EMERGENT LAYER
This is the top layer, or "roof", of the rain forest. It is home to the harpy eagle.	HABITAT
This is the second highest layer of the rain forest, home to monkeys, sloths, birds, butterflies, insects, and lizards.	UNDERSTORY
This is the layer beneath the canopy and above the forest floor. It is shaded from the sun by leaves above. Snakes, monkeys, and cats can be found here.	LIANAS

Name _____ **KEY** _____

Date _____

Layers of the Rain Forest Venn Diagram

Draw three circles that intersect at the center. Label one **Forest Floor**, the second **Understory**, and the third **Canopy**. Write in the animals where they belong on the Venn diagram. Remember, some animals live in more than one layer of the rain forest.

boa constrictor

parrot

leaf cutter ants

lianas

fungi

orangutan

anteater

passion flower butterfly

leaf litter

fruit bat

toucan

leopard

emerald tree snake

anole lizard

epiphytes

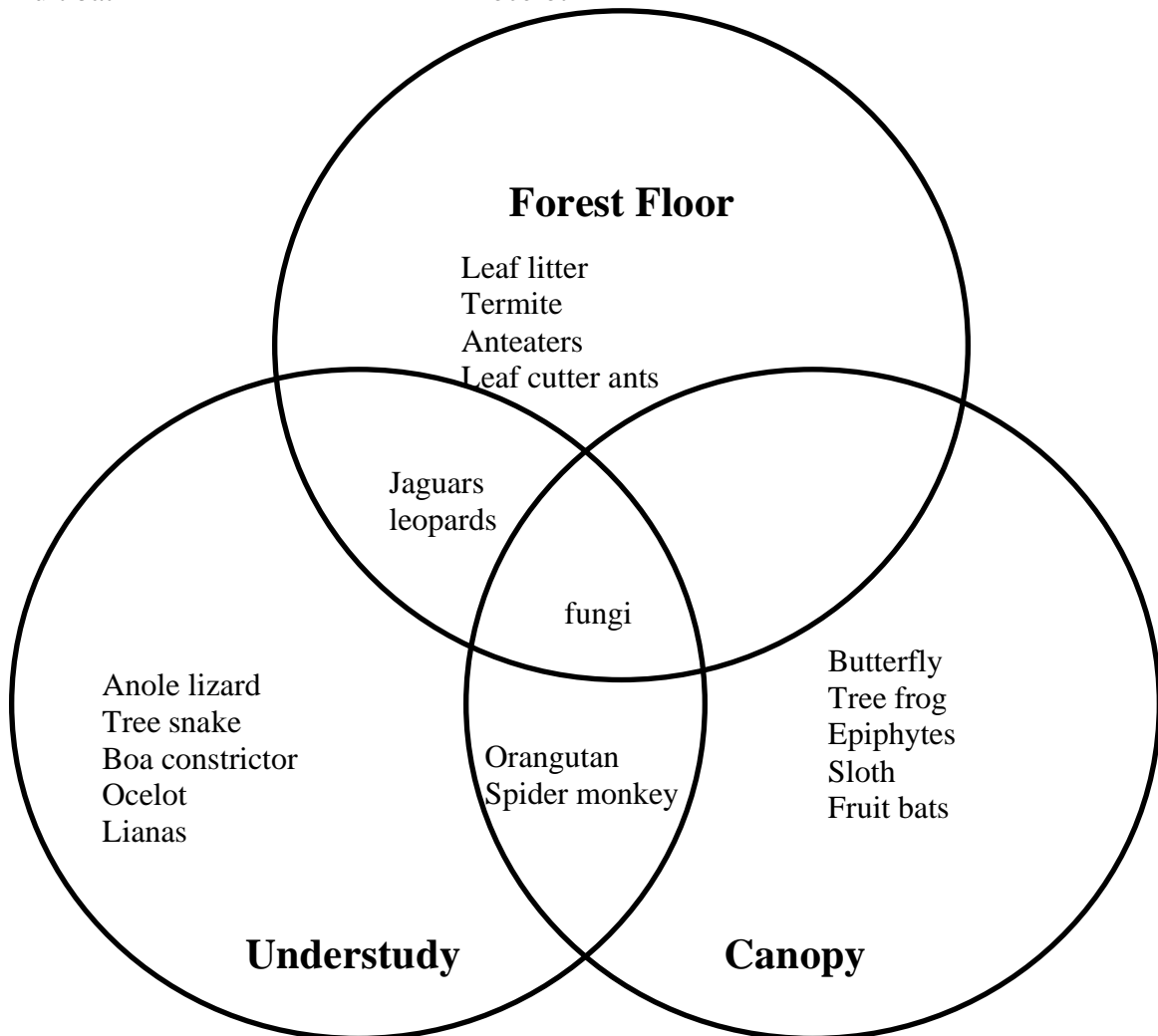
tree frog

sloth

spider monkey

jaguar

ocelot



Formative Assessment Checklist

Name	Accurate	Participation	Trouble
Johnny			
Susy			

Independent Practice

Material:

- Christmas paper rolls
- Shoe boxes
- Animal patterns
- Construction paper
- Scissors and glue

Diorama:

- Make a rainforest diorama using 3 shoeboxes and a roll from Christmas wrap.
- Cut holes in the shoeboxes and put the roll through the hole.
- Glue animals in each layer and cut a treetop to put at the top of the roll.

This idea was adapted from Mailbox magazine

Instructional Plan

Revised 3/2/2011

Teacher Candidate: <u>Megan Williams</u>	Date: <u>March 1, 2012</u>
Cooperating Teacher: <u>Pauline Sameshima</u>	Grade: <u>3rd Grade</u>
School District: <u>Pullman</u>	School: <u>Franklin</u>
University Supervisor: <u>Lori White</u>	
Unit/Subject: <u>Oceans/ Science</u>	
Instructional Plan Title/Focus: <u>Exploring Ocean Animals</u>	

Learning Targets/Purpose/Previous Learning

- a. **Instructional Plan Purpose:** In this lesson, students learn about the ocean ecosystem and the animals organisms living in it. Students will explore various sea creatures and plants, briefly research one of their favorites, and then create a replica of their choice using an art form.
- b. **State Learning Standards:**
 - EALR 4: Life Science Ecosystems
 - Content Standard 2-3 LS2A: *Ecosystems* support all life on the planet, including human life, by providing food, fresh water, and breathable *air*.
 - EALR 1: Visual Arts
 - Component 1.2: Develops visual arts skills and techniques.
 - GLE 1.2.1: Understands and applies the skills and techniques of visual arts to create original works of art in two and/or three dimensions.
- c. **Content Objectives:**
 - SWBAT identify various ocean creatures and plants found in the ocean (Science EALR 4).
 - SWBAT create an artistic replication of an ocean creature or plant that is found in the ocean (Art GLE 1.2.1).
- d. **Language Objectives:**
 - SWBAT label parts of an ocean creature or plant using specific vocabulary such as *ecosystem, organism, ability, characteristic, and habit* (Science EALR 4).
- e. **Previous Learning Experiences:**
 - Prior to this lesson, students have already been learning about ocean ecosystems. They are familiar with ocean the major oceans and their specific traits (such as salinity, temperature, weather, etc). Students have not, however, learned about the wildlife that exists in the water. This lesson serves as an introductory to the many creatures that live in the world’s oceans and some of their basic characteristics.

Assessment Strategies

Attach questions, worksheets, tests or any additional documentation related to your assessment strategies. Also attach appropriate marking rubrics, criteria lists, expectations, answer keys, etc.

Content/Language Objectives	Assessment Strategies
SWBAT identify various ocean creatures and plants found in the ocean.	<p>Formative: At the beginning of the lesson, the teacher will show pictures of various ocean creatures and plants that are found in the ocean. Students should be able to repeat back the names of the animals and plants (Checklist #1 attached).</p> <p>Summative: At the end of the ocean creatures and plants slide show, students will compete to see who can remember the most names (Checklist #2 attached).</p>
SWBAT create an artistic replication of an ocean creature or plant that is found in the ocean.	<p>Formative: Before beginning this project, the teacher will check in briefly with each student to ensure that they can remember several of the plants and animals reviewed during discussion (Checklist #1 attached).</p> <p>Summative: The student will create an artistic replication of an</p>

	ocean creature or plant that is found in the ocean (Art Project Rubric attached).
SWBAT label parts of an ocean creature or plant using specific oceanic vocabulary.	<p>Formative: At the beginning of the lesson, the teacher will show pictures of various ocean creatures and plants that are found in the ocean. The teacher will ask students questions about these parts and record whether or not students are retaining the vocabulary (Checklist #1 attached).</p> <p>Summative: The student will create an artistic replication of an ocean creature or plant that is found in the ocean and will label several of its parts using specific oceanic vocabulary (Art Project Rubric attached).</p>

Student Voice:

K-12 students will:	Student-based evidence to be collected (things produced by students: journals, work samples, projects, papers, etc.)	Description of how students will reflect on their learning
1. <i>Communicate the learning targets and their progress toward them.</i>	Journal	After their project is completed, students will list the learning targets in their journal and write a brief entry about their progress towards them. Students should include whether or not they reached the learning target, what was easy, what was hard, and any questions they might have about their achievement.
2. <i>Communicate the relationship between the assessment and the learning targets.</i>	Student-Teacher Meeting	After their project is completed, students will meet briefly with the teacher to discuss the relationship between the assessment and learning targets. Students should articulate how the assessment relates to the goals and how they felt about the assessment.

Grouping of Students for Instruction:

- **Whole Class:** Students will be grouped as a whole class during discussion and the picture slide show.
- **Pair Work:** Students will work with elbow partners to process the guiding questions. Students could also work in pairs to complete the ocean animal or plant replications if need be.
- **Individual Work:** Students will work individually to research a specific ocean animal or plant and create an artistic replication of it.

Learning/Teaching Experiences

1. **Introduction:** Begin by reading the book *Wow! Ocean!* by Robert Neubecker to students. As the teachers reads about each ocean creature and plant, ask students to give you thumbs up if they are familiar with this animal/plant or thumbs down if they are not familiar with it. For each animal/plant, ask students to think about one thing they know about it and then call on two students to share the fact with the class.
2. **Questions:**
 - What do you know about this ocean creature/ plant?
 - Where have you seen this ocean creature/ plant?
 - Does this creature/ plant have any unusual characteristics, habits, or abilities that you know of?
 - What are some words that you could use to describe this animal/ plant?
 - Do you know of any specific parts that belong to this animal/ plant?

- **Student Involvement:** In order to involve students in these discussion questions, students will turn and share their thoughts and answers with an elbow partner and then share with the rest of the class.

3. Learning Activities:

- To begin the lesson, the teacher will read to students from the book *Wow! Oceans!* By Robert Neubecker. As the teacher reads about each ocean creature and plant, they will ask the students to give a thumbs up if they are familiar with the animal/plant, or a thumbs down if they are not familiar with it.
- As each animal/plant is introduced, the teacher should ask students to think about one thing they know about that specific animal or plant and then call on two students to share the fact with the class.
- Next, using an overhead projector, the teacher will show pictures of various ocean creatures (dolphin example attached). These ocean plants and animals will have specific body parts labeled for students to see. The teacher will then explain that each of the labeled body parts helps each animal survive or thrive in some way.
- As the images are projected onto the screen the teacher will ask students guiding questions to ignite students background knowledge and foster peer learning.
 - i. *Guiding Question #1: What do you know about this ocean creature/ plant?*
 1. *Answers may be something like, "It has eight legs" or "Its has more than one row of teeth".*
 - ii. *Guiding Question #2: Where have you seen it before?*
 1. *Answers may be something like, "I've seen it in aquarium" or "I have one in my fish tan.."*
 - iii. *Guiding Question #3: Does this creature/plant have any unusual characteristics, habits, or abilities that you know of?*
 1. *Answers may be something like, "It can sting and paralyze its prey" or "It hides in the sand".*
 - iv. *Guiding Question #4: What are some words that you could use to describe this animal/plant?*
 1. *Answers may be something like, "Scary" or "Smooth" or "Enormous".*
 - v. *Guiding Question #5: Do you know of any specific parts that belong to this animal/plant?*
 1. *Answers may be something like, "It has tentacles" or "It has a hump on its back".*
- As each of the guiding questions is asked, the teacher will involve each student in the conversation by having students turn to an elbow partner and share their thoughts. The teacher will then ask for volunteers or call on partners to share their thoughts with the class.
- Next, the teacher will tell students that they will be creating a large classroom mural of the different creatures and plants found in the ocean. Each student will be creating an artistic replication of any sea creature or plant that they find especially interesting. Students may create their replication using water colors, crayons/markers, or they may make a small model out of construction paper. The teacher will also inform students that they will be required to correctly label at least three different parts of their plant or animal. Students may use the slides, classroom books, library resources, and/or the internet to research their plant or animal.

4. Instructional Considerations:

a) Instructional procedures:

- a. The teacher will read a book to the students.
- b. The teacher will describe ocean creatures/ plants.
- c. The teacher will show pictures on an overhead projector.
- d. The students will interact in peer discussion.
- e. The students will create an artistic representation of an ocean creature/plant.

b) Multiple means of access:

- a. The teacher will read a book (auditory).
- b. The teacher will show pictures on an overhead projector (visual).
- c. The teacher will lead student discussion (oral).
- d. The students will participate in a hands-on art activity (kinesthetic).

c) Multiple means of engagement:

- a. Students will listen to a story about ocean creatures/ plants.
- b. Students will share what they know about ocean creatures/plants with an elbow partner.
- c. Students will participate in group discussions about ocean creatures/plants.
- d. Students will conduct research about an ocean creature/plant.
- e. Students will create an artistic representation of an ocean creature/plant.

d) Multiple means of expression:

- a. Students will show their learning by participating in group discussion.
- b. Students will show their learning by stating facts about ocean creatures/plants.
- c. Students will show their learning by creating an artistic representation of an ocean creature/plant.
- d. Students will show their learning by labeling parts of an ocean creature/plant.

e) Methods of differentiation:

- a. Students who have disabilities or language-learning barriers can work with a partner to complete their ocean art project. They can also work with a partner to answer questions and conduct their research.
 - f) **Language learning objectives:**
 - a. The language learning objectives will be integrated throughout the lesson as students use specific vocabulary (such as *ecosystem, organism, ability, characteristic, and habit*) to describe ocean plants and animals. This language will be explicitly taught during the picture slide portion of the lesson. Language learning objectives will also be integrated at the end of the unit as students are required to label their ocean creatures/plants.
 - g) **Cultural responsive pedagogy:**
 - a. Students are free to recreate any ocean animal/plant that they wish. Because of this, students may choose to create an animal or plant that is common in their native culture or country. This particular animal/plant could then be shared with the rest of the class to inform them of the different species that exist around the world.
 - h) **Remedial activities:**
 - a. Students who are confused after this lesson could be given worksheets that would guide them as they research their ocean creatures. The worksheet could include prompts such as “What is the plant/animal’s name?”, “Where is it found?”, “What does it look like?”, “List three interesting body or plant parts.” Once the worksheet is filled out, students could then continue on with their project with more guidance and direction.
 - i) **Extension activities:**
 - a. Students who finish early can either create another artistic representation of an ocean creature/plant or use art to express some other aspect of the ocean (“Extension 1” attached).
5. **Closure:** When students are done creating their ocean animal or plant replications, have the class come back together as a group. Ask students what they learned through this assignment – Did they find out new names for plant and animal parts? Did they discover a creature they did not know existed before? Ask for three or four volunteers to share their art work with the class and explain a little about the parts they chose to label. Remind students that this was just a brief overview of the ocean plants and animals and that they will be learning more about them throughout the oceans unit. Also remind students know that their art work will be combined to create a large wall mural that they can use for future reference.
6. **Independent Practice:** Based on their ocean animal or plant representations, students could extend the activity by creating a large scale project based on the same animal or plant. This project would need to be bigger, include more detail, and have more parts explicitly labeled. This project would also require a brief summary of the animal or plant, including where it is found, what its habits are, how it receives nutrition, and interesting facts or special features.
- a. **Possible Family Interaction:** Parents can become involved in this activity by helping their child conduct research on their chosen plant or animal and assist them in creating the replication.

Instructional Materials, Resources, and Technology

- Overhead projector and screen
- Books about ocean life for student research:
 - *Eye Wonder: Ocean* by Mary Ling and Sue Thornton
 - *Ocean* by Miranda MacQuitty
 - *Ocean Animals* by Phyllis Jean Perry
 - *Under the Sea* by Anna Milbourne
- *Wow! Ocean!* by Robert Neubecker
- Construction paper (colored and white)
- Water color paints and brushes
- Glue sticks
- Markers
- Colored pencils
- Crayons
- Scissors
- Computers and internet access
- Extension 1 Worksheet
- Checklist #1 sheet
- Checklist #2 sheet
- Art Project Rubric sheet

Additional Requirements

- **Integration with Other Content Areas:** Other content areas, such as writing, are incorporated into this lesson through the labeling aspect of the replication project and through the summary aspect of the extension activity. Computer and research skills are also used as students gather information about their ocean animal or plant.
- **Acknowledgements:** Lesson plan created by Megan Williams.

Name:

Date:

Score	Picture	Labeling	Specific Vocabulary
5	Student created a recognizable replication of an ocean plant or animal	Student labeled five different parts of his/her ocean plant or animal	Student used specific vocabulary learned in the lesson to identify different parts of his/ her ocean plant or animal
3	Student created a replication of an ocean plant or animal but the creature was hard to identify	Student labeled three different parts of his/her ocean plant or animal	-----
1	Student created a replication but the creature was unidentifiable	Student labeled one part of his/her ocean plant or animals	-----
0	Student did not create a replication	Student did not label his/her picture	Student did not use specific vocabulary learned in the lesson

Name	Can repeat names of ocean animals and plants		Remembers several ocean plants and animals		Retains specific vocabulary	
Molly	Yes	Notes:	Yes	Notes:	Yes	Notes:
	No		No		No	
Axie	Yes	Notes:	Yes	Notes:	Yes	Notes:
	No		No		No	
Elle	Yes	Notes:	Yes	Notes:	Yes	Notes:
	No		No		No	
Tiffany	Yes	Notes:	Yes	Notes:	Yes	Notes:
	No		No		No	
Jordyn	Yes	Notes:	Yes	Notes:	Yes	Notes:
	No		No		No	

Student Name	Number of Names Remembered	Names Remembered
Molly		
Axie		
Elle		
Tiffany		
Jordyn		

Exploring Water Salinity with Art

Time	Activity	Description	Materials Needed
5	Questioning	Ask students what they know about ocean water. Is it fresh? Salty? Ask them what happens to water when it sits out for too long. What happens to a puddle of water on a hot summer day? Why is that?	None
5	Explain Activity	Explain to students that they are going to do an art activity that shows the salinity (saltiness) of ocean water as well as the process that causes water to disappear on a hot summer day (evaporation).	None
15	Secret Salt Water Painting	Hand out materials to each student. Tell students that they will use the salt water and food coloring mixture to paint pictures of the ocean or things that live in it. When students are done, set these paintings aside to dry. It may be helpful to use a fan to speed up the process.	- Piece of white paper - Salt water/food coloring mixture
15	Crayon and Salt Water Wash	Hand out materials to each student. Explain to students that they can draw a picture of anything they want using the crayons. When they are done drawing, students can then use a brush to paint the saltwater mixture all over their paper. When students are done, set these aside to dry.	- Black construction paper - Crayons - Saltwater mixture - Paintbrush
5	Discussion	Take the first art project and have students observe what has happened to the color in the saltwater mixture. The water has evaporated but the colored salt remained! Why do they think that this is? Discuss evaporation with students and the properties of salt water (although we cannot see the salt in the saltwater mixture it is present and gets left behind when the water evaporates).	None

Instructional Plan
Revised 3/2/2011

Teacher Candidate: Molly Hill **Date:** 2/28/2012
Cooperating Teacher: Pauline Sameshima **Grade:** 3rd Grade
School District: Pullman School District **School:** Jefferson
University Supervisor: Lori White
Unit/Subject: Biomes/Science/Art
Instructional Plan Title/Focus: Biomes and the plants/animals in them

Learning Targets/Purpose/Previous Learning

- a. **Instructional Plan Purpose:** *In this lesson students will learn more about the biomes and be able to identify the types of environment that each biome is. They will also be able to identify what animals and plants fit with which biome/environment and create a mobile.*
- b. **State Learning Standards:**
 - EALR 4: Life Science Ecosystems
Content Standard 2-3 LS2A: Ecosystems support all life on the planet, including human life, by providing food, fresh water, and breathable air.

 - EALR 1: Visual Arts
Component 1.2: Develops visual arts skills and techniques.

GLE 1.2.1: Understands and applies the skills and techniques of visual arts to create original works of art in two and/or three dimensions.
- c. **Content Objectives:**
 - SWBAT: identify what animals/plants fit in each biome
 - SWBAT: create a mobile showing what animals and plants fit in each biome
- d. **Language Objectives:**
 - SWBAT: learn the vocabulary of the biomes and what each word means
- e. **Previous Learning Experiences:**

Prior to today students have just been briefed about what a biome is. They don't know a lot of details about what each biome looks like and where you can find them and what are in them.

Assessment Strategies

- Attach questions, worksheets, tests or any additional documentation related to your assessment strategies. Also attach appropriate marking rubrics, criteria lists, expectations, answer keys, etc.
- **Formative:** measures process/progress toward mastery of target(s)
 - **Summative:** measures outcomes/achievement of target(s)

Content/Language Objectives	Assessment Strategies
SWBAT: identify what animals/plants fit in each biome	Formative: At the beginning of the unit students will repeat back to the teacher the names of the plants/animals that fit each biome Summative: At the end of the unit students will take a test identifying what animal/plant fits with each biome
SWBAT: create a mobile showing what animals and plants fit in each biome	Formative: Summative: Students will create a mobile of one or many biomes and have pictures or words describing the biome and the things that can be found in it.
SWBAT: learn the vocabulary of the biomes and what each word means	Formative: We will talk about the vocab words frequently and I will routinely call on students for definitions Summative: Included in the test will be vocabulary portion where students will have to identify the correct definition with the word

Student Voice: Select two components of student voice and identify how students will reflect and/or communicate on their learning or progress toward meeting the goals. You may eliminate the components not being addressed.

K-12 students will:	Student-based evidence to be collected (things produced by students: journals, work samples, projects, papers, etc.)	Description of how students will reflect on their learning
<i>1. Communicate the learning targets and their progress toward them.</i>	Journal	I will have the students journal and draw pictures about their new learning. They should also include what they found easy/hard or if they have any questions associated with their learning.
<i>2. Communicate the relationship between the assessment and the learning targets.</i>	Student/Teacher meeting	When the assignment is done with, the teacher should find time to talk with each student about why they did what they did. They

		should articulate how they feel like they did and what they felt like they learned through it.
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Grouping of Students for Instruction

- Whole class: Students will be grouped as a whole class during discussion and the picture slide show.
- Pair Work: Students will turn to an elbow partner when asked about the questions from the reading. They will discuss together and collaborate on ideas.
- Individual: Students will work individually to create their mobiles

Learning/Teaching Experiences

1. **Introduction:** Begin by reading *What is a Biome* by Bobby Kalman to the students. While reading, ask the students what they think a biome is and if they can figure out the six main biomes in the world.
2. **Questions:**
 - What is a biome?
 - What are the six main biomes in the world?
 - Can an animal live in one or more type of biome?
 - What types of animals/plants can be found in each different biome?
 - What is the climate of each biome?
 - **Student Involvement:** Students will turn to an elbow partner when asked about the questions from the reading. They will discuss together and collaborate on ideas.
3. **Learning Activities:**
 - Model for students how to make the mobiles and write the steps on the whiteboard
 - Tell students that they will first research the different biomes and fill out a Biome printable for each biome. They can use text books, trade books, internet or other resources. Explain the different sections of the printable and the definitions of terms (climate, terrain, etc.). Cut out the biome cards (6 altogether).
 - Students will then use the blank printables to draw a realistic picture of the biome based on the facts they have collected. Students will then color and cut out the animals and plants on the Flora and Fauna printable and glue the animal and plant that best fit the biome onto the picture.
 - Tundra- polar bear, lichen
 - Deciduous forest-oak tree, owl or moose
 - Evergreen forest-pine tree, moose or owl
 - Desert-cactus, scorpion
 - Rainforest- palm tree, parrot
 - Grassland- zebra, sweet fennel

- Students can also draw their own plants and animals on their picture. Students will then cut a piece of construction paper to mount the picture and then glue the biome facts on the back of the construction paper. Students should have six rectangles with pictures of the biomes on one side and the corresponding fact card on the backside.
- Students can now create their biome mobile. They can cover the hanger with construction paper and punch six holes in the top part. Student can then punch holes in the top of their biome cards to attach the cards to hanger with fishing line. Have students cut varying lengths of fishing line so that the cards are staggered. Student can write Biomes or another title for their mobile on the hanger part.

4. **Instructional Considerations:**

- a) Instructional procedures:
 - The teacher will read the book to the class
 - The teacher will ask guiding questions for the class
 - The teacher will help demonstrate the mobiles and write the directions on the board.
- b) Multiple means of access
 - The teacher will read a book (auditory).
 - The teacher will show pictures on an overhead projector (visual).
 - The teacher will lead student discussion (oral).
 - The students will participate in a hands-on art activity (kinesthetic).
- c) Multiple means of engagement
 - The student will listen to the story
 - The student will discuss questions with a partner
 - The student will create their own mobile
- d) Multiple means of expression
 - The students will show their learning by participating in discussion
 - The students will show their learning by establishing the characteristics of biomes and what go in each one
 - The students will show their learning by creating a mobile of the biomes
- d) Methods of differentiation
 - Students who have disabilities or language-learning barriers can work with a partner to complete their mobile. They can also work with a partner to answers questions.
- e) Language learning objectives:
 - Language learning objectives will be incorporating throughout the entire lesson. The students will learn new vocabulary during the group discussion and partner discussion and they will apply their vocabulary when they are making their mobile.

- f) Cultural responsive pedagogy:
 - o Students are given the guidelines of what the final mobile should entail however, they are free to decorate and construct it as they wish.
 - g) Remedial activities:
 - o Students could be given a worksheet that helps guide them through the new topic covered. They also can turn to a neighbor or their internet/book resources to help them out if that is needed.
 - h) Extension activities:
 - o On a map, have students identify the biome locations in a continent or the world and create a bulletin board.
 - o Students can do oral reports or research projects on a particular biome in groups.
5. **Closure:** When students are done with their mobiles the class will come together and share them. Each student will get a chance to state one interesting thing about a biome and what one is his or her favorite. The students will then get to hang their mobiles up in the classroom for decoration. We will then conclude with another over view of the biomes-what are the six main ones and what the definition of a biome is.
6. **Independent Practice:** Students will be encouraged to go home and do some research on their favorite biome. They can look up what biomes their favorite animals live in and find out more about their favorite biome.

Instructional Materials, Resources, and Technology

White Board/Markers

Book: “*What is a Biome*” by Bobby Kalman

Hangers

Construction paper

Crayons, scissors, pencils, glue, hole punch

Fishing line

Biome printables (3 copies of each per student)

Additional Requirements

- **Integration with Other Content Areas:** Another subject area that could be used would be writing. Students could write a story about a particular biome or animal/plant. It also would be good for researching skills if they continue to learn more about certain biomes.
- **Acknowledgements:** Instructional Plan adapted from instructorweb.com
<http://www.instructorweb.com/lesson/biomeidentify.asp>

PRINT: Biome Cards

Vocabulary words:

-Biome

-Tundra

-Rainforest

-Sahara

- Marine

- Grassland

Instructional Plan

Revised 3/2/2011

Teacher Candidate: _____ Tiffany Jack _____ **Date:** _____ February 29, 2012 _____
Cooperating Teacher: _____ **Grade:** _____ 3 _____
School District: _____ **School:** _____
University Supervisor: _____ Pauline Sameshima _____
Unit/Subject: _____ Science/Ecosystems _____
Instructional Plan Title/Focus: _____ Local Ecosystems _____

Learning Targets/Purpose/Previous Learning

a. Instructional Plan Purpose:

The goal of this lesson is to teach students the importance of each species and element within an ecosystem or habitat. Students will simulate the removal of one species from an ecosystem to gain a basic understanding of the importance of biodiversity by studying how the removal of that species affects all others in the biome.

b. State Learning Standards:

Science
EALR 4, Life Science 2, Changes in Ecosystems

Communication
EALR 2, GLE 2.2.1 and 2.2.2

Educational Technology
EALR 2, GLE 2.1.1 and 2.1.2
GLE 2.2.1 and 2.2.2
GLE 2.3.2

The Arts
EALR 3.2E

Integrated Environmental and Sustainability
Standard 2: The Natural and Built Environment

Reading
EALR 1, GLE 1.3.1 and 1.3.2

c. Content Objectives:

SWBAT describe what animals need to survive and the way they interact with other plants and animals in their ecosystem. (Science 4.LS2, ESE 2, Communication 2.2.1)

SWBAT perform a simulation to demonstrate the dependencies of species upon each other within an ecosystem. (Communication 2.2.1, 2.2.2, The Arts 3.2E)

SWBAT draw pictures of animals in their ecosystems and describe their needs in order to survive. (Science 4.LS2, ESE 2, Communication 2.2.1)

d. Language Objectives:

SWBAT define "ecosystem." (Reading 1.3.1, 1.3.2)

SWBAT define "biodiversity." (Reading 1.3.1, 1.3.2)

e. Previous Learning Experiences:

Student will already have some understanding of what makes up a habitat and have basic understanding of animal lifecycles from past experiences in science lessons. Students will have already gone on a field trip to the park to observe an ecosystem first hand.

Assessment Strategies

Content/Language Objectives	Assessment Strategies
SWBAT describe what animals need to survive and the way they interact with other plants and animals in their ecosystem.	Formative: Teacher will approve a paragraph of student researched information on their animal's habitat before they begin drawing the ecosystem. Teacher will ask students to tell him/her what they learned to check for comprehension. To do so, each student will approach the teacher's desk for approval; the teacher will check within the grade book that the student has appropriately completed the first step.
SWBAT perform a simulation to demonstrate the dependencies of species upon each other within an ecosystem.	Formative: Students will play the role of their plant or animal in the classroom activity. Teacher will be able to take notes on whether students seem to comprehend the changes in the environment and help the students who are struggling. Student will receive a check for participation in the activity or a squiggle if it seems they are relying on others to tell them their role.
SWBAT draw pictures of animals in their ecosystems and describe their needs in order to survive.	Formative: Student drawing will serve as a formative assessment so teacher can see how critically the student is thinking of the interacting forces within a species' ecosystem. Students will be graded using the attached rubric which each student should also receive a copy of before they begin the drawing.
SWBAT define "ecosystem."	Summative: Vocabulary test
SWBAT define "biodiversity."	Summative: Vocabulary test

Student Voice:

K-12 students will:	Student-based evidence to be collected (things produced by students: journals, work samples, projects, papers, etc.)	Description of how students will reflect on their learning
1. Communicate the support and resources that can be accessed to help them achieve the learning targets.	Worksheet	At the end of the worksheet, student is expected to respond to a question that asks them where else they can go to find information to achieve their learning target. This gets student thinking about how to find more information to help them in their learning so that they can be self-driven learners.
2. Review their performance and set personal learning goals based on those assessments.	Picture	At the end of the lesson, students will be asked to reflect on their learning using the back of their ecosystem picture. The teacher will ask them to write if they liked the lesson, whether they think they achieved the learning targets, one cool thing they learned, and one thing they would still like to learn about the local ecosystem.

Grouping of Students for Instruction

Students will work individually for the beginning of the lesson after they receive their worksheets. They will do independent research for this in the computer lab. For the ecosystem simulation, they will be acting as a whole-class together, each person playing the role of their species. Drawing the ecosystem will be independent work but will be a time when students can talk with their neighbors to share or gain insight.

Learning/Teaching Experiences

1. Introduction:

(Teacher should have learning targets written on the board so students can refer to them throughout the lesson.)

Teacher will ask students to think of some animals in their homes or neighborhood and ask them what those animals need to survive. (Students should list things such as food, water, shelter, and room to roam.) Teacher will write responses on the board. Introduce the vocabulary word "ecosystem."

2. **Questions:**

- What do these animals eat?
- Where do they live?
- How do wild plants and animals depend on the plants and animals around them?
- What would happen to the ecosystem if that animal/plant no longer existed?
- What would happen if a new species were introduced to that ecosystem?

Students will be given time to work in groups and talk about these questions. After about 2 minutes, the teacher will call on students randomly to ask these questions. Students will receive praise for giving a good/helpful answer. Teacher should start a web on the board by drawing a circle around certain species and allowing students to come up and draw lines that show the connections to the animal and their habitat as they answer the questions above posed by the teacher.

3. **Learning Activities:**

1. Introduce the activity by asking students the questions above regarding the animals they have seen in their local environment. Introduce the word, "ecosystem."
2. Use focus questions as a lead in to introduce "biodiversity" and the idea that all plants and animals are reliant on each other and other elements in a system of checks and balances.
3. Provide students with a list of local plants and animals and allow them to choose which animal/plant they would like to research and represent. (More than one student can have the same species but no more than two or three per species.)
4. Students will be given 15 to 20 minutes in computer lab to research their animal/plant and fill out the worksheet provided by the teacher.
5. Students will be asked to stand around the room and make connections by standing near other species that they would be interacting with.
6. Ask one of the species to sit down, implying that this species has died off. Explain that this is what happens when an animal goes extinct due to environmental stress, over-hunting, or other reasons. Tell students that scientists keep track of endangered species to see which animals are close to extinction.
7. Ask the students if any of the other species relied on the species that died off. Ask them what would happen to those other plants and animals. Make sure students understand the reliance all species in an ecosystem have on each other.
8. Ask students to be seated and use a blank piece of paper to draw their species within its healthy ecosystem. Ask them to include as much detail as possible and refer back to their research worksheet for ideas if needed.
9. Have students reflect on their learning using the back of their ecosystem picture. Ask them to write whether they liked the lesson, whether they think they achieved the learning targets, one cool thing they learned, and one thing they would still like to learn about the local ecosystem.

4. **Instructional Considerations:**

a) Instructional procedures:

- Teacher will use the white board for learning targets and making connections (using a web) for animals within the student's life. The teacher will speak to the whole class for introduction, and focus questions, giving verbal examples when needed.
- The computer lab will be utilized for the research portion of the activity.
- Whole group acting shows the ecosystem through student movement and whole class discussion.
- Individual work for ecosystem drawing and student voice reflection.

b) Multiple means of access

- White board
- Discussion

c) Multiple means of engagement

- Discussion
- Computer research
- Research worksheet
- Acting
- Drawing
- Writing

All learning styles will be addressed in this lesson plan (auditory, visual, and kinesthetic). The arts are also included through the drawing activity at the end.

d) Multiple means of expression

- Worksheet and student voice question at the bottom
- Through acting and discussion
- Through their drawing and student voice writing on the back

e) Methods of differentiation

Students will not be judged according to conventions on any of the writing activities which will help students with difficulty in writing. If students do not understand how to use the computer, teacher or classroom volunteer will assist them in their research. Students with other learning disabilities can show their learning through verbal responses or may receive help from a specialist in meeting the learning targets.

f) Language learning objectives:

I will integrate the language learning objectives near the beginning of the lesson. "Ecosystem" will be introduced after students recall information about animals in their homes or neighborhood. "Biodiversity" will be introduced after the focus questions to get students thinking about interdependency among different species in an ecosystem.

g) Cultural responsive pedagogy:

Students are asked to think of animals from their homes or neighborhoods which incorporates their own cultural background. If students just recently moved to the area, they will be able to share about the animals they saw where they are from.

h) Remedial activities:

If students really don't seem to understand what is going on, the teacher can provide for the student a copy of the answer key so they can see what an example looks like. The teacher should spend extra time with this student explaining the importance of species within their habitats. This student will also be allowed to use the computer to re-research their animal's habitat to complete their drawing if needed.

i) Extension activities: (What will students who finish early do?)

The only activity that students could potentially finish early is the research. If students finish this early, they may get a head start on the drawing that will conclude the lesson. If they finish their drawing early, they may read silently.

5. **Closure:**

Students will be asked to incorporate the arts in concluding this lesson by drawing their ecosystem with as much detail as possible. They will also be asked to reflect on their learning on the back of their drawing so the teacher knows whether students like the lesson, what they learned, and what they would still like to know. Questions to prompt this reflection will be written on the board or an overhead/document camera: What did you learn from this lesson? What would you still like to learn? What did you like about this lesson? Is there anything you would change about this lesson?

6. **Independent Practice:**

For homework, ask students to go in their yards or to a local park and observe one animal within its local habitat. Tell them to bring a journal and writing utensil and write down everything they see that animal doing and interacting with within their environment. Have students ask their parents to help them with their observations by posing to them the question: What is one thing you know about _____ animal and its habitat? And recording this in their journal.

Instructional Materials, Resources, and Technology

Worksheet and rubric attached to the back of this packet. Students will also need one blank piece of paper. Teacher will need the grade book to record student work. Answer key is also attached to this packet.

Students will need access to computers with internet. They will also need drawing materials and blank pieces of paper. Some animal species may be found here: <http://animals.nationalgeographic.com/animals/> by typing the name of the animal into the animal search bar.

Additional Requirements

- **Integration with Other Content Areas:**

This lesson includes art, science, communication, educational technology, environmental sustainability and geography. Science is addressed because it is part of the standards to address ecosystems and animal habitats which is what this lesson is all about. Art is included by the drawing at the end. Geography is included because an ecosystem can only exist within the context of a geographic location on the earth and ecosystems are all different for different geographic locations throughout the world, which students will understand by the end of this lesson. Students use communication throughout the simulation and discussions. Educational technology is incorporated with student use of the computer lab and environmental sustainability is briefly mentioned with the extinction of species in the skit simulation.

- **Acknowledgements:**

Instructional Plan Created by National Geographic at <http://www.nationalgeographic.com/xpeditions/lessons/08/gk2/ecosystem.html> and was adapted by Tiffany Jack. Worksheet was created by Tiffany Jack

Name: _____ Species: _____

Ecosystems

Habitat: _____

Plants or Animals my Species eats: _____

Animals that eat my Species: _____

Source I used: _____

Where else can I find information on this topic to achieve the learning targets? _____

Name: _____ Answer Key _____ Species: _____ Cougar _____

Ecosystems

Habitat: _____ Lives in mountainous , forest regions in Washington and throughout the pacific northwest.
Climbs trees and needs a water supply such as a lake or stream. Has been see lounging on rocks in the summer.
Will sleep in a cave or a tree.

Plants or Animals my Species eats: _____ Birds, rabbits, squirrels and other small wildlife. Also kills elk or deer.

Animals that eat my Species: _____ No known predators. Occasionally hunted by men but not for food.

Source I used: _____ www.wikipedia.com

Where else can I find information on this topic to achieve the learning targets? _____ Books in the library

Example Grade Book Page

Student name	Research worksheet	Role Participation				
Sally	x	x				
John	x	x				
Jill	x	x				
Mason	x	x				
Terry	x	x				
Francine	x	~				
James	x	x				
Frank	x	x				

Habitat Drawing Rubric

1	2	3
Student did not use color in their drawing.	Student used some color in their drawing but parts are left without.	Student colored their whole drawing to give to life to the environment.
Student drew only their species. The viewer gets no idea of what the species looks like within its natural habitat.	Student drew their species and only a couple aspects of its environment. The viewer does not get a very good idea of what the species looks like within its natural habitat.	Student used at four things from their species environment that they found in their research. Their picture gives the viewer a good idea of what the species looks like within their natural habitat.

Vocabulary Test

Name: _____ Date _____

State the meaning of the following words:

1. Ecosystem:
2. Biodiversity:

Instructional Plan

Revised 3/02/11

Teacher Candidate: Elle Christenson **Date:** 2/28/12
Cooperating Teacher: Paulina Sameshima **Grade:** 3rd Grade
School District: Pullman **School:** Franklin Elementary School
University Supervisor: Lori White
Unit/Subject: Ecosystems
Instructional Plan Title/Focus: Black and White African Savanna

Learning Targets/Purpose/Previous Learning

Instructional Plan Purpose: This lesson will introduce the next ecosystem in their ecosystem unit by applying a different interactive type of learning where they use technology to perform a “research” based worksheet. This will offer a different type of learning strategy and will provide simple questions to introduce facts about the ecosystem before the students go more in depth.

State Learning Standards:

- a. Art
 - i. GLE 1.2.E Applies, experiences, and practices basic art skills and techniques in dance music, theatre, and visual arts.
 - ii. GLE 2.3.E Experiences, practices, and applies a responding process structure to an art performance and/or presentation.
 - iii. GLE 4.2.E Demonstrates and applies the skills, concepts, and vocabulary common among and between the arts disciplines and other content areas at beginning levels.
- b. Science
 - i. 2-3 LS2A Ecosystems support all life on the planet, including human life, by providing food, fresh water, and breathable air.

b. Content Objectives:

- a. SWBAT use technology to acquire knowledge about the African Savanna (*Science GLE 2-3LS2A*)
- b. SWBAT participate in adding information to the class African Savanna. (*Art GLE's 1.2E, 2.3E, 4.2E*)
- c. SWBAT interpret and apply knowledge to create a collage of the African Savanna using newspaper clippings, construction paper, animal cutouts, and plant cutouts (*Art GLE's 1.2E, 2.3E, 4.2E*)
- d. SWBAT describe specific elements of the African Savanna Ecosystem after the lesson (*Science GLE 2-3LS2A*)

c. Language Objectives:

- a. SWBAT use appropriate vocabulary in describing elements in the African Savanna
 - i. Ecosystem: system formed by the interaction of a community of organisms with their environment.
 - ii. Savanna: flat grassland of tropical or subtropical regions.
 - iii. Dry Season: During the winter, an average of about 4 inches of rain falls.
 - iv. Wet Season: During the summer, an average of 15 to 25 inches of rain falls.
 - v. Savanna Plants: scattered with shrubs and isolated trees, which can be found between a tropical rainforest and desert biome. Not enough rain falls on a savanna to support forests. Savannas are also known as tropical grasslands. They are found in a wide band on either side of the equator on the edges of tropical rainforests.
 - vi. Savanna Animals: Elephants, giraffes, lions, leopards, aardvarks, buffalo, zebra, cheetah, hyena, rhinoceros.

d. Previous Learning Experiences:

- a. Students will have done similar background activities with other ecosystems such as, oceans, the tundra, rainforests, mountains, and desert regions. This will be a beginning lesson in introducing them to another ecosystem that is present on Earth that supports living organisms in specific ways (food, water, living quarters, etc.)

Assessment Strategies

Content Objectives	Assessment Strategies
SWBAT use technology to acquire knowledge about the African Savanna	Formative: As a class we will work in the computer lab or with the “computers on wheels” to research elements of the African Savanna that help support living organisms, I will continuously walk around making sure students are on task and performing the assigned background worksheet. At the end of the given time, students will not be allowed to leave until they’ve shown me their worksheets with questions answered correctly. I will mark

	off their names on my checklist (pg9 copy if needed) and make comments if needed. This will act as an exit card for them to go back to the classroom. Summative: At the end of this lesson, they will turn in all the information they found researching (this will be graded on completeness) and I will enter them in as a participation grade.
SWBAT participate in adding information to the class African Savanna map and their personal African Savanna map.	Formative: As a whole class, we will open up the lesson after research into a whole class discussion that will involve students coming up and adding information to the black and white African Savanna map, I will make notes of what small groups participate on my checklist. (pg 9) They can participate by adding information (students will add information by small group and each group has a spokesperson that walks to the board and adds the information gathered, so it's not as intimidating to contribute).
SWBAT describe specific elements of the African Savanna Ecosystem after the lesson SWBAT interpret and apply knowledge to create a collage of the African Savanna using newspaper clippings, construction paper, animal cutouts, and plant cutouts (Art GLE's 1.2E, 2.3E, 4.2E)	Summative: For this part of the lesson, I want students to be able to make an accurate collage that depicts the African savanna location within Africa along with an accurate display of its plant life and animal life. I will be collecting their collages at the end of the lesson to go over and grade them based on the map I have included on page 8 that labels the different ecosystems of Africa.

Student Voice:

K-12 students will:	Student-based evidence to be collected (things produced by students: journals, work samples, projects, papers, etc.)	Description of how students will reflect on their learning
1. Articulate how proper and efficient use of technology enhances learning.(5.2)	As we discuss as a class after using the computer lab, I will ask the students as they add information about the African Savanna to the black and white map, what websites and resources were used the most and which ones were most helpful On their research handout, they will be asked to add what website they used to answer each questions, this will help me keep track for future lessons on which websites are most helpful to the students compared to the most helpful for me.	In their journal entries for the this lesson, they will explain to me the pros and cons for using the computer lab, they will be able to say what they liked about the learning, the lesson, the computers, or what they would like to do differently or would like better as a learning tool..
2. Communicate the development and maintenance of a learning community.	For evidence, I will be sure to watch closely how the small groups work together to contribute and share information with each other and with the class as a whole when they add to the map. This will help me determine what groups work well together, if groups are a good idea, and if this helped their learning and ability to engage in the lesson.	As they work in small groups politely and courteously students will learn about teamwork and sharing of knowledge and information learned. This will also be practiced while taking turns adding to the class (community) map in front of the class. This will give the students an opportunity to work on teamwork and cooperation which leads to a continuously positive learning environment.

Grouping of Students for Instruction

1. *Whole Class:* During whole class discussion all students are contributing by adding information from research to the class map at the front of the room
2. *Small Group:* While in class discussion, table groups are contributing to each other and sharing while adding to the whole class map.
3. *Individual:* Students will do individual research as well as draw and color their own black and white map after discussion and research.

Learning/Teaching Experiences

1. **Introduction:** "Today at the beginning of this part of the day we are going to take a trip down to the computer lab to research the African Savanna, this is the next ecosystem in our ecosystem unit. See this map? We will be adding all our research to this map so we can all share knowledge we have gained while researching."

2. **Questions:** These will be introduced while researching and reviewed during discussion and while they draw on their own map. These questions will be presented to the class after the research on the computers to complete their worksheets. They will answer these questions as small table groups (4-5 students) and collaborate to come up with the answers then they will add their answers to the class map.
- Q: What animals live on savannas?
 - i. A: Elephants, giraffes, lions, leopards, aardvarks, buffalo, zebra, cheetah, hyena, rhinoceros.
 - Q: What kind of plants grow on the savannas?
 - i. A: grass, trees with thick bark, tropical shrubs, thorn trees, Baobab trees.
 - Q: When do savannas have a wet season?
 - i. A: The wet season is in the summer months.
 - Q: When is the dry season?
 - i. A: The dry season is in the summer months.
 - Q: How much rain does a savanna receive?
 - i. A: A savanna can receive rain anywhere from 20 in to 60 in.
3. **Learning Activities:**
- Have a large black and white map of Africa hanging up in the classroom so that the children can see it right away. As the children come in and see the map of Africa you can ask what they know about Africa and about their interests in Africa. After everyone is seated start to talk to them about the different types of biomes that Africa has. There is a list of the different biomes and what some of their characteristics are in the background information. Take different colors of crayons and color in the different types of biomes that you talk about. Talk briefly about the desert, rain forest, and steppe grassland biomes. End with savanna because you will be going more in depth with that one.
 - Have informational links on the African Savanna for the students to use when they receive a computer or they get a computer in the computer lab. Give them about 30-45 minutes to research their questions. As they are researching be sure to walk around to make sure they stay on task and on appropriate sites. Have them complete the worksheet before leaving the computer lab and explain that their information here will be used in the next step with the whole class, so remind them to be thorough in their answers. Once they have done this bring them back together in the classroom at their desks.
 - Once they are back together as a group go around the class and give each table group a chance to share things they learned about the Africa savanna. As each table group shares their facts have their spokesperson pin their fact on the map of Africa somewhere inside the savanna.
 - Once every group has shared facts about the Africa savanna bring everything they have been learning together by discussing the Africa savanna. Discuss with the whole class what characteristics a savanna has. Discuss with them what a savanna is so that they will know what it is. Some possible questions and answers you could discuss with them would be: Q: What animals live on savannas? A: Elephants, giraffes, lions, leopards, aardvarks, buffalo, zebra, cheetah, hyena, rhinoceros. Q: What kind of plants grow on the savannas? A: grass, trees with thick bark, tropical shrubs, thorn trees, Baobab trees. Q: When do savannas have a wet season? A: The wet season is in the summer months. Q: When is the dry season? A: The dry season is in the summer months. Q: How much rain does a savanna receive? A: A savanna can receive rain anywhere from 20 inches to 60 inches. These are some of the questions you could ask the children. You can also talk about other fun facts that they may bring up as you are discussing the savanna.
 - Give them their own blank outline map of Africa and have them create a collage that represents the African Savannah. You can have them collage in the rest of the ecosystems if you would like to. At the bottom of the page with the map on it have them write in their own words what a savanna is.
4. **Instructional Considerations:**
- a) Multiple means of access
 - a. Teacher will have black and white map of African Savanna
 - b. Teacher will participate in research by helping in computer lab/in class with mobile computers
 - c. Teacher will help add information to class map
 - b) Multiple means of engagement
 - a. Students will research information
 - b. Students will complete a worksheet
 - c. Students will share and cooperate in small groups
 - d. Students will draw and color their individual maps
 - c) Multiple means of expression
 - a. Students will complete research worksheet
 - b. Students will draw and color on their own individual map
 - c. Student will complete a journal entry

- d) List means of differentiation
 - a. Students who can't read as well will have fewer vocabulary words.
 - b. Students who can't read as well will have a shorter worksheet.
 - c. Students who can't read as well will have an easier extension activity.
 - e) Language learning objectives:
 - a. These will be learned through research
 - b. These will be defined during whole class discussion
 - f) Include Cultural connections:
 - a. Students will see how environments affect people
 - b. Students will see the culture connected to different locations
 - g) Remedial activities:
 - a. Students who don't understand will be paired up with another student who does understand to complete the research worksheet
 - b. Students who don't understand will sit with me while making their personal collage
 - c. Students who don't understand will be given one-on-one instruction for specific parts of the lesson
5. **Closure:** Since this lesson is an opener to our mini-unit on the African Savanna Ecosystem, I will end by reviewing the questions we have gone over and introducing the next lesson that will expand on the Ecosystem as a whole. What does this ecosystem have in common with the ecosystems we have learned about so far? What makes it different from the ecosystems we've learned so far?
- **What Students Learned:** Students will share what they have learned in the lesson by sharing their personal collage and worksheet with me when they turn them in for grading at the end of the lesson.
 - **Independent Practice:** included in their homework packet for the night, there will be a worksheet that reviews this ecosystem as well as all the ecosystems they have learned about so far. This will act as practice and review of content they have previously learned.
 - **Possible Family Interactions:** Included in their homework packet for the night, there will be a list of vocabulary words, students will be asked to have their older siblings/parent/guardian to give them a vocabulary quiz at home that will act as review of content they have previously learned.

Instructional Materials, Resources, and Technology

1. Attachments to follow that correspond throughout lesson plan.
2. A blown up version of the map that will be attached, this big version will be the map the students add their information to during the whole class discussion
3. The use of the school computer lab or the computers that are mobile and can be reserved for the class room that day for the lesson
 - <http://www.mennonitecc.ca/mcc/workbook/1997>
 - <http://www.awf.org/animals/wlg001.html>
 - <http://www.africanwildlife.org/artindex.html>
 - <http://baobabcomputing.com/all/us.htm>
 - http://www.blueplanetbiomes.org/savanna_plant_page.htm

Additional Requirements

- **Acknowledgements:**

“Instructional Plan adapted from <http://teacherlink.ed.usu.edu/tlresources/units/byrnes-africa/tamtue/index.htm>”
 “Instructional Plan Created by Tammy Tueller”

Black and White African Savanna Map

Name: _____



African Savanna Research Worksheet

ANSWER KEY

1. What animals live on savannas?

- Elephants, giraffes, lions, leopards, aardvarks, buffalo, zebra, cheetah, hyena, rhinoceros.

2. What kind of plants grow on the savannas?

- Grass, trees with thick bark, tropical shrubs, thorn trees, Baobab trees.

3. When do savannas have a wet season?

In the summer there is lots of rain. In Africa the monsoon rains begin in May. An average of 15 to 25 inches of rain falls during this time. It gets hot and very humid during the rainy season. Every day the hot, humid air rises off the ground and collides with cooler air above and turns into rain. In the afternoons on the summer savanna the rains pour down for hours.

4. When is the dry season? Does it explain why?

In the dry season only an average of about 4 inches of rain falls. Between December and February no rain will fall at all. Oddly enough, it is actually a little cooler during this dry season. But don't expect sweater weather; it is still around 70° F.

5. How much rain does a savanna receive?

Annual rainfall is from about 50.8 to 127 cm (20-50 inches) per year.

6. Did you learn any other surprising facts about this ecosystem?

Use Judgement

7. List any favorite new found information

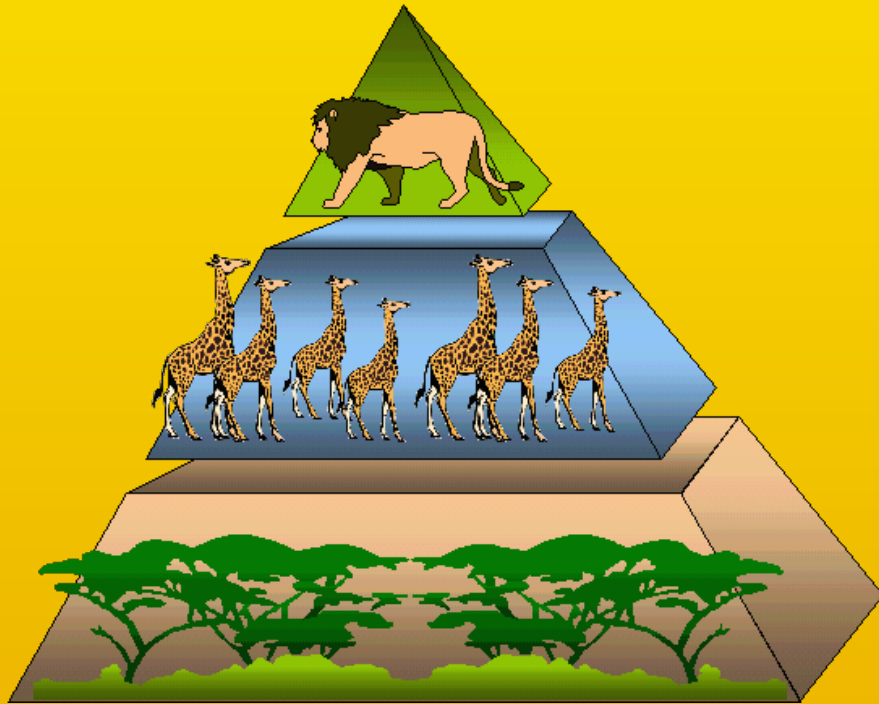
Use Judgment

African Savanna Research Worksheet

Name: _____

1. What animals live on savannas?
2. What kind of plants grow on the savannas?
3. When do savannas have a wet season?
4. When is the dry season? Does it explain why?
5. How much rain does a savanna receive? How much is the most it has ever received?
6. Did you learn any other surprising facts about this ecosystem?
7. List any favorite new found information





Food Webs/Chains

Unit Integration Lesson Plans- 5th grade

Food Webs/Chains

5th grade Science

For this unit, the focus is on food webs and food chains. Each lesson plan included is diverse representation of how to be creative and teach students within this content area. Food Webs and Chains are something every student can relate with because without this continuous cycle in our lives, there would not be much alive today. In the plans provided we have various activities; Scene Alive/food chain, Lion King connections, creating food chains, making connections, and a dancing activity. All of these lessons incorporate various art techniques, and will enhance students understanding in fun and creative ways.

Created By:

Kryssa Isobe
Alexa Dayton
Kara Spane
Robin Desmarais
Stephanie Humpries
Tanya Gieser

Table of Contents

Lesson 1 by Kryssa Isobe

Lesson 2 by Kara Spane

Lesson 3 by Stephanie Humphries

Lesson 4 by Alexa Dayton

Lesson 5 by Tanya Gieser

Lesson 6 by Robin Desmarais

Instructional Plan

Revised 3/2/2011

Teacher Candidate: Kryssa Isobe **Date:** March 22, 2012
Cooperating Teacher: Alyson Koerner **Grade:** 5th
School District: Pullman **School:** Sunnyside Elementary
University Supervisor: Lori White
Unit/Subject: Science, Art- Drama
Instructional Plan Title/Focus: "Scene Alive"/ Food Chains

Learning Targets/Purpose/Previous Learning

- a. **Instructional Plan Purpose:** The students will deepen their understanding of drama skills and techniques while planning and performing their scene alive. Students will also expand their knowledge of food chains and food webs. First, the students will have prepared a written script about a food chain in a specific biome. Then, one of the students in the group will read it out loud as the rest of the group bring the scene to life with gestures only.
- b. **State Learning Standards:**
Grade Level: 5
Theatre:
EALR 1: The student understands and applies arts knowledge and skills in dance, music, theatre, and visual arts.
Component 1: Understands and applies theatre concepts and vocabulary.
GLE 1: Remembers and understands how character, plot, setting, conflict, dialogue, and theme are used in texts (scripts) and/or performances.
EALR 4: The student makes connections within and across the arts to other disciplines, life, cultures, and work.
Component 2: Demonstrates and analyzes the connections among the arts and between the arts and other content areas.
- Science:
EALR 1: Systems
4-5 SYSA: Systems contain subsystems
EALR 4: Life Science – Ecosystems
4-5 LS2A: An ecosystem includes all of the populations of living organisms and nonliving physical factors in a given area. Living organisms depend on one another and the nonliving physical factors in their ecosystem to help them survive.
4-5 LS2B: Plants make their own food using energy from the sun. Animals get food by eating plants and/or other animals that eat plants. Plants make it possible for animals to use the energy of sunlight.
4-5 LS2C: Plants and animals are related in food webs with producers (plants that make their own food), consumers (animals that eat producers and/or other animals), and decomposers (primarily bacteria and fungi) that break down wastes and dead organisms, and return nutrients to the soil.
4-5 LS2E: All plants and animals change the ecosystem where they live. If this change reduces another organism's access to resources, that organism may move to another location or die.
4-5 LS2F: People affect ecosystems both positively and negatively.
- c. **Content Objectives:**
SWBAT portray an ecosystem through drama. (5th Grade Theatre EALR 4.2, 5th Grade Science EALR 1.4-5 SYSA. 5th Grade Science EALR 4.4-5 LS2A, 4.4-5 LS2B, 4.4-5 LS2C, 4.4-5 LS2E, & 4.4-5 LS2F)
- d. **Language Objectives:**
SWBAT describe character, plot, setting, conflict, dialogue, and theme. (5th Grade Theatre EALR 1.1.1)
- e. **Previous Learning Experiences:** Students have already done a scene alive for a social studies unit earlier in the school year. In groups, students prepared a script and performed the scene alive in front of the whole class. They already learned the elements of theatre (character, plot, setting, conflict, dialogue and theme), so this lesson should reinforce what they already learned. Students have also spent several weeks learning about various ecosystems and food chains.

Assessment Strategies

Content/Language Objectives	Assessment Strategies
SWBAT portray an ecosystem through drama.	Formative: There is no formative assessment of this objective planned for this lesson.

	<p>Summative: Students will submit a script for the scene alive, which will be assessed for scientific accuracy using the attached rubric. The students will also be assessed based on their performance using the attached checklist.</p>
<p>SWBAT describe character, plot, setting, conflict, dialogue, and theme.</p>	<p>Formative: After each group presents, the teacher will randomly call on audience members to identify the elements of theatre within the scene alive. This will quickly help the teacher gauge students' grasp on the language objective, and it will also encourage students to be attentive throughout the scene alives. The teacher will use a copy of the class roster, or similar checklist (see attached) to check/highlight the language objectives that students have not yet mastered.</p> <p>Summative: As students write their scripts, they will need to identify where each element of theatre is in the written piece. Students who understand the terms and their uses within drama will accurately label each element within the script. The teacher will make note of the students who understand the academic language used in this lesson, and will place check marks next to the students' names of whom are still struggling with the concept.</p>

Student Voice:

K-12 students will:	Student-based evidence to be collected (things produced by students: journals, work samples, projects, papers, etc.)	Description of how students will reflect on their learning
<p>1. <i>Review their performance and set personal learning goals based on those assessments.</i></p>	<p>Target sheet</p>	<p>At the beginning of the unit, students received a target, with the bulls eye being the equivalent to mastering the learning goals. Students will place a dot on the target to visually show how close they are to mastering their goals. They will then set a goal for where they would like to be on the target after the next lesson.</p>
<p>2. <i>Communicate the development and maintenance of a learning community.</i></p>	<p>Group evaluations</p>	<p>On a sheet of folder paper, each member of the group will rate how well their other group members worked together during the lesson. They will also have the chance to compliment one of the students in their group on supporting the goals of their learning community.</p>

Grouping of Students for Instruction

- **Whole class** – The whole class will sit together on the carpet in front of the teacher at the beginning as the lesson is being explained. The class will regroup during the scene alive presentations to serve as an attentive audience.
- **Group learning** – The students will have a script that was already prepared during a previous lesson. The scripts were written in groups of 4-6 students, and will be performed in the same group. In the previous lesson, students were given 30 seconds to choose group members. After the allotted time ran out, remaining students were assigned to groups. The groups are random, and are not based on ability.
- **Individual learning** – The students will have the chance to reflect on their learning experience independently. After each scene alive presentation, the teacher will also randomly select students in the audience to identify the elements of theatre. At that time, students will also be randomly picked to accurately identify the ecosystem that was being portrayed in the scene alive.

Learning/Teaching Experiences

1. **Introduction:** The teacher will introduce the lesson by reminding the students that they have been working on the ecosystems the past several weeks. The teacher will then say, "Today we will use the piece that your groups wrote about ecosystems and perform it as a scene alive. I will read your piece aloud as you perform it in front of the class. Your group will be given 15 minutes to rehearse and make last minute corrections to your script. Make sure that you have all of the elements of theatre in your script: character, plot, setting, conflict, dialogue, and theme." The teacher will further explain that the script and scene alive will be a summative assessment since this will be the end of the ecosystems unit. This discussion

will transition into the start of the lesson.

2. Questions:

- At the beginning of the lesson, the teacher will ask, “Who can tell me what a scene alive is? What are some of the characteristics of a scene alive?”
- Also at the beginning of the lesson, the teacher will ask, “What is a food chain? Explain what your role is in the food chain.”
- Before students break up into groups to rehearse and edit their scripts, the teacher will ask, “What are the elements of theatre? Why are these elements important?”
 - Reviewing these concepts will serve as a reminder to students as they edit their scripts as the scene alive and script must have all of the elements of theatre.
- After each group performs their scene alive, the teacher will randomly select students to answer the following questions: “What were the characters that were used in this scene alive? Was there a conflict? What was it? How did this group depict dialogue in their scene alive even though they could not speak or make sounds?”
 - Other questions regarding the elements of theatre will be asked in addition to the former. The above are sample questions of what the teacher may ask when formatively assessing students’ knowledge of the elements of theatre.
- The students will be asked to complete a target sheet to help them reflect on their learning. At this point, the teacher will ask, “What is something that you learned during our scene alive lesson?”

3. Learning Activities

1. The teacher will ask the students to come to the carpeted area of the classroom. The teacher will ask the students to come to the carpeted area of the classroom.

2. The teacher will ask, “Who can tell me what a scene alive is? What are some of the characteristics of a scene alive?” The teacher will notate the students’ responses on the white board. The teacher will review any of the characteristics that the students do not mention. The teacher should review that a scene is brought to life through gestures during a scene alive. No sounds should be made, and the only person talking should be the person reading the script.

3. After the students review what scene alive is, the teacher will ask, “What is a food chain? Explain what your role is in the food chain.” Students will reflect on what they have learned in the previous ecosystem lessons.

4. Students will break into small groups. The students will work in the same groups as they did when creating their script. Once students are broken up into their groups, the teacher will remain at the front of the class and ask, “What are the elements of theatre? Why are these elements important?” The teacher will notate student responses on the white board. Elements of theatre: character, plot, setting, conflict, dialogue, and theme.

5. Students will rehearse and edit their script. The teacher will allot them 15 minutes to do so. At the end of the 15 minutes, the teacher can ask who needs more time. If the groups were on task and need more time, an additional 5-10 minutes may be given. The entire scene alive must be at least 3 minutes.

6. After the students are done rehearsing and editing, the teacher will lead a warm-up. The warm-up will help mentally and physically prepare the students for their scene alive performance. One warm-up the teacher may choose to do is “shake out.” The teacher will model the warm-up first, and then ask the students to follow along. Shake or wiggle the tips of your fingers, then the whole finger, then hands, arms, shoulders, head, one foot, other foot, hips, and eventually the whole body. The teacher should narrate as he/she is doing the motion.

7. Groups may volunteer to go first, or the teacher will pick one group at random to perform their scene alive. One of the students in the group will read the script out loud as the rest of the group brings the scene to life. The student reader should read the script with various intonations and voices to add to the scene. Because students have had experience with a scene alive before, they know what is expected of them. In the event that the first reader forgets to bring the characters to life orally, the teacher should remind the rest of the groups to do so after the first group’s performance. Teacher will time each performance.

8. After each group performs, the teacher will randomly select students and ask, “What were the characters that were used in this scene alive? Was there a conflict? What was it? How did this group depict dialogue in their scene alive even though they could not speak or make sounds?” Other questions should be asked about the remaining elements of theatre. The teacher will place check marks next to the names of the students who successfully answered the questions so they do not need to be called upon again. These questions will serve as a formative assessment of the language objective. After a few questions are asked and answered, the audience will need to give the group that just performed a compliment or ask a question. This will support community learning.

9. Once all groups have performed, the students will return to their desks to individually complete their target sheet and group

evaluations. The target sheet will help students reflect on their learning, and assess where they are in relation to the learning targets. The group evaluations will give students a chance to assess their group members and write comments, compliments or concerns. The evaluations will be read only by the teacher, and will not be handed out for the students to review how others evaluated them.

10. When most students are done completing their target sheets and group evaluations, the teacher will ask, “What is something that you learned during our scene alive lesson?” Students may remain at their desks for this portion of the lesson.

4. **Instructional Considerations:**

a) Instructional procedures:

- Teacher will facilitate class discussion.
- Teacher will ask students to provide definitions for the various elements of theatre.
- Teacher will define any remaining terms students need to know, and write it on the white board.
- Teacher will notate on chart paper the key points that students mention.
- Teacher will direct students into their groups to rehearse and edit scene alive.
- Teacher will lead warm-up.
- Teacher will assess students’ learning during and after scene alive performances.
- Teacher will have students reflect on learning and evaluate group members.

b) Multiple means of access

- Teacher will prompt students with questions throughout the lesson to promote critical thinking and learning.
- Teacher will notate students’ ideas on the white board so students may reference them later.
- Teacher will circulate the class and guide group rehearsals.

c) Multiple means of engagement

- Students will engage in their learning through participating in class and group discussions.
- Students will engage in their learning by actively participating in the scene alive.
- Students will engage in their learning by being active listeners/audience members.
- Students will engage in their learning by practicing theatre skills and techniques.
- Students will engage in their learning by asking questions and making connections during class discussions.
- Students will engage in their learning by completing their target sheets and group evaluations.

d) Multiple means of expression

- Students can show their learning by participating in the class discussion.
- Students can show their learning by rehearsing and actively participating in the scene alive.
- Students can show their learning by answering guided questions throughout the lesson.
- Students can show their learning by honestly marking where they think they are in relation to the learning goals on the target sheet.

e) Methods of differentiation

- Students will work individually and with groups; students who are struggling with the concept will receive support from the teacher and other students in the same group.
- The teacher will give extra attention and work with the students who are struggling with the elements of theatre (as identified from previous learning blocks).
- Students will be assessed primarily based on their effort to execute the elements of theatre, and less on the quality of their performance. Students will be assessed on their ability to identify the elements. Students who are introverted may understand the concepts, but may not be mentally and emotionally ready to express what they know through the scene alive, thus students will not be assessed as heavily on their performance.

f) Language learning objectives:

At the beginning of the lesson, students will identify the elements of theatre and define them. The teacher will notate student responses on the white board. Additionally, if any of the elements are skipped over, the teacher will provide the definitions for these on the white board as well. After each group presents their scene alive, the students will be asked to identify and/or describe where the elements appeared in the presentation. This will help reinforce the academic language in this lesson.

g) Cultural responsive pedagogy:

Students can compare how any ecosystem will vary depending on its location. Ocean ecosystems near the United States will be slightly different from ocean ecosystems in other parts of the world. Some groups will explore these differences and analyze how cultures and human food consumption affects ecosystems in different

geographical regions.

h) Remedial activities:

The teacher will make note of the students who are still struggling with the concept of ecosystems and/or elements of theatre throughout the lesson. No remedial action will be taken during this lesson; however, the teacher will lead a small-group discussion with the students who need extra help during a subsequent lesson. The teacher will select trade books, or show youtube clips to help reinforce these concepts. The teacher may also choose to model elements of theatre to assist students with identifying the elements.

i) Extension activities:

Groups who finish rehearsing and editing their scene alive early, will continue to rehearse. The groups who claim to be done, will be the first to perform for the class. At the end of the lesson, students who finish their target sheet and group evaluations early may review available trade books about ecosystems.

5. **Closure:**

- At the end of the lesson, the teacher will guide a discussion asking students to share what they learned during the scene alive lesson. The teacher will ask, “What is something that you learned during our scene alive lesson?” To advance the conversation, the teacher will say, “Think about the last meal or snack that you ate. What is the food chain that links you and your meal to the rest of the world?” For example, students who ate a sausage burrito for breakfast may explain how the beef grazed on grass that absorbed nutrients from the sun. This conversation will help students better understand that they are a part of many food chains, and that everything they eat has a history of its own.

6. **Independent Practice:**

- a. Students will create their own “Food Chain in a Box” at home. See attached instructions and templates.
- b. Parents may help their student create food chains or food webs of one of the meals that they shared together (e.g. the previous night’s dinner).
- c. When watching a movie or play together, families can identify the elements of theatre within the program.

Instructional Materials, Resources, and Technology

1. Students previously written scripts
2. White board/chart paper (or any large surface to write on)
3. Markers, appropriate for whichever surface teacher chooses to use
4. Class roster or checklist with students’ names
5. Timer
6. Target sheets
7. Trade books about ecosystems
8. Rubric/checklist for assessment
9. “Food Chain in a Box” instructions and templates (for independent practice)

Additional Requirements

- **Integration with Other Content Areas:** This lesson integrates the science concept of food chains and the conservation of energy within the food chain. Additionally, students would have had to prepare a short passage, poem or other written piece prior to the lesson. Students are also given the opportunity to practice effective communication skills through the scene alive and by working with others in small groups.
- **Acknowledgements:**
 - Instructional Plan Created by Kryssa Isobe.
 - “Scene Alive” concept adapted from Dr. Pauline Sameshima.
 - “Shake out” warm up adapted from:
Gelineau, R. P. (2012). *Integrating arts across the elementary school curriculum* (2nd ed.). Belmont, CA: Wadsworth, Cengage Learning.

Ecosystem Scene Alive Rubric and Checklist

Group Members: _____

Ecosystem: _____

Rubric

	3	2	1
Accuracy	All information in script is accurate.	Some information in script is accurate, but there are some inaccurate statements.	Information in script is not accurate.
Characters	At least 4 characters. One character must be a plant. Of the remaining characters, must have at least two of the following: carnivore, omnivore, or herbivore.	3 characters, one of which is a plant, and two of the following: carnivore, omnivore, or herbivore. <i>OR</i> At least 4 characters, but does not meet character criteria for "3 points."	2 characters or less.
Length	Scene alive is at least 2 minutes and 45 seconds long.	Scene alive is between 2 and 2 minutes and 45 seconds in length.	Scene alive is less than 2 minutes in length.

Elements of Theatre Checklist (1 point each):

___ Character

___ Conflict

___ Plot

___ Dialogue

___ Setting

___ Theme

Total: ___/ 15

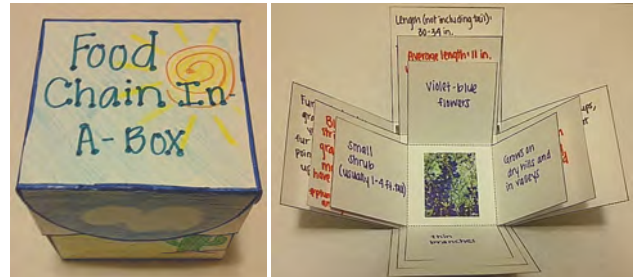
Comments:

Food Chain In a Box

By Kryssa Isobe

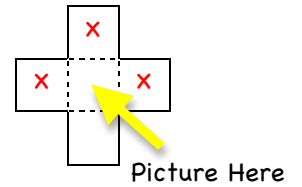
Materials:

- Copies of Patterns 1-4*, 1 set per person
- Coloring utensils (colored pencils, markers, etc.)
- Scissors
- Glue
- Food chain resources (books, internet)
- * May want to use cardstock or other heavy paper



1. Think of a food chain. Find the beginning of the food chain and make the first link a plant. Draw this plant in the middle square (surrounded by dotted lines) on Pattern 1. Write physical descriptions or other facts about that plant on three of the adjacent squares as denoted by a red "x". **

2. In the middle square of Pattern 2, draw whatever animal consumes that plant. Write physical descriptions or other facts about that animal on three of the adjacent squares. **



3. Repeat step 2 for Pattern 3. Draw and describe the animal that eats the animal on Pattern 2. **

** Write name of plant/animal on the back of the cutout behind the picture.

4. Cut Patterns 1-4 along solid lines only.

5. Fold along all dotted lines.

6. Using the cut-out from Pattern 1 (smallest squares), glue the square that does not have a picture nor written description on top of the corresponding square of the cut-out from Pattern 2. Repeat by gluing Pattern 2 to Pattern 3.

7. Pattern 4 is the cover for the food chain box. Fold each of the loose half circles in half. Glue each of the folded half circles into a corner of the cover.



8. Students may choose to decorate remaining of box.

Food Chains

Review: Energy is transferred and conserved as one animal consumes another. The box represents that the animal on the largest square has energy from everything that its own meal had eaten. For example, when a hawk eats a rabbit, the hawk also received energy from the plant that the rabbit had eaten.

Game: Students may guess what animal is on the subsequent layer based on the three physical descriptions provided.

Key Terms

Carnivore: an animal that feeds only on other animals

Consumer: animals; they cannot make their own food, and rely on other animals or plants for food

Food Chain: the way in which plants and animals are linked together by feeding; a food chain shows how an animal may feed on a plant, for example, but in turn become the food of another animal

Food Web: a collection of food chains that are linked together because they share one or more living things

Herbivore: an animal that feeds only on plants

Omnivore: an animal that feeds on both plants and animals

Photosynthesis: the process in which green plants use energy from sunlight to make food, using oxygen from the water in the soil and carbon dioxide from the air

Predator: an animal that kills and eats other animals

Prey: an animal that is killed and eaten by a predator

Producer: plants; they produce their own food through photosynthesis; provides food for consumers

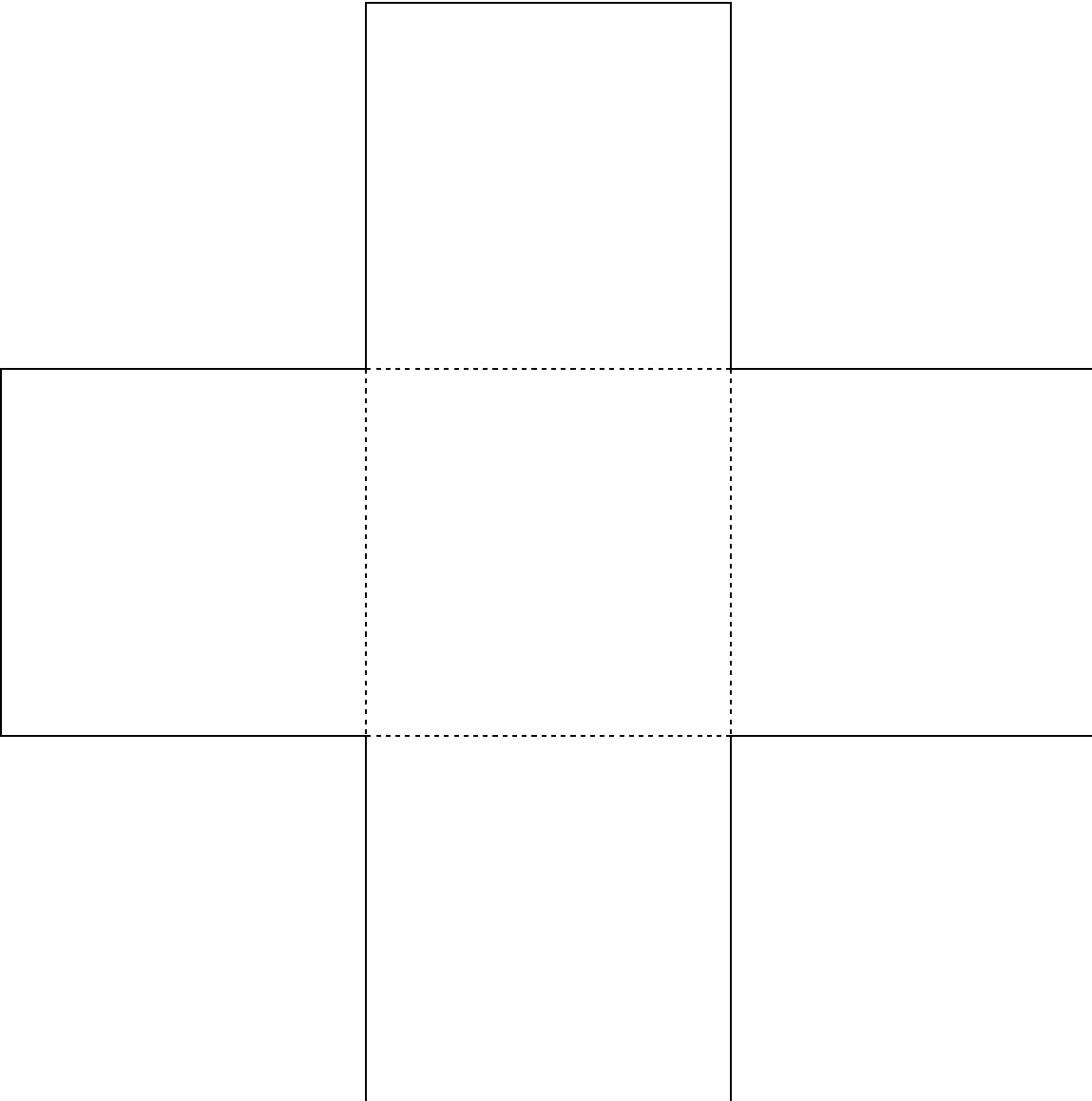
Defintions from:

Riley, P. (1998). *Food chains*. New York, NY: Franklin Watts.

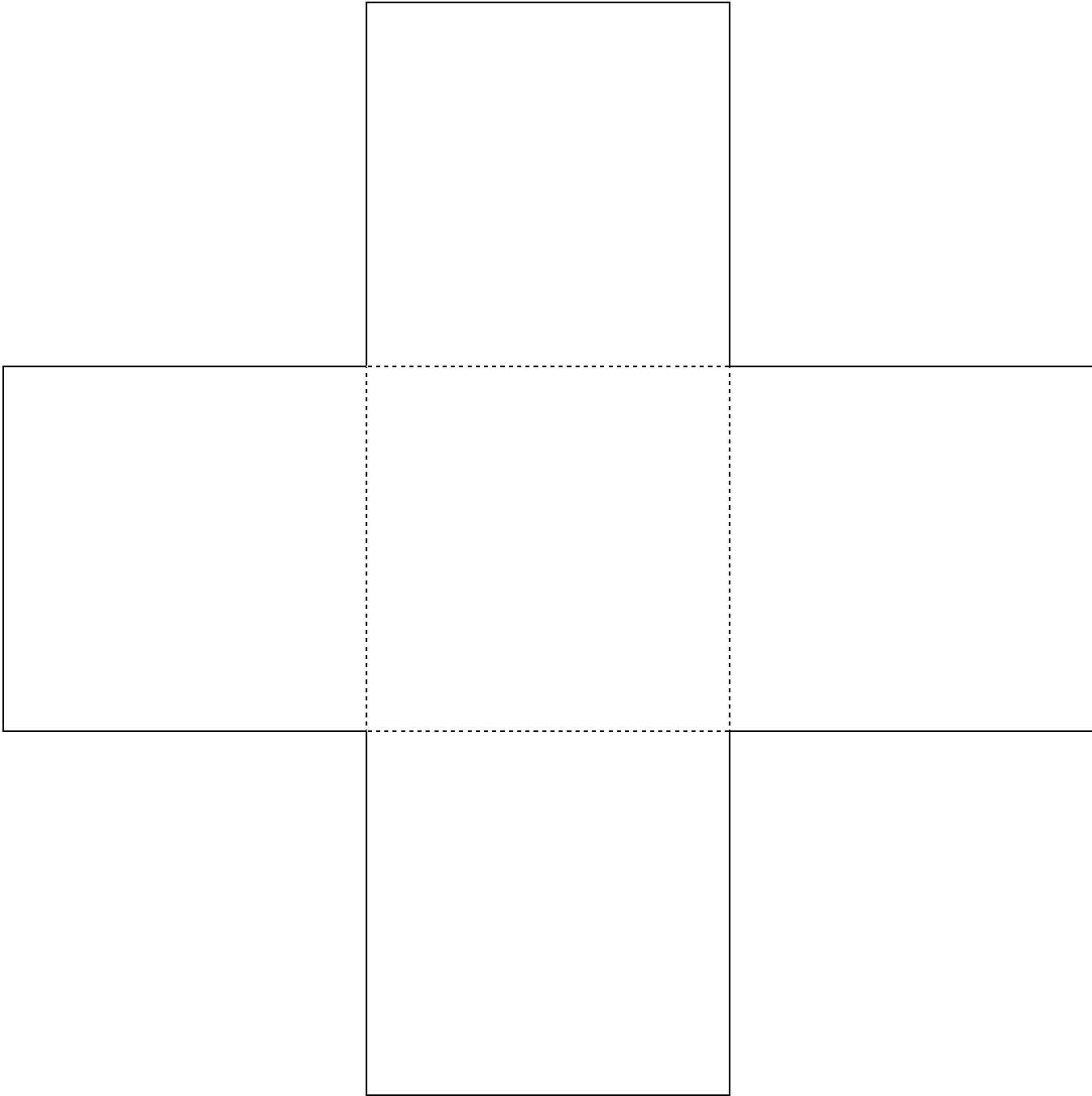
Sheppard Software. Parts of the Food Chain (Producers/Consumers). Retrieved from

<http://www.sheppardsoftware.com/content/animals/kidscorner/foodchain/producersconsumers.htm>

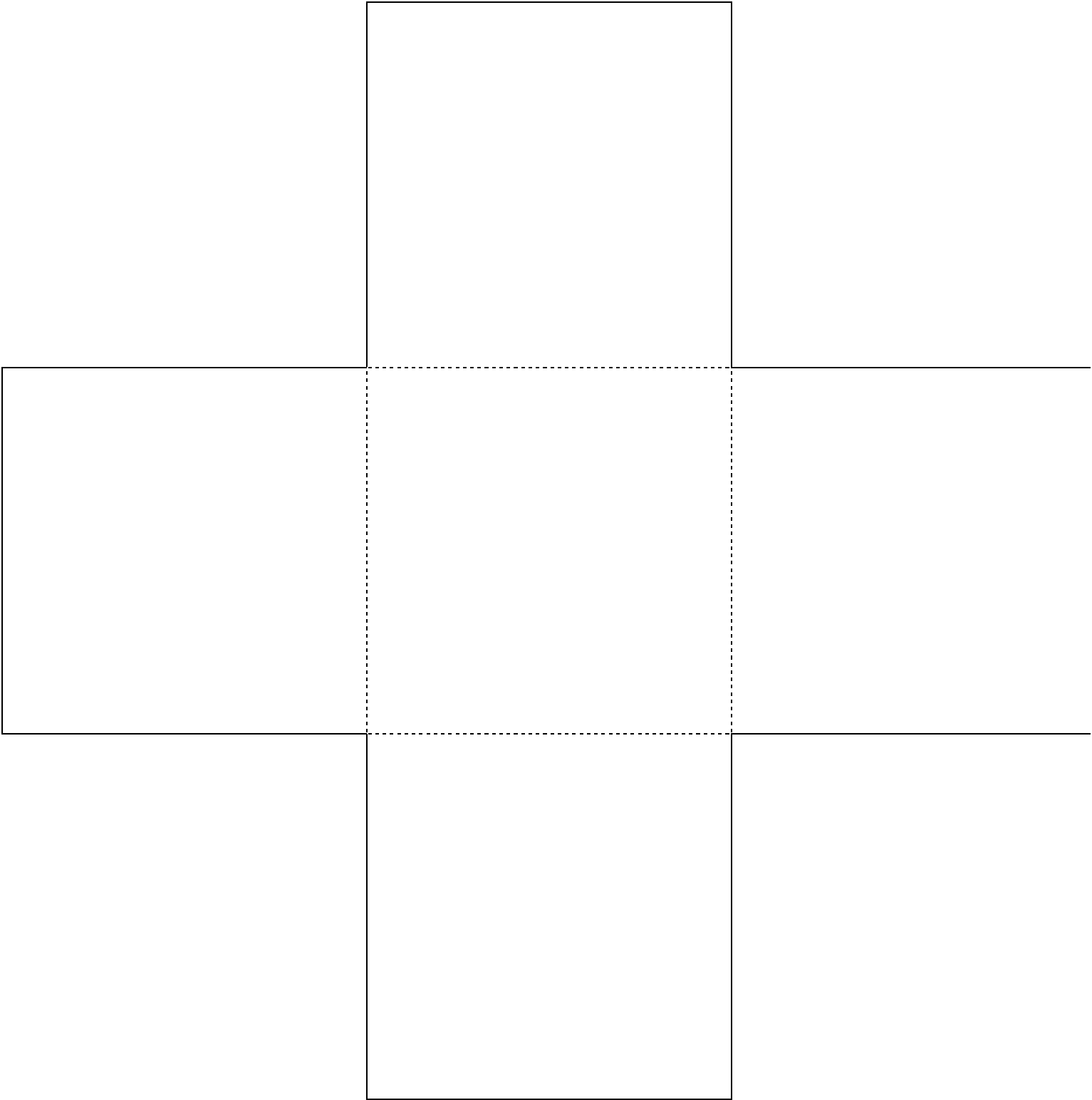
Food Chain In a Box: Pattern 1



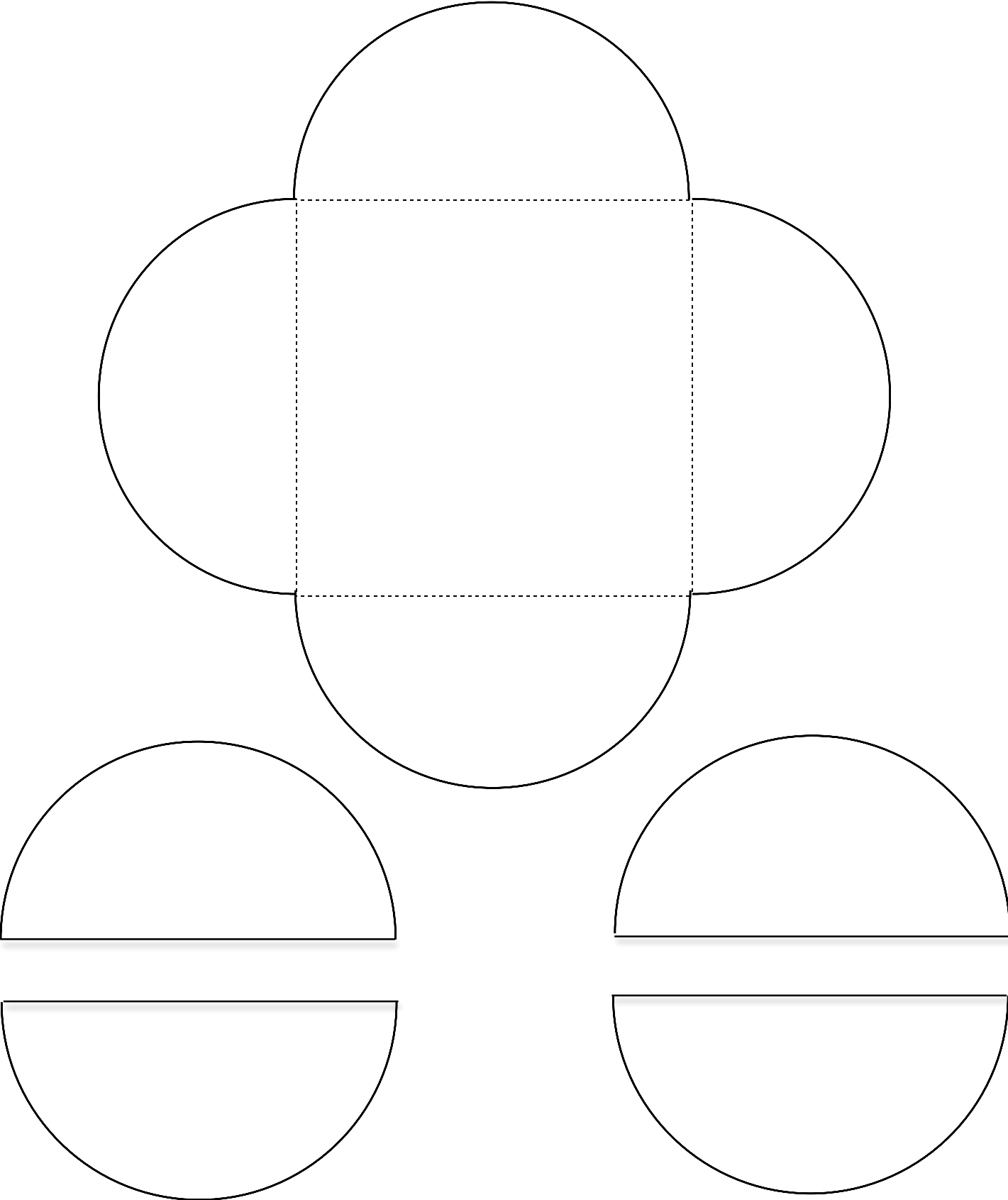
Food Chain In a Box: Pattern 2



Food Chain In a Box: Pattern 3



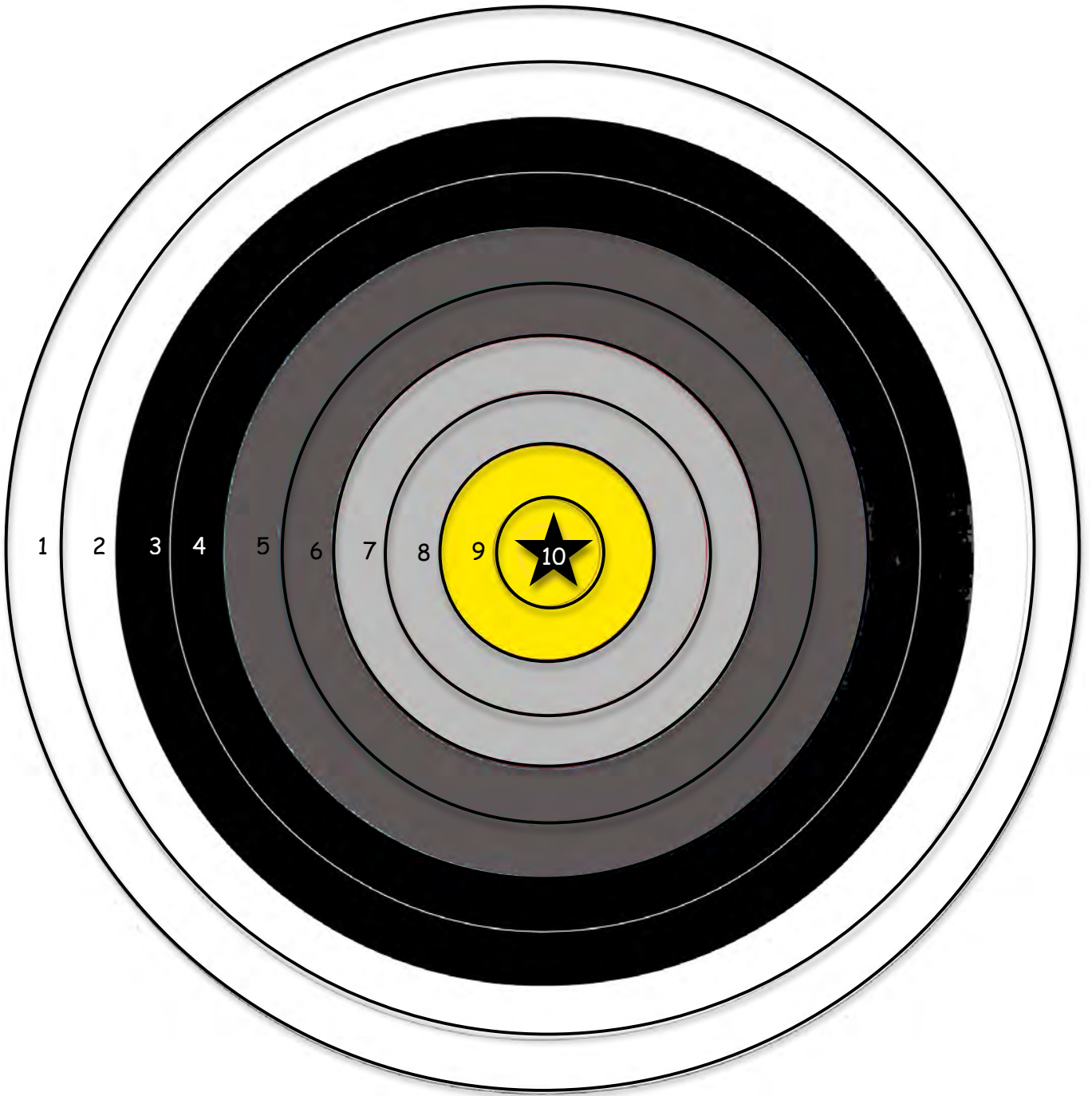
Food Chain In a Box: Pattern 4



Hit the Bull's Eye

Name: _____

Date: _____



I gave myself a ___ because _____

Cooperating Teacher: _____ Joni Stevens _____ **Grade:** 5th
School District: Pullman **School:** Jefferson Elementary
University Supervisor: _____ Pauline Sameshima _____
Unit/Subject: _____ Science/Art _____
Instructional Plan Title/Focus: _____ Lion King Food Chain _____

Learning Targets/Purpose/Previous Learning

f. Instructional Plan Purpose:

- The purpose of this lesson is to teach students about the food chain that exists in our world and the importance it holds to our lives. The food chain can be easily related to the “circle of life,” that is covered in the movie, Lion King. We will watch short film clips from the movie so they have a visual of what my instruction will be explaining. From there, they will distinguish which animals and plants they saw in the movie and specify them either as herbivores, carnivores or plants. Then, they will be asked to create their food chain based off this movie and truly see how the way we live is really a “circle of life.”

- g. **State Learning Standards:** Identify relevant grade level standards and GLEs from the WA State Content Learning Standards. Please note that the number of the GLE indicates the EALR (first number), the component (second number), and the GLE (third number); for example: 3.2.1 = 3rd EALR, 2nd component, 1st = GLE.

5th grade Science

- **EALR 4-5 LS2A:** An ecosystem includes all of the populations of living organisms and nonliving physical factors in a given area. Living organisms depend on one another and the nonliving physical factors in their ecosystem to help them survive.
 - Identify the living and nonliving parts of an ecosystem
 - Give examples to show how the plants and animals depend on one another for survival (e.g., worms decompose waste and return nutrients to the soil, which helps plants grow).
 - Describe how the plants and animals in an ecosystem depend on nonliving resources.
- **4-5 LS2C** Plants and animals are related in *food webs* with *producers* (plants that make their own food), *consumers* (animals that eat *producers* and/or other animals), and *decomposers* (primarily bacteria and fungi) that break down wastes and dead *organisms*, and return *nutrients* to the soil.
 - Draw a simple food web given a list of three common organisms. Draw arrows properly and identify the producers and consumers.
 - Compare the roles of producers, consumers, and decomposers in an ecosystem.
- **4-5 LS2E** All plants and animals change the *ecosystem* where they live. If this change reduces another organism's access to resources, that *organism* may move to another location or die.
 - Describe how one population may affect other plants and/or animals in the ecosystem (e.g., increase in Scotch Broom replaces native plants normally eaten by butterfly caterpillars, reducing the butterfly population).

5th Grade Art

- **3.2.E:** Creates and/or performs an artwork to communicate for a given purpose in dance, music, theatre, and visual arts.

- h. **Content Objectives:** What should the students know or be able to do after the instruction? Use SWBAT format with an action verb that matches the cognitive domain of the standard/GLE.

- Students will be able to create a piece of artwork to communicate their knowledge of food chains. (3.2.E)
 - Students will be able to identify the vocabulary taught. (4-5 LS2A)
 - Students will be able to explore connections between the movie clips and real life situations. (4-5 LS2C)
 - Students will develop a basic understanding of relationships between organisms that belong to a certain food web. (4-5 LS2C)
 - Students will be able to accurately distinguish between major organisms in the African Savanna (4-5 LS2A)
 - Students will be able to explain the social structure of the organisms and how they interact through using food webs (4-5 LS2E)
- i. **Language Objectives:** What grammar, language skills, language functions, and task language should students know or be able to use after instruction? Use SWBAT format with an action verb that matches the cognitive domain.
- Students will be able to identify and understand words such as producer, consumer, herbivore, carnivore, ecosystems and food chains
- j. **Previous Learning Experiences:**
- Prior to this lesson, students will have been introduced to terms such as ecosystem, carnivore, and herbivore and have a basic understanding of what these terms mean in general.

Assessment Strategies

Attach questions, worksheets, tests or any additional documentation related to your assessment strategies. Also attach appropriate marking rubrics, criteria lists, expectations, answer keys, etc.

- **Formative:** measures process/progress toward mastery of target(s)
- **Summative:** measures outcomes/achievement of target(s)

Content/Language Objectives	Assessment Strategies
Students will be able to create a piece of artwork to communicate their knowledge of food chains.	Formative: peer conference with them to see what their ideas are for their project. Reference check off sheet (page 10 (or 27)) Summative: create a piece of artwork that symbolizes the food chain and assess with rubric created. (reference page 11 (or 28) for rubric)
Students will be able to identify the vocabulary taught	Formative: write down in their journals the terms we talk about in class. (Reference vocabulary list on page 9 or (26)) Summative: Will need to incorporate these words within their presentation (Reference page 10 (or 27) for student checklist)
Students will be able to explore connections between the movie clips and real life situations	Formative: write notes during the movie of what they see in their journals (reference page 10 (or 27) for student checklist) Summative: Create a list and present it to the class

	during the class discussion. (Reference page 10 (or 27) for student checklist)
Students will develop a basic understanding of relationships between organisms that belong to a certain food web.	Formative: have a discussion with their peers about the relationships (Reference page 10 (or 27) for student checklist) Summative: Creating a final art project that symbolizes these relationships and presenting them. (Reference page 11 (or 28) for student rubric)
Students will be able to accurately distinguish between major organisms in the African Savanna	Formative: In their peer groups, they will journal down what animals they see within the Lion King. (Reference page 10 (or 27) for student checklist) Summative: They will create a list of animals seen within the movie, the Lion King and talk about animals that live in different ecosystems. (Reference page 10 (or 27) for student checklist)

Student Voice: Select two components of student voice and identify how students will reflect and/or communicate on their learning or progress toward meeting the goals. You may eliminate the components not being addressed.

K-12 students will:	Student-based evidence to be collected (things produced by students: journals, work samples, projects, papers, etc.)	Description of how students will reflect on their learning
3. <i>Communicate the learning targets and their progress toward them.</i>	Class Discussion	As a class we will share what we saw in the movie, the Lion King, and create a rubric on what we want assessed at the end of the project. We will also create posters about what we saw and write them items on the board.
4. <i>Review their performance and set personal learning goals based on those assessments.</i>	Individual Conferences	Through this lesson, I will find time to meet with students and gauge how they are coming along with their project and their understanding of the complex system of food webs/chains. I will encourage them and provide goals for them to work on as they continue working on the project.

- Students will be grouped at their table groups for this lesson. Kids are in desk groups that consist of 4 to 5 members. Within these groups they will discuss and brainstorm terms to put up on the board based off the movie as well as any other information they think of throughout the lesson. Beyond working with your table groups and coming together as a whole class, students will work individually on their art project to express their knowledge of the food chain they learned in class.

Learning/Teaching Experiences

7. Introduction:

- “Hi, 5th graders! Have you ever watched the Lion King before and have heard the phrase, “it’s the circle of life?” Well, based off your prior knowledge of knowing some general term about producers and consumers, does anyone have any thoughts on what the circle of life means? In case you don’t, after today you are going to be an expert. Today we will watch a few short clips from the Lion King. Please make sure you pay close attention to what characters are in this movie, and the dialogue they are having between the characters. After we watch the clips, we are going to break down the information we saw and apply it to some of the terms we have learned so far in class.

8. Questions:

- 1) What characters/ animals did you notice in the movie clips you saw? *The teacher will re-show my students small parts of the clips to keep them engaged and remind them of other animals they may have forgotten.*
- 2) What was the environment like that you saw? *The teacher will re-show my students small parts of the clips to keep them engaged and remind them of other animals they may have forgotten.*
- 3) What do you think it meant when Mufasa said “it’s a circle of life?” *The teacher will have them talk in small groups to discuss and then come together as a whole group to collaborate ideas.*
- 4) Why is the concept of the circle of life so crucial? *The teacher will have them talk in small groups to discuss and then come together as a whole group to collaborate ideas.*
- 5) What are some examples of a basic food chain you can think of? *The teacher will have small groups create their own examples and write examples on the board.*

9. Learning Activities:

- 1) Begin by showing short clips from the Lion King movie.
- 2) As students watch the movie, they will write down and recall some of the animals and plants they saw in the movie clips, and have them try to identify the roles of each animal and plant played in the African Savanna
- 3) As a class, come together and write on the board all the animals they saw in those short movie clips
- 4) Briefly discuss/review ecosystems and tell students that the ecosystem being focused on is the African Savanna (grassland), which is the same ecosystem that the Lion King focuses on.
- 5) Ask the question, If all the plants and grass, didn’t exist, how would that effect our lives?
 - Keep note of student’s responses to see how they progress once the lesson is done with. s
- 6) On board, write what a herbivore, carnivore and photosynthesis is – write out examples from the movie that they saw.
- 7) Explain to students what the role of producers is in transferring energy entering ecosystems as sunlight to chemical energy through photosynthesis.
- 8) Explain that nearly all kinds of animals food can be traced back to plants

- 9) Have students discuss their daily eating routines and have them openly talk about why they believe that what humans consume relates to the “circle of life” motif found throughout The Lion King. Give the dialogue example from the movie for reference:
 - Mufasa: everything exists together in a delicate balance. As king, you need to understand that balance, and respect all the creatures from the crawling ant to the leaping antelope
 - Simba: but, dad, don't we eat the antelope?
 - Mufasa: yes, Simba, but when we die, our bodies become the grass. And the antelope eat the grass. Just as the sun rises from the night, and winter becomes the spring, so life arises from death. Everything is connected in the great circle of life.
- 10) Show students an example of a basic food web and ask them if they can understand what is going on.
- 11) Ask students to try and figure out what the arrows in the basic food web mean
- 12) Explain the organization of the basic food web by identifying for students the producers, herbivores, carnivores, omnivores and decomposers while refreshing their memory of the roles of each (i.e.: carnivores are meat eaters, herbivores only eat plants, etc.)
 - Stress the importance of food, water, shelter, air, etc., in the survival of organisms in ecosystems
- 13) Discuss how an organism's behavior patterns can alter the ecosystem's physical characteristics, the availability of food and other resources as well as the kinds and numbers of other organisms found in the ecosystem.
- 14) Once you've assessed how you think the students understand the concepts presented, present them with the art project that combines all their knowledge from this lesson.
- 15) Give students the choice of either creating a food web, or a food chain that shows animals and plants within the Savanna ecosystem.
- 16) Have the students meet with you to tell you their plan for the project portion
- 17) After students finish the art project, they will present it to the class.

10. Instructional Considerations:

j) **Instructional Procedures:**

- Ask the students to analyze the movie clips from The Lion King, individually jotting down their thoughts in their journal or on a piece of paper. Brainstorm as a whole as many possible things you noticed while watching the movie.
- As the students are peer conferencing about what they noticed in the movie, I will walk around the room and observe the conversations. If a group needs assistance I will step in and ask further questions.

b) **Multiple means of access:**

- a. Shows movie clips from the Lion King
- b. Facilitates discussions
- c. Teacher lectures

c) **Multiple means of engagement:**

- a. Have small group discussions
- b. Have whole class discussions
- c. Watch movie
- d. Present art project to class

d) **Multiple means of expression:**

- a. Participating in discussion
- b. Creating brainstorm sheets,

c. Presenting work to the class

e) Methods of differentiation:

- Visually impaired: sit the student close when the movie clips are being shown, ensure that all worksheets, models, lists, etc., have large font and visit the student frequently to gauge comprehension
- Learning disability: walk by student's desk more frequently to ensure that they are remaining on task and are comprehending the material
- Emotionally/behaviorally disturbed: provide the student with more leadership roles within the group work they do at their table groups. Give the student more opportunities to move around and interact through group work.
- Gifted learner: provide challenging assessment opportunities for the student
- If students need more direct instruction or more examples explaining what is asked of them, I will make time to meet with them for conferences during the allotted class time. Also, I will let the students who are struggling think of an alternative assignment to showing their comprehension of this lesson.

f) Language learning objectives:

- At the beginning of the lesson, I will go over the vocabulary listed about for this lesson and explicitly go over them in detail so student's are aware how this activity is useful for them.

g) Cultural responsive pedagogy:

- By looking at video clips from the Lion King, students are able to look back and observe their habitat compared to others. Also, having them write the connections they see will help represent their cultural perspectives because every student's will be different.

h) Remedial activities:

- I will pass out to the class a worksheet about previous terms learned so they are able to reference it at anytime. For students that have difficulty with any of the parts of the lesson, extra help will be offered.
- Extension activities: For students that finish early, they will present their projects to the small group that is finished so they can practice their communication skills before they present to the whole group.

11. Closure:

- As an end to the lesson, the students will show their favorite part of the project they created that shows a good demonstration of their comprehension. Then, they will hang their projects on the wall.
- Later, I will have the class write in their journals a couple of questions for me to analyze and consider for the next time I do this lesson.
 - i. 1) What did you like about this lesson? Why did you like it?
 - ii. 2) What did you not like about this lesson. Is there anything you think should be improved for the next time?

12. Independent Practice: Describe how students will extend their experiences with the content and demonstrate understanding beyond the scope of the lesson outside the class.

- Students can take what they have learned and apply it when we continue further in the food webs unit of our class. They will also be able to compare and contrast their environment with others while recognizing that the world really is a "circle of life."

Instructional Materials, Resources, and Technology

Materials:

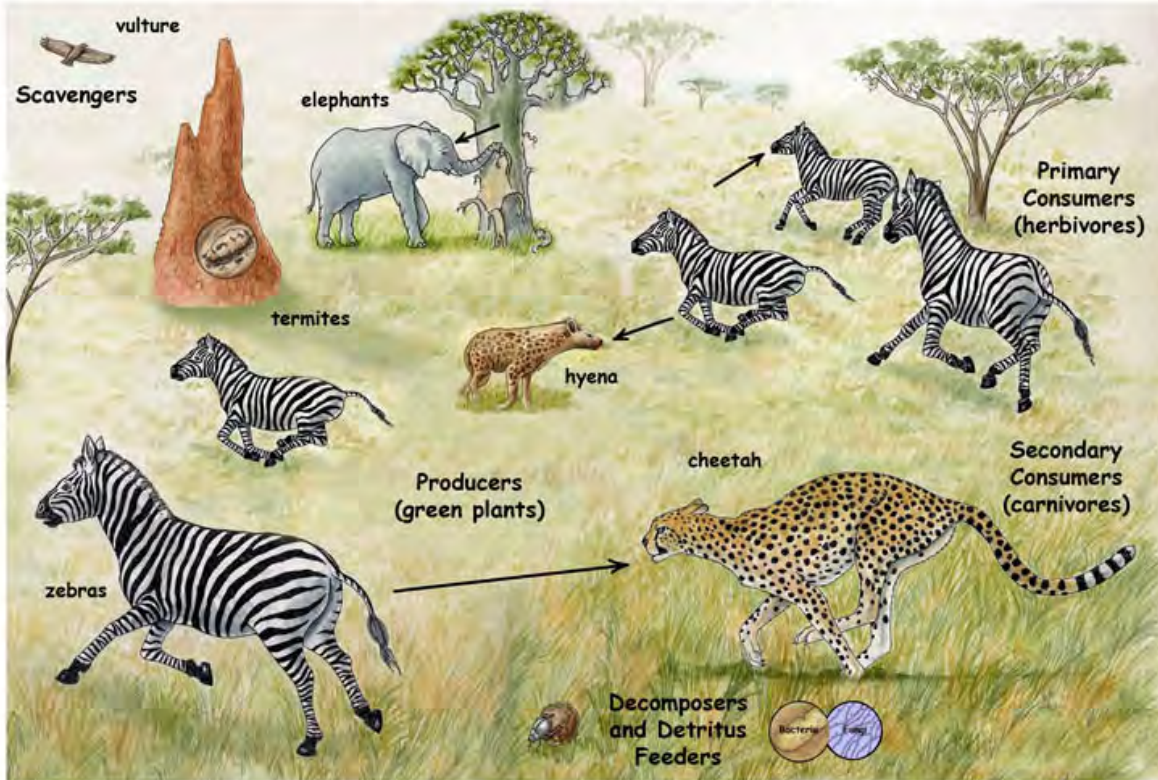
- The Lion King DVD
- Construction paper
- Markers
- Example of animals in grasslands
- Worksheet with previous vocab words
- Rubric for the art project
- Student checklist sheet

Additional Requirements

- **Integration with Other Content Areas:** Communication is a key factor in this lesson. Without communication, students are not able to completely participate, and will not get as much out of the activity. Communication is also a key factor in life, and will help these students in the future. This lesson plan integrated communication skills by having students partner off for small group discussion and large group, talk to the teacher for conferences and present their projects to the class.
- **Acknowledgements:** "Instructional Plan adapted from Barbara Ward," "Instructional Plan Created by Kara Spane"

Grassland Animals to Reference

Grassland Food Web

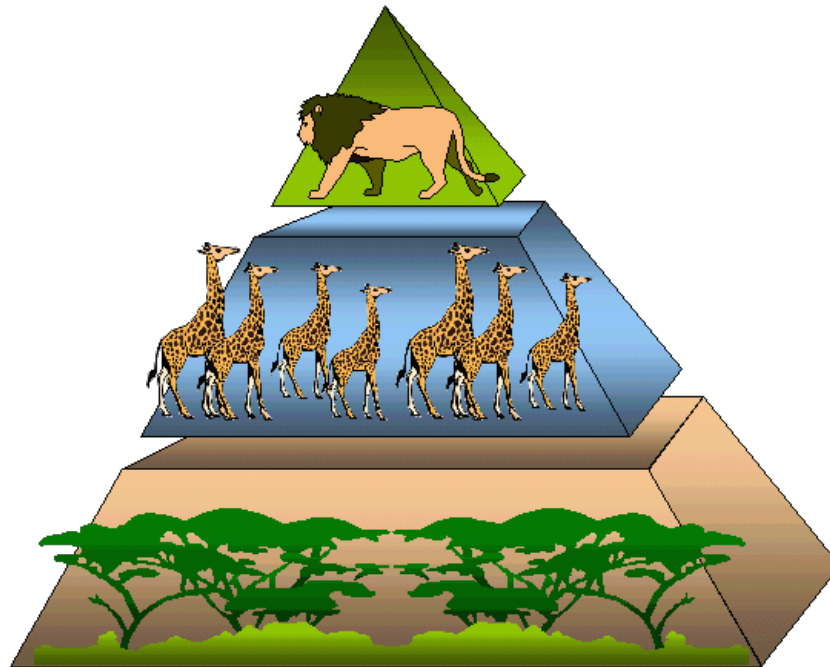


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Vocabulary List

- 1) Carnivore: an animal that feeds only on other animals
- 2) Consumer: animals; they cannot make their own food, and rely on other animals or plants for food
- 3) Food Chain: the way in which plants and animals are linked together by feeding; a food chain shows how an animal may feed on a plant, for example, but in turn become the food of another animal
- 4) Food Web: a collection of food chains that are linked together because they share one or more living things
- 5) Herbivore: an animal that feeds only on plants
- 6) Omnivore: an animal that feeds on both plants and animals
- 7) Photosynthesis: the process in which green plants use energy from sunlight to make food, using oxygen from the water in the soil and carbon dioxide from the air
- 8) Predator: an animal that kills and eats other animals
- 9) Prey: an animal that is killed and eaten by a predator
- 10) Producer: plants; they produce their own food through photosynthesis; provides food for consumers



Student Check List – Food Chain Unit

✓ : Above standard

±: At standard

–: below standard

Student Name	Peer Conference	Movie Notes	List presentation	Peer discussions	Journal-L.King	List of animals
1)						
2)						
3)						
4)						
5)						
6)						
7)						
8)						
9)						
10)						
11)						
12)						
13)						
14)						
15)						
16)						
17)						
18)						

Food Chain Rubric

Student Name: _____

CATEGORY	4	3	2	1
Graphics -Clarity	Graphics are all in focus and the content easily viewed and identified from 6 ft. away.	Most graphics are in focus and the content easily viewed and identified from 6 ft. away.	Most graphics are in focus and the content is easily viewed and identified from 4 ft. away.	Many graphics are not clear or are too small.
Labels	All items of importance on the poster are clearly labeled with labels that can be read from at least 3 ft. away.	Almost all items of importance on the poster are clearly labeled with labels that can be read from at least 3 ft. away.	Several items of importance on the poster are clearly labeled with labels that can be read from at least 3 ft. away.	Labels are too small to view OR no important items were labeled.
Required Elements	The poster includes all required elements as well as additional information.	All required elements are included on the poster.	All but 1 of the required elements are included on the poster.	Several required elements were missing.
Knowledge Gained	Student can accurately answer all questions related to facts in the poster and processes used to create the poster.	Student can accurately answer most questions related to facts in the poster and processes used to create the poster.	Student can accurately answer about 75% of questions related to facts in the poster and processes used to create the poster.	Student appears to have insufficient knowledge about the facts or processes used in the poster.
Content - Accuracy	At least 7 accurate facts are displayed on the poster.	5-6 accurate facts are displayed on the poster.	3-4 accurate facts are displayed on the poster.	Less than 3 accurate facts are displayed on the poster.

Instructional Plan

Revised 3/2/2011

Teacher Candidate: Stephanie Humphries

Date: 2/25/2012

Cooperating Teacher: Pauline Sameshima

Grade: 5th

School District: Pullman

School: Sunnyside Elementary

University Supervisor: Lori White

Unit/Subject: Food Chain

Instructional Plan Title/Focus: What's Eating You?

Learning Targets/Purpose/Previous Learning

- k. **Instructional Plan Purpose:** This lesson teaches what a producer, decomposer, herbivore, carnivore and others are and how they connect to the food chain.
- l. **State Learning Standards:**
 - a. Science EALR 4:
 - i. **6-8 LS2B** Energy flows through an ecosystem from producers (plants) to consumers to decomposers. These relationships can be shown for specific populations in a food web.
 - ii. **6-8 LS2C** The major source of energy for ecosystems on Earth's surface is sunlight. Producers transform the energy of sunlight into the chemical energy of food through photosynthesis. This food energy is used by plants, and all other organisms to carry on life processes. Nearly all organisms on the surface of Earth depend on this energy source.
- m. **Content Objectives:**
 - a. Students will be able to demonstrate their understanding about food webs/chains. (EALR 4 6-8 LS2B & 6-8 LS2C)
 - b. Students will be able to correctly use their learned vocabulary to help other students identify their animal. (EALR 4 6-8 LS2B)
- n. **Language Objectives:**
 - a. Students will be able to correctly use words such as decomposer, producer, herbivore and carnivore correctly. (EALR 4 6-8 LS2B & 6-8 LS2C)
 - b. Students will be able to understand which animals fall under the learned vocabulary for the unit. (EALR 4 6-8 LS2B)
- o. **Previous Learning Experiences:**
 - a. Students will have done a full lesson on food chains and pyramids. Students will understand what the difference between a producer, decomposer, herbivore, etc is and how to place them on the food chain.

Assessment Strategies

Content/Language Objectives	Assessment Strategies
Students will be able to demonstrate their understanding about food webs/chains.	Formative: Teacher will ask the students during their activity, "Thumbs up if you are doing okay and understanding thumbs in the middle if you are a little confused, thumbs down if you are very confused." Teacher will assess understanding based on the majority. Take notes using attached sheet #1 Summative: Students will line up in order based on their guess of what animal they are. The teacher will check this order to assess understanding. Use attached checklist #2
Students will be able to correctly use their learned vocabulary to help other students	Formative: The teacher will walk through the classroom doing their activity and take notes on how the students seem to be

identify their animal.	understanding the materials and how quickly the students are able to identify their animal. Take notes using attached sheet #1 Summative: Students will line up in order based on their guess of what animal they are. The teacher will check this order to assess understanding. Use attached checklist #2
Students will be able to correctly use words such as decomposer, producer, herbivore and carnivore correctly.	Formative: While discussing the vocabulary words, the teacher can ask the students to discuss in table groups what some examples of these animals would be. The teacher will walk around observe, taking notes based on performance. Take notes using attached sheet #1 Summative: Students will line up in order based on their guess of what animal they are. The teacher will check this order to assess understanding. Use attached checklist #2.
Students will be able to understand which animals fall under the learned vocabulary for the unit.	Formative: While describing the directions, the teacher will ask ways to help the students to identify the animal. The teacher will take notes on who is participating and how well they seem to understand the vocab. Take notes using attached sheet #1 Summative: Students will line up in order based on their guess of what animal they are. The teacher will check this order to assess understanding. Use attached checklist #2.

Student Voice:

K-12 students will:	Student-based evidence to be collected (things produced by students: journals, work samples, projects, papers, etc.)	Description of how students will reflect on their learning
5. <i>Communicate the learning targets and their progress toward them.</i>	Student journals will be collected.	Students will be asked to write in their classroom journals to describe what their animal was and some of the learned vocabulary they would use to describe their animal. What was some of the words other used to describe to you? How do you feel about the vocabulary?
6. <i>Communicate how the learning from a series of lessons connects with communities within and outside of the school.(5.3)</i>	Student journals will be collected.	Students will be asked to write in their classroom journals to describe how they can see these decomposers etc interact in the real world. Where else have they seen these interactions in the real world?

Grouping of Students for Instruction

- Students will interact with everyone in the class by walking around and talking with each other.

Learning/Teaching Experiences

13. **Introduction:** The teacher will introduce the lesson by asking the students, “Who likes fish? I love fish but what else eats fish? A bear? A whale?” “What are some other food chain examples?” Then the teacher will ask the students for some other examples of food chains that they remember. The teacher will go on to ask “What kinds of things do producers eat? Decomposers? Herbivores?” The teacher will create a list on the board of student’s answers.

14. **Questions:**

- During class discussion at the beginning of class the teacher will ask the students, “What is an example of a food chain?”
- Depending on their answer, “What kind of an animal eats them and what do they eat?”
- “What is a food chain that you would find in the ocean?”
- After explaining the lesson the students will ask the students, “What kinds of questions should you ask to figure out your own animal?”
- Teacher will also ask, “What are some words you might want to use to help others identify their animal?”
 - Students will come up and write answers on the board. They will also interact with each other to answer questions.

15. Learning Activities:

1. The teacher will have students clear their desks and move them to the sides of the room to give plenty of space to walk around.
2. The teacher will ask the students to sit on the floor in a circle around the whiteboard to explain the directions.
3. The teacher will ask students, “What is an example of a food chain?” The teacher will write examples on the board.
4. The teacher will ask, “What are some examples of a decomposer? A carnivore? A producer?” The teacher will write answers on the board.
5. The teacher will explain that the class will line up in a row and the teacher will put a post-it note on the back of each student. These post-it notes will have the name of an animal. Students must use their learned vocabulary to help their fellow students to identify the post it on their own back.
6. The teacher will demonstrate the task by putting a post it note with an animal name on the back of a student. Then, showing the class, ask what kinds of things they could tell the student about their animal without actually saying the name. If the student can no longer come up with vocabulary words you can demonstrate. For example, if you were trying to help your partner who is a hawk guess that, then if you can locate a mouse you could “act” out using your “hawk” partner as a puppet how they would catch the mouse. This will also help your classmate who is a mouse.
7. Go over the rules of the game: Do not tell your classmate their animal. Only use vocabulary that is on our list. No cheating! Do not let your post it fall off! Be careful when acting out with students so you don’t hurt anyone.
8. The teacher will ask the students to line up facing a wall. The teacher will stick the post it notes with the animal names to the students backs.
9. Tell the students once everyone has a post it note to start walking around and talking to try to figure out their animal. Once they think they know what they are. They will sit down on the wall. As people sit down on the wall, they need to ask students already sitting to see their animal and try to sit in food chain order.
10. Once all of the students are sitting down in food chain order, the teacher will have the students stand up and in order, walk over to the board and remove their post it not and put it on the board in the same order that they were sitting. Ask them to write what they thought they were on the board underneath their post it note.
11. Once everyone has their post it on the board the teacher will ask the students to move their desks back.
12. The teacher will ask, “How do you think that you did? Was this a challenging activity? Why?” The teacher will record responses on the board.
13. The teacher will say, “Raise your hand if you guessed your animal correct? Incorrect?”
14. Teacher will ask, “For those of you that guessed correctly, what kinds of clues did you get? What things were most helpful?” “For those of you who guessed incorrectly, what was challenging? What would have helped?” Write answers on the board.
15. Teacher will ask, “I saw some students acting out clues, did this help? How?” Record on the board.
16. The teacher will go over the post its on the board to see if the order was correct. During this, the teacher will be able to assess their understanding of the food chain.

16. Instructional Considerations:

- k) Instructional procedures:
 - a. The teacher will facilitate discussion on what types of words are appropriate for this lesson.
 - b. Teacher will record the student’s comments on the board for everyone to see.
 - c. The teacher will show an example and use the students to help to come up with the answer.

- d. The teacher will record the findings.
- e. The teacher will facilitate a discussion of how the activity went and what the students learned and still need help with.
- l) Multiple means of access
 - a. Teacher will listen
 - b. Teacher will assess during and after the activity
 - c. Teacher will assist if needed
- m) Multiple means of engagement
 - a. Students will learn by using their learned vocabulary in real life examples
 - b. Students will learn by acting out the student interactions
 - c. Students will learn by getting into food chain order
- n) Multiple means of expression
 - a. Students can demonstrate learning through journal entries
 - b. Students can demonstrate learning by acting out their interactions
 - c. Students can demonstrate learning through getting into food chain order.
- o) Methods of differentiation
 - a. For students who need extra help, we will have post it notes that might be a little easier as to not frustrate the students.
 - b. For ELL and students who might not be very familiar with words for different animals, the acting will be even more crucial. This will really help them to understand the animals based on what they do and who they eat and are eaten by, not by their name.
- p) Language learning objectives:
 - a. These will be integrated during the introduction and throughout the lesson.
- q) Cultural responsive pedagogy:
 - a. Students will have answered what kind of ecosystems they have around them.
 - b. The animals that will be used during this activity will be animals in their area so that students will be able to make a connection to their own lives.
- r) Remedial activities:
 - a. I will create a sheet with the steps written down for students who are struggling understanding. This will allow students to follow along if they are continued throughout.
- s) Extension activities:
 - a. Students who identify their animals early will help others to identify their animals.

17. Closure:

- At the end of the lesson the students will be asked to share with their classmates what their animal was and what kinds of things they learned or wished they knew. Then the teacher will ask the students to write in their classroom journals. The teacher will use the prompt, "Today we did an activity where we used our learned vocabulary to identify animals and their place on the food chain. Did you like this activity? What did you learn? What did you struggle with?" Students will be doing an independent practice in which they will identify food chains in their own area. This will help them to understand their own local area which affects their lives. Future lessons will connect to environments and different areas and cultures. Being able to identify local ecosystems will be important.

18. **Independent Practice:** Students will be asked to identify one example of a food chain of at least 3 that occurs in their area. Write a paragraph in their classroom journals.

- d. Students will be asked to, if possible, play this game at home with their family. This will help parents to understand what they are doing in class and how it is a fun, but challenging activity.

Instructional Materials, Resources, and Technology

1. Post it notes
2. Whiteboard
3. Whiteboard markers
4. 2 attached documents

Additional Requirements

- **Integration with Other Content Areas:**
 - This lesson integrates art due to its use of “charades.” While it is not exactly the same, it allows students to explore with acting and demonstration through expressing themselves with their bodies. Not all students can express themselves with words so it might be useful for students to be able to act out the animal’s actions.
- **Acknowledgements:** Instructional Plan created by Stephanie Humphries

Sheet #1

Student	Notes
Allison	
Alex	
Candace	
Daniel	
Felix	
Heather	
Lucas	

Samantha	

Checklist #2

Name

Allison									
Alex									
Candace									
Daniel									
Felix									
Heather									
Lucus									
Samantha									

Directions:

1. Clear your desks and move them to the sides of the room to give plenty of space to walk around.
2. Sit on the floor in a circle around the whiteboard for the teacher to explain the directions.
3. Line up in a row and the teacher will put a post-it note on the back of everyone. These post-it notes will have the name of an animal. You must use your learned vocabulary to help your fellow students to identify the post it on their own back.
4. No talking during the activity.
5. You can “act” out others animals to help them.
6. Use other animals to help!
7. Do not tell your classmate their animal.
8. Only use vocabulary that is on our list.
9. No cheating!
10. Do not let your post it fall off!
11. Be careful when acting out with students so you don't hurt anyone.
12. Line up facing a wall.
13. Walk around and try to figure out what your animal is silently.
14. Once you know what animal you have, sit on the wall and as others come over, make sure that you are in food chain order!
15. Help others if needed!
16. Once everyone is done, put your post it on the whiteboard in order and write what you thought your animal was below it.
17. Put your desk back. Sit down.

Instructional Plan

Teacher Candidate: Alexandra Dayton
Cooperating Teacher: Sandra Casanova
School District: Pullman School District
University Supervisor: Lori White
Unit/Subject: Science/Food Webs
Instructional Plan Title/Focus: Making Food Chains

Date: March 22, 2012
Grade: 5th Grade
School: Jefferson Elementary School

Learning Targets/Purpose/Previous Learning

p. **Instructional Plan Purpose:**

- This lesson will allow students to develop their own food chain craft to demonstrate their knowledge about food webs in our ecosystem. Students will create their own simple food chain and then as a class we will discuss how all of the food chains will come together to create a food web. By creating the food chains, students can visually see how food chains work and how they come together to create food webs.

q. **State Learning Standards:**

- Science, Grade 4-5
 - 4-5 LS2A: An ecosystem includes all of the populations of living organisms and nonliving physical factors in a given area. Living organisms depend on one another and the nonliving physical factors in their ecosystem to help them survive.
 - 4-5 LS2C: Plants and animals are related in food webs with producers (plants that make their own food), consumers (animals that eat producers and/or other animals), and decomposers (primarily bacteria and fungi) that break down wastes and dead organisms, and return nutrients to the soil.
- Visual Arts, Grade 5
 - 2.1.1 Applies a creative process to visual arts.
 - 2.3.1 Applies a responding process to a presentation/exhibit of visual arts.

r. **Content Objectives:**

- Students will be able to formulate a plan to create a food chain and generate connections between the food chains produced in class to an overall food web. (4-5 LS2A. 4-5 LS2C.)

s. **Language Objectives:**

- Students will be able to construct a visual representation of a realistic food chain and be able to identify the producers, consumers, and decomposers within the chain. (4-5 LS2C. 2.1.1. 2.3.1.)

t. **Previous Learning Experiences:**

- Students will have to apply all that they have learned about food webs to this activity. They must each plan out and create a three-stage food chain. They have the freedom to choose the species that are included as long as it correctly depicts a food chain. Students must then further apply what they have learned when making connections between all of the food chains to see how they would all fit into a food web. Students will have to apply knowledge and vocabulary of specific types of species in the food webs such as decomposers, consumers, and producers.

Assessment Strategies

Content/Language Objectives	Assessment Strategies
<p>Students will be able to formulate a plan to create a food chain and generate connections between the food chains produced in class to an overall food web.</p>	<p>Formative: This objective will be assessed by the students' participation in small-group and whole-class discussion. The student should be able to actively contribute to the connections made between each individual food chain and the entire food web. The instructor will be walking around with a checklist to monitor the students' involvement. Students will get a checkmark for their participation.</p> <p>Summative: This objective will be assessed by the students' write up on this activity. Students will need to write a reflection about how their food chain fit into the entire food web. Students may further reflect on how all the food chains together created a food web. Students must use specific examples. This reflection will be collected. The write up should follow the expectations given to them on the rubric that will be passed out.</p>
<p>Students will be able to construct a visual representation of a realistic food chain and be able to identify the producers, consumers, and decomposers within the chain.</p>	<p>Formative: This objective will be assessed by the written plan that students must create before they are released to start creating their food chain. Students must decide on what species will be included in the food chain, sketch a picture of what the craft will look like, and provide a written explanation with evidence of how this represents an accurate food chain. Student should follow the expectations on the white board and will receive a check by their name if all parts have been completed. This will be their release to start their art project.</p> <p>Summative: This objective will be assessed by the students' actual food chain craft. These crafts will be collected and mounted on a wall to create a food web. Students will be assessed on accuracy and creativity. This objective does not have a summative assessment.</p>

Student Voice:

K-12 students will:	Student-based evidence to be collected (things produced by students: journals, work samples, projects, papers, etc.)	Description of how students will reflect on their learning

<p>7. <i>Communicate the learning targets and their progress toward them.</i></p>	<p>Student's final food chain craft as well as their end reflection will be collected as evidence of the students' knowledge on the subject. Additionally, their food chain craft plan will be checked and approved before they may start the project.</p>	<p>Student will be required to turn in an exit slip. On the slip, the students must write 3 things that they learned from the activity, 2 things that they still want to learn/are confused about, and 1 rating of how they liked this activity (scale of 1-5).</p>
<p>8. <i>Communicate the support and resources that can be accessed to help them achieve the learning targets.</i></p>	<p>Student's final food chain craft as well as their end reflection will be collected as evidence of the students' knowledge on the subject. Additionally, their food chain craft plan will be checked and approved before they may start the project.</p>	<p>The written plan that students must create before they are released to start creating their food chain will be checked and approved by the instructor. Students must decide on what species will be included in the food chain, sketch a picture of what the craft will look like, and provide a written explanation with evidence of how this represents an accurate food chain. Students will need to identify what materials they will need to create project and provide an explanation of where they got the idea/evidence for their project (ie. textbook, internet, posters, etc.).</p>

Grouping of Students for Instruction

- Students will be grouped as a whole class for the introduction and explanation of the project.
- Students will work individual while planning and creating their product.
- Students will be grouped as a whole class while each student quickly presents their food chain.
- Students will be grouped first as small groups (5 students) and then as a whole class while discussing how the individual food chains create a food web.
- Students will work individually to write their reflection on the assignment explaining how their food chain (and others) fit into the whole food web. Exit slips will also be individual.

Learning/Teaching Experiences

19. Introduction:

- This activity will take place towards the middle of the food web unit so students must use what they have learned thus far to complete this assignment and project.
- Hook: “Now that we have a fundamental understanding of what food webs are composed of and how they work, we are going to try to create our own. To do that, each of you will need to create your very own food chain. We will be planning out these chains and then creating them to hang on the wall. I have already completed one as an example. I choose to have an owl as my top species, with a squirrel next, and lastly an acorn.”
- Student will be able to see the product that I have already completed. This product has a large owl made from construction paper. The owl has a large hole in the middle representing its stomach. Hanging inside the owl’s stomach is a squirrel who also has a hole in its stomach. Hanging inside the squirrel’s stomach is the acorn.

20. Questions:

- Questions:
 - i. What is your description of a food chain?
 - ii. What traits of the species in the food chain must you consider?
 - iii. How do you think your food chain will fit into the food web?
 - iv. Where can you find your food chain in the real world?
 - v. What did you learn from this activity?
- Small groups of students will be able to discuss the questions before we turn to a whole-class discussion.

21. Learning Activities:

- Activity will be introduced. It will be explained that students will be creating their own food chain through craft and then the class will be creating food web by bring all of the food chains together.
- Students will work individually to write their planning writing-up. Students will be required to complete a planning write-up before they are allowed to start their craft. This write up must include information about their proposed food chain. They need to identify the species in their food chain and identify if they are a producer, consumer, or decomposer. They must also provide evidence on how their food chain represents an accurate food chain. They need to explain where they go the idea and/or evidence for their food chain. They also need to explain what supplies they will need to create their craft. Lastly, the students need to sketch out what their food chain will look like.
- Once planning write-up is approved, students will be given time to work on their craft. Once all students have completed their craft, the whole class will come back together.
- Quickly, each student will present their food chain to the class. They must show their craft, tell what species are included, and identify the producers, composers, and decomposers in their food chain. After each student presents, they will post their craft on the wall.
- Once the whole class has presented, small groups will have a little time to discuss all of the different food chains and mention any observations they have about the wall.
- The class will turn to the wall and discuss the different aspects of all the food chains. The class will discuss how all the food chains come together to create a food web and how different food chains may connect or interrupt one another.

- After a whole-class discussion, students will begin their reflection paper. The written reflection of this activity must provide a brief overview of food chains and food webs, explain how your food chain fits into the food web, and explain how other food chains fit into the food web. Lastly, students will discuss how the roles of your species are apparent in the food web. This reflection will be collected and reviewed.
- Student will be required to complete an exit slip before being done with this activity. The exit slip will be there ticket out the door. On the slip, students must identified 3 things that they have learned, 2 things that you still want to learn or are confused about, and 1 rating of the activity.

22. Instructional Considerations:

- t) Instructional procedures:
 - i. Assignment Sheet projected up with Document Camera
 - ii. Visual Aids
- u) Multiple means of access:
 - iii. The instructor will verbally discuss the aspects of this activity as well as post the information through a document camera. Also, the instructor will provide a visually example of the food chain craft.
- v) Multiple means of engagement:
 - iv. Students will engage in a planning process, discussions, and creating their food chain.
- d) Multiple means of expression:
 - v. Students will show their learning through a planning process, their completed craft, their contribution to discussion, their reflection, and the exit slip.
- w) Methods of differentiation:
 - vi. This activity is good because it will keep active student busy and moving around. For students with learning disabilities, I will meet with them individually to ensure that they have a complete understanding of what is expected for the assignment. For advanced students, I would have them challenge themselves with a four-part food chain rather than a three-part. I would also ask them to answer additional questions in their activity write-up paper.
- x) Language learning objectives:
 - vii. Students should already be familiar with the vocabulary required in this activity from prior activities. Students will have the opportunity to apply and demonstrate their knowledge in this lesson. During the students' plan of the activity, they must identify if their selected creatures are decomposers, consumers, or producers. Most importantly, they must explain why they think this and how this is important to the dynamics of their food chain.
- y) Cultural responsive pedagogy:
 - viii. This activity has a lot to do with geography and where creatures exist in the world. In the student's final write-up, they must describe where their food chain could exist in the world. Different creatures live in different areas. Additionally, the idea of geography aligns with the class discussion on the whole food web that we will create. Because the creatures from the individual food chains will all come from different areas, the students must think critically when making connections in the

food chains. If the instructor wants, students can be limited to a particular region or area to select their creatures for their food chains.

- z) Remedial activities:
 - ix. Students will be required to complete a planning write-up before they are allowed to start their craft. This write up must include information about their proposed food chain. They need to identify the species in their food chain and identify if they are a producer, consumer, or decomposer. They must also provide evidence on how their food chain represents an accurate food chain. They need to explain where they go the idea and/or evidence for their food chain. They also need to explain what supplies they will need to create their craft. Lastly, the students need to sketch out what their food chain will look like. If a student is in need of a more structured activity, I would provide them with their own personal copy of the checklists on the board. This way they could check off each step or item as they complete it to help them stay on task.
- aa) Extension activities:
 - x. If students finish early, they will begin a new reading in their science textbook. If they finish this, they may work on other incomplete work or homework and, lastly, engage in silent reading.

23. Closure:

- Discussion Questions:
 - i. How did your individual food chain fit into our classroom food web?
 - ii. Do you think that this is a realistic food web? (Talk about geography and if these creatures would even be in the same ecosystem.)
- After looking at and discussing all of the food chains on the wall and conversing about how together they create a food web, students will write a short reflection paper. The written reflection of this activity must provide a brief overview of food chains and food webs, explain how your food chain fits into the food web, and explain how other food chains fit into the food web. Lastly, students will discuss how the roles of your species are apparent in the food web. This reflection will be collected and reviewed.
- Student will be required to complete an exit slip before being done with this activity. The exit slip will be there ticket out the door. On the slip, students must identified 3 things that they have learned, 2 things that you still want to learn or are confused about, and 1 rating of the activity.
- I will encourage students to think about how these food chains and webs exist all around and to see if they can identify any in their daily lives. Future lessons will build off the ideas and concepts that were reviewed in this lesson.

24. Independent Practice:

- Students will be asked to perform a short research on the creatures in their food chain to see how they interact in the real world and to see in what regions they can be found in. Students will be asked to identify and sketch two other food chains that live in the same region as their creatures from class. (This should be treated as homework to extend the student's knowledge.)
- Students will be encouraged to take their food chain projects home after a few days and share it with their families. It is hoped that the students will explain how they selected the species in their food chain and where one might find this food chain in real life.

Additionally, students should tell their family how their food chain fit into the whole food web that was created in class.

Instructional Materials, Resources, and Technology

- All instructional materials, resources, and technology information is attached.

Additional Requirements

- **Integration with Other Content Areas:**
 - **Visual Arts:** Students must plan and create a food chain project based on the instructor example. Student need to show the top species in their food chain on the outside with the next species on the inside and then with the bottom species further in.
 - **Language Arts:** Students must write out a plan and a reflection during this activity using their language art skills.
- **Acknowledgements:**
 - Instructional Plan Created by: Alexandra Dayton
 - Instructional Craft Idea adapted from: Mrs. Angela Stone

Materials Needed for Creating Food Chains Lesson:

- Document Camera
- Instruction Sheet for Planning Write-Up
- Instruction Sheet for End Reflection
- Sticky Notes for Exit Slips
- Example of Food Chain Craft (Owl - Squirrel - Acorn)
- Tacks, Tape, or Staples
- Textbooks (optional)
- Computers (optional)
- Art Supplies: (May be altered to instructor or student desire)
 - Colored Construction Paper
 - Tissue Paper
 - Shake Eyes
 - Markers
 - Colored Pencils
 - Crayons
 - Permanent Markers
 - Fishing Wire or String
 - Single Hold Punch
 - Yarn
 - Scissors
 - Glue Sticks

Plan Your Craft

To include in your planning write up...

- What is in your food chain?
 - What species are included?
 - Identify if they are a producer, consumer, or decomposer.
- Provide evidence on how your proposed food chain represents an accurate food chain. Explain where you got the idea/evidence for your food chain. Explain what supplies you will need to create a similar food chain craft as the example shown in class.
- Sketch out what your food chain will look like!

Get this checked and approved and you are ready to start crafting! Remember have fun and be creative!

Written Reflection

Please produce a sufficient written reflection of this activity.

Include in your paper:

- Provide a brief overview of food chains and food webs.
- Explain how your food chain fit into the food web.
- Explain how other food chains fit into the food web.
- Discuss how the role of your species are apparent in the food web.

Please turn into the Science turn-in basket and grab a sticky note.

This is your ticket out the door. Please write:

- 3 things that you learned from this entire activity.
- 2 things that you still want to learn or that you are confused about.
- 1 rating of this activity: scale of 1 to 5

Written Reflection Rubric

	0	1	2
Thoughtful Introduction	• No Introduction Provided.	• Short but incomplete introduction	• Complete and informative introduction
Overview of Food Chains and Food Webs	• No overview provided	• Short overview but demonstrating of knowledge	• Complete and informative overview provided

Connection of Personal Food Chain into Food Web	<ul style="list-style-type: none"> • No connections provided 	<ul style="list-style-type: none"> • Provided connections without an explanation 	<ul style="list-style-type: none"> • Thorough discussion of connections
Connection of Other Food Chains into Food Web	<ul style="list-style-type: none"> • No connections provided 	<ul style="list-style-type: none"> • Provided connections without an explanation 	<ul style="list-style-type: none"> • Thorough discussion of connections
Discussion of the Role of Species	<ul style="list-style-type: none"> • No discussion provided 	<ul style="list-style-type: none"> • Short discussion that is incomplete 	<ul style="list-style-type: none"> • Thorough discussion of the roles of the species
Sufficient Conclusion	<ul style="list-style-type: none"> • No conclusion 	<ul style="list-style-type: none"> • Short but non-reflective conclusion 	<ul style="list-style-type: none"> • Effective conclusion that summarizes activity

Checklist for Student Art Plan

- 1. Ashley A. _____
- 2. Tyler _____
- 3. Steven _____
- 4. Jacob _____
- 5. Jessica _____
- 6. McKenzie _____
- 7. Ashley L. _____
- 8. Matt L. _____
- 9. Sydney _____
- 10. Derek _____
- 11. Aiden _____
- 12. Elena _____
- 13. Jacqueline _____
- 14. Greg _____
- 15. Ethan _____
- 16. Bella _____
- 17. Kevin _____
- 18. Allison _____
- 19. Carrie _____
- 20. Brooke _____
- 21. Nathan _____
- 22. Jenna _____
- 23. Carlos _____
- 24. Alicia _____
- 25. Kayla _____
- 26. Matt W. _____

Checklist for Student Discussion

- 1. Ashley A. _____
- 2. Tyler _____
- 3. Steven _____
- 4. Jacob _____
- 5. Jessica _____
- 6. McKenzie _____
- 7. Ashley L. _____
- 8. Matt L. _____
- 9. Sydney _____
- 10. Derek _____
- 11. Aiden _____
- 12. Elena _____
- 13. Jacqueline _____
- 14. Greg _____
- 15. Ethan _____
- 16. Bella _____
- 17. Kevin _____
- 18. Allison _____
- 19. Carrie _____
- 20. Brooke _____
- 21. Nathan _____
- 22. Jenna _____
- 23. Carlos _____
- 24. Alicia _____
- 25. Kayla _____
- 26. Matt W. _____

Instructional Plan

Revised 3/2/2011

Teacher Candidate: Tanya Gieser **Date:** March 1st, 2012
Cooperating Teacher: Mrs. Adams **Grade:** 5th
School District: Pullman **School:** Jefferson Elementary
University Supervisor: Lori White
Unit/Subject: Ecosystems/Science
Instructional Plan Title/Focus: Dance Your Way to the Top of the Food Chain

Learning Targets/Purpose/Previous Learning

- a. **Instructional Plan Purpose:** To teach students about the different aspects of the food chain. Introduce and define producer, herbivore, carnivore, omnivore, and decomposer. Provide explanation on how they interact and where they rank on the food pyramid.
- b. **State Learning Standards:**
 - Science**
 - EALR 4: Life Science
 - Ecosystems
 - **4-5 LS2B** Plants make their own food using energy from the sun. Animals get food by eating plants and/or other animals that eat plants. Plants make it possible for animals to use the energy of sunlight.
 - **4-5 LS2C** Plants and animals are related in *food webs* with *producers* (plants that make their own food), *consumers* (animals that eat *producers* and/or other animals), and *decomposers* (primarily bacteria and fungi) that break down wastes and dead *organisms*, and return *nutrients* to the soil.
 - Structures and Functions of Living Organisms
 - **4-5 LS1A** Plants and animals can be sorted according to their structures and behaviors.
 - Dance**
 - EALR 2: Dance: The student uses the artistic processes of creating, performing/presenting, and responding to demonstrate thinking skills in dance, music, theatre, and visual arts
 - 2.1: Applies a creative process to dance. (Identifies, explores, gathers, interprets, uses, implements, reflects, refines, and presents/performs)
 - 2.1.1 Applies a creative process to dance.
 - 2.2 Applies a performance and/or presentation process to dance. (Identifies, selects, analyzes, interprets, rehearses, adjusts, refines, presents, produces, reflects, and self-evaluates)
 - 2.2.1 Applies a performance and/or presentation process to dance.
 - EALR 3: Dance: The student communicates through the arts (*dance, music, theatre, and visual arts*).
 - 3.1: Uses dance to express feelings and present ideas.
 - 3.1.1 Uses dance to express feelings and present ideas.
 - 3.2: Uses dance to communicate for a specific purpose.
 - 3.2.1 Analyzes how dance communicates for a specific purpose
 - c. **Content Objectives:**
 - Students will be able to categorize animals by their food preference. (Science 4-5 LS2B, 4-5 LS1A)
 - Students will be able to create a dance that represents the different categories of the food chain. (Science 4-5 LS2C, Dance 2.1.1, 2.2.1)
 - Students will be able to perform the dance they created. (Dance 2.2.1)
 - Students will be able to analyze how the dance communicates to the audience for a specific purpose. (Dance 3.2.1)
 - Students will be able to identify different aspects of the food chain. (Science 4-5 LS2C)
 - d. **Language Objectives:**
 - Students will be able to identify several food web terms such as “carnivore,” “consumer,” “producer,” “decomposer,” “herbivore,” and “omnivore.” (Science 4-5 LS2C, 4-5 LS1A)
 - Students will be able to identify feeding strategies such as “forager,” “grazer,” “filter feeder,” “parasite,” “predator,” and “scavenger.” (Science 4-5 LS2B, 4-5 LS1A)
 - Students will be able to define several food web terms such as “food chain,” “host,” “photosynthesis,” “biomass,” and “detritus.” (Science 4-5 LS2C, 4-5 LS1A)

- e. **Previous Learning Experiences:** Students have been briefly introduced to the concept of a food chain. They have also been introduced to dance. They know the different types of dances such as folk dance, square dance, and tap dance.

Assessment Strategies

Content/Language Objectives	Assessment Strategies
Students will be able to categorize animals by their food preference.	Formative: A check mark will be put next to student's names after the teacher has visited their group and heard them contribute to the groups' discussion. Summative: <i>Animal Feeding Strategies</i> worksheet that they will complete after the activity.
Students will be able to create a dance that represents the different categories of the food chain.	Formative: Students will record their thought process in creating their dance. This will be collected and turned in. Summative: The performance.
Students will be able to perform the dance they created.	Formative: Students will record their groups thought process in creating their dance. This will be collected and turned in. Summative: The performance.
Students will be able to analyze how the dance communicates to the audience for a specific purpose.	Formative: Students will record in their journals how the dance they created represents a certain category of the food chain. Summative: Students will write in their journals how the class responded to their dance and whether or not they were able to guess the category based on the dance. If they were not able to the student will record why they think that is.
Students will be able to identify different aspects of the food chain.	Formative: The teacher will ask the class to give a thumbs up or thumbs down on whether they understand the new material or not. The teacher will record this on a checklist. Summative: <i>Scrambled Food Chain</i> worksheet that they will complete after the activity.
Students will be able to identify several food web terms	Formative: The teacher will go around the room and ask each student to tell them a food web term and give an example of it. Then put a check next to their name on the checklist. Summative: <i>The Food Web</i> crossword that they will complete after the activity.
Students will be able to define several food web terms.	Formative: Record in their journals the definitions discussed and then highlight the ones they understand in one color, and the ones they still do not understand in another color. Summative: <i>The Food Web</i> crossword that they will complete after the activity.
Students will be able to identify feeding strategies such as "forager," "grazer," "filter feeder," "parasite," "predator," and "scavenger."	Formative: Students will take notes on the different feeding strategies. Then the teacher will walk around and put a checkmark for students who have done this. Summative: <i>Animal Feeding Strategies</i> worksheet that they will complete after the activity.

Student Voice:

K-12 students will:	Student-based evidence to be collected (things produced by students: journals, work samples, projects, papers, etc.)	Description of how students will reflect on their learning

<p>1. <i>Communicate the learning targets and their progress toward them.</i></p>	<p>The teacher will collect the students' journals.</p>	<p>While students are working on creating their dances the teacher will walk around the classroom and talk to each student. Asking them what they like about this lesson, what they think is hard, what they found easy, and if they understand the new material.</p>
<p>2. <i>Communicate the relationship between the assessment and the learning targets.</i></p>	<p>The teacher will collect students' journals, completed worksheets, and papers.</p>	<p>Students will complete survey at the end of the lesson that will ask them how they felt about the worksheets and the performance. It will ask them if they felt the worksheets helped them express their understanding of the material or not, if they felt the performances were beneficial, what worksheet helped them the most, and what worksheet helped them the least.</p>

Grouping of Students for Instruction

- **Whole Class-** Discuss food webs.
- **Group Learning-** Students will work in groups to come up with a dance to represent their group of animals and each individual animal. Then other groups will observe the dance and try to guess which group they are and what animals.
- **Individual Learning-** Students will complete worksheets based on what they learned throughout the lesson.

Learning/Teaching Experiences

1. **Introduction:** The teacher will begin the lesson by asking the students “what did you eat for dinner last night?” “What ingredients are in that?” “Which of those foods come from plants?” “Which don’t come from plants?” The teacher will record their answers on the board. Then he/she will use this information to introduce producers and consumers.
2. **Questions:**
 - What are some types of producers that you can think of?
 - What are some consumers?
 - What do food chains start with?
 - What is photosynthesis?
 - What does photosynthesis have to do with food webs?

The teacher will involve students in responding to these questions by randomly calling on students to answer the question. If they are struggling they will be allowed to call on someone else in the class to help them. The teacher will record their answers on the board and will ask several different students for answers to the same question. Then the teacher will go over the correct answer/answers and have the students record them in their journals.
3. **Learning Activities:**
 - 1) The teacher will begin the lesson by asking the students “what did you eat for dinner last night?” “What ingredients are in that?” “Which of those foods come from plants?” “Which don’t come from plants?” The teacher will record their answers on the board. Then he/she will use this information to introduce producers and consumers.

- 2) Next the teacher will go over the different aspects of a food chain (producer, herbivore, omnivore, carnivore, decomposer.) Then the teacher will ask the students to give a thumbs up or thumbs down depending on their understanding of the food chain.
- 3) Then the teacher will hand out the *Scrambled Food Chain* worksheet for the students to complete.
- 4) Once the majority of the class is finished with the worksheet the teacher will discuss different feeding strategies and the students will take note on a blank sheet of paper.
- 5) After lecture the class into five groups based on where they are sitting. In these groups they will discuss different feeding strategies and come up with animals that would apply to each one of them. The teacher will walk around and observe recording students contributions on a checklist.
- 6) Then the students will be given the *Animal Feeding Strategies* worksheet to complete on their own.
- 7) The teacher will discuss the food web and the terminology that goes with it.
- 8) The *Food Web* crossword will be handed out for students to complete while the teacher goes around the room and ask students to tell them a food web term and provide an example.
- 9) The students will get back into their groups. The teacher will introduce the activity to them explaining that each group will be assigned as a producer or a consumer. Then the group needs to do some research on the producer or consumer. Once they have some basic information they need to assign each group member an animal or plant that fits in that group.
- 10) Then the teacher will explain that each group needs to create a dance that would represent their consumer or producer and within the dance each member needs to have a solo where they do a dance to represent their animal or plant. The groups need to record their thinking process for creating the dance and it will be collected at the end.
- 11) The next day each group will get in front of the class and perform the dance they created. While a group performs the rest of the class will record their guess as to whether the group is a producer or a consumer and if it is a consumer which type. They will also have to record what animal they think each group member is.
- 12) After each performance a couple students will be called on to see what they guessed and the group will tell the class what they were as a whole and what each of them was. Students will write the correct answer next to the answer they wrote. That way they can reference it later on.
- 13) After the presentations the students will record in their journals how the class responded to their dance and whether or not they were able to guess the category based on the dance. If they were not able to the students will record why they think that is.
- 14) Once all of the groups have presented the teacher will review the concepts that they learned.
- 15) Then the class will have a discussion on what they understand, what they are struggling with, what they thought was the hardest part of the activity and why, and what their favorite part was.

4. **Instructional Considerations:**

- a) Instructional procedures:
 - Teacher will facilitate discussion on what a producer is, what a consumer is, and what types of consumers there are.
 - Teacher will record the students comments on the board so that everyone can see them.
 - Teacher will discuss the activity.
 - Teacher will have students perform the dance they created.
 - Teacher will facilitate discussion of how the activities went, what the students learned, and what they are struggling with.
- b) Multiple means of access:
 - Teacher will involve students in class discussion.
 - Teacher will lecture on food webs/food chains.
 - Teacher will model making a food chain.
 - Teacher will instruct students to create a dance based on the information.
 - Teacher will talk to each student about their understanding of the material and how they feel about the lesson.
- c) Multiple means of engagement:
 - Students will learn by participating in discussion.
 - Students will learn by identifying producers and consumers.
 - Students will learn by researching.
 - Students will learn by creating a dance based on their research.
 - Students will learn by observing other groups performances.
- d) Multiple means of expression:
 - Students can demonstrate learning through class discussion.
 - Students can demonstrate learning through journal entry.
 - Students can demonstrate learning through creating a dance.
 - Students can demonstrate learning by completing a worksheet.
- d) Methods of differentiation:

- For students who need extra help they will have group members that can help them and the teacher will be walking around to help whoever needs it. There will also be a sheet of paper that the teacher can give them to help them through the activity. It would have all of the definitions for vocabulary words on it and examples of each of them.
 - For ELL students a specialist can come in and help them or they can use a translation tool on the computer.
- e) Language learning objectives:
- The teacher will go over the terminology when discussing feeding strategies and food webs.
 - The students will need to know them to complete the worksheets.
 - The students will need to know the terminology to create dance performances.
 - The students will need to know terminology to guess other groups' performances.
 - Terminology will be reviewed at the end of the lesson.
- f) Cultural responsive pedagogy:
- The basic structure of the food web is the same but the animals and plants that are a part of it change based on location. Students can look at the different types of food webs for different areas of the world and the culture of that area.
 - Students will look at the foods different cultures eat and how it has to do with the food they are able to grow in that area.
- g) Remedial activities:
- While the class works on the worksheets the teacher or a parent helper if one is available will take the students aside who need extra help. They will work on the worksheets together and go over all the terminology again but in a different way.
 - For the students who are having a hard time understanding the material the teacher will put them in a group together and the teacher will work with that group to give them extra support during the performance activity.
 - Computers will be available for students to use to look up food webs and the terminology if they need further support. It will also be able for ELL students to translate.
- h) Extension activities:
- Students will apply food chains to their own lives.
 - Students will research about aspects of the food chain that they would like to know more about.
 - Students can create another dance but for a different consumer or producer than they did already.
5. **Closure:** To end the lesson the teacher is going to have a class discussion over the activity. He/she will ask them what they learned, what they are struggling with, what they would like to know more about, what they enjoyed the most, and how food chains relate to them.
6. **Independent Practice:** At home students will record one of their meals, break it down to the ingredients and create a food chain from this information.

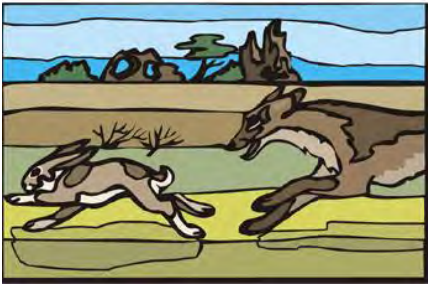
Instructional Materials, Resources, and Technology

- White board
- Markers for white board
- Worksheets: *Animal Feeding Strategies*, *Scrambled Food Chain*, and *Food Web* crossword.
- Computers with speakers
- Computers with internet access

Additional Requirements

- **Integration with Other Content Areas:** This lesson incorporates art as well by having the students use dance to portray the classifications they are learning about.
- **Acknowledgements:**
Instructional plan adapted from: <http://www.mysciencebox.org/foodchain/lesson>.

Worksheets adapted from: www.bogglesworldesl.com (*Animal Feeding Strategies*, *Food Web* crossword)
<http://pdesas.org/module/content/resources/14028/view.ashx> (*Scrambled Food Chain*)



Animal Feeding Strategies

Sort the following animals according to the way they get their food. The basic categories are *forager*, *grazer*, *filter feeder*, *parasite*, *predator*, and *scavenger*.

clam	owl	striped hyena	squirrel
blue whale	cow	whale shark	lion
flea	vulture	tiger	zebra
sponge	bear	crow	leech
sheep	louse	tuna fish	monkey
piranha	gorilla	great white shark	oyster

Foragers

Grazers

Filter Feeders

Predators

Scavengers

Parasites

Animal Feeding Strategies Answer Key

clam
blue whale
flea
sponge
sheep
piranha

owl
cow
vulture
bear
louse
gorilla

striped hyena
whale shark
tiger
crow
tuna fish
great white shark

squirrel
lion
zebra
leech
monkey
oyster

Foragers

Tuna fish, gorilla, crow, squirrel, monkey

Grazers

Sheep, cow, zebra

Filter Feeders

Clam, blue whale, sponge, oyster, whale shark

Predators

Piranha, lion, tiger, owl, great white shark

Scavengers

Vulture, striped hyena, bear

Parasites

Flea, louse, leech

Scrambled Food Chain

Directions: Read the information about each of the organisms below, and then create a food chain. Label your food chain with arrows to show energy flow and the trophic levels (producer, primary consumer, secondary consumer, and tertiary consumer).

Zooplankton: Zooplankton are a group of small animals that drift through the ocean and feed on tiny plants. The plants provide them with energy, some of which they use and some of which they pass on when they are eaten. Examples of zooplankton are jellyfish and krill.

Dolphins: Dolphins are large sea mammals. They are fast and very skilled at catching prey. Dolphins have very few predators.

Phytoplankton: Phytoplankton are one-celled organisms that live near the surface of the ocean. These tiny plants capture the Sun's energy and convert it into glucose, a compound that all ocean organisms need to survive.

Herring: Herring are small fish that feed upon smaller animals at the ocean's surface. They swim with their mouths open, filtering their prey from the water as it passes over their gills. They feed on the surface only at night, when there is less chance of predation by larger animals.

Place your food chain here:

Questions

1. Which of the organisms in this food chain are carnivores?
2. Where would you place decomposers on the food chain?
3. Which of the organisms on this food chain are the herring's prey?
4. What happens to the energy that the herring take in when they consume their prey?
5. Why are there usually more producers than primary consumers in a food chain?

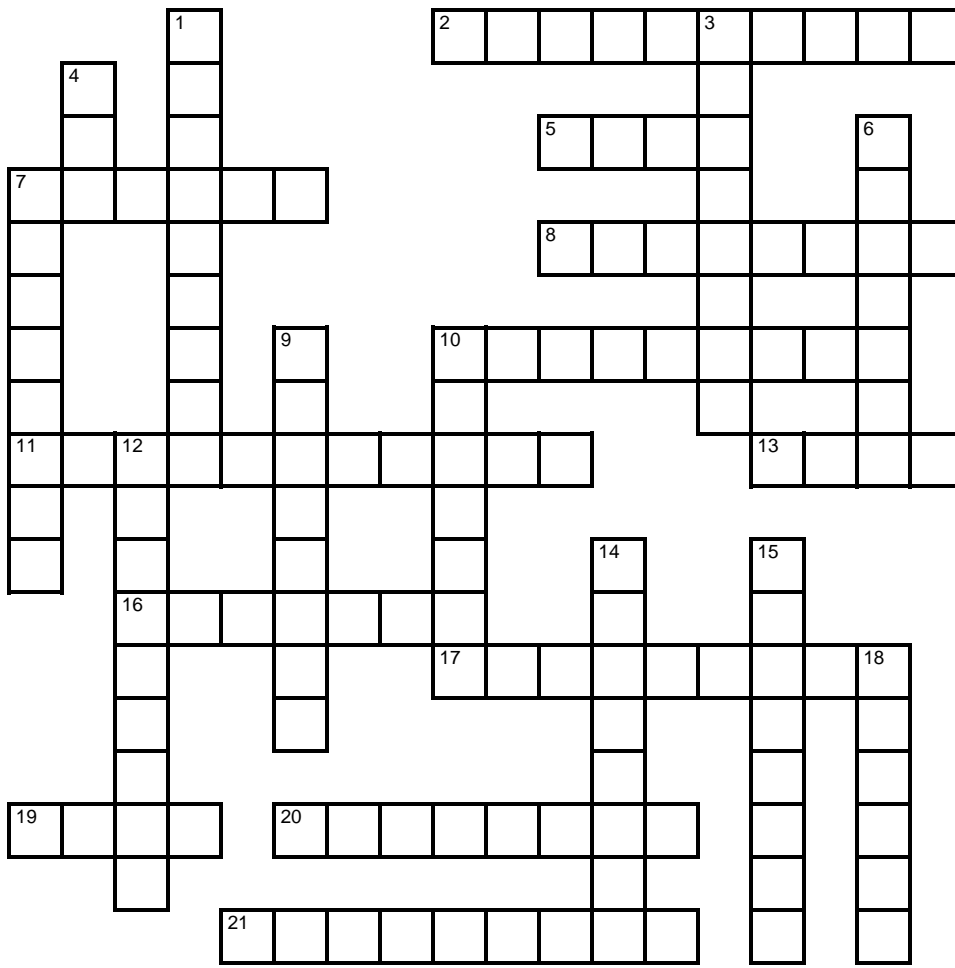
Scrambled Food Chain Answer Key

Phytoplankton \Rightarrow Zooplankton \Rightarrow Herring \Rightarrow Dolphins
(Producer) (primary consumer) (secondary consumer) (tertiary consumer)

Questions

1. Herring and Dolphins.
2. At the end of the food chain.
3. Zooplankton are the herrings prey.
4. A portion of the energy is then passed on to the dolphin when it eats the herring.
5. Primary consumers need more energy so they eat more than producers. Therefore there is less food supply for consumers which keeps the population down compared to the producers.

The Food Web



Across

- 2.** This monster shark is not dangerous to people because it's a filter feeder. It's the biggest fish in the sea!
- 5.** This predator hunts zebras and antelope.
- 7.** These are often at the bottom of food chains.
- 8.** An animal that eats both plants and animals.
- 10.** Zebra eats grass. Lion eats zebra. What is this an example of?
- 11.** An animal that eats only insects.



- 13.** This omnivore eats berries in summer and salmon in the fall.
- 16.** A desert scavenger that can often be seen flying above dead animals.
- 17.** This is the largest animal in the world and it is a filter feeder.
- 19.** An animal that is hunted by other animals.
- 20.** This insect spreads parasites when it drinks the blood of animals.
- 21.** An animal that eats plants.

Down

- 1.** An animal that eats other animals.
- 3.** Plants need this to produce their own food and energy.
- 4.** Mice should beware of this predatory bird at night.
- 6.** This carnivorous fish lives in the Amazon.
- 7.** An animal that lives in another plant or animal and eats that plant or animals without killing it.
- 9.** This insectivore has a long tongue and nose, which it uses to lick up ants.
- 10.** Many food chains linked together.
- 12.** An animal that finds already dead animals to eat.
- 14.** An animal that hunts other animals.
- 15.** Many filter feeders in the ocean eat this.
- 18.** Animals get this from eating other animals.

The Food Web Crossword Answer Key

Across

2. Whale shark
5. lion
7. plants
8. omnivore
10. food chain
11. insectivore
13. bear
16. vulture
17. blue whale
19. prey
20. mosquito
21. herbivore

Down

1. carnivore
3. sunlight
4. owl
6. piranha
7. parasite
9. anteater
10. food web
12. scavenger
14. predator
15. plankton
18. energy

**Instructional Plan
Revised 3/2/2011**

Teacher Candidate: Robin Desmarais
Cooperating Teacher: Annie McKeirnan
School District: Pullman School District
University Supervisor: Lori White
Unit/Subject: Life Science: Eco Systems
Instructional Plan Title/Focus: Food Web Song

Date: March 1, 2012
Grade: 5th
School: Franklin Elementary

Learning Targets/Purpose/Previous Learning

- a. **Instructional Plan Purpose:** *This lesson plan will help students comprehend what food webs are by singing about them. Creating a song and repeating it will help students remember what they have learned by using both sides of the brain.*
- b. **State Learning Standards:**
Science
EALR 4
 Big Idea: Life Science
 Core Content: Food Webs
4-5 LS2A An *ecosystem* includes all of the *populations* of living organisms and nonliving physical factors in a given area. Living organisms depend on one another and the nonliving physical factors in their *ecosystem* to help them survive.
4-5 LS2B Plants make their own food using *energy* from the sun. Animals get food by eating plants and/or other animals that eat plants. Plants make it possible for animals to use the energy of sunlight.
4-5 LS2C Plants and animals are related in *food webs* with *producers* (plants that make their own food), *consumers* (animals that eat *producers* and/or other animals), and *decomposers* (primarily bacteria and fungi) that break down wastes and dead *organisms*, and return *nutrients* to the soil.
Music
EALR 2
 2.1.1 Understands and applies a creative process to create *music*.
- c. **Content Objectives:**
 Students will be able to understand the components of a food web (Science 4-5 LS2A, 4-5 LS2B, 4-5 LS2C).
 Students will be able to comprehend the connection between an eco system and a food web (Science 4-5 LS2A).
- d. **Language Objectives:**
 Students will be able to work collaboratively and creatively to create a verse of music (Music 2.1.1).
- e. **Previous Learning Experiences:**
 This is the end of the students unit on food webs, they have learned all about different food webs, producers, consumers, decomposers, organisms, nutrients, and the sun. They will now collect their knowledge to create a song to help them remember for the future.

Assessment Strategies

Content/Language Objectives	Assessment Strategies
Students will be able to understand the components of a food web	Formative: Students will check their verse with the teacher before completing their verse Summative: No summative assessment will be done
Students will be able to comprehend the connection between an eco system and a food web	Formative: Students will check their verse with the teacher before completing their verse Summative: No summative assessment will be done
Students will be able to work collaboratively and creatively to create a verse of music	Formative: The teacher will check students off a check list when they are seen working together well and contributing while they are working Summative: No Summative assessment will be done

Student Voice:

K-12 students will:	Student-based evidence to be collected (things produced by students: journals,	Description of how students will reflect on their learning

	work samples, projects, papers, etc.)	
1. Communicate the learning targets and their progress toward them.	Students will turn in a reflection once finished	Students will respond to how well they think the assignment helped them achieve the learning targets and explain how they did this.
2. Communicate the development and maintenance of a learning community.	Students will turn in a reflection once finished	Students will be asked to reflect on how this assignment helped them develop a community of learners and how well they believed they worked with their groups

Grouping of Students for Instruction

- Whole Class: To discuss the assignment and how to complete it the whole class will be gathered together
- Small Groups: Students will be divided into groups of about 5 to create their verses
- Whole Class: Once all groups are finished with their verses we will combine them to make one song and the whole class will sing it together

Learning/Teaching Experiences

1. Introduction:

- The teacher will ask students to tell her everything they know about food webs, the teacher will write notes on the board about what she is told
- The teacher will ask the students:
 - i. “Do you know the song “The Wheels on the Bus?”
 - ii. “Have you ever made up your own words for it?”
 - iii. “What about for another song?”
 - iv. “Have you ever made up short songs to help you remember things?”
 - v. “What kinds of things?”

2. Questions:

The teacher will ask the students:

- “Do you know the song “The Wheels on the Bus?” ” The teacher will ask other leading questions to help remind students of the song.
- “Have you ever made up your own words for it?” Allow students to share their made up songs, or share one of your own for a different topic. Call on individual students and ask them personally.
- “What about for another song?” Allow students to share their songs, call on individuals to ask personally.
- “Have you ever made up short songs to help you remember things?” Use previous examples from the school year to help get students thinking about this
- “What kinds of things?” The teacher can also ask the students what they could possibly make up songs for, or if they have ever made up rhymes or acronyms to help themselves remember something. Specific examples can be given and individual students can be called on to help the discussion.

3. Learning Activities:

1. The teacher will ask students to tell her everything they know about food webs, the teacher will write notes on the board about what she is told
2. The teacher will ask the students:
 - a. “Do you know the song “The Wheels on the Bus?”
 - b. “Have you ever made up your own words for it?”
 - c. “What about for another song?”
 - d. “Have you ever made up short songs to help you remember things?”
 - e. “What kinds of things?”
3. The teacher will explain that today they will change the words to “The Wheels on the Bus” to help them remember food webs. Students will be divided into groups of about 5 (depending on class size) and they will be given about 20 minutes. Write on the board that they must create just one verse that will work to the tune of “The Wheels on the Bus,” the verse must include: at least one of the following words: *food webs, producers, consumers, decomposers, organisms, nutrients,*

and the sun, the verse can be anything about food webs (what they do, animals of a particular food web, how they work with the ecosystem, etc..).

4. Split students up into groups chosen by the teacher.
5. Allow 20 minutes of work time, walk around to assess and to help when needed.
6. When students are finished they are to check their lyrics with you, if it is approved they may add it to the overhead projector, if not they may need more time.
7. Once lyrics are combined ask students to look over them, if they need to be rearranged quickly discuss with the class how they should be arranged and do so.
8. Practice singing, starting slowly, multiple times until the class seems proficient at singing the song on their own. If there are areas where the class struggles ask the group who wrote that verse if it is okay to change it a little bit to make it easier to sing.
9. After class type up the whole song to give to students the next day.

10. **Instructional Considerations:**

- a) Instructional procedures:
 - a. The teacher will ask students what they know about food webs
 - b. The teacher will ask students questions about “The Wheels on the Bus”
 - c. The teacher will explain the assignment
 - d. The teacher will allow students work time
 - e. The teacher will help as needed
 - f. The teacher will check all student work
 - g. The teacher will discuss how to adjust verses if needed
 - h. The teacher will lead class song
- b) Multiple means of access
 - a. The teacher will lead a discussion about food webs (auditory)
 - b. The teacher will ask students what they know about “The Wheels on the Bus” and other songs
 - c. The teacher will explain the assignment and allow work time (auditory and kinesthetic)
 - d. The teacher will assist students as they work in groups
 - e. The teacher will lead another discussion with the students and help lead the song as the students sing
- c) Multiple means of engagement
 - a. Students will participate by raising their hand to add to the list of what they know about food webs
 - b. Students will participate by quietly listening to others as they add to the list
 - c. Students will participate by raising their hand to add to the discussion of songs
 - d. Students will participate by respectfully listening others share their experiences with songs
 - e. Students will participate by actively listening to the explanation of the assignment
 - f. Students will participate by working collaboratively, respectfully, and creatively in groups
 - g. Students will participate by singing with the whole class
- d) Multiple means of expression
 - a. Students will show their learning by adding to the list of what they know about food webs
 - b. Students will show their learning by participating in creating a verse
 - c. Students will show their learning by singing with the whole class
- e) Methods of differentiation
 - a. This activity gives students a lot of freedom, they are allowed to write anything about food webs as long as it is to the tune of the given song
 - b. Students who speak another language may have an opportunity to combine with other students who speak the same language to create a verse in their native language. This will be added with the rest of the class for them to learn as well
 - c. Students who need extra help will have others to work with as well as teacher assistance
- f) Language learning objectives:
 - a. Language learning objectives will be mostly incorporated into the group activity where students will be working and sharing with others to create a verse.
- g) Cultural responsive pedagogy:
 - a. Cultural connections can be made by singing one verse in another language. A discussion can be held about what animals this class chose to sing about, if they were in a different area of the country what animals might they have chosen? Another country? Continent?
- h) Remedial activities:
 - a. Students will write down their lyrics
 - b. Students will reflect on what they learned, if they think the song will help them remember about food webs, and how well they worked as a group

- c. Students will sing the song with all verses combined
 - d. When students are finished all students will receive a sheet with the key words they need to know from this activity
 - i) Extension activities:
 - a. Students who finish early may write another verse about another aspect of food webs
 - b. Students who finish early may begin to write a verse about another subject they would like to remember
 - c. Students may search online for other songs relating to food webs
 - d. Students may draw a food web
11. **Closure:** Explain how you are going to bring closure to the lesson.
 - a. Students will share what they have learned by sharing their verses with the class and filling out a reflection stating what they learned, how they felt about the activity, and how they felt about working their group (What did you like about this project? What did you dislike? Do you think it will help you remember the terms? Would you like to do something like this again?)
 - b. Science is a concept that builds on itself, students will continue to see food webs throughout their educational experience and hopefully this song will help them to remember the concepts
12. **Independent Practice:**
 - a. Students will bring the song home to show their parents. They will discuss other songs they may know to help with memory, if the parent knows the whole song they can write it down or type it up to share with the class/teacher.
 - b. Students will show the song to their parents. They can have their parents help them create movements that will help them remember the song even better

13. **Instructional Materials, Resources, and Technology**

Additional Requirements

- **Integration with Other Content Areas:** Both Science and Music are addressed in this lesson
- **Acknowledgements:** Instructional Plan Created by: Robin Desmarais

Student Name	Checked Verse	Participating in Creating Verse	Working Well in Group

Rate students from 1-5, 1=not participating or working well with group members, 5=participating fully and working well with group members

NATURAL CATASTROPHES



Earthquakes, Glaciers, Tsunamis, Volcanoes



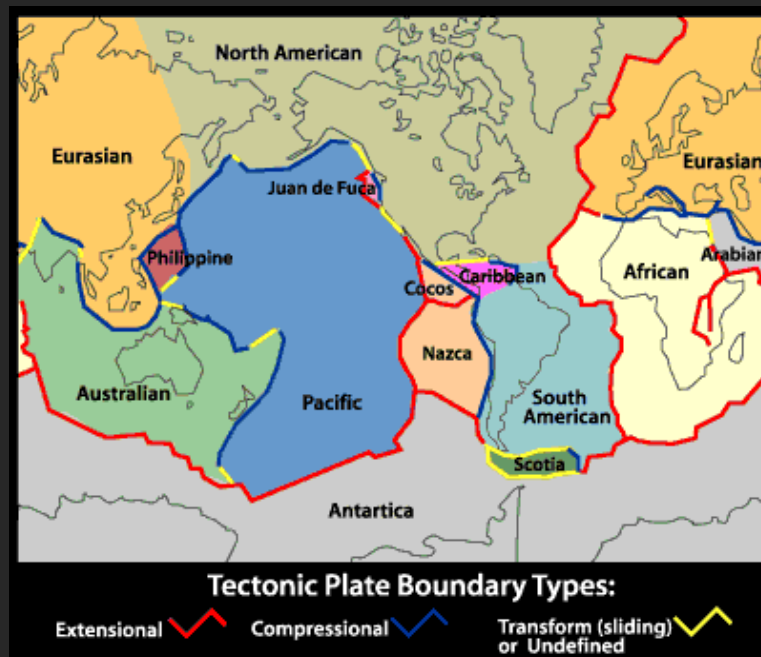
Group 6: Courtney Simmons, Geoff Reilly, Jessica Peterson, Scott Gagnon, Ashley Schur



Weather Wiz Kids:

Earthquakes

This is a great resource when first introducing earthquakes. This website explains what earthquakes are, how they occur, effects from an earthquake, the different components of earthquakes and how to measure earthquakes. The certain explanations are accompanied by videos that demonstrate things such as: the causes of earthquakes, plate tectonics, and continental drift. Another thing that this website offers are earthquake safety tips and earthquake survival tips.



<http://www.weatherwizkids.com/weather-earthquake.htm>

By: Courtney Simmons

Glaciers and Glacial Landforms



The Science Clarified website provides a great deal of information on glaciers and a great deal more than necessary to gain a basic understanding. The information is clearly defined in a very easy to follow format with relatively basic language. Following the introduction there is a glossary of terms associated with glaciers, including all of the different landforms they create, with a simple explanation of what each means. If interested to know more, the reader simply needs to read on to learn about how each one forms in more detail.

The information is laid out in a very logical way, which is very friendly to users who are just beginning to explore the topic. The information builds upon itself and the linear reader will learn good information from this website. For one who wants to find specific information about glaciers, on the other hand, the set-up may not be as usable in that there are no internal links with which navigate the page to find that specific desired information.

The information here goes beyond glacial formations and discusses how glaciers form, and Earth's glacial history. For those who are still curious a list of extended readings is provided at the end.

To view this resource for yourself, go to this free website:

<http://www.scienceclarified.com/landforms/Faults-to-Mountains/Glacial-Landforms-and-Features.html#b>



<http://www.tsunami.noaa.gov/teacher-resources.html>

The powerful, majestic, forceful, and destructive force behind the wave that can displace entire cities in one foul swoop is a fascinating and important part of studying geological subjects in the middle grades. The National Oceanic and Atmospheric Administration is a valuable resource for teachers interested in teaching about tsunamis.

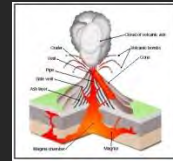
The NOAA website includes a teacher resources page where information on these killer waves can be found for classroom learning. There are sources and materials as well as links to other pages and sites that can be used to enhance curriculum. The NOAA site includes various information on tsunami warnings, including; being prepared, hazard assessment, education and awareness.

NOAA also gives links for Tsunami Education Kits from other worldwide resources like World Vision Australia and Global Education. It might also be interesting for students to learn who to call and where to go in the case of a tsunami!

This subject may hit close to home in the Pacific Northwest... literally.

By Jessica Peterson

Science Clarified: Volcano



This is an informational page about volcanoes from the "Science Clarified" website. This page is filled with stunning pictures and detailed paragraphs about volcanoes. The information provided covers several categories, including general volcano facts, types of volcanoes, how volcanoes are formed, eruptions, inactive and active volcanoes, and a literal definition of volcanoes. Along with this, there is a definition list of volcano-related terms that students should know and are used on the page.

<http://www.scienceclarified.com/landforms/Ocean-Basins-to-Volcanoes/Volcano.html>



I think it is great that the information provided is so extensive and detailed, and yet simply worded and organized so that it's easy to read for students. However, I would not recommend using this site for younger students because of the lengthy information and lack of interaction on the page. Instead, I would recommend this page for grades 4-6, to use in such projects as research papers and science presentations.

By Ashley Schur

TSUNAMIS

<http://walrus.wr.usgs.gov/tsunami/>

Throughout the existence of Earth there have been hundreds of thousands of tsunamis, caused by preliminary earthquakes that have helped form the shorelines spread all across the world.

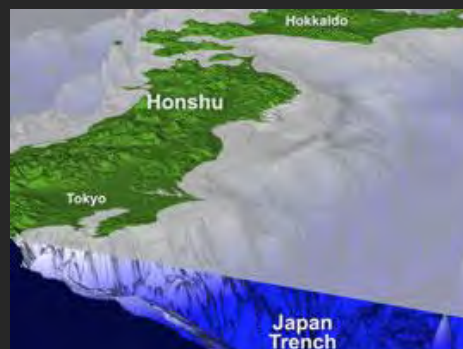
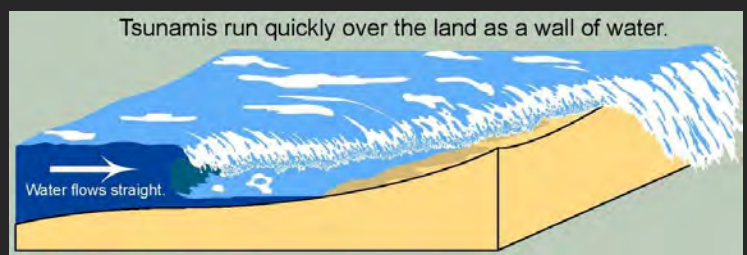
The website that I found is beneficial place to find any and everything there is to know about the causes, effects, and recent tsunamis that have crashed into beaches around the world.

This website provides stories as well as diagrams of how tsunamis are started and the potential threats they pose to different geographic locations all around the world. One specific detail about this website that I found extremely interesting is that places located along the ring of fire are at a much higher risk of getting affected by the big tsunami (Washington being one of those places).

One of our other natural disasters that causes major geographical destruction, earthquakes, are the main cause of tsunamis and from these earthquakes, water along the ocean floor is displaced upward causing a surge of water to pummel towards our coastlines.

Along with pictures and diagrams this website also provides animations that show the ways that tsunamis are started. In addition to these animations there are videos captured by people that show the first hand destructive nature of this natural phenomenon.

My overall evaluation of this website is that it will be highly beneficial to teaching students about the harsh effects and realities of how dangerous tsunamis actually are and how they helped shape the world as we know it today.



Instructional Plan

Revised 3/2/2011

Teacher Candidate: Courtney Simmons _____ **Date:** March 1, 2012
Cooperating Teacher: _____ **Grade:** 6th _____
School District: Pullman _____ **School:** Jefferson Elem. _____
University Supervisor: _____
Unit/Subject: Science _____
Instructional Plan Title/Focus: Earthquakes _____

Learning Targets/Purpose/Previous Learning

a. Instructional Plan Purpose:

The purpose of this lesson will be to help students understand the effects that earthquakes have on structures such as buildings. The students will build buildings and investigate which types of shapes stand up to a man made earthquake the best.

b. State Learning Standards:

Science-EALR 4 6-8 ES3D: Earth has been shaped by many natural catastrophes, including earthquakes, volcanic eruptions, glaciers, floods, storms, tsunami, and the impacts of asteroids.

Art- 2.1.E: Creates, experiences, and develops artworks and/or performances/presentations utilizing the creative process structure (Reflects for the purpose of self-evaluation and improvement of the creative work.)

c. Content Objectives:

SWBAT describe the difference between structures and how an earthquake affects them.

SWBAT build varying types of structures and describe how an earthquake affects them.

d. Language Objectives:

SWBAT use appropriate terminology pertaining to earthquakes.

e. Previous Learning Experiences:

The students will have already been introduced to earthquakes and the terminology that pertain to them. The students will also have prior knowledge of the effects of earthquakes and how they impact the surrounding environment.

Assessment Strategies

Content Objectives	Assessment Strategies
SWBAT describe the difference between structures and how an earthquake affects them.	Formative: Summative: The students will have to write about how the different structures hold up to their man made earthquakes and describe their findings in their journals.
SWBAT build varying types of structures and describe how an earthquake affects them.	Formative: The teacher will walk around the class and record that each student is being involved in the building process and being able to describe why certain structures do not hold up to an earthquake. Summative:
SWBAT use appropriate terminology pertaining to earthquakes.	Formative: The teacher will walk around the class and observe how the students are talking about their structures and listening to hear if they understand the concept. Summative:

Student Voice:

K-12 students will:	Student-based evidence to be collected (things produced by students: journals, work samples, projects, papers, etc.)	Description of how students will reflect on their learning
1. Communicate the learning targets and their progress toward them.	Journal entry in science notebook.	Students will reflect on their learning after the lesson. They will write a journal entry that has them reflect on if they feel they met the learning targets. The second part to the journal

		will be the students writing about what they learned about earthquakes (facts, interesting news, words, etc.)
2. Communicate the support and resources that can be accessed to help them achieve the learning targets.	Teacher will ask the students what shapes of structures hold up the best and why. He/she will ask students by their groups.	While the groups are working, the teacher will go around and ask each group what structures are holding up the best and why they think so.

Grouping of Students for Instruction

The students will be divided, randomly, into groups of 3-4. At the end, the class will come together and talk about their findings.

Learning/Teaching Experiences

1. **Introduction:** Ladies and Gentlemen, today for this lesson we will be making different structures and then test to see if they can withstand an earthquake. You will be able to make whatever type of structure you would like and then reflect on which structure held up against the earthquakes the best and why? Are you ready to get quaking!?

2. Questions:

1. What shapes seem to survive earthquakes the best?
2. Do you think that it is possible to build an earthquake-proof structure? Why or why not?
3. What type of earthquake motion did the tray simulate?
4. Can you think of buildings standing today that would not survive an earthquake?
5. Can you think of buildings standing today that would survive an earthquake?

The students would be asked these questions throughout the lesson. During the lesson, the teacher will be walking around to the groups asking them different questions. Finally, at the end, the class will discuss all of the questions together.

3. Learning Activities:

1. The teacher will reintroduce the topic of earthquakes to the class and explain the purpose of today's lesson.
2. The teacher will tell the students what the lesson includes and how to set up their lesson.
3. The teacher will ask the students to divide into groups of 3-4.
4. The students will then go sit at desks/tables in their groups.
5. The students will send their "getter" to go get the supplies for the supply table.
6. The students will then follow the directions to set up their shake trays.
7. The students will now build structures with the straws and marshmallows and see what type of structure hold up best to an earthquake (shake tray).
8. While the students are building their structures the teacher will be scanning around the room and asking the students questions.
9. After about 15-20 minutes of building, the teacher will bring the class back together and ask the groups what type/shape of structure held up the best to the shake tray.
10. The teacher will now have the students write in the journals about their findings and discoveries.

4. Instructional Considerations:

- a) Instructional procedures: The teacher will discuss the directions along with show an example of how to set up a shake tray. The lesson is set up so that the students will discover new things.
- b) Multiple means of access: the teacher will present it to the class as a whole. Another means of access would be that the teacher presents it to those students again but in a small group setting instead.
- c) Multiple means of engagement: group discussion, class discussion, writing a reflection in a journal.
- d) Multiple means of expression: journal entry, completing the independent practice lesson, engaging in the class discussion.
- e) Methods of differentiation: if a particular student does not do well in group work, then accommodations would be made for that student to work by themselves or with only a partner.
- f) Language learning objectives:
 - SWBAT use appropriate terminology pertaining to earthquakes: this will be integrated throughout the whole lesson. Along with that, the teacher will model using the correct terminology whenever he/she is talking to the class or groups. This will also be integrated into the student's journal entries that they will write at the end of the lesson.
- g) Cultural responsive pedagogy: Living in the Pacific Northwest and being near the San Andrea Fault, the teacher will talk about places like San Francisco and even Mt. St. Helens to the children to bring the idea of earthquakes a little closer to home.
- h) Remedial activities: (Do you have a review sheet, scaffolding worksheet or plan?)
- i) Extension activities: No students should finish early because the students will be able to continue building structures and testing them.

5. **Closure:** The teacher will bring the class back together after everyone has cleaned up their station and have a discussion about the different structures they built with the straws and marshmallows. When the discussion is winding down, the teacher will give a brief overview of what the lesson taught along with noting the destructive nature of earthquakes (i.e. what the students did in this lesson)
 - What did you learn from certain structures and how they stood up to an earthquake?
 - What was the most interesting thing you learned about earthquakes?
6. **Independent Practice:** The students will be asked to go home and look around their neighborhood for buildings and other structures that would/would not stand up to an earthquake if we had one in our area. The students would bring these lists back to class and then discuss the various structures. Then, we would compare and contrast the area in town and the types of structures in those areas.
 - a. Possible Family Interaction- The students will go home and ask their family to participate in a lesson similar to the one that was done in class. The students will be asked to investigate other items that help structures to stand up to an earthquake (i.e. bigger straws, popsicle sticks, etc.)

Instructional Materials, Resources, and Technology

- 40 coffee stirrers
- 40 mini marshmallows
- A metric ruler
- 2 shallow cardboard boxes
- A pair of scissors
- 10-20 marbles
- 4 short rubber bands
- Stapler

Additional Requirements

- **Integration with Other Content Areas:**
 - Architecture: building different structures.
 - Art: constructing buildings using marshmallow and straws.
 - Language Arts: the students could create a journal entry about what they learned.
- **Acknowledgements:** Instructional Plan adapted from Newton's Apple.

Instructional Plan

Revised 2/29/12

Teacher Candidate: Jessica Peterson

Date: February 29, 2012

Cooperating Teacher: Mrs. Smith

Grade: 5th Grade

School District: Pullman

School: Franklin Elementary

University Supervisor:

Unit/Subject: Science/Art

Instructional Plan Title/Focus: Tornado in a Bottle!

Learning Targets/Purpose/Previous Learning

a. Instructional Plan Purpose:

The purpose of this lesson is to demonstrate to students what a tornado might look like by simulating one inside of a bottle. This lesson will further students' understanding of weather-related natural disasters.

b. State Learning Standards:

Science Standards

Grade Level: 6-8

EALR 4: Earth and Space Science

Big Idea: Earth Systems Structures and Processes (ES2)

Core Content: *Cycles in Earth Systems*

Content Standard: 6-8 ES2A

Art Standards

Grade Level: Middle/Jr. High

EALR: 4. The student makes connections within and across the arts (*visual arts*) to other disciplines, life, cultures, and work.

Component: 4.4 Understands how the arts influence and reflect cultures/civilization, place, and time.

Grade Level Expectations: 4.4.M Compares and analyzes how the specific attributes of artworks, presentations, and performances reflect cultures, traditions, and history.

c. Content Objectives:

SWBAT understand the destructive nature of a tornado

SWBAT grasp the concept of a tornado and how these natural disasters can effect our world

d. Language Objectives:

SWBAT identify the words used; "tornado," "twister," "vortex"

e. Previous Learning Experiences:

Students will have been learning about tornadoes and extreme weather, as well as natural disasters, prior to this activity. They will have a strong background of knowledge for this activity to provide supporting evidence.

Assessment Strategies

Attach questions, worksheets, tests or any additional documentation related to your assessment strategies. Also attach appropriate marking rubrics, criteria lists, expectations, answer keys, etc.

- **Formative:** measures process/progress toward mastery of target(s)
- **Summative:** measures outcomes/achievement of target(s)

Content Objectives	Assessment Strategies
SWBAT understand the destructive nature of a tornado (EALR 4, 6-8 ES2A)	Formative: The teacher will lead a class discussion and have a chart with each student's name on it to keep track of whom participates/understands/cares. The teacher will give students who seem to be struggling a check mark next to their name. Summative: As a quiz, students will write a short description of what they know about the destructive nature of tornadoes.
SWBAT grasp the concept of a tornado and how these natural disasters can effect our world (EALR 4, 6-8 ES2A)	Formative: Instructor will observe students as they work in pairs to perform the experiment Summative: Students will be asked to write a journal entry about

tornadoes.

Student Voice: Select two components of student voice and identify how students will reflect and/or communicate on their learning or progress toward meeting the goals. You may eliminate the components not being addressed.

K-12 students will:	Student-based evidence to be collected (things produced by students: journals, work samples, projects, papers, etc.)	Description of how students will reflect on their learning
1. <i>Communicate the learning targets and their progress toward them.</i>	<u>Journal entry</u>	<u>Students will reflect on tornadoes in their science journals. They will discuss their likes and dislikes about the tornado experiment.</u>
2. <i>Use a variety of learning strategies and explain the effectiveness of their choice.</i>	<u>Exit slip</u>	<u>Students will have to answer the questions on the board and turn them in before leaving class!</u> What did you learn about tornadoes today? What would you do if a tornado was on the way to your house?

Grouping of Students for Instruction

- For this project, students will be grouped into tables, but will perform the experiment in pairs. There may not be enough supplies to go to every student, and students might find the experiment more enjoyable by doing it together.

Learning/Teaching Experiences

- Introduction:** Identify how you are going to introduce the concept, skill or task in a way that gains students' attention and gets them involved.
 - Describe how you will help students make connections to their lives and prior experiences.
 - For an introduction the instructor will show a few YouTube videos and possibly news clips of tornadoes and the devastation that they can cause.
 - Then the instructor may lead a discussion for students to analyze the
- Questions:** Teacher will lead discussion for students to converse about their knowledge of tornadoes from previous class time and past experiences. Questions will be asked to keep up a discussion and get everyone involved.
 - Do tornadoes make you dizzy?
 - Do their spinning, twirling winds make you wonder how they work?
 - Where in the continental United States are tornadoes most common?
 - What can you do to avoid a tornado?
 - What are some safety precautions that can be taken in order to be prepared for a tornado?
 - How do you think you can make a tornado in a bottle?
 - What is a vortex?

Brief Explanation: In order to actively engage students into these discussion questions

3. Learning Activities:

- Students will first have a discussion as a class about volcanoes.
- The teacher will distribute materials to each group so that pairs of students everything necessary for making a tornado in a bottle.
- Students will fill their bottle 2/3rds with water.
- Students will add a drop of food coloring and/or a pinch of glitter to the bottle.
- Students will put a teaspoon of dish soap and a teaspoon of vinegar into their bottle.
- Students will then give the bottle a good, hard shake, and twist the liquid inside so that it spins.
- Students will observe the behavior of the water and ingredients inside the bottle.
- Students will discuss with one another what was observed.

4. Instructional Considerations:

- Instructional procedures:
 - Whole group instruction
 - Grouped into pairs
 - Add water
 - Add glitter
 - Add dish soap/vinegar

6. Shake/twist
 7. Observe in pairs
 8. Whole group discussion
- b) Multiple means of access (list ways the teacher will present the materials)
 - i. The teacher will demonstrate in front of the class what to do.
 - ii. The teacher will present materials.
 - c) Multiple means of engagement (list ways the students will participate in the learning)
 - i. Students will be actively engaged in the learning process by performing the tasks on their own.
 - ii. Students will learn through discussions with one another and as a class as a whole.
 - d) Multiple means of expression (list ways the students can show their learning)
 - i. Students will show that they are learning by participating in classroom discussions.
 - ii. Students will demonstrate the retention of knowledge by journaling and drawing diagrams of what they learned.
 - e) Methods of differentiation, (list accommodation or differentiation strategies)
 - i. Instructor will be available to give students at all levels special help and attention during the activity.
 - f) Language learning objectives: (Where will you integrate these?)
 - i. Students will learn academic language like “tornado,” and, “vortex.”
 - g) Cultural connections: (List the cultural connections)
 - i. Students may share their own experiences with tornadoes.
 - ii. Students will research various places throughout the world and which states/countries are most susceptible to tornadoes.
 - h) Remedial activities: (Do you have a review sheet, scaffolding worksheet or plan?)
 - i. Instructor will provide remedial students with notes from class discussions and vocabulary sheets.
 - i) Extension activities: (What will students who finish early do?)
 - i. Research tornadoes!
 - ii. The class will move on to other natural disasters in the unit.

5. Closure:

- After cleaning up supplies, the class can come together for a final discussion on the topic of tornadoes
- Describe how you will connect again to students’ lives and to future lessons
- The instructor can ask students what they plan to do in the case of a tornado in terms of what was learned about safety
- What did you learn about tornadoes today?
- What would you do if a tornado were heading toward your house?

6. **Independent Practice:** Students will receive a homework sheet on tornadoes.

7. **Family Interaction:** Students will be encouraged to go home and share the safety information they learned about tornadoes with their families and friends.

Instructional Materials, Resources, and Technology

Attach a copy of ALL materials the teacher and students will use during the lesson; e.g., handouts, questions to answer, overheads, powerpoint slides, worksheets.

Additional Requirements

- **Integration with Other Content Areas & Acknowledgements:**

Instructional Plan adapted by Jessica Peterson from <http://tlc.howstuffworks.com/family/science-projects-for-kids-air-pressure2.htm>

Curriculum Bag Instructions: **Indoor Tornado Experiment**

Do tornadoes make you dizzy? Do their spinning, twirling winds make you wonder how they work? Well, shake up a mini-tornado of your own with this wild indoor tornado activity and study its spiraling vortex of currents without fear.

What You'll Need:

Clear jar or bottle

Water

Glitter or food coloring

Liquid dish soap

Vinegar



Step 1: Fill an ordinary glass/plastic jar or bottle about two-thirds of the way with water. Add a few drops of food coloring (any color) OR glitter to the water.

Step 2: Add a teaspoon of liquid dish soap and a teaspoon of vinegar. Screw the lid on good and tight to prevent leaks and extreme messes.

Step 3: Give the jar a good, hard shake, then give it a twist to set the liquid inside spinning.

Step 4: What you'll see is a tiny bottled vortex that looks just like a miniature tornado. Watch the spinning mini-tornado closely and you may even gain insight into the real thing.

Keep reading science projects for kids: air pressure for a science experiment that uses air pressure to make a wall of water.

(Adapted from <http://tlc.howstuffworks.com/family/science-projects-for-kids-air-pressure2.htm>)

By Jessica Peterson

Instructional Plan

Teacher Candidate: Geoff Reilly **Date:** Mar 22, 2012
Cooperating Teacher: Tricia Doumit **Grade:** 6th
School District: Pullman SD **School:** Jefferson Elementary
University Supervisor: Lori White
Unit/Subject: Science-Natural Catastrophes
Instructional Plan Title/Focus: How Glaciers Shape the Earth

Learning Targets/Purpose/Previous Learning

a. Instructional Plan Purpose:

The purpose of this lesson is to get students to think of how glaciers are large scale land-shaping forces that create many landmarks that we may encounter and never realize how they were formed. Additionally, this lesson's purpose is to allow students the opportunity to practice and utilize drawing in a way different than they may have before.

b. State Learning Standards:

Science, 2009

- 6-8 ES3A Our understanding of Earth history is based on the assumption that processes we see today are similar to those that occurred in the past
- 6-8 ES3D Earth has been shaped by many natural catastrophes, including earthquakes, volcanic eruptions, glaciers, floods, storms, tsunamis, and the impacts of asteroids.

Visual Arts

- 1.2.1 Analyzes and applies the skills and techniques of visual arts to create original works of art in two and/or three dimensions.

Reading

- 1.3.1. Understand and apply new vocabulary.

c. Content Objectives:

Students will be able to:

- Understand the process by which glaciers create landforms (Science 6-8 ES3A, 6-8 ES3D)
- Create a drawing of geological landforms (Visual Arts 1.2.1)

d. Language Objectives:

Students will be able to:

- Understand the geological terms that identify landforms (Reading 1.3.1)

See attachment 1 "Glacial Landforms and Features: Words to Know" for vocabulary list.

e. Previous Learning Experiences:

Students have previously learned about the formation and actions of glaciers, including those leading up to the Missoula Flood that shaped the region. They will have heard of different land features that can be created by glacial movement, and have been shown photographs of what those features look like. In preparation for the day's lesson, they will have created their own "glaciers" by freezing angular rock into the bottom of a glass of water.

Assessment Strategies

Content/Language Objectives	Assessment Strategies
Understand the process by which glaciers create landforms (Science 6-8 ES3A, 6-8 ES3D)	Formative: As students work with scraping their woodblocks, and throughout the lesson, the teacher will walk

	throughout the class with a class roster checklist, and have a short discussion with each student about how glaciers form landforms.
Create a drawing of geological landforms (Visual Arts 1.2.1)	Summative: Students will create a drawing of accuracy relative to the grade level that includes a minimum of five (5) glacial landforms that can be created, into one cohesive landscape. The drawing will be colored either for accuracy of colors, or color coded to differentiate different landforms. (See attachment 2 for rubric, 3 for grading sheet)
Understand the geological terms that identify landforms (Reading 1.3.1)	Summative: Included in rubric for artwork

Student Voice:

K-12 students will:	Student-based evidence to be collected (things produced by students: journals, work samples, projects, papers, etc.)	Description of how students will reflect on their learning
<i>Communicate the learning targets and their progress toward them.</i>	Journal Samples	The day following this lesson students will write about their progress towards the learning goals, which will still be on the board at the onset of the lesson.
<i>Articulate the thinking strategies used to achieve the learning targets.(5.1)</i>	Short response on the back of artwork.	On the back of the artwork, students will write a paragraph about what thinking strategies they used in order to create a cohesive landscape, and what they needed to do to learn the words describing each different landform.

Grouping of Students for Instruction

- Whole Class: The whole class will be involved in a discussion about landforms created by glaciers
- Group work: Students will work in groups of three or four to simulate a glacier scraping across the earth with their ice blocks and wood chunks.
- Individual work: Students will draw, label, and color a landscape containing five or more glacial landforms, and describe the formation of each.

Learning/Teaching Experiences

1. Introduction:

The topic will be led into with a brief connection to the world around us, in order to get students thinking about how the lesson relates to their own lives. Famous glacial landmarks of the world, country, or region can be given as examples, including the fact that Minnesota, “the land of 10,000 lakes” has thousands of kettle lakes that were formed by glaciers. It can also be stated much of the Pacific Northwest was shaped indirectly by glaciers, when a glacial dam broke, releasing lake Missoula during the ice age and flooding the region. Other examples specific to region may be included to make connections more relevant to students.

The lesson will be introduced with a brief reminder that we created our glacier ice blocks on the previous day, and by asking “Who wants to reshape the Earth?!”. This will us lead into how the lesson will start by scraping our “glaciers” against a block of wood to see the reshaping powers. Following this description, students will be reminded that there are natural landmarks all around the world that were

created by glaciers, and that they will have the opportunity to imagine and draw out their very own glacial feature landscape.

2. **Questions:**

These questions will be asked to the group as a whole, and discussed in table groups, before coming to the class as a whole and combining ideas from independent discussions.

(See attachment 4 “In Class Discussion Questions for Glacial Landforms” for student sheets to fill out)

- How do you define what a glacier is?
- Where do glaciers come from and how do they form?
- How do glaciers move? What drives their movement? How does this affect their shaping of the land?
- What types of sediment can be carried along on the bottom of a glacier?
- Which sizes of debris fall out first, and which fall out last?
- When glaciers “retreat” what is actually happening? Are they actually moving backwards?
- Name a glacial landform and explain how it forms.

3. **Learning Activities:**

1. Review what a glacier is by asking for student definitions.
2. Review landforms created by glaciers. Ask students which ones they remember, showing clear pictures of each as you go along, and present those that they forget.
3. In pairs or groups of three, student will work with their previously prepared rocky ice cube “glaciers” by pushing them slowly across a piece of wood in a single direction.
4. Students will discuss in their small groups what the “glaciers” did to the piece of wood and how they were able to do this.
5. Lead the class in a group discussion on how this is similar to a glacier and how it is different.
Answers striven for include:
 - real glaciers are large sheets of ice, not just blocks that slide across wood.
 - debris carried by real glaciers vary in size from sand to boulders and as such has a much more significant impact upon the earth they’re scraping against.
6. Move on to the art portion of the activity by reviewing the different land features that a glacier can create, while giving clear pictures of what each feature looks like on the projector.
7. Instruct the students to each pull out a piece of paper on which they can freely sketch their ideas for project ahead.
8. Student will create an imaginary landscape that has been shaped by a glacier. They will look to the example pictures on the projector screen, and reference their landmark vocabulary sheet to fill in a landscape including a minimum of 5 of the features discussed.
9. When all features are drawn and labeled, students may go through and color their pictures, either realistically, or color coded to differentiate between different features.
10. If students feel their artwork is unidentifiable, they have the option to explain on the back which features were drawn, why they were drawn, and how they decided to place each where it was in relation to other features.

4. **Instructional Considerations:**

- a) Instructional procedures:
 - Pictures will be shown on the projector when reiterating the different types of landforms that can be created by glaciers.
 - After retrieving their ice block “glaciers” and a block of wood students work in groups to see the effects of scraping the ice against the wood
 - When discussing difference between this process and a real glacier, the teacher will write down students ideas on the white board.
- b) Multiple means of access:
 - Information will be presented verbally through discussion and explanation

- Information will be presented visually through pictures being projected onto the screen
 - Information will be presented kinesthetically through scraping ice block “glaciers” on wood block.
- c) Multiple means of engagement:
- Students participate in their learning by engaging in the start of class discussion on what a glaciers are and what landforms they create
 - Students participate in their learning by actively involving themselves in the process of scraping the wood with their ice block “glacier”.
 - Students participate in their learning by creating a piece of artwork featuring multiple glacial landforms.
- d) Multiple means of expression:
- Students can show their learning by drawing and labeling a landscape of glacial landforms
 - Student can show their learning by explaining the landforms they drew, and why they were drawn as such.
- e) Methods of differentiation:
- Struggling students will have resources available to assist in their understanding of the material. See “h) Remedial Activities” below.
 - High achieving students will be given the extension activity seen below in “i) Extension Activities” to promote a deeper understanding of the material. In addition they will be allowed to use the classroom computers to do further research on how landforms are created (in more depth) and what local or regional landforms exist.
- f) Language learning objectives
- Terminology associated with glaciers will be reviewed and explained at the onset of the lesson.
- g) Culturally responsive pedagogy:
- In explaining that different glacial landforms exist throughout the world, and continue to be created in regions cold enough to support glaciations, students will become aware that people around the world share some similar features of their environment in terms of large scale landscape.
- h) Remedial activities:
- Upon request students will have access to a vocabulary list of terms associated with glaciers, which includes a description of each. (See attachment 1 “Glacial Landforms and Features: Words to Know”)
 - If necessary students may utilize computer resources to look up what each feature looks like, if they are not already up on the projector screen.
- i) Extension activities:
- Students who finish will be given an additional worksheet that goes more in depth on glaciers that they can use the internet to find answers t (See attachment 5, worksheet “Glaciers: Movers and Shapers”)

5. **Closure:**

At the end of the lesson the group will come together as a whole to discuss what they created. Students will be asked to consider the thought process they used in creating this artwork. What considerations had to be made in terms of arranging everything so that it fit? So that the natural phenomena made sense together? Students will be asked to share their drawings until three have shown their work, and explained their process briefly.

Students will be exposed to the connection between this next step in our Natural Catastrophes unit, volcanoes, in that they both shape the landscape of the Earth.

6. **Independent Practice:**

- Students will be assigned homework to answer the following questions, (See attachment 6 “Glacial Landforms Homework Assignment”
 - What is a glacier? How is it formed? How does it move?
 - How do glaciers shape the earth underneath them?
 - Name two of your favorite glacial landforms and explain what about them you like.

- a. Possible Family Interaction (Identify at least one way in which you might involve students' families in this instructional plan.)
 - Parents can get involved and help their with homework by allowing their children to verbally explain the answers, or rather allowing their students to *teach* them about glaciers in order to answer each question.

Instructional Materials, Resources, and Technology

Instructional materials attached

Additional Requirements

- **Integration with Other Content Areas:** Identify content areas/other subjects that are integrated into this lesson and explain how these are addressed.
 - Geology is incorporated in the inclusion of the landforms that glaciers create.
 - Art is incorporated in having students create a landscape.
 - Writing is incorporated in having students explain the land feature's formation.
 - Communication is incorporated through having group, and whole class discussion.

Acknowledgements:

Ice scraping lesson adapted from the lesson "Glaciers and Icebergs" on the Discovery Education website, found at <http://www.discoveryeducation.com/teachers/free-lesson-plans/glaciers-and-icebergs.cfm#aca>. Adaptations to this lesson, as well the inclusion of art by Geoff Reilly.

Glacial Landforms and Features: Words to Know

Ablation zone: The area of a glacier where mass is lost through melting or evaporation at a greater rate than snow and ice accumulate.

Accumulation zone: The area of a glacier where mass is increased through snowfall at a greater rate than snow and ice is lost through ablation.

Alpine glacier: A relatively small glacier that forms in high elevations near the tops of mountains.

Arête: A sharp-edged ridge of rock formed between adjacent cirque glaciers.

Basal sliding: The sliding of a glacier over the ground on a layer of water.

Cirque: A bowl-shaped depression carved out of a mountain by an alpine glacier.

Continental glacier: A glacier that forms over large areas of continents close to the poles.

Crevasse: A deep, nearly vertical crack that develops in the upper portion of glacier ice.

Erosion: The gradual wearing away of Earth surfaces through the action of wind and water.

Erratic: A large boulder that a glacier deposits on a surface made of different rock.

Esker: A long, snakelike ridge of sediment deposited by a stream that ran under or within a glacier.

Firn: The granular ice formed by the recrystallization of snow; also known as névé.

Fjord: A deep glacial trough submerged with seawater.

Glacial drift: A general term for all material transported and deposited directly by or from glacial ice.

Glacial polish: The smooth and shiny surfaces that are produced on rocks underneath a glacier by material carried in the base of that glacier.

Glacial surge: The rapid forward movement of a glacier.

Glacial trough: A U-shaped valley carved out of a V-shaped stream valley by the movement of a valley glacier.

Glaciation: The transformation of the landscape through the action of glaciers.

Glacier: A large body of ice that formed on land by the compaction and recrystallization of snow, survives year to year, and shows some sign of movement downhill due to gravity.

Ground moraine: A continuous layer of till deposited beneath a steadily retreating glacier.

Hanging valley: A shallow glacial trough that leads into the side of a larger, main glacial trough.

Horn: A high mountain peak that forms when the walls of three or more glacial cirques intersect.

Internal flow: The movement of ice inside a glacier through the deformation and realignment of ice crystals; also known as creep.

Kame: A steep-sided, conical mound or hill formed of glacial drift that is created when sediment is washed into a depression on the top surface of a glacier and then deposited on the ground below when the glacier melts away.

Kettle: A shallow, bowl-shaped depression formed when a large block of glacial ice breaks away from the main glacier and is buried beneath glacial till, then melts. If the depression fills with water, it is known as a kettle lake.

Lateral moraine: A moraine deposited along the side of a valley glacier.

Medial moraine: A moraine formed when two adjacent glaciers flow into each other and their lateral moraines are caught in the middle of the joined glacier.

Meltwater: The water from melted snow or ice.

Moraine: A general term for a ridge or mound of till deposited by a glacier.

Piedmont glacier: A valley glacier that flows out of a mountainous area onto a gentle slope or plain and spreads out over the surrounding terrain.

Rock flour: Fine-grained rock material produced when a glacier abrades or scrapes rock beneath it.

Snow line: The elevation above which snow can form and remain all year.

Striations: The long, parallel scratches and grooves produced in rocks underneath a glacier as it moves over them.

Tarn: A small lake that fills the central depression in a cirque.

Terminal moraine: A moraine found near the terminus of a glacier; also known as an end moraine.

Terminus: The leading edge of a glacier; also known as the glacier snout.

Till: A random mixture of finely crushed rock, sand, pebbles, and boulders deposited by a glacier.

Valley glacier: An alpine glacier flowing downward through a preexisting stream valley.

These definitions and other glacier information found at:

<http://www.scienceclarified.com/landforms/Faults-to-Mountains/Glacial-Landforms-and-Features.html#b#ixzz1pjMByDOT>

Grading Rubric for Glacial Landscape Assignment

Criteria	Beginning (1 pt)	Proficient (3 pts)	Excellent (5 pts)
The landscape contains 5 glacial features drawn to an accuracy expected of grade and ability level	1-2 features are drawn	3-4 features are drawn	5 or more features are drawn
The landscape is colored, either for accuracy of colors or to color code different features to easily distinguish	Coloring less than half complete and/or sloppily done	Coloring is completed, or nearly completed, but isn't done cleanly	Coloring is completed and work is neat and accurate.
The formation of glacial landforms is explained accurately	Only a brief description is provided	A description of the landforms is provided, but could use more detail	A thorough description of all 5 landforms is given.

Glacial Landscape Grading Sheet

Student: _____

Criteria	Beginning (1 pt)	Proficient (3 pts)	Excellent (5 pts)
The landscape contains 5 glacial features drawn to an accuracy expected of grade and ability level			
The landscape is colored, either for accuracy of colors or to color code different features to easily distinguish			
The formation of glacial landforms is explained accurately			

Teacher Feedback:

In-Class Discussion Questions for Glacial Landforms

How do you define what a glacier is?

Where do glaciers come from and how do they form?

How do glaciers move? What drives their movement? How does this affect their shaping of the land?

What types of sediment can be carried along on the bottom of a glacier?

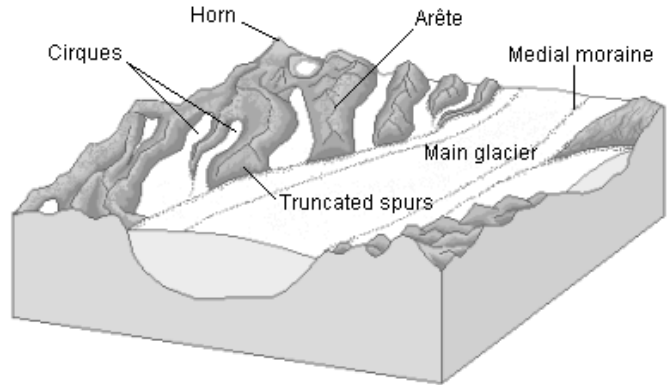
Which sizes of debris fall out first, and which fall out last?

When glaciers "retreat" what is actually happening? Are they actually moving backwards?

Name a glacial landform and explain how it forms.

GLACIERS: MOVERS AND SHAPERS

Directions: Using the Earth Science textbook pages 318 – 328 or use the web site: <http://nsidc.org/glaciers/story/> answer the following questions.



I. A Tour in the Life of a Glacier

1. Where can glaciers be found?

2. What types of climatic conditions are needed for glaciers to form? _____

3. What are the two main types of glaciers?

4. What is needed in order for glaciers to survive and grow?

II. The Growing Years

1. Put these steps of glacier formation into the correct order:

___ It begins to flow outwards and downwards under the pressure of its own weight.

___ The snow turns to ice.

___ Snow falls

___ Falling snow accumulates over time.

2. What is snow that survives one melt season called?

3. What causes snow and firn to be compressed into a mass of ice?

4. Snow that is compacted by overlying layers turns into _____

III. Moving Forward

1. What causes a glacier to begin moving? _____

2. In which direction to valley (alpine) glaciers move?

3. In which direction to continental glaciers move?

4. What are two ways that glaciers move? _____

5. What objects can a glacier move as it travels outward or downward? _____

6. What does the glacier do with these objects that it moves?

7. Name three depositional features created by glacier activity.

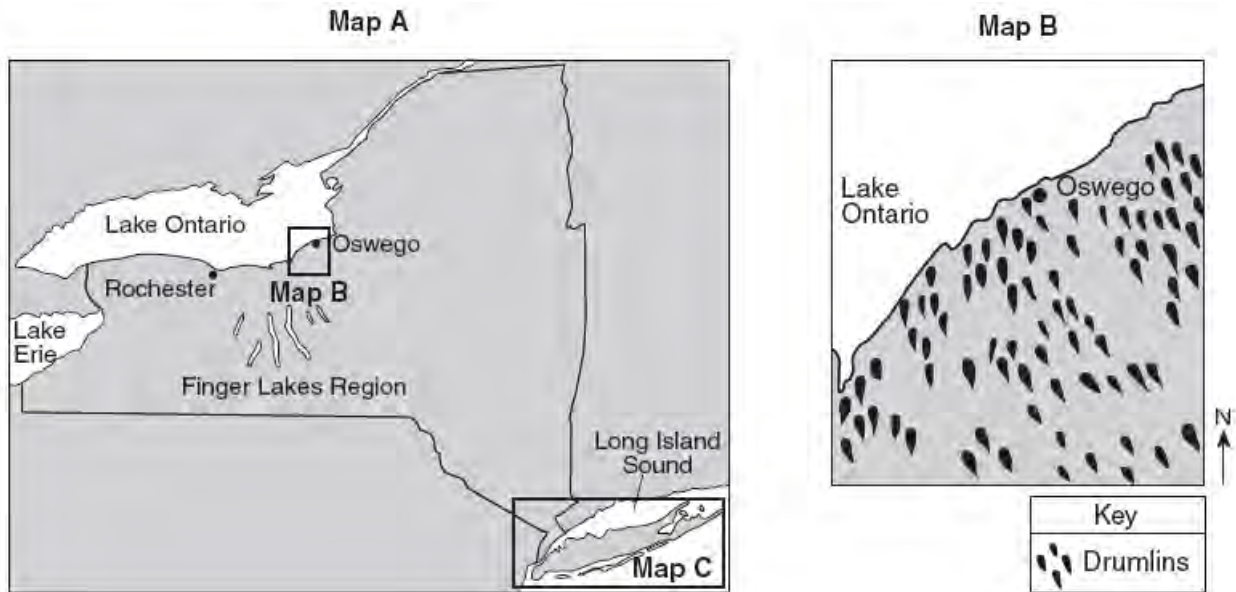
IV. In Retreat

1. When a glacier retreats, is it moving backwards? _____

2. How do glaciers retreat? _____
3. What causes a glacier to begin to melt? _____

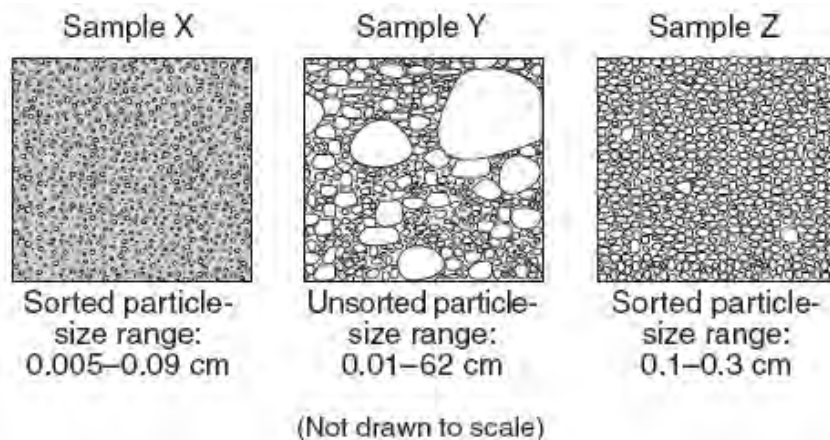
4. What are three landforms created by glaciers that have retreated or disappeared?

Base your answers to the following questions on map *A* and map *B* below, and on map *C* on the next page which show evidence that much of New York State was once covered by a glacial ice sheet. Map *A* shows the location of the Finger Lakes Region in New York State. The boxed areas on map *A* were enlarged to create maps *B* and *C*. Map *B* shows a portion of a drumlin field near Oswego, New York. Map *C* shows the locations of glacial moraines and outwash plains on Long Island, New York.

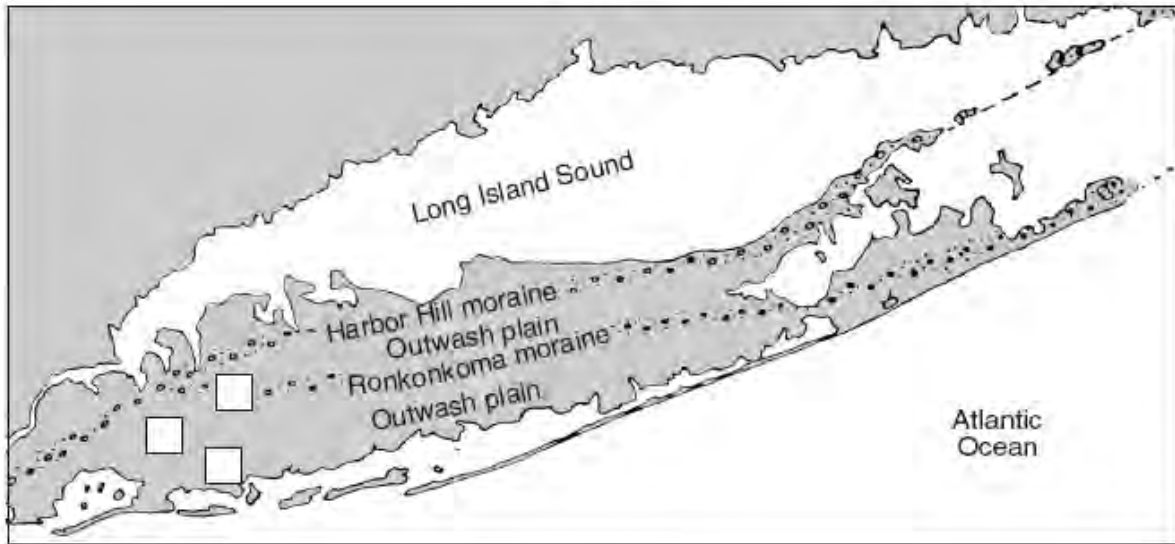


The arrangement of the drumlins on map *B* indicates that a large ice sheet advanced across New York State in which compass direction? _____

The diagrams below represent three sediment samples labeled *X*, *Y*, and *Z*. These samples were collected from three locations marked with empty boxes () on map *C*. Write the letter of *each* sample in the correct box on map *C* to indicate the location from which each sample was most likely collected.



Map C



The drawing below shows a glacial erratic found on the beach of the north shore of Long Island near the Harbor Hill moraine. This boulder is composed of one-billion-year-old gneiss. Which New York State landscape region has surface bedrock similar in age to this erratic?

ANSWER:



Explain how the effect of global warming on present-day continental glaciers could affect New York City and Long Island.

Glacial Landforms Homework Assignment

Name: _____

Date: _____

Try and test your knowledge by seeing if you can explain the answers to your parents, if they have the time!

What is a glacier? How is it formed? How does it move?

How do glaciers shape the earth underneath them?

Name two of your favorite glacial landforms and explain what about them you like.

Instructional Plan

Teacher Candidate: Ashley Schur **Date:** 1 March 2012

Cooperating Teacher: Amy Wellstandt

School District: Pullman

University Supervisor: Tariq Akmal

Unit/Subject: Science/Art

Instructional Plan Title/Focus: Gelatin Volcanoes

Grade: 6-8

School: Franklin

Learning Targets/Purpose/Previous Learning

a. **Instructional Plan Purpose:**

Students will learn how and why magma moves inside volcanoes by using gelatin models and colored water.

b. **State Learning Standards:**

Science, 2009

- 6-8 ES3A: Our understanding of Earth history is based on the assumption that processes we see today are similar to those that occurred in the past.

- 6-8 ES3D: Earth has been shaped by many natural catastrophes.

Art

EALR 4: The student makes connections within and across the arts (*dance, music, theatre, and visual arts*) to other disciplines, life, cultures, and work.

Component 4.2 Demonstrates and analyzes the connections among the arts and between the arts and other content areas.

GLE 4.2.M Applies and analyzes the skills, concepts, and relationships among and between the arts disciplines (dance, music, theatre, and visual arts) and other content areas at intermediate levels.

c. **Content Objectives:**

SWBAT construct transparent models of volcanic landforms from gelatin.

SWBAT model the movement of magma in a volcano using models.

d. **Language Objectives:**

SWBAT explain how and why magma moves inside volcanoes.

e. **Previous Learning Experiences:**

Students will first be taught a background lesson on volcanoes and magma.

Assessment Strategies

Content/Language Objectives	Assessment Strategies
SWBAT explain how and why magma moves inside volcanoes.	<p>Formative: While the volcano jello models are being chilled in preparation, students will be asked comprehensive and predictive questions about volcanos and the movement of magma.</p> <p>Summative: After completing the volcano and magma observation, students will be asked to write a reflection in their science journals about what occurred and whether their predictions were correct.</p>
SWBAT model the movement of magma in a volcano using jello and liquid models.	<p>Formative: Students will be observed by the teacher and table peers to ensure that they correctly complete the steps of injecting the “magma .”</p> <p>Summative: The teacher will observe and mark off on a checklist if students completed the task of creating magma flow down their volcanos.</p>

SWBAT construct transparent models of volcanic landforms from gelatin.	<p>Formative: Students will be observed during the construction of their volcanos to ensure they are correctly completing steps.</p> <p>Summative: Students must have their completed volcano jello molds checked off by the teacher before moving on the the experiment.</p>
--	---

Student Voice:

K-12 students will:	Student-based evidence to be collected (things produced by students: journals, work samples, projects, papers, etc.)	Description of how students will reflect on their learning
<i>Communicate the learning targets and their progress toward them.</i>	Science Journals	<p>In a journal entry, students will be asked to explain what they are constructing (the first learning target) and the steps they are taking in constructing.</p> <p>Students will then be asked to make predictions about how the magma will move down the volcano.</p>
<i>Communicate the relationship between the assessment and the learning targets.</i>	Science Journals	In a journal entry, students will explain how they modeled the flow of magma, what occurred, and what they learned.

Grouping of Students for Instruction

- The lesson will begin with whole group instruction to introduce the lesson and review background information. The teacher will also demonstrate to the whole class how to make the volcano jello molds. This whole group instruction will ensure that all students have received the same information and observed how to make a jello mold. Students will then work in heterogenous groups of 2-3 students to make the gelatin volcano molds. These smaller groups will hopefully enable every student to be engaged and involved in the construction process, and having students of mixed skills working together should help every group complete the construction in a timely fashion. The students will then work in table groups to perform the magma activity, so that each table is able to observe at least 2 different volcanoes for comparison or in case there are problems with one.

Learning/Teaching Experiences

- Introduction:** This lesson will be introduced with an overview of what the class has already read on the topic of volcanoes and magma. Since they are included in the lesson, be sure to review the key words: magma, dike, eruption, volcano, lava, and rift zone. Then tell the class that they are going to learn how and why magma moves inside of volcanoes by building jello volcanoes.
 - To connect with their lives, ask if anyone in the class has tasted jello or knows how to make it.

- Questions:** Identify at five questions that will drive student learning. Be sure that higher-level thinking questions are included and framed in open-ended ways that elicit students' curiosity, critical thinking, problem-solving, and build on their prior experiences and knowledge. These questions should show that you can scaffold students' learning.

- If we want to make the jello look like a volcano, what shapes should we make the jello?
- Can volcanoes be any other shapes?
- Where will we put the magma on our jello volcanoes?

-Do you think the magma will move and how so?

- These questions I will ask as a whole class discussion so as to elicit a variety of responses that may build off of each other.

3. Learning Activities:

Session One:

- 1) Begin the lesson as stated above in the introduction, then involve the students in a whole class discussion, using the above questions as prompts.
- 2) In a whole class demonstration, model to the students how to make a volcano jello mold step by step.
 - a) Prepare gelatin for the volcano model by mixing two cups of cool water with four packages of unflavored gelatin in a large bowl. Stir for 30 seconds.
 - b) Add six cups of boiling water and stir until gelatin is dissolved.
 - c) Transfer liquid into a 2-liter bowl, smaller bowls, or bread pans.
 - d) Refrigerate gelatin at least 3 hours or until set. Use this as your own example volcano.
- 3) Students will then be assigned one or two partners and will follow a direction sheet to make their own jello volcano models, as the teacher circles the room to monitor and assist struggling groups.
- 4) The models must then be chilled for at least 3 hours.
- 5) While chilling the volcanos, have students make an entry in their science journal for this experiment. Have students explain what they are constructing and why (what they want to discover). Then have students make predictions about what will happen when red water (Magma) is injected into the gelatin cast. What direction will it go? What shape will it take? Will it erupt through the surface of the gelatin? If so, where?

Session Two:

- 6) Have students prepare the “magma” by mixing water in a glass with enough red food coloring to make a very dark liquid.
- 7) Help students loosen the gelatin by dipping the water in a large bowl of hot water.
- 8) Have each group transfer the gelatin upside down to the center of the peg board and lift off the bowl. The gelatin cast will settle somewhat after being removed from the bowl. It should resemble a colorless to milky, shimmering volcano. There should be no cracks in the gelatin, but it's OK to proceed if one develops during unmolding.
- 9) Have partners will place their peg boards on two bricks at tables of 4-6 students. (In this manner, students will be able to see the experiment conducted with at least 2 different volcanoes for comparison.)
- 10) In front of the whole class, model to the students how to complete the following steps, give them each a direction sheet with the following steps and questions, then circle the room to assist and answer questions as the groups complete the process on their own.
- 11) Fill a syringe with red water. Remove air bubbles from the syringe by holding it upright and squirting out a small amount of water. Air tends to fracture the gelatin.
- 12) Insert the syringe through a hole in the peg board into the center of the gelatin cast. Inject the red water slowly, at a rate of about 20 cc/minute, and watch carefully.
- 13) Ask students to discuss how the experimental results compared with their predictions, then write this in their science journals.
- 14) Refill and insert the syringe as many times as possible. Compare magma migration each time. Are there differences in the direction the magma takes when the syringe is inserted in different parts of the gelatin cast? Tell students to describe and explain what they see.
- 15) Looking directly down on the gelatin cast, tell students to sketch the positions and shapes of the magma bodies in their notebook. Label the drawing "Map View."
- 16) Next have the teacher use a sharp knife to cut through the gelatin cast. Separate the pieces and examine the cut surfaces. Note the traces made by the magma bodies; these are similar to what we see in highway road cuts or cliff faces.

- 17) Have students sketch the positions and shapes of the magma bodies on a cut face. Label the drawing "Cross-sectional View."
- 18) Have students compare what they see in two dimensions on the cut face with what they see in three dimensions looking into the gelatin cast. Tell them to explain which view gives you more information. Why?
- 19) Answer how and why does magma move through volcanoes?

4. Instructional Considerations:

- a) Instructional procedures:
 - a. Steps 1-2: Whole group introduction and modeling.
 - b. Steps 4-5: small group building of volcanoes.
 - c. Step 5: Individual answering of questions and predictions.
 - d. Steps 6-9: Partner preparation for experiment.
 - e. Step 10: Teacher modeling to whole class.
 - f. Steps 11-19 and closure: partner completion of experiment, individual responses in journals, and teacher observation/assistance.
- b) Multiple means of access:

The teacher will first present the lesson, modeling, and discussion as a whole group, so as to allow the sharing and building of ideas from many students. Then later the teacher will circle the room and promote cooperative learning in order to reach students of different learning styles. The journal entries will be done individually, but students will be able to collaborate with their partners for discussion and completing the assignment. The journal entry will be done individually so that the teacher can assess each individual student's understanding of the learning targets. Throughout the whole lesson, students will have the opportunity to work cooperatively to share ideas, clear up any misunderstandings, and ask questions. The building of the volcanoes will be done at their tables which are heterogeneous and mixed skill grouped.
- c) Multiple means of engagement:

The students will be engaged through multiple means in order to reach students of different learning styles. Students will be engaged through whole class discussion in which the students are given direct verbal and visual instruction/examples from the teacher, then are engaged through cooperative learning when they are able to interact and brainstorm with each other.
- d) Multiple means of expression
Students will be able to show their learning in several ways in order to address the different learning styles of students. These different means of expression include adding to ideas and answering questions during discussion, answering questions that the teacher poses individually, writing reflections individually in journals, discussion with partners during the experiment.
- d) Methods of differentiation,
First of all, students will be grouped, be engaged and show their learning through multiple methods. Along with this, the areas and people that the students work with will be differentiated. The students will first have instruction and discussion as a whole class facing the white board. Then when students work on their own volcanoes, they will be at their desks which are arranged in groups that facilitate peer collaboration. The desks are arranged in heterogeneous groups so that there are a variety of learning abilities and styles at each to help differentiate discussions and collaboration, and especially benefits students who struggle for various reasons. The teacher will also walk around the classroom, providing extra help to students in need.
- e) Remedial activities:
Students will be engaged in remediation as they contribute to discussion, answer reflection questions, and assess their original predictions. The teacher will also ask further questions to

individuals to test their progress and knowledge, and assist students who appear to not be meeting the objectives.

5. **Extension activities:**
Students who finish early can observe other tables completing their experiments who have used different sized/shaped pans, to see how the magma flow is affected.
6. **Closure:**
Bring an end to the lesson as students are completing their experiments and drawings by having a whole class discussion in which you can ask different groups for their results.
Ask students how the magma moved and why.
7. **Independent Practice:** Students will be asked to share their results with other groups at their table for comparison. If possible, the teacher should take photographs of the student's completed volcanoes for the students to take home and share with their families.

Instructional Materials, Resources, and Technology

Copy of directions and materials is attached.

Additional Requirements

- **Integration with Other Content Areas:**
- Science and art are both integral parts of this lesson
- **Acknowledgements:**
- Instructional Plan adapted from the website:

http://www.spacegrant.hawaii.edu/class_acts/VolcanologyDoc.html

Procedure

1. Prepare gelatin for the volcano model by mixing two cups of cool water with four packages of unflavored gelatin in a large bowl. Stir for 30 seconds. Then add six cups of boiling water and stir until gelatin is dissolved. Transfer mixture to a 2-liter bowl, smaller bowls, or bread pans. Refrigerate gelatin at least three hours or until set.
2. Prepare "magma" by mixing water in a glass with enough red food coloring to make a very dark liquid.
3. Loosen the gelatin by dipping the bowl briefly in a larger bowl of hot water.
4. Transfer the gelatin upsidedown to the center of the peg board and lift off the bowl. The gelatin cast will settle somewhat after being removed from the bowl. It should resemble a colorless to milky, shimmering volcano. There should be no cracks in the gelatin, but it's OK to proceed if one develops during unmolding.
5. Place the peg board on top of the two bricks.
6. Fill a syringe with red water. Remove air bubbles from the syringe by holding it upright and squirting out a small amount of water. Air tends to fracture the gelatin.
7. Predict what will happen when red water is injected into the gelatin cast. What direction will it go? What shape will it take? Will it erupt through the surface of the gelatin? If so, where?
8. Insert the syringe through a hole in the peg board into the center of the gelatin cast. Inject the red water slowly, at a rate of about 20 cc/minute, and watch carefully.
9. Describe how the experimental results compare with your predictions.
- 10.

- Refill and insert the syringe as many times as possible. Compare magma migration each time. Are there differences in the direction the magma takes when the syringe is inserted in different parts of the gelatin cast? Describe and explain what you see.
11. Looking directly down on the gelatin cast, sketch the positions and shapes of the magma bodies. Label your drawing "Map View."
 12. Use a sharp knife to cut through the gelatin cast. Separate the pieces and examine the cut surfaces. Note the traces made by the magma bodies; these are similar to what we see in highway road cuts or cliff faces.
 13. Sketch the positions and shapes of the magma bodies on a cut face. Label your drawing "Cross-sectional View."
 14. Compare what you see in two dimensions on the cut face with what you see in three dimensions looking into the gelatin cast. Which view gives you more information. Why?
 15. How and why does magma move through volcanoes?

Extension

1. Repeat the experiment with an elongated model such as a bread pan. Before injecting the magma, try to predict what will happen. What effect does gelatin shape have on magma movement?

Key Words

magma

dike

eruption

volcano

lava

rift zone

Materials

Unflavored gelatin, 28 gm (one-ounce) box containing four packages

Spoon

Bowls or bread pans, either one 2-liter (or 2-quart) capacity, or smaller sizes

Red food coloring, to mix with water in a glass to make "magma"

Syringe for injecting magma, best to use a plastic variety found at pet stores for feeding birds

Peg board, 40 x 60 cm, with 5-mm-diameter holes spaced 2.5 cm apart. Or you can use a large, disposable aluminum pan that you've punched holes into.

Two bricks, 30 cm high

Large knife to cut through the gelatin model

Tray, for collecting drips

Rubber gloves (optional) for protecting hands from food coloring

Instructional Plan

Revised 3/2/2011

Teacher Candidate: _____ Scott Gagnon _____ **Date:** Feb. 29th, 2012 _____
Cooperating Teacher: _____ **Grade:** 5th _____
School District: Colfax _____ **School:** Jennings Elementary _____
University Supervisor: Lori White _____
Unit/Subject: Science and Art _____
Instructional Plan Title/Focus: Tsunamis _____

Learning Targets/Purpose/Previous Learning

Instructional Plan Purpose: The objective of this lesson is to get students to begin thinking about how tsunamis occur and the process by which they helped shape the earth. The students will be able to understand tsunamis are rare occurring natural disasters that helped shape the coastlines and landforms that are now present on earth.

State Learning Standards:

(Science) Landforms are created by processes that build up structures and processes that break down and carry away material through *erosion* and *weathering*.

(Art) 4.2.E Demonstrates and applies the skills, concepts, and vocabulary common among and between the arts disciplines (dance, music, theatre, and visual arts) and other content areas at beginning levels.

a. Content Objectives:

- SWBAT use their artistic skills to draw their observations (Art Standard)
- SWBAT understand that tsunamis are natural disasters that helped shape the world we know today. (Science)
- SWBAT relate science and art through drawing a diagram of a Tsunami (Science & Art)

b. Language Objectives:

- Tsunami
- Tidal Wave
- Crest
- Trough
- Surge
- Fjord

c. Previous Learning Experiences:

Assessment Strategies

Content/Language Objectives	Assessment Strategies
SWBAT use their artistic skills to draw their observations	Formative: Students will be assessed on their ability to accurately draw their perception of a tsunami and label all the separate parts that they will be learning about throughout the lesson. Summative:
SWBAT understand that tsunamis are natural disasters that helped shape the world we know today.	Formative: Summative: To get a better idea if the students are understanding what tsunamis are and how they are created, before leaving the class on that day they will have an exit slip. On this exit slip the students will demonstrate what they learned about tsunamis
SWBAT relate science and art through a	Formative: The formative assessment will be the process

construction of an art project.	by which the students use, through modeling from the teacher, to draw a well labeled and drawn diagram of a tsunami.
SWBAT define Tsunami, tidal wave, crest, trough, surge, fjord.	Formative: In order to make sure the students are understanding what they learn about tsunamis they will be given an assessment following the lesson that will help students to match the word to the correct definition.

Student Voice: Select two components of student voice and identify how students will reflect and/or communicate on their learning or progress toward meeting the goals. You may eliminate the components not being addressed.

K-12 students will:	Student-based evidence to be collected (things produced by students: journals, work samples, projects, papers, etc.)	Description of how students will reflect on their learning
<i>1. Communicate the learning targets and their progress toward them.</i>	Tsunami Diagram	After learning about tsunamis and how they helped shape the earth students will hold and experiment and at the end draw and label their own tsunamis on a piece of paper.
<i>2. Use a variety of learning strategies and explain the effectiveness of their choice.</i>	Exit Slip	By having students complete an exit slip on their own sheet of paper before leaving for the day you can gauge whether or not your students understand what you are teaching. From the exit slip then you can judge whether or not you need to go back and reteach the content again.

Grouping of Students for Instruction

- In the classroom the students will be chosen and placed in groups where they will be discussing the questions that you will be asking them. Students will be placed in groups with a variety of learning styles and abilities, that way they will be able to use student discourse to expand their learning. In order to group the students you will have to sit them all down in the reading area and number them off from 1-5 and tell them to remember their number and not go anywhere until you say so. After setting up the stations with labeled numbers at each table you will then have the students go, according to their number, to their designated number.

Learning/Teaching Experiences

- Introduction:** To start the lesson you can bring up the popular video taken in 2004 when the Tsunami hit in Asia. You will have to get approved to get on Youtube to find the video.
<http://www.youtube.com/watch?v=RDOuwMj7Xzo>

2. **Questions:** Identify at five questions that will drive student learning. Be sure that higher-level thinking questions are included and framed in open-ended ways that elicit students' curiosity, critical thinking, problem-solving, and build on their prior experiences and knowledge. These questions should show that you can scaffold students' learning.
 - i. Why are tsunamis so dangerous?
 - ii. How do you think tsunamis helped shape the Earth we know today?
 - iii. What types of landforms can be made by a tsunami hitting a coastline?
 - iv. How are tsunamis started?
 - v. What are the signs a tsunami is coming?
2. In order to get our students thinking about what we are learning about tsunamis we will actively ask students these questions as a whole and some as groups to have them openly discuss what their thoughts are about these subjects.
3. **Learning Activities:**
4. Begin the activity by showing this video <http://www.youtube.com/watch?v=RDOuwMj7Xzo>
5. Review what students know about tsunamis. Discuss the causes of a tsunami: undersea earthquakes or landslides, volcanic eruptions, or the impact of a large meteorite in the sea.
6. Tell students that a tsunami can also occur in a fjord, a narrow ocean inlet surrounded by cliffs. Portions of icebergs breaking, or calving, into the water can cause a fjord tsunami.
7. Tell students they will perform an experiment to discover how calving icebergs can create different wave patterns in the ocean and in a fjord. Before the experiment, students should write a hypothesis about how wave patterns might differ in the two environments.
8. Divide the class into groups and distribute materials to each group. Ask students how they can use these materials to test their hypotheses. Remind them that water depth should not be a factor in their experiments; they should consider the widths of water in an open ocean and in a fjord. (The wider plastic container represents the ocean, the narrow container represents a fjord, and the small object represents the calving iceberg.)
9. Have students fill each container with water, using the ruler to make sure that the depth is the same in both containers.
10. Next, students will drop an object from the same height into each container and observe the resulting wave patterns. Have students record their results.
11. Hold a class discussion about the experiment. Ask students how they know that the difference in wave pattern was not due to differences in water depth. Have students hypothesize in which environment a calving iceberg might cause a greater ocean surge.
12. Have each student draw a diagram showing the results of the experiment. A brief paragraph should describe each diagram.
13. Hold a discussion to compare the effects of fjord tsunamis as a result of a calving iceberg and ocean tsunamis that are the result of an underwater earthquake.
 - a) Multiple means of access (list ways the teacher will present the materials)
 - Reading definitions
 - Presenting pictures for students

- Modeling the construction of the piece
 - Asking questions
- b) Multiple means of engagement (list ways the students will participate in the learning)
- Placing pictures on the charts
 - Thumbs up/ thumbs down
 - Creating Tsunami Diagram
- c) Multiple means of expression (list ways the students can show their learning)
- Tsunami Diagram
 - Chart with pictures
- d) Methods of differentiation, (list accommodation or differentiation strategies)
- To teach to all different types of learning we will have pictures and words to define all the words that we are defining in the lesson.
- e) Language learning objectives: (Where will you integrate these?)
- The teacher will integrate the language objectives by holding a class discussion to define all of these words. They will also be given a summative assessment at the end where each of the students will have to label a blank diagram of a tsunami.
- f) Cultural responsive pedagogy: (List the cultural connections)
- g) Remedial activities: (Do you have a review sheet, scaffolding worksheet or plan?)
- Like stated above I will have students label a blank picture of a tsunami to test and see if they are understanding the content.
- h) Extension activities: (What will students who finish early do?)
- Students that finish early can draw another natural disaster that they think helped shape the world.
1. **Closure:** At the end of the activity you can replay the video to the students and see if they can identify or point out some parts of a tsunami or signs that one is coming etc.
<http://www.youtube.com/watch?v=RD0uwMj7Xzo>
14. Describe how you will connect again to students' lives and to future lessons.
- Students will now be aware of this other form of natural disaster and reiterate that we do live near the ocean and in fact just last year there were threats of one hitting our coastline here in Washington after the 8.9 earthquake in Japan. Because we live where we do tsunamis are a general threat to our lives everyday.
15. **Independent Practice:**
- Have students when they go to the beach to be on the lookout for things that make have been shaped by a tsunami or tidal wave. Also have them look for signs that tell them where to go if there is ever a threat of a tsunami.

- a. Possible Family Interaction (Identify at least one way in which you might involve students' families in this instructional plan.)
- Have the students take their pictures home to the parents and have them test their parents on the facts of tsunamis.

Instructional Materials, Resources, and Technology

Attach a copy of ALL materials the teacher and students will use during the lesson; e.g., handouts, questions to answer, overheads, powerpoint slides, worksheets.

Additional Requirements

- **Integration with Other Content Areas:**
 - Art: students will illustrate their own tsunamis
 - Math: Measuring and recording calculations
- **Acknowledgements:**

- <http://weather.about.com/gi/o.htm?zi=1/XJ&zTi=1&sdn=weather&cdn=education&tm=236&f=11&tt=13&bt=0&bts=0&zu=http%3A//www.discoveryeducation.com/teachers/free-lesson-plans/tsunami.cfm>
- <http://www.youtube.com/watch?v=RDOuwMj7Xzo>

The Pacific Northwest and Salmon Unit

Grade 4

By:
Colleen Arnold, Hayley Pearce, Rachel Perry,
Ben Wagner, Nicole Weible, and Mikaela Yeomans



Pacific Northwest and Salmon Unit
Grade 4
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Unit Description:

This unit is a comprehensive look at the region of the Pacific Northwest and some of its main inhabitants, salmon. The lessons touch upon the culture, science, geography, and history of this area. The lessons were designed to give students a basic understanding of the environments in which salmon live and their life journey through different types of art. Enjoy!

**“Humankind has not woven the web of life.
We are but on thread within it.
Whatever we do to the web,
We do to ourselves.
All things are bound together.
All things connect.”
-Chief Seattle**

Cover Photo Acknowledgement:

<http://www.washington.edu/uwired/outreach/cspn/Website/Images/NW%20History%20Course/Lesson%202/Salmon%20Art.jpg>

Instructional Plan

Revised 3/2/2011

Teacher Candidate: Benjamin Wagner **Date:** 03/01/2012
Cooperating Teacher: Marie Wallace **Grade:** 3rd
School District: Pullman **School:** Jefferson
University Supervisor: Pauline Sameshima
Unit/Subject: Art
Instructional Plan Title/Focus: Salmon life cycle

Learning Targets/Purpose/Previous Learning

1. Instructional Plan Purpose

- a. This instructional plan will help students develop their conceptual understanding of the salmon life cycle by showing them an instructional video that covers each stage of the life cycle. They will also create flash cards and fill out a worksheet to match pictures of the salmon with the stage they are in. The final activity is to divide the classroom into 6 groups and assign each group a life cycle to make sculptures of to display in the classroom.

2. State Learning Standards:

- a. EALR 4- Life Science- Biological evolution
 - i. 2-3 LS3B- the offspring of a plant or animal closely resembles its parents, but close inspection reveals differences.
- b. EALR 4- Life science- Structures and functions of living organisms- life cycles
 - i. 2-3 LS1B- animals have life cycles that include being born; developing into juveniles, adolescents, then adults; reproducing (which begins a new cycle); and eventually dying. The details of the life cycle are different for different animals.
- c. EALR 1- Visual Arts- The student understands and applies arts knowledge and skills in dance, music, theatre, and visual arts.
 - i. Component 1.2- Develops visual arts skills and techniques.
 1. GLE 1.2.1- Understands and applies the skills and techniques of visual arts to create original works of art in two and/or three dimensions.
- d. EALR 2- Visual Arts-The student uses the artistic processes of creating, performing/presenting, and responding to demonstrate thinking skills in dance, music, theatre, and visual arts.
 - i. Component 2.2- Applies a performance and/or presentation process to visual arts. (Identifies, selects, analyzes, interprets, practice, revises, adjusts, refines, presents, exhibits, produces, reflects, self-evaluates)

1. GLE 2.2.1- Applies a performance and/or presentation process to visual arts.
- e. EALR 4- Visual Arts- The student makes connection within and across the arts (dance, music, theatre, and visual arts) to other disciplines, life, cultures, and work.
 - i. Component 4.2- Demonstrates and analyzes the connections among the arts and between the arts and other content areas.
 1. GLE 4.2.1- Remembers and understand skills, concepts, and vocabulary that the discipline of visual arts has in common with other content areas.
3. **Content Objectives:**
 - a. SWBAT verbally describe the life cycle of salmon in order (Component 2-3 LS1B).
 - b. SWBAT match pictures of salmon throughout the life cycle and match them with each stage of the life cycle (Component 2-3 LS3B).
 - c. SWBAT make sculptures of salmon in each cycle of life (Component 2.1).
4. **Language Objectives:**
 - a. SWBAT use terms such as fry, alevin, smolt, and hatching to describe this life cycle (2-3 LS1B).
5. **Previous Learning Experiences:**

Assessment Strategies

Content Objectives	Assessment Strategies
Verbally describe the life cycle of salmon in order.	Formative: Poll the class about one thing they found interesting after each cycle is discussed and at the conclusion of the video. Summative: Have students present their sculptures to the class and describe what happens during their stage.
Match pictures of the salmon throughout the life cycle and match them with each stage of the life cycle.	Formative: Walk around and check there progress while working on the worksheet. Summative: Give students a worksheet with life cycles out of order and with key terms missing for them to fill out and put in the correct order.
Make sculptures of salmon in each life cycle.	Formative: Walk around and observe them making their pieces. Summative: Have the students present their

	sculptures to the class and describe what happens during their stage.
Use terms such as hatching, fry, alevin, and smolt to describe the life cycle.	Formative: Listen to their presentations. Summative: The life cycle worksheet that the students will be filling out.

Student Voice:

K-12 students will:	Student-based evidence to be collected (things produced by students: journals, work samples, projects, papers, etc.)	Description of how students will reflect on their learning
<i>1. Articulate how proper and efficient use of technology enhances learning.(5.2)</i>	Good scores on the worksheet after watching the video	Students can reflect on their learning by looking at what they got on their worksheet
<i>2. Communicate the development and maintenance of a learning community.</i>	A group of sculptures from each table	Students will reflect on knowledge by having the correct stage and being able to describe it

Grouping of Students for Instruction

Students will be put into 6 groups with each group representing one stage in the life cycle.

Learning/Teaching Experiences

1. Introduction:

- a. I will introduce this activity by asking the kids some of the questions that I formulated above. After we have this conversation I will explain the activities that they are going to do over the next two days. I will explain that they will be able to see some of the beginning stages of the cycle when we visit a salmon hatchery in a few weeks.

2. Questions:

- a. Briefly explain how you will involve students actively in responding to these questions.
- b. How many of you have been to a fish hatchery? What did you see there?
- c. Can anybody explain the different kinds of salmon you could find in Washington?
- d. Can you guys think of any other animals that go through a similar life cycle?
- e. Why do you think the salmon die after they have spawned?
- f. What have you learned so far that is interesting?

3. Learning Activities:

- a. I do/you watch
 - i. “How many of you have been to a fish hatchery? What did you see there?”
 - ii. “Today we are going to begin a unit on the life cycle of salmon.”
 - iii. “We are going to start with a video about the different stages of the salmon life cycle and then move into some activities that will help you get to learn it better.”
 - iv. Video plays
- b. I do/you help
 - i. “Can anybody tell me some of the different kinds of salmon found in Washington?”
 - ii. “Next, we are going to fill out a worksheet that matches a description of the stage with a picture of what a salmon would look like at that stage.”
- c. You do/I help
 - i. Students quietly work through the worksheet.
 - ii. “Tomorrow we are going to be grouping up in to 6 tables. We will be assigned a stage and each person will sculpt what a salmon would look like during their stage. To wrap up the day, you will be presenting your stage for the rest of the class.”
 - iii. Next day: students make sculptures and teacher puts them up like a school of fish going through the life cycle together.

4. Instructional Considerations:

- a. Instructional procedures:
 - i. Teacher will introduce unit and more specifically, the lesson for the day (audio).
 - ii. Teacher will ask students questions about past experiences (audio)
 - iii. Teacher will play video for students (audio/visual).
 - iv. Teacher will go over the worksheet (audio/visual).
 - v. Teacher will give students time to finish worksheet (visual).
 - vi. Teacher will provide students will clay to make sculptures (visual/haptic).
 - vii. Teacher will grade worksheets (visual).
- b. Multiple means of access:
 - i. Teacher will present topic through class discussion, verbal cues, and the video.
 - ii. Teacher will present the assignment visually.
 - iii. Teacher will present sculpture by modeling their own and verbal instruction.

- c. Multiple means of engagement:
 - i. Students will participate in class discussion.
 - ii. Students will complete the worksheet.
 - iii. Students will work as a group to make a set of sculptures.
 - iv. Students will present their work to the rest of the class.
- d. Multiple means of expression:
 - i. Students will show their learning by completion of the worksheet.
 - ii. Students will show learning by correctly representing their life cycle with the clay model.
 - iii. Students will show learning by being knowledgeable when presenting to the class.
- e. Methods of differentiation:
 - i. Students who may not be from the northwest states might not know what salmon are so they could read a children's book about them to be more familiar with what they are and their history around the Pacific Northwest. This would be done after the teacher introduces the unit and before they begin studying the life cycle.
- f. Language learning objectives:
 - i. Language objectives are woven into this lesson by having students use them on the worksheet as well as when presenting their groups sculptures
- g. Cultural responsive pedagogy:
 - i. This address the cultural pedagogy by familiarizing students with a resource that was pivotal in the establishment of the Pacific Northwest.
- h. Remedial activities:
 - i. Students will show learning by presenting their sculptures and life cycle stage to the class.
- 5. Extension activities:
 - a. Students who finish early could make flash card out of their worksheet or begin working on another sculpture.
- 6. **Closure:**
 - a. Students can show what they learned by going through the cycle as a class and either pointing to the correct description/picture or by showing off their sculpture.
 - b. What did you learn today?
 - c. Anything else you want to learn more about?
 - d. By explaining that this is one of the most unique and interesting life cycles in nature. This also gives them something to think about whenever they eat salmon or go by a hatchery.

7. Independent Practice:

- a. Students could go to a different fish hatchery or study about steelhead and kokanee.

8. Possible Family Interaction

- a. If any of the students have avid fishers for parents then maybe they could bring in a salmon for the students to look at.

9. Instructional Materials, Resources, and Technology

- a. See worksheets at end of lesson.
 - i. Materials
 - 1. Scissors
 - 2. Clay
 - 3. Glue

10. Additional Requirements

11. Integration with Other Content Areas:

- a. You could integrate this into art by having them draw pictures of different species of salmon.

12. Acknowledgements:

- a. This instructional plan was adapted from one developed by Oregon State University students and has been changed to meet the requirements by Washington State University.

The Life of

(Your first name)

the Salmon

During spawning, my parents were careful to make sure I had plenty of cool water flowing over me. Then they gently covered me with gravel to keep me from washing away.

After hatching, I had to work my way up through the gravel nest by following the light of the moon. I emerged from the nest at night to avoid predators. Once I was out, I swam for shelter right away. I don't need to worry about food for awhile because I can survive on my yolk sack for several weeks.

Oh no, my yolk sack has run out! I'd better find some food quickly or I'll starve. It's a good thing I have this camouflage pattern on my skin so that predators won't see me while I look for food. I'm able to eat insects that feed on bits of flesh left behind by the rotting adult salmon. Disgusting!

I've become larger and less vulnerable to predators. I can eat bigger insects and small fish. My skin has started to become brighter and more suited for ocean life, so I start to make my journey downstream.

Once I reach the ocean, I find a lot of food. I follow other salmon to feeding grounds way out in the Pacific Ocean. I spend the next several years hogging out on all different kinds of food. I'll eat just about anything I can fit in my mouth.

After I've grown very large, I use my nose to find my way back to the stream where I was born. My body begins to change shape, and my snout becomes long and hooked.

Eventually, I make it back to the same part of the stream where I hatched, and I spawn.

The journey was very difficult, and I have worn myself out dodging fishing nets, jumping waterfalls, and sliding over rocks.

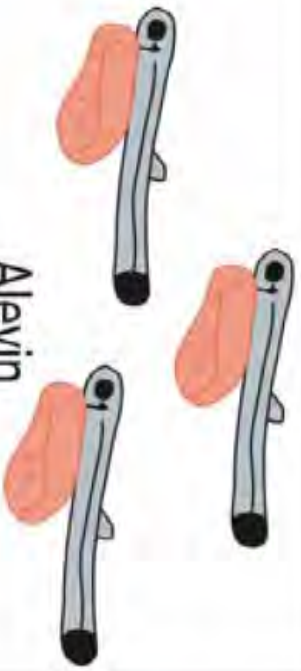
I have become so tired out that I die. However, my body is not wasted. It becomes food for future generations of salmon and other river creatures.



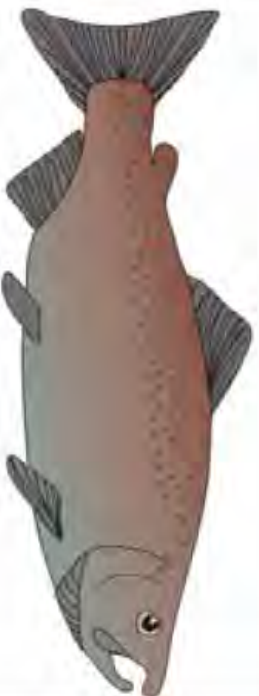
Adult Fish



Smolt



Alevin



Spawning Adult



Salmon Fry



Eggs

Instructional Plan

Revised 3/2/2011

Teacher Candidate: Rachael Perry **Date:** March 8, 2012
Cooperating Teacher: Pauline Sameshima **Grade:** 3
School District: Pullman **School:** Franklin Elementary
University Supervisor: Lori White
Unit/Subject: Pacific Northwest
Instructional Plan Title/Focus: Native American Dance

Learning Targets/Purpose/Previous Learning

A. Instructional Plan Purpose:

This lesson will help students learn how to write in order to explain and inform an audience of a specific place. Students will learn how to revise and edit their work in order to make their writing suitable for publishing and presentation to an audience.

This instructional plan develops students conceptual understanding of content goals by educating them on the history of Washington State.

B. State Learning Standards:

4.2.2 Understands how contributions made by various cultural groups have shaped the history of the community and world.

Explains the technology, art, and music contributions made by the Southwest native tribes and the Eastern Woodland native tribes.

1.3.1 Understands, applies, and analyzes styles of dance of various cultures and times.

2.2.1 Applies a performance and/or presentation process to dance.

C. Content Objectives:

Students will be able to explain how various cultural groups have shaped the history of the community and world.

Students will be able to analyze styles of dance of various cultures and times.

Students will be able to perform a Native American dance.

D. Language Objectives: What grammar, language skills, language functions, and task language should students know or be able to use after instruction? Use SWBAT format with an action verb that matches the cognitive domain.

Students will be able to define the terms tribe, Native American, culture, and performance.

E. Previous Learning Experiences:

Students will have a back ground on the history of Native Americans in Washington State.

They will know that the British were not actually the first people to discover America and will know that Native Americans are really the first people to live in the United States.

Assessment Strategies

Attach questions, worksheets, tests or any additional documentation related to your assessment strategies. Also attach appropriate marking rubrics, criteria lists, expectations, answer keys, etc.

- **Formative:** measures process/progress toward mastery of target(s)
- **Summative:** measures outcomes/achievement of target(s)

Content/Language Objectives	Assessment Strategies
Students will be able to explain	Formative: Teacher will keep track on a checklist of

how various cultural groups have shaped the history of the community and world.	students who participate in group discussion. Summative: Students will write a paragraph at the end of the lesson reflecting on what they have learned.
Students will be able to analyze styles of dance of various cultures and times.	Formative: Teacher will keep track on a checklist of students who are participating and trying their best while learning the dance. Summative: Students will perform in small groups for the class
Students will be able to perform a Native American dance.	Formative: Teacher will keep track on a checklist of students who are participating and trying their best while learning the dance. Summative: Students will perform in small groups for the class

Student Voice: Select two components of student voice and identify how students will reflect and/or communicate on their learning or progress toward meeting the goals. You may eliminate the components not being addressed.

K-12 students will:	Student-based evidence to be collected (things produced by students: journals, work samples, projects, papers, etc.)	Description of how students will reflect on their learning
3. <i>Communicate the learning targets and their progress toward them.</i>	Paragraph at the end of the lesson reflecting on what they have learned.	Paragraph at the end of the lesson reflecting on what they have learned.
4. <i>Review their performance and set personal learning goals based on those assessments.</i>	Students will work in groups to learn the dance and will be able to evaluate their progress and set goals for improvement before their performance	Students will write a reflective paragraph at the end of the lesson to discuss what they learned and how they reached their goals.

Grouping of Students for Instruction

Students will learn the dance all together. Then, divided into groups of 3-5 of their choosing for their performances.

Learning/Teaching Experiences

1. **Introduction:** I will say, "Now that we know a little bit about the Native Americans, we are going to learn a dance to understand a little bit more about their culture."

Questions: What do we already know about Native Americans? What do you already know about customs? Do you have any customs? Why do you think it is important that we learn about them? What other questions do you have?

- Students will discuss in groups.

2. Learning Activities:

1. Students will discuss in groups the questions above.
2. Students will go into the gym and spread out so they have enough room to learn.
3. The teacher will show the entire routine to the students, then break it down into smaller parts.
4. About 15-20 minutes will be spent teaching the dance.
5. Students will get 10 minutes to work with partners to go over parts of the dance they are having difficulty with.
6. The entire class will practice the dance all together two more times.
7. The students will pick groups of 3-5. One group at a time will perform.

8. Before they perform, the teacher will remind the students how to be a respectful audience by not talking, being attentive, and clapping at the end of a performance.
 9. The students will then go back to class to write a reflection on their experience and what they learned.
3. **Instructional Considerations:**
- a) Instructional procedures:
Whole group instruction, small group discussion, whole group instruction, small group practice, whole group practice, small group performance, individual reflection
 - b) Multiple means of access (list ways the teacher will present the materials)
Powerpoints and physical instruction
 - c) Multiple means of engagement (list ways the students will participate in the learning)
Engaging in group discussion and through movement
 - d) Multiple means of expression (list ways the students can show their learning)
Learning will be shown through their reflection and their performance.
 - d) Methods of differentiation, (list accommodation or differentiation strategies)
For students who are shy, they will be placed in larger groups while performing. For those who are extremely shy, I will determine on an as-needed basis whether or not they should be allowed to opt out of the performance without losing any points.
 - e) Language learning objectives: (Where will you integrate these?)
I will integrate the learning objective throughout the instruction.
 - f) Cultural responsive pedagogy: (List the cultural connections)
Students will be learning about the culture of the Native Americans which will most likely be different than what the majority of students' culture is.
 - g) Remedial activities: (Do you have a review sheet, scaffolding worksheet or plan?)
Checklist to keep track of who participates in discussions.
 - h) Extension activities: (What will students who finish early do?)
After each group performs they will watch the remainder of the groups perform
4. **Closure:** Explain how you are going to bring closure to the lesson.
1. Explain how students will share what they have learned in the lesson. Identify 2 questions that you can ask students to begin the conversation.
Students will reflect on their learning experience. What did you learn about the culture of Native Americans? What was your favorite part of this activity?
 2. Describe how you will connect again to students' lives and to future lessons.
When similar topics are discussed, I will relate them back to this lesson.
Also, throughout the rest of the Pacific Northwest unit, lessons will be tied into their learning from this lesson.
5. **Independent Practice:** Describe how students will extend their experiences with the content and demonstrate understanding beyond the scope of the lesson outside the class.
- a. Possible Family Interaction (Identify at least one way in which you might involve students' families in this instructional plan.)
 - Parents will be invited to watch their students perform

Instructional Materials, Resources, and Technology

Checklists and instructions for reflection and performance are attached.

Additional Requirements

- **Integration with Other Content Areas:** Native American History and the Arts
- **Acknowledgements:**
Instructional plan created by Rachael Perry. 2012.

Expectations for Reflection Paragraph

- Paragraph must be at least five sentences long. (1 points)
- Must include information on what the student learned. (3 points)
- Must include information on what the student liked about the lesson. (3 points)
- Must include information about what the student disliked about the lesson. (3 points)
- Must have minimal spelling, punctuation, and grammar errors. (1/4 point taken off for each mistake)
- Total 10 points

Expectations for Dance Performance

- Students will participate the ENTIRE time.
- Students will show proper etiquette while other students are performing. (i.e. remaining quiet during the performance and clapping after)
- Students will show their best effort to learn and perform the dance.
- Total 5 points (student will be given full points as long as they participate)

Instructional Plan

Revised 3/2/2011

Teacher Candidate: Hayley Pearce **Date:** March 22, 2012
Cooperating Teacher: Niki Wolf **Grade:** 4th
School District: Pullman School District **School:** Jefferson Elementary School
University Supervisor: Pauline Sameshima
Unit/Subject: Social Studies, Art
Instructional Plan Title/Focus: Migration Paths of Pacific Salmon

Learning Targets/Purpose/Previous Learning

F. **Instructional Plan Purpose:** The purpose of this lesson plan is to introduce students to Pacific salmon migratory paths, and how those migrations relate to the salmon life cycle. Students will learn how salmon return to their birthplace to spawn and how the life cycle then repeats.

G. State Learning Standards:

- a. Social Studies, grade 4
 - i. EALR 3: Geography: The student uses a spatial perspective to make reasoned decisions by applying the concepts of location, region, and movement and demonstrating knowledge of how geographic features and human cultures impact environments.
 1. Component 3.1: Understands the physical characteristics, cultural characteristics, and location of places, regions, and spatial patterns on the Earth's surface.
 - a. GLE 3.1.1: Constructs and uses maps to explain the movement of people.
- b. The Arts, Theatre, grade 4
 - i. EALR 1: The student understands and applies arts knowledge and skills in dance, music, theatre, and visual arts.
 1. Component 1.2: Develops theatre skills and techniques
 - a. GLE 1.2.1: Creates facial expressions, gestures, body movements/stances, stage positions, and blocking for a performance.
 - b. GLE 1.2.2: Chooses, and applies to a theatre performance, appropriate movement, vocal projection, articulation, and expression.
 - c. GLE 1.2.6: Creates a scene in which the character has objectives in a given setting.
- c. Reading, grade 4
 - i. EALR 2: The student understands the meaning of what is read.
 1. Component 2.4: Think critically and analyze author's use of language, style, purpose, and perspective in literacy and informational text.
 - a. GLE 2.4.1: Apply the skills of drawing conclusions, providing a response, and expressing insights to informational/expository text and literary/narrative text.

H. Content Objectives:

- a. SWBAT describe a map of Pacific salmon migration routes (Social Studies GLE: 3.1.1)
- b. SWBAT illustrate a map of Pacific salmon migration routes (Social Studies GLE: 3.1.1)
- c. SWBAT perform skits reviewing the salmon life cycle and migration route (The Arts, Theatre GLE: 1.2.1, 1.2.2, 1.2.6)

- I. **Language Objectives:**
 - a. SWBAT define “migration routes” (Reading GLE: 2.4.1)
- J. **Previous Learning Experiences:**
 - a. Students have been studying the salmon life cycle and will now apply that knowledge to understand migratory paths.

Assessment Strategies

Content/Language Objectives	Assessment Strategies
SWBAT describe a map of Pacific salmon migratory routes	<p>Formative: With a checklist of student names, go around to groups and ask students to describe the salmon migration path. Mark which students contribute to group answer; if some do not, ask those students summarize what the others have said.</p> <p>Summative: Have students describe the salmon migration route on a piece of paper, individually, and turn them into you to mark off comprehension. Expectation: Students will accurately describe the migration route while including key terms from lesson.</p>
SWBAT illustrate a map of Pacific salmon migratory routes	<p>Formative: As students recreate the migration route on their worksheets, walk around with checklist and mark off students who have reconstructed the correct routes.</p> <p>Summative: Give students a second copy of the blank map they initially received and have them draw the routes again, this time to turn into you to check off comprehension. Expectation: Students will accurately illustrate the migration path of salmon.</p>
SWBAT perform skits reviewing the salmon life cycle and migration route	<p>Formative: As groups are getting ready, walk around and check off students who are creating and participating in the group skit.</p> <p>Summative: If students perform in group skit, mark on a checklist; skit must be accurate. Expectation: Students display knowledge of migratory paths by incorporating key words and environments in skits.</p>
SWBAT define “migration routes”	<p>Formative: With a checklist of student names, repeat formative assessment strategy for Objective 1; go around and ask groups to define the term in their own words and if students do not provide input, ask those to elaborate on their classmates’ definitions.</p> <p>Summative: Along with the description of the migration routes, students will define “migration route” on the piece of paper they turn in to you that will be marked off on the Assessment checklist. Expectation: Students will define “migration routes” in a way which makes sense and uses key terms discussed during lesson. Dictionary definitions and book/text definitions are not expected.</p>

Student Voice:

K-12 students will:	Student-based evidence to be collected	Description of how students will reflect on their learning
5. <i>Communicate the learning targets and their progress toward them.</i>	Students will define key vocabulary words before and after activity in journals and then compare definitions to note progress toward meeting their objectives.	Students will write on notecards how they feel they did on defining the terms.
6. <i>Review their performance and set personal learning goals based on those assessments.</i>	Students will review journal entries in which they defined key vocabulary words and analyze the defined words. After assessing their own work, students will set goals for the next unit, such as "I will study vocabulary more so I can better define the terms," which will be turned into the teacher and filed until the end of the next unit, when students will decide whether they achieved their goals.	On a notecard, students will write how feel about the strategies they used to study the vocabulary words. Did that strategy work, did it not work? How can you change your strategy to improve for the next time?

Grouping of Students for Instruction

- Students will have pre-selected groups to work in (chosen by the teacher)
 - Although working in groups, students will create individual migration route maps
- Groups may combine to perform skits later in unit if necessary

Learning/Teaching Experiences

6. Introduction:

1. Ask students, "What types of fish do people eat?"
2. Show students a can of salmon, a package of smoked salmon, or another salmon food product.
3. Explain that, as some may know, salmon is one of the most popular types of fish eaten in the United States.

7. Questions:

1. "What types of fish do people eat?"
2. "Are there fish that people don't eat? Why?"
3. "How are fish born? Where are fish born, specifically salmon?"
4. "What are some dangers that salmon could face when trying to spawn?"
5. "Can fish live in salty water? Or do they need fresh water to live?"
6. Questions will be asked during a class discussion where students know to raise their hand before answering questions. Questions will also be asked before groups divided.

8. Learning Activities:

1. Write "fresh water" and "salt water" on board. Ask students to list places where they can find fresh water
 - a. Repeat with salt water category
2. Ask, "Where have you seen fish?" Answers may include aquarium, lake, river, ocean, or streams.
3. Explain that salmon are very special because they can live in both fresh and salt water.
4. Provide students with "North American outline map" and display "Salmon Migration map" on the board.
5. Explain that this map shows where salmon travel during their lives.
6. Ask, "Why do you think it is important that salmon can live in both fresh and salt water? Refer to your maps and the one on the board to answer the question. What do you notice?"
7. After answers are given, tell the class that the map shows the migration route of Pacific salmon, which live in and near the Pacific Ocean. Explain that some salmon live in the Atlantic Ocean, but our focus is on Pacific salmon.

8. Have students replicate migration routes from “Salmon Migration map” to their handout maps.
 9. Have students look carefully at their maps. Ask, “Do salmon stay in the ocean, or do they go inland, too?” Students should notice that salmon spend time both in the ocean and inland.
 10. Explain that salmon spend much of their lives in rivers and streams that are often hundreds of miles from the ocean.
 11. Explain to students, using map and/or a PowerPoint presentation, where salmon are located in bodies of water in relation to their position in their life cycle (bolded words are key terms).
 - a. Salmon lay their eggs in **streams**. The eggs hatch in the **streams**.
 - b. Babies grow into “fry” and live in the same **stream** they born in for 1-3 years.
 - c. After 1-3 years, the fry have grown but are not yet fully grown. They leave the **stream** and begin swimming toward the **ocean**. They swim into bigger **streams** and **rivers** until they reach the **ocean**.
 - i. Scientists are still studying the reason as to why salmon swim to the **ocean**
 - d. When salmon arrive in the **ocean**, they can swim very long distances. Some swim up to ten thousand miles around the ocean! But the most amazing thing of all is that they make their way back to the SAME **stream** that they were born in. They travel to that specific **stream**, lay their eggs, and then die, completing their life cycle.
 12. Refer to students’ previous learning experiences and have students mark where they believe the salmon were born, where they are in the migration route while their growing, and where they are when they return to spawn.
 13. After students finish this activity, ask students the following questions and have them consider them before answering aloud:
 - a. “How do they know their way to the stream they were born in?”
 - b. “Can you image finding your way back to another part of the country without a map!”
 - c. “Imagine that you went to a place one time when you were a baby, could you get back there now, on foot and without a map? That’s what it is like for salmon!”
 14. After discussion, students create skits in their groups to act out the salmon migration paths. This can be a quick skit or an elongated project students work on to include props and scenery.
9. **Instructional Considerations:**
- i) Instructional procedures:
 - a. Ask about prior knowledge (auditory)
 - b. Demonstrate and explain map of migration path on board (visual, auditory)
 - c. Ask questions (auditory)
 - d. Partner discussion
 - e. Receive input
 - f. Create own maps (visual)
 - g. Act out migratory path in groups (kinesthetic, auditory, visual)
 - j) Multiple means of access:
 - a. White board/overhead projector/chalk board
 - b. PowerPoint pictures
 - c. Internet pictures
 - d. Handouts for individual and group practice
 - k) Multiple means of engagement:
 - a. Students answer open-ended questions
 - b. Students work in pairs and groups to complete work
 - c. Students work in groups to perform skit

- l) Multiple means of expression:
 - a. Students contribute to class discussion
 - b. Participating during group work and skit
 - c. Students create own map of migration routes
- m) Methods of differentiation:
 - a. Accommodations:
 - i. If students cannot participate by acting in skit due to disabilities, student(s) are allowed to be the “narrator” or “director” of the groups’ skit.
 - ii. If students cannot participate by listening or viewing examples, a map will be provided with the migration path outlined to which they will have to trace over in order to understand material and achieve objectives.
- n) Language learning objectives:
 - a. Language learning objectives will be addressed throughout the lesson. Students will be asked to raise their hands or point at the board when they hear the phrase “migration route” or “migration path” in order for them to recognize these key terms.
- o) Cultural responsive pedagogy:
 - a. Lesson can be related to Native American history and culture
 - b. Lesson can also be related to differences between west coast salmon and east coast salmon
- p) Remedial activities:
 - a. If students do not understand the migratory paths of salmon or its significance to the salmon population, a class activity can be performed to help those students.
 - i. Activity:
 - 1. An online video included on *National Geographic* online will be shown regarding the migration of salmon and students will fill out worksheets complementing the video to help students focus on the information provided in the video.
- q) Extension activities:
 - a. Students who finish their migration maps early may pull out a piece of paper and start brainstorming ideas for their groups’ skit

10. Closure:

1. Review the salmon life cycle and migratory routes by looking at their worksheets
2. Ask students where they decided salmon lived –streams/rivers or ocean – in each stage on their lives, according to their work
3. Hold up the package of salmon product you brought to class and explain that it is not just modern people who like to eat salmon. “For hundreds of years before we had canned and packaged food, people enjoyed fresh fish such as salmon. Many Native American tribes lived close to the rivers where the salmon swim and caught them.”
4. Ask, “Think about the salmon’s migratory pattern, how might the salmon’s path been affected by obstacles, such as modern dams, or predators?”
5. Ask, “How much of an impact do you think humans have had on the salmon population throughout years?” Explain that humans can both help and hurt the population.
6. These questions will help students connect the lesson to their lives because it will have them thinking about how they can help protect the salmon population and how they impact salmon migratory paths (pollution, building dams, etc.).
7. The questions will also lead into the next lesson about habitat loss of salmon.

11. Independent Practice:

- b. Students can create lists of obstacles salmon might face during their journey through streams, rivers, oceans, and back home and identify potential environmental dangers such as pollution.

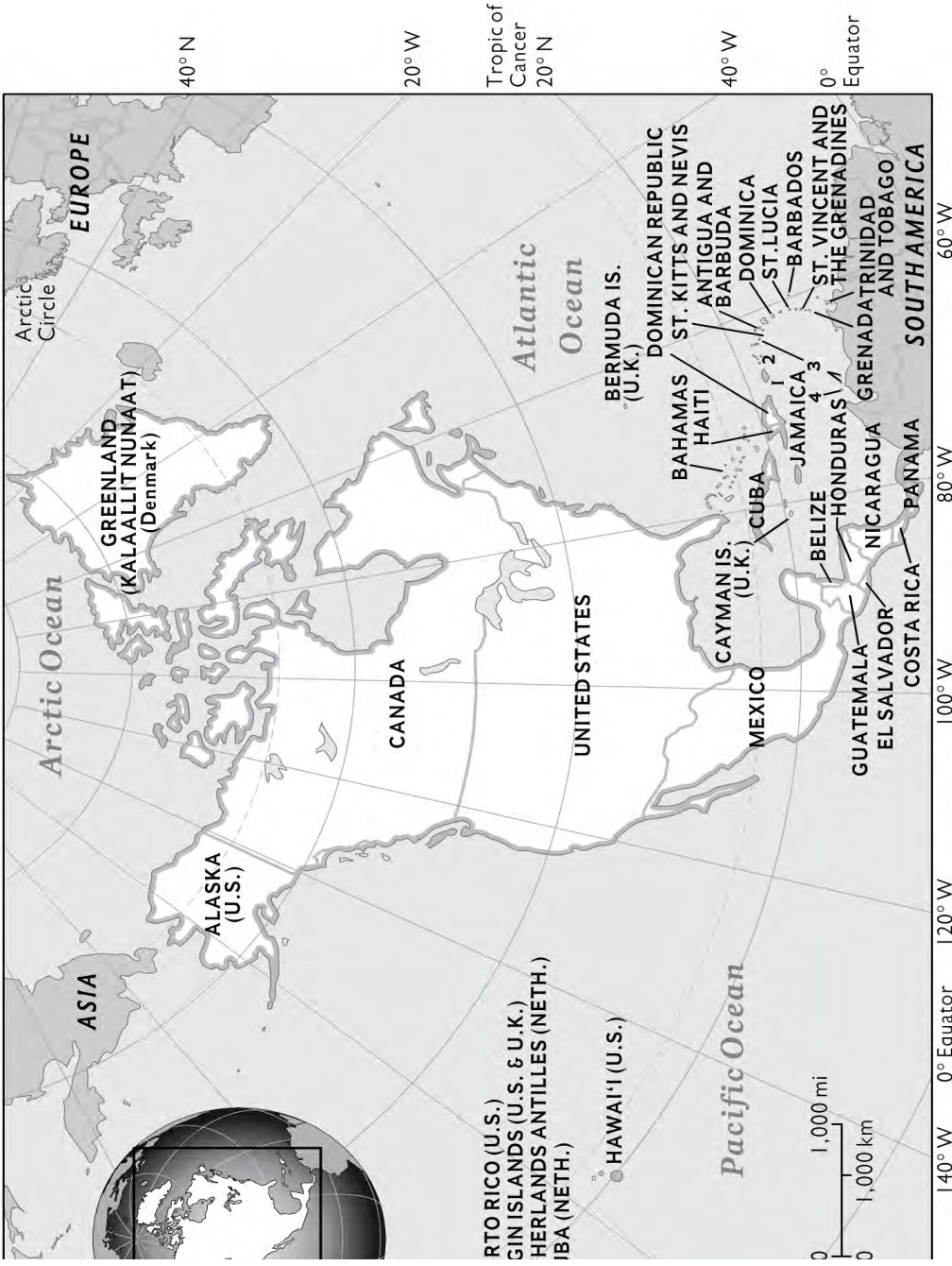
- c. Possible Family Interaction:
 - Students can involve parents and families by introducing the topic of pollution, particularly water pollution, and habitat destruction and ask their parents how/if they recycle glass, plastic, aluminum, etc.

Instructional Materials, Resources, and Technology

- Materials
 - Computer with Internet access
 - Salmon Migration map (for teacher [online])
 - Found at <http://warrensburg.k12.mo.us/webquest/migration/salmonmap.html>
 - Blank Xpeditions outline map of North America, one per student
 - Found at http://education.nationalgeographic.com/education/mapping/outline-map/?map=North_America&ar_a=1
 - Writing and drawing materials
 - Crayons, colored pencils, markers, etc.
 - Assessment checklists

Additional Requirements

- **Integration with Other Content Areas:**
 - This lesson can be integrated into the content area of reading.
 - Stories about salmon migrating can be read individually which will increase reading fluency and vocabulary.
 - This lesson can also be integrated in the content area of writing.
 - Students could write a report on salmon after the unit is completed in class, which must include information about salmon migratory paths.
- **Acknowledgements:**
 - Instructional Plan Created by: National Geographic
 - Instructional Plan Adapted by: Hayley Pearce
 - Instructional Plan Source:
<http://www.nationalgeographic.com/xpeditions/lessons/09/gk2/migrationsalmon.html>



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NORTH AMERICA



Instructional Plan

Revised 3/2/2011

Teacher Candidate: Mikaela Yeomans **Date:** March 20, 2012
Cooperating Teacher: Amy Wellsandt **Grade:** 4th
School District: Pullman School District **School:** Franklin Elementary School
University Supervisor: Pauline Sameshima
Unit/Subject: Washington State Geography/Music/Dance
Instructional Plan Title/Focus: “Roll on Columbia”-Physical Geography of Washington
Learning Targets/Purpose/Previous Learning

K. Instructional Plan Purpose:

This lesson has students sing along and learn simple motions to the song “Roll on Columbia” sang by Woodie Guthrie. The teacher has students use their prior knowledge of physical geography and pick out physical geographic features mentioned in the song. This lesson is designed to introduce students to the physical geography of Washington state (with a focus on Rivers that are home to Salmon.) The lesson also gives student to opportunity to learn through music and dance.

L. State Learning Standards:

Grade Level: 4

Social Studies

EALR 3. Geography: The student uses a spatial perspective to make reasoned decisions by applying the concepts of location, region, and movement and demonstrating knowledge of how geographic features and human cultures impact environments.

3.1.1 Constructs and uses maps to explain the movement of people.

3.2.3 Understands that the geographic features of the Pacific Northwest have influenced the movement of people.

Art

EALR 2. The student uses the artistic process of creating, performing/presenting, and responding to demonstrating thinking skills in dance, music, theatre, and visual arts.

2.1.E Creates, experiences, and develops artworks and/or performances/presentations utilizing the creative process structure.

2.2. E Creates, experiences, and develops artworks and/or performances/presentations utilizing the performance process structure.

2.3.E Experiences, practices, and applies and responding process structure to an arts performance and/or presentation.

EALR 4. The student makes connections within and across the arts (dance, music, theatre, and visual arts) to other disciplines, life cultures, and work.

4.2.E Demonstrates and applies the skills, concepts, and vocabulary common among and between the arts disciplines (dance, music, theatre, and visual arts) and other content areas at beginning levels.

M. Content Objectives:

SWBAT use the artistic process of creating and performing.

SWBAT demonstrate special perspective to identify key physical components are on a map of Washington State.

N. Language Objectives:

SWBAT use academic language (specific to geography) to describe the physical geographic features of Washington State in the song.

SWBAT use correct names when discussing locations on the map.

O. Previous Learning Experiences:

This lesson will follow an introduction to physical geography. Students have learned about salmon and their migration pattern in the rivers of the Pacific Northwest. Students are familiar with the

Grand Coulee Dam and it's importance to our state. Along with this students have had many experiences presenting in front of the class as related to the arts.

Assessment Strategies

Content/Language Objectives	Assessment Strategies
SWBAT use the artistic process of creating and performing.	Formative: Teacher will use a checklist to check off groups who perform their verse with dance movements. Summative: The group performs their part of the song to the best of their ability during the class performance.
SWBAT use correct names when labeling locations on the map.	Formative: Students circle names of physical geographic features on their lyrics of "Roll on Columbia." Teacher will assess by using a checklist to see if students have done so. Summative: The class as a whole has finish labeling the map projected in front of the classroom. As well as students completing a map individually. They will be turning in their copy and completing one as a class.
SWBAT use academic language to describe the physical geographic features of Washington State in the song	Formative: Students recall key terms such as mountain, river, coast ect.. to describe the features during the class discussion. The teacher will check off names of student who exhibit knowing these key academic terms. Teacher will check off using a class check list. Summative: N/A

Add rows to chart as needed.

Student Voice:

1. Students will reflect on how they felt about this less at the beginning, middle, and end of the lesson. They will do this by drawing a smiling face, middle face, or sad face for how they remember feeling during the lesson. Smiling (☺) meaning they felt engaged and excited about learning, middle face if they were confused but still engaged, and sad face (☹) if they really did not enjoy it or were completely lost in their learning.
2. Students will also reflect on their performance as a class. They will write one thing they really enjoyed about the group performance and one thing they really disliked about it. Then articulate if they think they would like to do something similar to this again in the future.

K-12 students will:	Student-based evidence to be collected (things produced by students: journals, work samples, projects, papers, etc.)	Description of how students will reflect on their learning
7. <i>Communicate the learning targets and their progress toward them.</i>	Students will perform a final dance together as a class.	Students will reflect how they felt about the performance experience and learning process of this unit, on a piece of paper before they leave class.
8. <i>Articulate the thinking strategies used to achieve the learning targets.(5.1)</i>	On their exit sheet students will answer the question "How did you come up with your dance for your group's verse?"	Students will reflect by having the opportunity to discuss with their groups before writing their final answer.

Grouping of Students for Instruction

- Describe how students will be divided into groups, if applicable (random, ability, interest, social purposes, etc.)

Individual learning-students will at first individually read and sing the lyrics of "Roll on Columbia."

Group learning- for much of this lesson students will work in their table groups for convenience.

Whole class learning- the class will perform the song together and learn from one another during group discussion and performance.

Learning/Teaching Experiences

Introduction:

The teacher will say, "What are some geographic features in Washington state?" The teacher will have students come up with lists in their table groups then have the recorder come up to the board and write their groups ideas on the white board.

Questions:

1. At the beginning of class the teacher will ask "What are some geography features of Washington?" Students will be prompted to answer by reminding them of a previous lesson that defined physical features. Remember, we talked about Mt. Rainer, Puget Sound, and others?
2. After we pick out the geographic features in the song, "Where any of the line in the song confusing?" "Where there any lines you did not understand he was referring to?" Have students re read the song and mark one area where they were potentially a little lost. The teacher will talk about the language used and the confusing parts through class discussion.
3. "Why do you think early inhabitants of Washington wanted to live near or far away from these geographic features?" Ask students to think about the essentials for living. Do any of these features provide a good or service? Students will be involved by asking them first "What can you not live without that your environment provides?"
4. "Why is it important for us to know about the Grand Coulee Dam and the Columbia River" Students will be involved in answering by the teacher saying,
5. "How did we get all the power to have our lights on right now?"

Learning Activities: Give detailed, step-by-step instructions on how you will implement the instructional plan.

1. The teacher will pass out lyrics with the motions in parenthesis next to the chorus.
2. The teacher will put on the recording of "Roll on Columbia" for the students and ask them to sing along.
3. The teacher will then model the hand motions (see attached song lyrics) and have student practice it with her three times through.
4. Next, the song will be played again and everyone must stand up, sing, and do the motions together as a class.
5. Students will sit down take out a pen or pencil and then be asked to circle the names of physical geographic features they heard mentioned in the song.
6. Then as a class if students know where some are located they will come up to the board and label them on the map. If students cannot label them all then the teacher will do so.
7. After labeling students will then discuss in their table groups about cultural impact of physical geography.
8. The teacher will facilitate a class discussion and ask each table group to share what they came up with.
9. After the discussion, the teacher will assign one verse of the song to each group and have them come up with their own dance move for each line (as the teacher did for the main chorus).
10. Students will have 10 minutes to prepare.
11. Each group will present what they came up with to the class.
12. Then, the teacher will put the song on again and each group will perform their dance with the music and everyone will participate in the chorus dance.

Instructional Considerations:

Instructional procedures:

Throughout this lesson students will be asked to actively participate individually and as a group.

1. First students will read through the lyrics individually.

2. Next, student will be asked to sing the lyrics, as a group, along with the music. – Computer and speakers used to play song, the teacher will sing along as well.
3. Student will then, take out a pencil and circle all of the physical features. –Teacher will model.
4. Students will use an Atlas to place the features they found on a class map and an individual map in front of them- Teacher will scaffold by first showing an example and then calling on different students to fill in the map projected on the board.
5. Students will now, come up with movements, as a group, for one of the verses of the song. – The teacher will demonstrate the movements to the chorus again and put rubric for performance on the overhead so students know what is expected and reiterate the learning targets.
6. Students will present their movements to the class. – Teacher will give each group time to practice before the final performance.

Multiple means of access

- Teacher will give students a paper with the lyrics on it.
- Teacher will play the song “Roll on Columbia” and sing along.
- Teacher will demonstrate the moves choreographed to the chorus.
- Teacher will facilitate a discussion about what physical features are named in the song.

Multiple means of engagement

- Students will discuss and then write the physical features their group came up with on the board.
- Students will sing along with the song playing, while reading the lyrics on the page.
- Students will label physical features on a map of Washington projected on the board.
- Students will make up their own dance moves or motions to an assigned verse of the song “Roll on Columbia.”
- Students will present the moves they came up with to the class and then perform as a class, with each group modeling their own routine at the appropriate time while singing.

Multiple means of expression

- Students will show their learning by labeling the physical features on the class map.
- Students will show their learning by circling physical features mentioned within the song “Roll on Columbia.”
- Students will show their learning by participating in the hand motions or the chorus while the song is playing.

Methods of differentiation

- ELL students may draw pictures of the physical features instead of writing them.
- Also, the map will be projected onto the board, big enough for everyone to see, so students with IEP’s and ELL’s may see the location of physical features and make a direct connection to its exact location. Along with this they will be accommodated through academic language that the teacher will take extra time to explain and make sure they understand as well as extra one-on-one instruction from the instructor.

Language learning objectives:

- Students will achieve language objective one by articulating academic language during the conclusion of the lesson and or class discussion.
- Students will achieve language objective two by placing the physical features onto the map of Washington during class group work.

Cultural responsive pedagogy:

- Cultural connects will be made by presenting the fact that we are all “Washingtonians.” The Columbia River is part of our culture.
- Ask students to share if they have ever visited one of the physical features we labeled on our map with their family?

-Make the connection between building the dam and how the culture of the people and or animals changed around it? Also, addressing the EALR why do people move?

Remedial activities:

- For students who cannot find all of the physical features mentioned in the song, they may find just 3.
- Students who do not perform with their group may demonstrate their hand motions at a later time when other classmates are not present. (during recess, before school.)
- Students who finish early may create additional movements for the chorus.

Extension activities:

- Students will have ten minutes to come up with their own motions to one of the choruses. However, if they finish early student's may continue to practice their part of the performance as a group or practice the chorus.

Closure

1. To conclude the lesson students will be brought back to a group discussion setting.
 2. The teacher will ask students to articulate what they learned today by raising their hand.
 3. The teacher will then go back to the map and point to all the features they discovered in the song and then plotted on the map.
 4. The teacher will ask students "How did you come up with the dance moves for your verse?"
 5. Lastly students will be asked to take out a piece of paper and reflect on their learning. They will respond to the following questions.
 1. What was the most surprising thing you learned in today's lesson on physical feature of Washington state geography?
 2. Why are physical features such as the Columbia River important to Washington state? And the West coast?
 3. Overall how did you feel about this lesson? Performing? The geography? The song? Anything...
- Describe how you will connect again to students' lives and to future lessons.
I will connect to student's lives and future lessons by re integrating the idea of where we get our power from. That certain physical features actually provide us with some of our living essentials like electricity. Students will also be expect to know where key physical feature such as the Columbia River are located in future assignments and tests.

Independent Practice:

Students will go home with a copy of "Roll on Columbia" as attached to this lesson plan and share the motions their group came up with and the one's made by other class mates with their parents. Then, students will ask their parents if they have visited any of the physical features of Washington we discussed in class, write them on the blank back side of the lyrics and then, share in class the next day, where their family members have been. Materials needed is one copy of the lyrics which students will receive in class.

Instructional Materials, Resources, and Technology

- "Roll on Columbia" lyrics
- Overhead of a physical map of Washington State.
- Music to accompany students singing "Roll on Columbia"
- Atlas for each student to use when finding where the physical features are located.

Additional Requirements

Integration into other Content Areas:

Other content areas in which this lesson could be incorporated include reading, writing, math, and science. For reading and writing students could write a researched based paper or pamphlet on a physical feature of Washington State. When integrating this subject matter into math students could use the distance of the rivers in Washington or amount of water the Grand Coulee Dam processes in a day to practice conversions and computations. Lastly, this could be incorporated into science by having students participate in an investigation with regards to ecosystems the Grand Coulee Dam creates or takes away and the effects the dam has had on the natural flow of the river (physical science/biology).

- **Acknowledgements:** Acknowledge your sources. Give credit to the person who created the idea for the instructional plan, including yourself. You might use language such as "Instructional Plan

adapted from _____”; “Instructional Plan Consultants (not responsible for the content of this instructional plan): _____”; and/or “Instructional Plan Created by _____” Cite scripted materials/curriculum if appropriate.

Instructional plan created by Mikaela Yeomans.

Acknowledgements:

http://woodyguthrie.org/Lyrics/Roll_On_Columbia.htm -“Roll on Columbia Lyrics”

Roll On Columbia
By Woody Guthrie

Green Douglas firs where the waters cut through. Down her wild mountains and canyons
she flew. Canadian Northwest to the ocean so blue, Roll on, Columbia, roll on!

CHORUS: Roll on, Columbia, roll on. Roll on, Columbia, roll on. Your power is
turning our darkness to dawn, Roll on, Columbia, roll on.

Other great rivers add power to you, Yakima, Snake and the Klickitat, too, Sandy
Willamette and Hood River, too; Roll on, Columbia, roll on.

CHORUS: Roll on, Columbia, roll on. Roll on, Columbia, roll on. Your power is
turning our darkness to dawn, Roll on, Columbia, roll on.

It's there on your bank that we fought many a fight, Sheridan's boys in the blockhouse
that night, They saw us in death but never in flight, Roll on, Columbia, roll on.

CHORUS: Roll on, Columbia, roll on. Roll on, Columbia, roll on. Your power is
turning our darkness to dawn, Roll on, Columbia, roll on.

At Bonneville now there are ships in the locks, The waters have risen and cleared all the
rocks, Shiploads of plenty will steam past the docks, Roll on, Columbia, roll on.

CHORUS: Roll on, Columbia, roll on. Roll on, Columbia, roll on. Your power is
turning our darkness to dawn, Roll on, Columbia, roll on.

And on up the river is Grand Coulee Dam, The mightiest thing ever built by a man, To
run these great factories and water the land, It's roll on, Columbia, roll on.

CHORUS: Roll on, Columbia, roll on. Roll on, Columbia, roll on. Your power is
turning our darkness to dawn, Roll on, Columbia, roll on.

These might men labored by day and by night, Matching their strength 'gainst the river's
wild flight, Through rapids and falls they won the hard fight, Roll on, Columbia, roll on.

Source: http://woodyguthrie.org/Lyrics/Roll_On_Columbia.htm

Adapted By: Mikaela Yeomans

Physical Map of Washington Rivers:



Physical Map of Washington: (to be filled in by students)



Class Checklist for Summative Assessments

Aasem	—
Addie	—
Adiba	—
Ana Luz	—
AnnaBelle	—
Anne	—
Alyssa	—
Berit	—
James	—
Jamie	—
JoJo	—
Joseph	—
Justus	—
Kaleb	—
Kiara	—
Keaton	—
Kjell	—
Leonel	—
Nicholas	—
Oriana	—
Payton	—
Rashelle	—
Rollie	—
Taylor	—
Tistian	—
Zakary	—

Self Reflection-Exit Sheet:

What did you really enjoyed about the group performance? Why?

What was one thing you disliked about the group performance? Why?

Student Voice:

How do you feel about the lesson? Circle a face and write comments if you would like.

Beginning of the lesson: 😊 😐 😞

Middle of the lesson: 😊 😐 😞

End of the lesson: 😊 😐 😞

Rubric/Check list for *Roll on Columbia* Performance

Student

Did the student participate in process
of coming up with dance movements?
(5 pts.)

Did the student
participate in final
performance? (5 pts.)

Yes _____

No _____

Comments:

Yes__ No__

Comments:

/10 points

Instructional Plan

Revised 3/2/2011

Teacher Candidate: Nicole Weible **Date:** February 29, 2012
Cooperating Teacher: Mrs. Cartwright **Grade:** 4th
School District: Pullman School District **School:** Franklin Elementary
School
University Supervisor: Lori White
Unit/Subject: Art/Science
Instructional Plan Title/Focus: Pacific Northwest and Salmon Collages

Learning Targets/Purpose/Previous Learning

- A. **Instructional Plan Purpose:** This instructional plan develops students' conceptual understanding of artistic collages and their ability to create a collage that represents their knowledge of as aspect of the Pacific Northwest and/or Salmon.

B. State Learning Standards:

Science State Standards Grade 4

- EALR 4: Life Science. Big Idea: Structures and Functions of Living Organisms (LS1).
- EALR 4: Life Science. Big Idea: Ecosystems (LS2)
- EALR 4: Life Science. Big Idea: Biological Evolution (LS3)

Art State Standards Elementary

EALR 1: The student understands and applies arts knowledge and skills in dance, music, theatre, and visual arts.

Component 1.1: Understands and applies arts concepts and vocabulary.

Component 1.2: Develops arts skills and techniques.

EALR 2: The student uses the artistic processes of creating, performing/presenting, and responding to demonstrate thinking skills in dance, music, theatre, and visual arts.

Component 2.1: Applies a creative process to the arts (dance, music, theatre, and visual arts).

Component 2.2: Applies a performance and/or presentation process to the arts (dance, music, theatre, and visual arts).

C. Content Objectives:

- Students will be able to use visual art skills and creative expressionism to make a collage [Art EARL 1, EARL 2]
- Students will be able to demonstrate knowledge of the Pacific Northwest/Salmon through their art collage [Art EARL 1, EARL 2, Science EALR 4 LS1, LS2, LS3]

D. Language Objectives:

- Students will be able to use academic language to discuss the Pacific Northwest and Salmon based on their previous learning experiences [Science EALR 4]
 1. Life Cycle of Salmon: Egg, Alevin, Fry, Smolt, Adult, and Spawner
 2. Types of Salmon: Sockeye, Chinook, Chum, Coho, Pink, and Steelhead
- Students will be able to use art concepts and vocabulary when discussing their collage [Art EALR 1, Component 1.1]
 1. Collage
 2. Attachables

- E. **Previous Learning Experiences:** Students will have background knowledge in the characteristics and behavior of salmon and some characteristics specific to the environment of the Pacific Northwest. In addition, the students will have studied the visual arts in previous lessons. For

example, they will know the elements and the principles of design and be able to apply them to their art. This project will be completed as a wrap-up after the Pacific Northwest and Salmon unit.

Assessment Strategies

- **Formative:** measures process/progress toward mastery of target(s)
- **Summative:** measures outcomes/achievement of target(s)

Content/Language Objectives	Assessment Strategies
Students will be able to use visual art skills and creative expressionism to make a collage.	Formative: The teacher will use the attached checklist to monitor what the students are representing about the Pacific Northwest and Salmon in their collages. <i>See checklist attached.</i> Summative: The final product will be assessed using a rubric that reflects the students' creativity, ability to represent their understanding of the Pacific Northwest throughout art, and their ability to use attachables to create a collage. <i>See rubric attached.</i>
Students will be able to demonstrate knowledge of the Pacific Northwest/Salmon through their art.	Formative: The teacher will use the attached checklist to monitor what the students are representing about the Pacific Northwest and Salmon in their collages. <i>See checklist attached.</i> Summative: The final product will be assessed using a rubric that reflects the students' creativity, ability to represent their understanding of the Pacific Northwest throughout art, and their ability to use attachables to create a collage. <i>See rubric attached.</i>

Student Voice: Select two components of student voice and identify how students will reflect and/or communicate on their learning or progress toward meeting the goals. You may eliminate the components not being addressed.

K-12 students will:	Student-based evidence to be collected (things produced by students: journals, work samples, projects, papers, etc.)	Description of how students will reflect on their learning
9. <i>Communicate the relationship between the assessment and the learning targets.</i>	Student created Rubric	Students will have the opportunity to help create the rubric to ensure that every student will feel comfortable with their ability to create art in the classroom without judgment.
10. <i>Communicate how the learning from a series of lessons connects with communities within and outside of the school.(5.3)</i>	Final Art Collage	The final art collage that students create will demonstrate how art can reflect the environment outside of school; namely, the Pacific Northwest and/or salmon

Grouping of Students for Instruction

- The entire class will participate in initial instruction and discussion questions. Students will work individually to each create a collage that represents an aspect of their knowledge of the Pacific Northwest and/or Salmon. Students will have the opportunity to discuss quietly with their table groups various ideas for their collage while they work. Finally, the collages the students will create will be on display for the entire school to see on the bulletin board outside the classroom.

Learning/Teaching Experiences

- 12. Introduction:** Begin by putting up examples of collages made by established artists. Ask students what they notice about the artwork. Examples can be found online at www.Collageart.org
1. Ask the students if they have ever seen or made a collage. Where did they see it? This discussion will serve to help students connect collages and art in general with their lives and prior experiences.
- 13. Questions:** The first four questions will be asked during the introduction. The teacher may choose to call on students or ask for volunteers to answer. Ideally, more than one student will partake in answering each question. The second four questions will be asked as a starting point to help generate some ideas for students as they begin their collage when the teacher gives initial instruction on the activity. The second four questions should also be asked as the teacher walks around and formally assess students to help remind them about things they need to think about for their collage and to be able to make their collage to the best of their ability.
1. What do you notice about collages?
 2. What themes could you use for a collage?
 3. Have you/where have you seen a collage in your daily life?
 4. In your opinion, what makes a collage really great?
 5. What different materials could you use to create your collage?
 6. How big or small do you want to make your collage?
 7. Are you going to create a border/frame for your collage?
 8. How are you going to make sure your 3D objects stay attached (if you choose to have 3D elements)?
- 14. Learning Activities:**
1. The teacher will begin by showing the class examples of various collages created by established artists.
 2. As a class, the students will discuss what they noticed about the different collages.
 3. The teacher will then explain that the term collage is a collection of various materials attached to a firm surface to create a piece of artwork..
 4. The teacher will go on to explain that “attachables” are the different kinds of materials that artists can use on their collage.
 5. The teacher will then tell the students that they are going to create their own collages that represent what they have been working on in science. Their art projects are unlimited in that they can choose to represent a type of salmon, the lifecycle of salmon, the environment salmon live in, the Pacific Northwest environment, Washington geography, or any other ideas students have that relate to the Pacific Northwest and Salmon topic.
 6. Show the class an example of a collage about the Pacific Northwest that you made, followed by examples of student collages from past years.
 7. Place all materials on a central table where students can come up and take what they wish to use or need.
 8. Make sure students know if there is a limited supply of certain materials (it might be a good idea to pass those out)
 9. Let students begin creating their collages!
 10. Students can use glue, tape, modge podge, glue stick, or anything else available to stick their attachables to their firm surface.
 11. The teacher should walk around assist students, ask questions about what the students ideas are, what they are working on, why they chose to use certain materials, answer any questions, provide positive feedback, as well as help students generate ideas or work on technique if they are struggling.
 12. During work time, the teacher could also work along side his/her students and create his/her own collage.
- 15. Instructional Considerations:**
- a) Instructional procedures: collage examples, demonstration, student examples, work time, class discussion.
 - b) Multiple means of access: The teacher will begin by showing the class various collages created by established artists. The teacher will also provide an example of her collage she created using the same criteria as well as student examples of the same lesson.

- c) Multiple means of engagement: Students will discuss as a class a definition of a collage, have class work time where they are free to talk with their neighbors, and be able to present their artwork for the entire school to see on the classroom space in the hallway.
 - d) Multiple means of expression: Students will demonstrate their learning by creating an artistic collage. Students will
 - have the opportunity to represent an aspect of the Pacific Northwest and/or Salmon using materials other than attachables, or by performing a dance/song that demonstrates their knowledge.
 - d) Methods of differentiation: If students are struggling to use attachables they will be able to also use markers, paint, crayons, and other materials to create their collage.
 - e) Language learning objectives: The language learning objectives will be applied with the teacher is defining what a collage is, what attachables are, and when students discuss how their artwork reflects an aspect of the Pacific Northwest and/or salmon.
 - f) Cultural responsive pedagogy: Within studying the Pacific Northwest region, students will be exposed to Native American culture and will need to use traditional Pacific Northwest Native colors in their collage (Black, red, white, yellow, blue and green)
 - g) Remedial activities: The teacher will provide a vocabulary review sheet for slower learners that are having trouble deciding on what they want their collage to represent in regards to Pacific Northwest and/or Salmon in the middle of the activity to help them decide on ideas. *See key terms review sheet attached.*
 - h) Extension activities: If students finish early, they will have the opportunity to draw, paint, create a collage, or practice other forms of art in art drawing pads.
16. **Closure:** After students have had a chance to finish their collages (or nearly finish them) have students lay them on their desks so they are able to dry overnight before they are hung up outside of the classroom for the whole school to appreciate.
- 1. After briefly cleaning up let students walk around each others desk and admire their classmates' artwork. After 5 minutes have students return to their desk where the teacher will then begin to facilitate a closing discussion by asking the class the following questions
 - i. Who can give me the definition of a collage?
 - ii. What were some challenges you faced as you made your collage?
 - iii. Can someone tell me how they chose to represent the Pacific Northwest/salmon?
 - iv. What might you use a collage for outside of class?
 - d. **Independent Practice:** For homework, students will write a reflection on the collage they made. They will discuss how their collage represents an aspect of the Pacific Northwest and/or Salmon, any struggles they had making the collage, what they liked/didn't like about their collage, if they would change anything about their final piece of work if they could, and any ideas for the teacher on how they could create a better assignment.
 - e. **Possible Family Interaction:** Within the monthly newsletter that goes out to the parents, there is an "Ask Me" section that contains questions the parents can ask their children that will demonstrate their knowledge of what they are learning in class. A question pertaining to this assignment that parents can ask their children is "How did the attachables you chose to make your collage enhance the aspect of the Pacific Northwest and/or salmon you chose to represent?"

Instructional Materials, Resources, and Technology

Materials

- Collage artwork examples
- Firm surface for background (cardboard, thick construction paper)
- Magazine matter
- Fabric scraps

- Old pictures or pictures from home
- Leaves
- Flowers
- Glue
- Glue sticks
- Tape
- Modge podge

Technology

- Document camera

Additional Requirements

- **Integration with Other Content Areas:** Both science and art are integrated into this lesson in that students are creating a piece of artwork that represents their conceptual understanding of the Pacific Northwest and salmon.
- **Acknowledgements:** Instructional plan created by Nicole Weible
 - Information regarding collages was found in *Integrating the Arts across the Elementary School Curriculum* written by Phyllis, Gelineau.

Pacific Northwest and Salmon Collage Formative Checklist

Student	Representation of Pacific Northwest and/or Salmon					Attachables Used	Notes
	Salmon Life Cycle	Types of Salmon	Pacific Northwest Geography	Salmon Habitat	Pacific Northwest Foliage		
Student 1							
Student 2							
Student 3							
Student 4							
Student 5							
Student 6							
Student 7							
Student 8							
Student 9							
Student 10							
Student 11							
Student 12							
Student 13							
Student 14							
Student 15							
Student 16							
Student 17							
Student 18							
Student 19							
Student 10							

Pacific Northwest and Salmon Collage Rubric

	5	4	3	2	1
Understanding of the Pacific Northwest and/or Salmon	Knowledge of the Pacific Northwest and/or Salmon is clearly recognizable	An aspect of the Pacific Northwest and/or Salmon is clearly recognizable	It is difficult to tell how the Pacific Northwest and/or Salmon is represented	The Pacific Northwest and/or Salmon is barely represented	The Pacific Northwest and/or Salmon is not represented in the collage
Creativity	The assignment looks interesting, exiting, unique, and well crafted	The collage looks interesting and is well crafted	The collage is well crafted	The collage is messy	The collage looks messy and looks as if ideas have been copied.
Use of Attachables	Attachables are used to create a picture collage	Attachables are mostly used	There are lots of areas that do not use attachables	There are only a few attachables used	Attachables are not used at all
Completeness	Assignment has been completed	The assignment is almost complete	The collage is not done yet	This collage is missing major elements	The collage was barely started

Pacific Northwest and Salmon Key Terms Review

Life Cycle of Salmon

1. Egg
2. Alevin
3. Fry
4. Smolt
5. Adult
6. Spawner

Types of Salmon

1. Sockeye
2. Chum
3. Chinook
4. Pink
5. Steelhead
6. Coho

Salmon Habitat

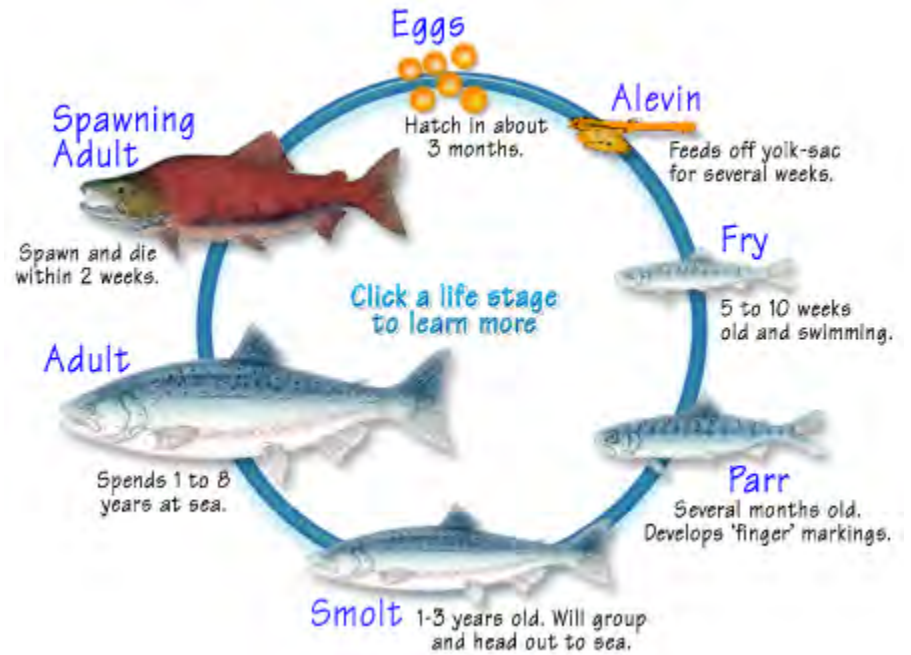
1. Streams
2. Estuaries
3. Oceans

Pacific Northwest Geography

1. Mountains
2. Plateau
3. Columbia River
4. National Parks

Pacific Northwest Foliage

1. Evergreen Trees
2. Redwood Trees
3. Pine Trees



Instructional Plan

Revised 3/2/2011

Teacher Candidate: Ms. Arnold **Date:** 3/1/12
Cooperating Teacher: Mrs. Weible **Grade:** 4
School District: Pullman **School:** Franklin
University Supervisor: Lori White
Unit/Subject: Salmon and the Pacific Northwest
Instructional Plan Title/Focus: Salmon Stream Design-Preparation for Field Trip

Learning Targets/Purpose/Previous Learning

- A. **Instructional Plan Purpose:** Students will be able to draw a stream with the vegetation, animals, and water quality parameters that are necessary for salmon survival. The purpose of this lesson is to prepare the students for the salmon release field trip the students will be going on after completing the stream design lesson.

B. State Learning Standards:

History Standards

EALR 4: History, the student understands and applies knowledge of historical thinking, chronology, eras, turning points, major ideas, individuals, and themes in local, Washington State, tribal, United States, and world history in order to evaluate how history shapes the present and future.

Science Standards

EALR 4: Life Science: Structures and Functions of Living Organisms.
4-5 LSIC: Certain structures and behaviors enable plants and animals to respond to change in their environment.

Integrated Environmental and Sustainability

Standard 2: The Nature and Built Environment: Students engage in inquiry and systems thinking and use information gained through learning experiences in, about, and for the environment to understand the structure, components, and processes of natural and human-built environments.

Art Standards

EALR 3: Visual Arts: The student communicates through the arts (dance, music, theatre, and visual arts).
3.1: Uses visual arts to express feelings and present ideas.

C. Content Objectives:

- SWBAT draw a stream design with vegetation, animals, and water quality. [EALR 4, 4-5 LSIC, Standard 2]
- SWBAT understand what is necessary for salmon survival. [Standard 2, EALR 4, 4-5 LSIC]
- SWBAT demonstrate what is necessary through the drawing [EALR 3, Comp. 3.1]
- SWBAT communicate what they learned through visual and written representations. [EALR 3, Comp. 3.1]

D. Language Objectives:

- SWBAT understand the terminology needed to complete the stream design such as vegetation and water quality.
- SWBAT understand what water quality includes such as temperature, oxygen, and sedimentation.

E. Previous Learning Experiences:

- The students have previously been introduced to salmon and the PNW through other lessons.
- The students have also learned about other animals such as insects and amphibians that may be included in the Salmon’s habitat and will help with their stream design.

Assessment Strategies

Objective	Formative Assessment	Summative Assessment
SWBAT draw a stream design with vegetation, animals, and water quality.	The teacher will be going through each step of the stream design and explaining in depth. After each step he or she will have the students hold their paper in the air when they are done with the step so the teacher can assess when to move on with instruction or not.	The students will complete a stream design worksheet that shows water quality of a stream, physical aspects of a stream, and other animals that could live along side salmon.
SWBAT understand what is necessary for salmon survival.	The teacher will use the thumbs up system to assess if all the students are understanding the content. If a student gives a thumbs down then the teacher will be able to give further instruction.	The students will write a complete sentence on the back of the complete stream design that answers one of the discussion questions about Salmon. This sentence must include terminology learned in the lesson. These along with the stream design will summative assess what the students learned about salmon survival in their habitats.
SWBAT demonstrate what is necessary through the drawing.	When the teacher is done with instruction and the students are working on coloring their stream design the teacher will use a checklist to mark off that the students are understanding the process and including all what is needed in the stream design.	The students will complete a stream design worksheet that shows water quality of a stream, physical aspects of a stream, and other animals that could live along side salmon.
SWBAT communicate what they learned through visual and written representations.	When the teacher is done with instruction and the students are working on coloring their stream design the teacher will use a checklist to mark off that the students are understanding the process and including all what is needed in the stream design. The teacher will include a star to show that the student is also working on the complete	The students will complete a stream design worksheet that shows water quality of a stream, physical aspects of a stream, and other animals that could live along side salmon.

	sentence on the back.	
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Student Voice:

K-12 students will:	Student-based evidence to be collected (things produced by students: journals, work samples, projects, papers, etc.)	Description of how students will reflect on their learning
<i>11. Communicate the learning targets and their progress toward them.</i>	Discussion question answered on the back of the stream design.	This will show the students understanding and reflect on what they think about stream designs.
<i>12. Review their performance and set personal learning goals based on those assessments.</i>	Journal	In their journal the students can reflect on their performances after completing the stream design and how that helped them in the field trip.

Grouping of Students for Instruction

- The students will be grouped into pairs for instruction, and may complete the colored river in pairs as well. These pairs can be chosen by the student’s preference unless additional behavioral issues occur than the teacher may need to adjust the groups.

Learning/Teaching Experiences

17. **Introduction:** This lesson will be introduced by showing them a completed stream design work sheet. Have the class brainstorm together what makes a stream design work, and how it could affect salmon. List the student’s ideas and predictions on the board, then take down the stream design and begin the instruction.

- This lesson will help students learn about freshwater salmon habitat by tying in previous lessons about salmon and the PNW. This lesson’s purpose is to prepare for the salmon release field trip.

2. **Questions:**

- 1.What do you remember about salmon that we have previously learned?
2. From what we know about a salmon’s life cycle what kind of places do salmon live in?
3. What aspects do you feel make a good living environment?
4. What do you know about rivers and streams?
5. How will making a stream design help us prepare for our salmon release field trip?

3. These questions will be discussed in pairs, and then reflected and recorded on the board as a class. This will allow the students to brainstorm, and the teacher to adjust their answers when putting them on the board for reference.

18. **Learning Activities:**

1. Group students in pairs
2. Have the students discuss the above questions, then record them on the board
3. Pass out the blank stream design sheet to each student
4. Then the teacher will introduce, if not answered already, what is necessary for salmon survival
5. After each topic is introduced the students can mark on their work sheet and add it to their drawing
6. The topics that should be taught and drawn include:
 - Water quality: temperature, oxygen, sedimentation
 - Physical aspects: shelter, stream flow, gravel or mud

Other living things beside salmon: vegetation, insects, amphibians, and predators of fish and salmon

- After discussing each topic have the students finish adding all the topics to their stream design and allow them to color and personalize their stream.
- This stream design will be brought with them on the field trip to compare the stream they drew to the one they will release the salmon in.
- The teacher should walk around the room at this time and formatively assess
- Then put the complete teacher stream design back on the board
- Have the students check their streams with the one on the board to make sure theirs is correct
- Then instruct the students to write a complete sentence on the back to answer one of the initial five discussion questions from the introduction. They will need to include terminology learned in the lesson. They can reference the answers the class came up with to those questions on the board.

19. Instructional Considerations:

- a) Instructional procedures: Present completed stream design, discuss what works, instruct the different aspects of stream design, have the students complete own stream design, and reflect again.
- b) Multiple means of access: Discussion, lecture, drawing activity, reflection, and discussion.
- c) Multiple means of engagement: The students will participate in the class discussion, work with pairs on the design, and reflect themselves on something they learned.
- d) Multiple means of expression: Students will show their learning through verbal skills in the discussion, visual skills with the stream design, and through writing skills with their sentence on the back
- d) Methods of differentiation: Students who are struggling with understanding the terminology for either the drawing or complete sentence will be given a vocabulary sheet with all that was learned through the lesson. For students need a greater challenge they can write a paragraph on the back about salmon and their habitat rather than just one complete sentence.
- e) Language learning objectives: The language learning objectives will be integrated in the lesson first through the beginning discussion, and then again through the lecture that will be shown through pictures on the stream design as well.
- f) Cultural responsive pedagogy: This lesson can connect to culture of the PNW, and when exploring aspects on the field trip following this activity. The students can relate their own cultural perspectives through the discussions and during the time when they can personalize their stream design.
- g) Remedial activities: Stream design worksheet, and discussion questions. See attached worksheets for the stream design, and the discussion questions provided above.
- h) Extension activities: Students who finish early can start brainstorming things they will look for on the field trip.

20. Closure:

1. For closure have each student turn in their stream design, and inform them they will get them back for the field trip to reference them. Then have the students give feedback on how this will help them during the field trip since this activity was preparation for this. Ask the students what they learned through this lesson and what things they will look for on the field trip, in that streams habitat.

21. Independent Practice:

- From this activity students can be motivated to look at habitats or stream designs of areas around their homes or even places they visit for vacation. Extra credit could be rewarded to a student who completed a stream design of an additional area.
- f. Possible Family Interaction: The parents will be invited to come on the field trip and participate that day.

Instructional Materials, Resources, and Technology

- Worksheet of river- a copy needed for each student
- Worksheet of vocabulary used in lesson- around 10 copies
- Checklist with all the students names for assessment

- Markers, pencils, crayons, colored pencils, or other preferred drawing utensils

Additional Requirements

- **Integration with Other Content Areas:** This lesson incorporates history material about salmon and the Pacific Northwest habitats, science material on the vegetation of a stream or river, and art material when the students draw and illustrate their findings.

- **Acknowledgements:**

Instructional Plan adapted from Oregon State Education unit on Salmon.

Salmon in the Classroom

<http://extension.oregonstate.edu/catalog/pdf/em/em8910-e.pdf>

Plan and additional ideas adapted from Colleen Arnold, Nicole Weible, Hayley, Ben Wagner, and Mikaela.

Student Assessment Checklist

*Students should be completing their stream design and starting on their complete sentence. Place a check mark the box that best assesses each student's progress.

Student Name	Understanding Material/ Staying on Task	Not understanding and needs additional instruction
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		
11.		
12.		

Stream Design Vocabulary

Stream Design: A visual representation of what the stream looks like, aspects about the water, and what animals are in the stream.

Vegetation: This includes plants, grass, and what types of land surround the stream.

Water quality: This is the physical, chemical, and biological characteristics of water.

Temperature: How hot or cold the water is.

Oxygen: A gas that is available in the water for salmon and other animals to breathe.

Sedimentation: The makeup of the earth under and around the water.

Environment: Everything that is included in and around a living things habitat.

Insects: A type of animal such as flies, and various forms of bugs.

Amphibians: An animal that can live in both land and water. A frog is an example.

Predators: A living thing that hunts or kills another living thing.

The Rainforest

Kindergarten and First Grade Lesson Plans



**Sarah Kilian, Kayla
Thomas, Brooke
Swenson,
Maren Talcott, Nicole
Erhardt**

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Canopy Of The Rainforest



This website does a great job of clearly exploring the vast spectrum that is the Canopy of the Rainforest. The website and specific article on the Canopy layer, holds facts and information that are a great resource for defining and understanding what makes up one of the upper layers of the Rainforest. The layout of the website is easily navigated and makes the information clear and explicit. The page specifically for the Canopy layer has both visual representations of the different levels of the Rainforest as well as written text that is user friendly and very educational. A combination of facts and diagrams provide the reader with an in depth but concise understanding of the canopy layer of the rainforest and the rich habitat it provides to both vegetation and

<http://rainforests.mongabay.com/0401.htm>

wildlife. The website touches on all aspects that make up the Canopy including scientific elements such as plant photosynthesis, water vapor being trapped in the dense plant rich environment, and solar energy transmission. In addition to the informational section of the Canopy level this source moves beyond this single aspect of the rainforest and provides options to continue learning. Providing discussion questions and thought provoking statements the article concludes, but gives multiple other link that leads into the different elements of the Rainforest such as the ground floor, forest waters, and a gallery of images. Each link is an article individually written and provides sources.

Kayla Thomas

Instructional Plan
Revised 3/2/2011

Teacher Candidate: Kayla Thomas **Date:** 3/22/2012
Cooperating Teacher: Pauline Sameshima **Grade:** Kindergarten
School District: Pullman **School:** Sunnyside Elementary School
University Supervisor: Lori White
Unit/Subject: Music/Art/Science
Instructional Plan Title/Focus: Sound Story with the Rainforest

Learning Targets/Purpose/Previous Learning

a. **Instructional Plan Purpose:**

Students will use sounds and musical instruments to accompany a poem about their science unit of study, Rainforests. They will be experimenting with the sounds that different instruments make and the connection with the rainforests. Students will experience how vocal and loud a rainforest habit can be which will lead into the vast quantities of species that reside in the rainforest. Students will also learn how to incorporate music into learning and get to experience the act of using music to enhance literature.

b. **State Learning Standards:**

MUSIC STANDARDS:

EALR 1. Music: The student understands and applies arts knowledge and skills in dance, music, theatre, and visual arts.

Component 2. Develops music skills and techniques.

1.2.1 Analyzes, understands, and applies skills and techniques while creating, performing, and responding.

EALR 3. Music: The student communicates through the arts.

Component 3.2 Uses music to communicate for a specific purpose.

GLE 3.2.1 Remembers and understands that music communicates for a specific purpose.

EALR 4. Music: The student makes connections within and across the arts to other disciplines, life, cultures, and work.

Component 4.2 Demonstrates and analyzes the connections among the arts and between the arts and other content areas.

GLE 4.2.1 Remembers skills, concepts, and vocabulary that music has in common with other content areas.

SCIENCE STANDARDS:

K-1 LS2A There are different kinds of natural areas, or *habitats*, where many different plants and animals live together.

K-1 LS2B A *habitat* supports the growth of many different plants and animals by meeting their basic needs of food, water, and shelter.

K-1 LS1D Different animals use their body parts in different ways to see, hear, grasp objects, and move from place to place

Content Objectives:

SWBAT understand and apply the techniques of playing musical instruments along with a unrehearsed poem. (1.2.1)

SWBAT use music to portray the atmosphere of a rainforest through music, musical instruments, and hand or body motions. (3.2.1)

SWBAT make the connection between music and other areas of learning, in this case music and science or the habitat of the rainforest. (4.2.1)

SWBAT understand that within the rainforest multiple types of animals and species live. (K-1 LS2A)

SWBAT develop the concept that these animals use their body part to move from place to place within their habitat. (K-1 LS 1D)

c. Language Objectives:

SWBAT communicate through music the emotions of the poem and understand that their musical instruments sound compliments the words in the poem. (3.2.1)

SWBAT understand that musical additions to the poem adds to the atmosphere of the poem and its content, in this case the rainforest and its layers/habitat. (K-1 LS2B, 3.2.1)

SWBAT articulate that a “habitat” is where different animals live and this is where they find food, shelter, and water to survive. (K-1 LS2A)

d. Previous Learning Experiences:

Students will have been exposed to the different aspects of the rainforest including the vast array of species that reside in the rainforest. They will have experience with the different layers of the rainforest and the effects that humans have had. They will have been able to experiment with the different instruments available and how to use them.

Assessment Strategies

Content/Language Objectives	Assessment Strategies
SWBAT understand and apply the techniques of playing musical instruments along with a unrehearsed poem. (1.2.1)	Formative: Teacher will guide students through the process of playing the different instruments and observe students use of the instruments. Teacher will circulate throughout the class and answer questions and make suggestions of how students are playing. Teacher will mark on checklist attached (attachment A) students progress. Summative: no summative assessment.
SWBAT use music to portray the atmosphere of a rainforest through music, musical instruments, and hand or body motions. (3.2.1)	Formative: Teacher will instruct students to play their instruments to the poem and watch participation from the students. Teacher will make notes on a sheet as each they observe each students participation and playing of their musical instruments. Teacher will mark on checklist attached (Attachment A) students progress.

	Summative: The sheet that the teacher marks with comments on participation.
<p>SWBAT make the connection between music and other areas of learning, in this case music and science or the habitat of the rainforest. (4.2.1)</p> <p>SWBAT understand that within the rainforest multiple types of animals and species live. (K-1 LS2A)</p> <p>SWBAT develop the concept that these animals use their body part to move from place to place within their habitat. (K-1 LS 1D)</p>	<p>Formative: Teacher will pose questions throughout the lesson and determine the students understanding of the rainforest and its connections to the instruments and poem. Class type decision based on the poem, musical instruments and rainforest. Teacher will mark on checklist attached (attachment A) students progress.</p> <p>Summative: Students will complete a short exit slip stating the connection they determined with the poem and the rainforest. Teacher will quickly read over and if the student made any connection with the habitat, noise level, variety of species, or layers of the rainforest they receive credit. If not the teacher will talk with the student and guide them to the connection. (Attachment B)</p>

Student Voice:

K-12 students will:	Student-based evidence to be collected (things produced by students: journals, work samples, projects, papers, etc.)	Description of how students will reflect on their learning
<i>1. Communicate the learning targets and their progress toward them.</i>	Musical instruments and the poem reading will be recording and then the students will listen to the session. Students will then talk about the music and how it sounds and reflect on the addition of body movement to the sound story.	Students will have a class discussion on how they felt about the assignment they will answer questions posed by the teacher and other students and converse about the playing.
<i>2. Review their performance and set personal learning goals based on those assessments.</i>	The playing of the musical instruments and the reading of the poem.	Have the students complete an exit sheet on how they felt the playing went and the connections between the rainforest, the poem they played, and the music.

Grouping of Students for Instruction

Student will be around the music classroom with their instruments in a circle. They will be grouped by assignment instrument. Counting students off and assignment the number of instruments will assign these to the students. (Example- if 4 wind chimes then they will have four students counted off to be those instruments, continued for all instruments until everyone has been assigned. If not enough instruments for students then some will just be hand motions and will be in one area and then switch off for the different run throughs of the sound story.

Learning/Teaching Experiences

1. Introduction:

- **Hook:** Read off the poem once to the students and use the rainstick in its proper place. Describe to students that music can make connections and an atmosphere that words themselves cannot.
- Describe how you will help students make connections to their lives and prior experiences.

Students will be asked questions about their prior knowledge of the rainforest and then read through the poem once. After they read through their will be a class discussion to open the poem up to class as to what connections the words and sounds of the poem connect to their prior knowledge.

2. Questions:

- i. What do you see when you close your eyes and listen to the poem?
 - ii. Is there a difference in what you heard with just the words and with all the musical instruments?
 - iii. Which version is more moving and gives a better glimpse into the actual atmosphere of the environment?
 - iv. How does the mood differ with the instruments?
 - v. What types of different sounds do you think would make the poem and sound story more realistic?
 - vi. What did you notice about the different ways the animals moved around in the rainforest?
 - vii. What is different from the snake and the bird?
 - viii. Did the tree move or does it stay in the same place? How do you think it grows and stays in place? Do you think that animals could live in a tree? What animal in the poem do you think would live in a tree?
- To engage students in the questions they will be asked to discuss the concepts in multiple settings to broaden students perspectives and gather information to form their own answers.

-Students would first talk to their neighbor about the questions so that they would have an answer and the stress on answering in front of the class would be limited. They would also partake in a class discussion so it isn't all on one person. Teacher would pose questions as the discussion died down to limit awkward silence and encourage talking. To make sure that all students participate and are involved in the questions they will have to talk with their elbow partner, after they have talked with their elbow partner the students

will go to their larger group and discuss their answers. The class will come back together as a large group and students will answer the questions. Having the students talk with other members of their class gives each student, even if they previously didn't have anything to say, they can at least talk about what their group discussed which will keep them engaged and be able to answer the questions.

3. Learning Activities:

- Assign student their instruments and ask them to retrieve them quickly and quietly and return to their seats. Have them please not start playing until asked to do so. (If the facility does not have instruments to play attached will be a list of instructions of how to create their own instruments that can be modified to fit into the poem, would also add another aspect of art by having the students create their own instruments.)
- List of instruments and where to play:

Word	Instrument	Body/Noise
Deep	Drums-Drum roll	
Rainforest	Rain sticks-up and down once	
Kapok Tree		Everyone starts to look up high and stretch their arms up
Look		Hand above eye looking around
Flying	Wind chimes-up and down, Jungle bells	
Monkey	Symbols hit once on the word	Make monkey sounds and arm motions
Snake	Sand blocks-rub together	Everyone "hiss"
Hopping	Xylophones hit two notes together 4 times	
Squawking	All instruments play three times together	Everyone "squawk" and flap their wings
Hiding	Very, very softly everyone play	"shhhhhh" sounds

3. Declarative statement: "Today we will be playing our instruments along to the poem "Colors of the Rainforest" by Miss Renee."
4. Explain students their parts for each instrument and allow them to practice as you say which words they will be playing on. Have the students play their instruments once while you are telling them where their parts are just to have the students get their playing out so that they can listen more intently.
5. Read through poem and have the student's just listen and think about when they will be playing.

Poem: "Colors of the Rainforest"

by Miss Renee

Deep in the rainforest
Is a kapok tree so high.

Look very closely.
What do you spy?
A blue morpho butterfly flying by.
A brown monkey swinging towards the sky.
A yellow snake gliding
A green frog hopping
A red parrot squawking
And a black bat hiding.

6. Ask if any questions.
7. Read through Poem again and direct students to when they should be playing and allow them to play this round through.
8. Ask students to say the poem with you the last time through and play their instruments.
9. Start the poem again cueing students when to play.
10. Go through poem a few more times with students and their instruments.
Record last time through.
11. Pose questions for students and class discussion.
12. Have students listen to recording.
13. Open up class for talking about their poem and how it sounds to them.
14. Ask sample questions to determine learning and what connections students took out of the lesson.

4. **Instructional Considerations:**

- a) Instructional procedures:
 - a. Students will be in a large group watching teacher demonstration of the instruments and then individually go retrieve their instruments after assigned. The teacher will then lead the poem by saying it out loud as the students follow along with their instrument. They will have time for practice but all in large group format.
- b) Multiple means of access
 - a. Teacher will give verbal cues and instruction. Students will be given a description and demonstration of what they are going to do. Students will also have hands on practice with their instruments and a poster of the words to follow along with.
- c) Multiple means of engagement
 - a. Students will not only be listening but they will be following verbal cues and poster cues as to where they are in the poem. Playing their part as well as doing hand motions will engage the students and listening to the teacher read through the poem. Hands on and interactive learning.
- d) Multiple means of expression
 - a. Students will demonstrate their learning not only through playing but by writing a short exist slip and talking in a class discussion.
- d) Methods of differentiation,

- a. Students will be given instruments based on physical abilities and the instruments will be made to accommodate student's skills. The teacher will give verbal cues for when to play to keep all students focuses and guide them as to when it is their turn to play.
- e) Language learning objectives:
 - a. Students will work through the vocabulary in the poem and discuss the different names of the instruments as well as the verbal skills needed to complete the task. Throughout the lesson students will talk about vocabulary and the use and meaning of the words and how the sounds and motions correspond.
- f) Cultural responsive pedagogy:
 - a. Students will reflect on the different culture and lifestyles and will have a brief discussion on where the different instruments originated and students can interact about their background and experience with the different instruments and their culture.
- g) Remedial activities:
 - a. Students will follow a poster with all the words and cues as to where they will play their instruments. Color coordination of the different instruments and playing on certain words will help guide the students. This will scaffold as well as the teacher playing and reading along with the students.
- h) Extension activities:
 - a. All students are needed for the instruments and their parts in the poem so there shouldn't be students who are finished faster than others and the last few seconds of the poem everyone will play there instruments. Have the students create their own instruments after playing on the premade ones. (See attached list and directions)

5. Closure:

Students will all play their instruments for ten seconds after the poem is over. They will repeat the poem a few times and then listen to the recording. After the class conversation about the connections between the poem and their previous knowledge students will put their instruments away and fill out the exit slip.

- Explain how students will share what they have learned in the lesson. Identify 2 questions that you can ask students to begin the conversation.
 - i. What connections did you personally make with the poem and what we have learned about the rainforest?
 - ii. Did the music help in you feeling like you were in the rainforest?
 - iii. Which instrument did you feel was most accurate?
- Describe how you will connect again to students' lives and to future lessons.
 - i. Teacher asks students how they felt about this lesson and if they felt it was helpfull in making connections. Have students provide

ideas on how to do it again and how they feel it helped their learning.

6. Independent Practice:

- a. Possible Family Interaction (Identify at least one way in which you might involve students' families in this instructional plan.)
 - Have students take home their poems or this poem and then make instruments with their families that correspond. (Beans in paper plate, cups with noodles, rubber bands over shoeboxes, etc.)

Instructional Materials, Resources, and Technology

See samples of other instruments that students could make to accompany the poem about the rainforests. Attachment A and B at the end of the lesson.

Additional Requirements

- **Integration with Other Content Areas:**
 - Can be combined with art even further and the students can create their own instruments and decorate them. Literacy: students can create their own poems and then have the other classmates perform the poems with the instruments.
- **Acknowledgements:**
 - Instructional plan created by Kayla Thomas.
 - List and simple explanation of musical instruments that can be created modified from <http://tlc.howstuffworks.com/family/musical-instruments-for-kids1.htm>.

Assessment Checklist (Attachment A)

Student Name: _____

Date: _____

Skill-Indicate the child's skill level by checking the appropriate box.	Level- Never	Level- Sometimes	Level- Always
Child actively listens and responds at appropriate times			
Child uses instrument at the intended time and for the intended purpose			
Child is actively discussing over questions with group			
Child makes connections to rainforest and music			
Child answers and responds to questions posed by the teacher and demonstrates comprehension			

Animal Life in the Rainforest



Many species of animal life can be found in the rain forest, more than any other biome in the world. Enchantedlearning.com is a handy website specifically laid out for educational purposes and I would highly recommend it as a resource for students as well as for teachers looking to do a lesson on the animal life in the rainforest. The site gives a great sampling of animals from the rainforest and

<http://www.enchantedlearning.com/subjects/rainforest/Animals.shtml>

where they can be found within the biome, as well as addresses the multiple aspects of animal life, from the food web, to predators. The site is beautifully laid out and is easily accessible to the user. The information is clear and concise and is organized by grade level, according to learning standards. This site is a great tool and makes learning about the animals in the rainforest exciting and interesting!

Nicole Erhardt

Instructional Plan

Revised 3/2/2011

Teacher Candidate: Nicole Erhardt **Date:** 3/22/12
Cooperating Teacher: Pauline Sameshima
Grade: Kindergarten
School District: Pullman **School:** Sunnyside Elementary School
University Supervisor: Lori White
Unit/Subject: Science
Instructional Plan Title/Focus: Animals of the Rainforest- Science/Art/Drama

Learning Targets/Purpose/Previous Learning

e. Instructional Plan Purpose:

Students will use art and drama to supplement their science rainforest lesson. They will create animal masks and act out. Students will also learn how to incorporate art and drama into learning and will use acting to enhance learning.

f. State Learning Standards:

The Arts

EALR 1: The student understands and applies arts knowledge and skills in dance, music, theatre, and visual arts.

Component: 1.4 Understands and applies audience conventions in a variety of settings and performances of the arts.

EALR 2: The student uses the artistic processes of creating, performing/presenting, and responding to demonstrate thinking skills in dance, music, theatre, and visual arts.

Component: 2.1 Applies a creative process to the arts (*dance, music, theatre, and visual arts*).

- Uses ideas, foundations, skills, and techniques to develop dance, music, theatre, and visual arts.
- Presents work to others in a performance, exhibition, and/or production.
- Performs work for others in a performance and/or production.

Component: 2.2 Applies a performance and/or presentation process to the arts (*dance, music, theatre, and visual arts*).

EALR 3: The student communicates through the arts (*dance, music, theatre, and visual arts*).

Component: 3.2 Uses the arts to communicate for a specific purpose.

Science

EALR 4: Life Science

K-1 LS3C External features of animals and plants are used to *classify* them into groups.

K-1 LS2B A *habitat* supports the growth of many different plants and animals by meeting their basic needs of food, water, and shelter.

g. Content Objectives:

Students will be able to: Apply art knowledge and skills through the use of drama. (1.4)

Students will be able to: use the artistic processes of creating, performing/presenting, and responding to demonstrate thinking skills in dance, music, theatre, and visual arts. (2.1, 2.2)

Students will be able to: communicate through the art and drama. (3.2)

Students will be able to: use external features of animals to classify them into groups. (K-1 LS3C)

Students will be able to: articulate that habitat supports the growth of plant and animals. (K-1 LS2B)

h. Language Objectives:

Students will be able to express themselves and communicate through the arts using drama. (1.4)

Students will be able to articulate the various types of animals that live in the rainforest. (K-1 LS3C)

i. Previous Learning Experiences:

Students will have already been exposed to the different aspects of the rainforest including the vast array of species that reside in the rainforest. They will have experience with the different layers of the rainforest and the effects that humans have had. They will have been exposed to the use of arts and drama with incorporation into various lessons.

Assessment Strategies

Attach questions, worksheets, tests or any additional documentation related to your assessment strategies. Also attach appropriate marking rubrics, criteria lists, expectations, answer keys, etc.

- **Formative:** measures process/progress toward mastery of target(s)
- **Summative:** measures outcomes/achievement of target(s)

Content/Language Objectives	Assessment Strategies
Students will be able to: Apply art knowledge and skills through the use of drama. (1.4)	Formative: Students will create animal masks and use drama and theater to act out the rainforest animals
Students will be able to: use the artistic processes of creating, performing/presenting, and responding to demonstrate	Summative: No summative assessment

<p>thinking skills in dance, music, theatre, and visual arts. (2.1, 2.2)</p> <p>Students will be able to: communicate through the art and drama. (3.2)</p>	
<p>Students will be able to: use external features of animals to classify them into groups. (K-1 LS3C)</p> <p>Students will be able to: articulate that habitat supports the growth of plant and animals. (K-1 LS2B)</p>	<p>Formative: Teacher will pose questions to students throughout the lesson. Students will show that they can articulate the various animals found in the rainforest.</p> <p>Summative: The making of the masks will serve as the summative assessment for this portion of the lesson. Through making the masks, students will be able to articulate that they understand which animals are found in the rainforest.</p>

Student Voice: Select two components of student voice and identify how students will reflect and/or communicate on their learning or progress toward meeting the goals. You may eliminate the components not being addressed.

K-12 students will:	Student-based evidence to be collected (things produced by students: journals, work samples, projects, papers, etc.)	Description of how students will reflect on their learning
3. <i>Communicate the learning targets and their progress toward them.</i>	Students will be able to produce animal masks that will demonstrate knowledge of the learning targets.	Students will reflect on knowledge of animals through the drama portion of the lesson.
4. <i>Review their performance and set personal learning goals based on those assessments.</i>	Making of masks and theater/drama performances.	Have students reflect on the lesson and the use of the animal masks to enhance learning.

Grouping of Students for Instruction

- For beginning discussion, students will be grouped around the teacher. When completing the masks, each student will work individually. After masks have been made, students can work in groups to act out rainforest scenes using animal craft.

Learning/Teaching Experiences

7. Introduction:

Hook: Have any of you ever been to the zoo? The rainforest has even more animals than the zoo does! What animals can you find in the rainforest?

8. Questions:

What animals can you find in the rainforest?

Why do animals live in different types of forests?

How do your animal masks look like the animals you can find in the rainforest?

Is it easy to act like rainforest animals?

How does acting like the animals help us understand them better?

9. Learning Activities:

Introduction

1. Ask the children what they know about the rain forest. Ask them what animals live there. You can also show them pictures of animals they may or may not know live there. I also like telling them about interesting facts and the levels of the rain forest. Make the introduction fun but educational.

Interactive story

2. Have your child or classroom sit in a big circle.
3. Tell them that they are going to make up a story all about the animals that live in the rain forest. Have the first child start the story by saying three lines of the story that they make up. Then the next child goes and etc.

Rain forest animal masks

4. Your classroom or child will design their own mask. They will get a half of a paper plate with a string attached and eyes poked out. They may make any animal they have learned about.
5. Some materials I like to use are feathers, glitter, beads, markers, and crayons. After they have decorated the mask punch a hole on each side of the mask.
6. Attach string to both sides in a loop so that it ties onto the child's head.

Animal Play

7. Have your classroom or child come up with a play using the masks they made. This lets them be very creative. They can design the script as well as the actions.
8. Then have them perform the play in front of you or the class. They will love designing their own stories. It is also fun to watch what they come up with.

10. Instructional Considerations:

a) Instructional procedures:

For beginning discussion, students will be grouped around the teacher. When completing the masks, each student will work individually. After masks have been made, students can work in groups to act out rainforest scenes using animal craft.

b) Multiple means of access

Teacher will give verbal cues and instruction. Students will be given a description and demonstration of what they are going to do. Students will also have hands on practice with making their masks and drama.

- c) **Multiple means of engagement**
Students will not only be listening but they will looking at animal pictures for the lesson. Students will also use art and drama to facilitate the rainforest lesson.
 - d) **Multiple means of expression**
Students will demonstrate their learning not only through art but through acting out a short skit/ rainforest scene.
 - e) **Methods of differentiation,**
Students will have multiple means of learning throughout the lesson, from art, to drama, as well as audio/visual learning with the pictures and class discussion.
 - f) **Language learning objectives:**
Students will work through the various rainforest vocabulary words.
Students will also use vocabulary to identify different animals.
 - g) **Cultural responsive pedagogy:**
Students will reflect on the diversity found throughout the rainforest. As a class, we will discuss the tribe that lives and thrives in the rainforest.
Students will discuss diversity and differences in lifestyles.
 - h) **Remedial activities:**
Students will view the pictures of rainforest animals and have a group discussion to facilitate the lesson.
11. **Extension activities:**
Because the students are allowed to use drama/theater after creating their masks, no student should finish before another. There should not be any need for an extension activity after the lesson.
12. **Closure:**
- Allow students to share their masks with each other. What animals did they make? What is their favorite animal in the rainforest?
 - How can students share this lesson with their parents?
13. **Independent Practice:**
- b. **Possible Family Interaction:** Allow student to take home masks to share with their families. Encourage students to share and act out their animals with their parents.

Instructional Materials, Resources, and Technology

Paper plates
Markers
Glue
Various materials (feathers, foam, yarn etc.)
Yarn
Hole punch

Additional Requirements

- **Integration with Other Content Areas:**

This lesson is easily integrated in various content areas. This lesson ties in art and drama with science. This lesson can also be incorporated into an English lesson, such as a research project or writing piece.

Acknowledgements:

- Instructional plan created by Nicole Erhardt
- Lesson derived from <http://voices.yahoo.com/rainforest-animal-lesson-plans-games-crafts-616618.html?cat=25>

Rainforest Conservation Success of the Children's Eternal Rainforest (or El Bosque Eterno de los Ninos)



This article would be a great source to use in a lesson plan because it really promotes the positive that children and groups of people can have on the environment. One of the reasons that this is such a good source is because of the story line that is backing this article. Having the students really be involved in the process of saving the rainforest is what this article is about and promoting that in the mini-lesson to students is the goal. Having the real changers be children promotes a positive example for the students that are doing and being involved in the art lessons. Also this cite comes from a .org address which gives that it is a valid

source that can be trusted and not just a piece of gossip. Seeing the idea that an impact can be made using children really sets a good standard for the lessons that will be created and given. Just opening the eyes of children about this topic and making them realize what they are capable of doing will make this lesson so much more impactful. This article really helps that to be clear to even me as a college student that, you do not have to be rich or have lots of power to impact the world on a larger scale. That is one of the ideas that I want to teach in my lessons and this article is a great example of that.

<http://www.earthtimes.org/conservation/school-children-saved-rainforest/457/>

Sarah Kilian

Instructional plan

Teacher Candidate: Sarah Kilian Date: 3/21/12
Cooperating Teacher: Mrs. Adams Grade: Kindergarten
School district: Pullman School District School: Jefferson elementary
University Supervisor: Lori White Unit/Subject: Music/ Science
Instructional plan title/focus: The Water Cycle

Learning Targets/Purpose/ Previous learning

Instructional Plan Purpose: In this lesson, students explore the theme of change in water. This cycle is also known as the water cycle and will be taught to the students through a sound story. This purpose of this is to help students begin their understanding of biology and how the water cycle fits into that.

State Learning Standards:

Music EALR 1: The student understands and applies arts knowledge and skills in dance,

Music, theatre, and visual arts.

Music EALR 4: The student makes connections within and across the arts (*dance, music,*

Theatre, and visual arts) to other disciplines, life, cultures, and work

Science EALR 1: Properties: Understand how properties are used to identify, describe, and categorize substances, materials, and objects and how characteristics are used to categorize living things.

Content objectives:

Students will be able to demonstrate understanding of basic water system. Music EALR 4 and Science EALR 1

Students will be able to demonstrate the motions that correlate to the sound story. Music EALR 1

Language objectives:

Students will be able to understand what the vocabulary words in sound story are: precipitation, condensation, evaporation. Students will be able to apply the name and know how that applies to the water cycle through the understanding of the motions.

Science EALR 1

Previous Learned Experience:

Students will use their knowledge about waters properties and when it rains outside and their experiences with water in life.

Assessment Strategies:

Content/ language Objectives	Assessment Strategies
Students will be able to demonstrate understanding of basic literary elements and allow visual cues to help understanding	Formative: watching as the students sing the verses and follow the motions check students off the list as they complete what is expected Summative: the end result of the song and ask the students to define the vocabulary words (With motions or in words)
Students will be able to understand what a sound story is and what it can do to help them in their literacy.	Formative: listening to the students and helping them develop their language as they sing Summative: give students basic questions and have the students fill out the answer or draw a picture to show the answer

Student voice:

k-12	Student-based evidence to be collected	Description of how students will reflect on their learning
Communicate how the learning from a series of lessons connects with communities within and outside of the school (5.3)	what the idea of the lesson was and the person connections that were made	This will be done through discuss with the students and providing the class with examples of ideas from the lesson.
Communicate the relationship between the assessment and the learning targets	The students presenting the song at the front of the class	This will be done through discussion in groups or in the whole class

Grouping of students for instruction:

Students will work individually for this assignment.

Learning/ teaching experiences:

1.) This lesson would be the beginning of a unit on the rainforest or climates. In order to start the teacher would begin and ask the class what they know about water. Then the students will give their answers and the teacher will lead the discussion. Then the teacher will lead the students towards the idea that water works in a circle. Then lead the students into the vocabulary that is used in the sound story that aligns with the water cycle.

2.)

Where does water come from outside?

How can you tell is it is going to rain?

What does rain do for the ground?

Does water stay in one place only?

Do things that were wet ever become dry?

I would involve students in the conversation by walking around the room and listening to the student's conversations. Also by facilitating the groups with the

questions specific that will address in each group. Ask the students to talk to their elbow partners and then bring them back as a group. This will make it easier for students who are shy to be able to speak without feeling intimidated by the whole class.

3.
 - 1.) Hands out the words to the poem
 - 2.) Read through the poem just saying the words to the song with the motions that
 - 3.) Read through the poem again this time adding the tune to the words. (With motions)
 - 4.) Read through the poem a third time adding the tune and clapping to the words.
 - 5.) Students sing the words along with the teacher. The teacher claps along with the singing
 - 6.) Students sing and do the motions with the teacher
 - 7.) Students will sing and do the motion while the teacher just does the motions
 - 8.) Students sing and perform the motions by themselves.
 - 9.) Repeat 8th step if students are getting the song. If they are not performing well revert back to 7 to help prompt the words to the song.
 10. After teaching the song ask students what they know about the water cycle?
 11. After discussion ask students if they have every heard the vocabulary words?
 12. Then define the words and show the motions again.

- 4.)
 - a) First define precipitation for them and would demonstrate what it looks like with hand motions. Then do the same process with the other vocabulary words in the song. The song would be present on a power point so that the students could see it. Then ask the students to make a list or draw things they know about water and its properties. Something that would be helpful is students were struggling would be to show an example of a property of water that the teacher had created, just as a picture of an ice cube or a puddle. Then begin to teach the students the words to the song through demonstrations and practice. After completing this with the class assess where they are and continue with the practice but add the motions, until you have insured that all the students know the song.
 - b) Lesson could be done presenting the song as the main cue or using the song as a support for what you are teaching the students. The vocabulary should be presented in a visual way that will stimulate the students and help them remember. This would look like using the hand motions to help students remember what word goes with what motion. Also present real world application to the vocabulary words. Having ice cubes and watching them melt is an example.
 - c) Students will be involved in the learning from the beginning of the lesson. They will be asked to critically think about what an allegory is and where they could have seen one. Also they have to create one about themselves so thinking critically about how the term applies to them will personalize it. Also at the end of the lesson the students will be the ones really leading the discussion, using the discussion questions.
 - d) A way to have differentiation in the way that the students show their understanding would be to allow the students to present the song however the

students desired. This could be done as group or individually. Also the students could present the song with no motions or vice versa. For students who are shy students comprehension could be shown through pictures or just explanation to the teacher.

e) The language learning objectives will be integrated in the discussion with the students as what they already know about the water cycle is being discussed. Also this will be taught directly as the song is taught. The vocabulary used will be defined and hopefully even comprehended even better due to the motions.

f) The topic of this song relates to the live of the students because it is the basic biology of life. Also at this time the environmental education needs to be taught at all levels to that students can be aware of the natural cycles. This would be related back to the student's everyday lives through grass growing and flowers blooming. Th everyday uses of water are so relevant to student's lives.

g) To scaffold the students find out how much they know and understand about the water cycle beforehand. This would serve as a review for some and address the areas that need to be worked on more than others.

h) Students who finish early will be asked to draw a picture that demonstrates the water cycle song that they have just learned that it looks like through a picture that should be environmental based.

5.) **Closure:**

To bring closure to this lesson have all the students perform the song together .this will help the students show what they have learned by allowing them to share the song that has been learned.

What does precipitation look like?

Where would the water cycle take place?

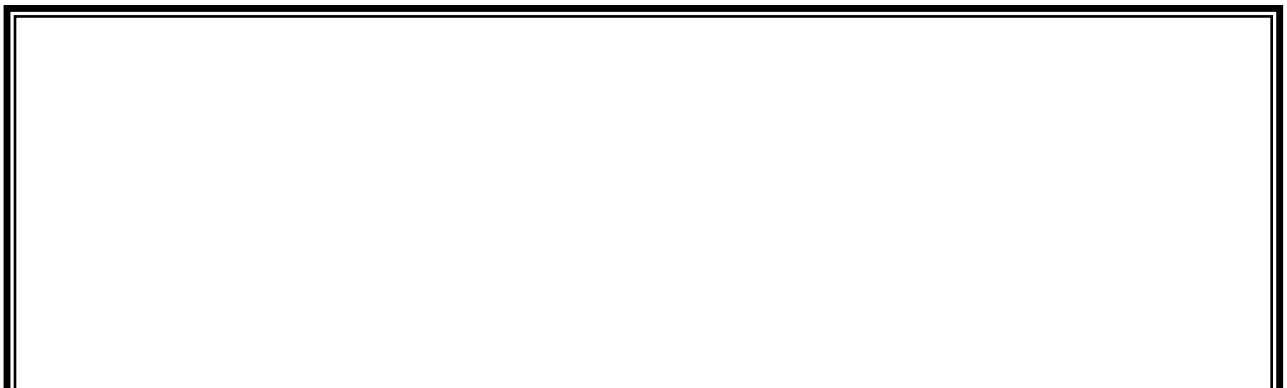
To bring this lesson to the student's everyday lives ask them to be observant of all the water they see every day. It would be good to mentions that the water should be outside that they see and not just the water from the sink. Although these examples would work, pose the questions to really help students think about water and the environment. Questions like this will allow students to think more relevant to their lives and look into the meaning of things.

6.) **Independent practice:**

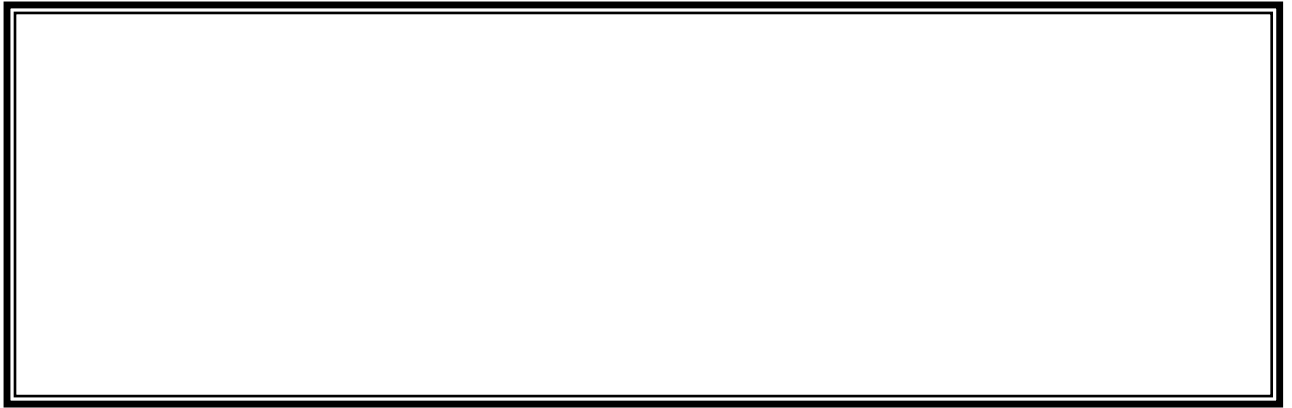
This lesson could also be present in a small performance for the parents and families. This would allow the students to demonstrate their learning and be able to bring families into more involvement with the lesson. Also present the students with a take home sheet that required them to find a real like picture of the vocabulary words with their parents is another way to involve the family.

Instructional materials and resources:

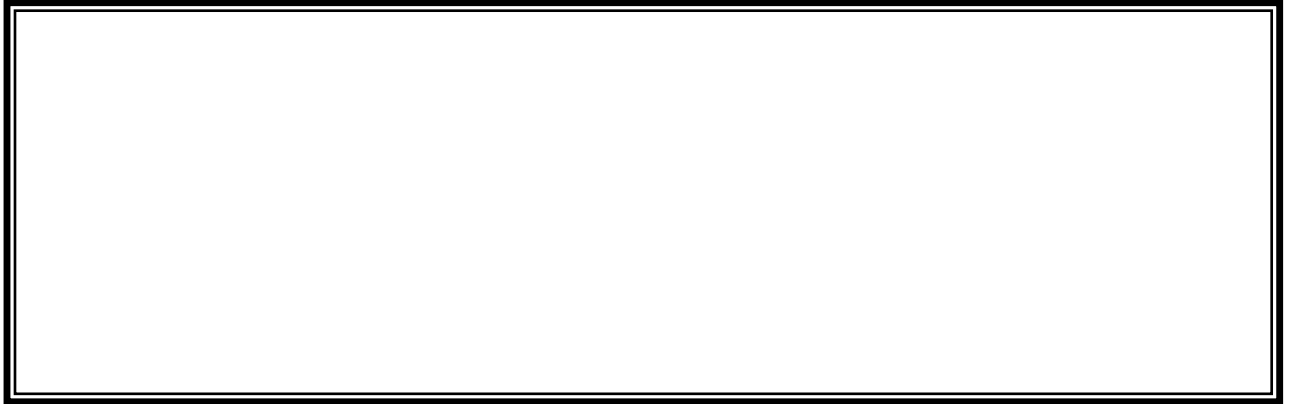
What does evaporation look like?



What does condensations look like?



What does precipitation look like?



Water travels in a circle yes it does (same motion)

It goes up as **evaporation**, (life hands up over head)

Forms a cloud, **condensation** (make a circle shape with hands over head)

Falls to the groups, **precipitation** (bring hands down slowly with fingers spread)

Yes it does!

clap,clap,clap

(She'll be coming around the mountain)

Additional Requirements

- This lesson can also be integrated with life sciences; this would be addressed in the content of the song. Thus the students would be learning vocabulary that will be relevant in older grades.

Instructional plan created by Sarah Kilian



Globio.org is a great resource. Specifically, the Tropical Rainforest portion of the website is extremely helpful. The Tropical Rainforest page covers numerous topics, including rain, the layers of the rainforest, rainforest biodiversity, plants and animals, etc.

This website is very student friendly, which means the information and facts are presented in a simple and straightforward style. This is helpful because the teacher can gather information quickly and not have to waste time simplifying facts to present to students. One feature of this website that is very helpful is the fast facts tab. Once clicked, another window opens up with a simplified outline of basic, important facts. Other features that I found were helpful are the photos, videos, and trivia tabs.

This resource could be used for many applications. For instance, students can use this website for furthering their education because of the student oriented structure of interactions, such as the trivia tab. During the unit on Tropical Rainforest, I would email this link to parents and guardians. This will give opportunities of student parent involvement and a chance for students to further their understanding at home, when they are able to explore this content their own way and own time.

I found this resource using Google, the search engine. But I made sure to search only websites that are domains such as .edu, .gov, .org, etc. This is because .com domains are usually not a reliable source for information. This website is free online, so this resource is very easily obtainable.

http://www.globio.org/glossopedia/article.aspx?art_id= **Brooke Swenson**

Instructional Plan

Revised 3/2/2011

Teacher Candidate: Brooke Swenson **Date:** 03/6/2012
Cooperating Teacher: Mrs. Brantner **Grade:** Kindergarten
School District: Pullman School District **School:** Sunnyside Elementary School
University Supervisor: Lori White
Unit/Subject: Tropical Rainforest /Science/Art
Instructional Plan Title/Focus: Layers of the Rainforest

Learning Targets/Purpose/Previous Learning

j. **Instructional Plan Purpose:** *The goal for this lesson is to inform students the four layers that make up the rainforest. The students will gain this concept by singing and interacting with a song about the four layers. After the song, the students will work with other classmates and participate in a four layers visual representation the teacher will conduct. This visual will teach the students the colors that represent the four layers.*

k. State Learning Standards:

EALR: 1. The student understands and applies arts knowledge and skills in dance, music, theatre, and visual arts.

Component: 1.2 Develops arts skills and techniques.

Learning Standard: 1.2.E Applies, experiences, and practices basic arts skills and techniques in dance, music, theatre, and visual arts.

EALR: 4. The student makes connections within and across the arts (*dance, music, theatre, and visual arts*) to other disciplines, life, cultures, and work.

Component: 4.2 Demonstrates and analyzes the connections among the arts and between the arts and other content areas.

Learning Standard: 4.2.E Demonstrates and applies the skills, concepts, and vocabulary common among and between the arts disciplines (dance, music, theatre, and visual arts) and other content areas at beginning levels.

K-1 LS2B: A *habitat* supports the growth of many different plants and animals by meeting their basic needs of food, water, and shelter.

l. Content Objectives:

- SWBAT apply, experience, and/or practice basic art skills and techniques in dance, music, and visual arts. [1.2.E]
- SWBAT demonstrate and apply the skills, concepts, and vocabulary common among and between the arts disciplines (dance, music, theatre, and visual arts) and other areas at beginning levels. [4.2.E]
- SWBAT identify the characteristics of a habitat that enable the habitat to support the growth of many different plants and animals. [K-1 LS2B]

m. Language Objectives:

- SWBAT use vocabulary relevant to the lesson.

n. **Previous Learning Experiences:** The students will have experienced reading trade book about the Tropical Rainforest through free reading time. The students have also listened to the teacher have a read aloud with the Rainforest literature, *The Great Kapok Tree*. The students will gain a background in Tropical Rainforest vocabulary and be exposed to the colors that make up the Rainforest.

Assessment Strategies

Content/Language Objectives	Assessment Strategies
SWBAT apply, experience, and/or practice basic art skills and techniques in dance, music, and visual arts.[1.2E]	Formative: The teacher will take mental observations about the participation of students throughout the song, the poster board creation, and discussion. Summative: N/A
SWBAT demonstrate and apply the skills, concepts, and vocabulary common among and	Formative: The teacher will take mental observations students and their ability to connect the Science content from the song

between the arts disciplines (dance, music, theatre, and visual arts) and other areas at beginning levels. [4.2.E]	into the poster board painting and then into the discussion. Summative: N/A
SWBAT identify the characteristics of a habitat that enable the habitat to support the growth of many different plants and animals. [K-1 LS2B]	Formative: The teacher will take mental observations of the students making connections between new and old information of the habitat within the Tropical Rainforest and understand what the different layers of the Rainforest are during the poster board application and discussion. Summative: N/A
SWBAT use vocabulary relevant to the lesson.	Formative: The teacher will observe those that use content vocabulary throughout the lesson. Summative: At the end of the lesson, the teacher will guide a discussion that will summarize what the students learned today and why they learned what they learned. The teacher will focus on the vocabulary they discovered throughout this lesson and will ask specific students the definition of the vocabulary terms.

Student Voice:

K-12 students will:	Student-based evidence to be collected (things produced by students: journals, work samples, projects, papers, etc.)	Description of how students will reflect on their learning
5. <i>Communicate the learning targets and their progress toward them.</i>	Journal entry in Science notebook	Students will reflect on their learning after the poster board/discussion. They will make a journal entry in their Science notebooks that will reflect on if they feel they met the learning targets. The students will be told their learning targets and then the students will communicate them through drawings and words. The students will also reflect on everything they learned that day. Due to the age level, the majority of their entries will be through art/coloring.
6. <i>Use a variety of learning strategies and explain the effectiveness of their choice.</i>	Student led White Board List/Discussion	The teacher will ask the students to tell the teacher what was their favorite way of learning about the Rainforest. For instance, reading a book, the read aloud, singing a song, through the art of the poster board. The students will explain their effectiveness, why they prefer or not prefer them. The teacher will receive their feedback of the varieties of learning techniques.

Grouping of Students for Instruction

- The students will participate in the song, the poster board creation, and the discussion as a class. There will be no separation of the students during this lesson. After the lesson, the students will individually write in their science notebooks as a journal entry.

Learning/Teaching Experiences

14. **Introduction:** Hello Class, today we are going to be doing a fun lesson about the Rainforest. Do you remember the book that we read yesterday about the Rainforest? What did you remember about the book? That's great! We are going to use what we learned to learn even more about Tropical Rainforest habitats. Sometimes we learn by reading books. And sometimes we learn by watching movies. Today, we are going to do a couple fun things to learn more. First, we are going to sing a song! And then, we are going to have some fun times with paint! The topic we are going to focus on is the different layers of the Rainforest and what makes up the different habitats within the layers. We see all kinds of animals around the world and each and every one of them has their own habitat. We saw some animals in the books that we explored. I wonder what layer these animals call their habitat.
15. **Questions:**
- What do you think is the darkest layer of the rainforest. Why do you think that?
 - Which layer do you think is the brightest? Why do you think that?
 - What type of animals do you think you'd find in the [_____] layer of the rainforest?
 - What colors do you think you would find in the rainforest?
 - What type of plants, trees, etc. do you think we would find in the rainforest?
 - i. I will involve my students actively in responding to these questions by listening to each child's response in a discussion and come up with scaffolding questions directly to the student that responded. The students will see the other students modeling a think-aloud and the students will see that the student gained more information by responding.
16. **Learning Activities:**
1. Students will reflect and apply the facts they learned from the book read to them previously with a quick intro discussion with the teacher.
 2. The teacher will prepare the students to sing the song by introducing the words with a poster provided (the teacher will have a song poster on hand)
 3. The students will perform song with the teacher's instructions. The teacher will make mental observations of students participating.
 4. Now that the students have been introduced to the 4 layers of the rainforest through the song, the teacher will gather the students around the poster board.
 5. The teacher will begin the poster board representation of the rainforest by starting at the bottom of the board.
 6. The teacher will have a student volunteer use a potato or a sponge, to paint a brown layer across the bottom
 7. The teacher will discuss the properties of the forest floor – it is dark, damp, full of many dead leaves and vines, spongy, etc.
 8. Then another student will use the cauliflower dipped in brownish/green paint, to paint the understory layer above the forest floor
 9. While the student s painting, the teacher will discuss what you would see in the understory – many vines, dense vegetation, not much light, etc.
 10. Next, another student will use a stalk of broccoli dipped in green to illustrate the canopy layer.
 11. The teacher will discuss its specifics including many green leaves and branches, the most leaves – much of the rain is stopped by the thick foliage, etc.
 12. Lastly, another student will use a stalk of celery dipped in green, to paint a few very tall trees for the emergent layer
 13. The teacher will point out that not many trees get to this layer because it takes so long for them to grow. This layer is very sunny because it is the very top!
17. **Instructional Considerations:**
- i) Instructional procedures:
 - a. The teacher will conduct a group song with the song poster as a visual aid
 - b. The teacher will use a Poster board to create the rainforest layers with vegetables and paint
 - j) Multiple means of access:
 - a. The teacher will guide the students as a whole group throughout and scaffolding their ideas throughout the poster board creation.
 - k) Multiple means of engagement:
 - a. Students will participate in group song
 - b. Students will participate in poster board creation

- c. Students will participate in class discussion
 - d. Students will record on their learning through coloring in their science notebooks.
- d) Multiple means of expression:
- Students will have opportunities to demonstrate their learning through group discussions, group poster creation, and journal entries.
- l) Methods of differentiation:
- If a student does not memorize things well auditory, the student can stand the closest to the song poster.
- m) Language learning objectives:
- SWBAT use vocabulary relevant to the lesson.
 - This can be applied throughout the lesson as the teacher using new and known terms relevant to the rainforest and listening for students to grasp these new terms by using them in their responses.
- n) Cultural responsive pedagogy:
- The cultural connections in this lesson is learning the environment of which others live in that they do not live in themselves and learning how the other animals live within this newly learned habitat.
- o) Remedial activities:
- The teacher will have the students complete a summary entry of all the new things they learned by drawing them in their journal entry.
- p) Extension activities:
- The students will finish at the same time because this is all very group based.

18. Closure:

- The teacher will bring closure to the class by having the students complete their journal entries and having the students summarize their newly learned information. The teacher will then summarize the student's findings and any information that was left out.
- The students will share their findings through the discussion after the journal entries.
 - i. The teacher will ask the questions, what was your favorite fact that you learned today? And What was your favorite layer of the rainforest and why is that layer your favorite?
- The teacher will connect this lesson to the students live by discussing with them what we learned today helps us understand why we need to protect rainforests. Rainforest protection is relevant to today's everyday life and this could begin their thoughts to extend this lesson further.

19. Independent Practice:

- Students will extend their learning by making their own representations of the rainforest layers at home.
- c. Possible Family Interaction: the students can teach siblings or parents the rainforest layers by demonstrating their representations with their family member.

Instructional Materials, Resources, and Technology

- Poster board
- Paint (brown, green, white)
- Sponges
- Vegetables

Additional Requirements

- **Integration with Other Content Areas:**
 - **Science:** This is a science lesson
 - **Art:** This lesson exploring using different mediums to apply paint and focused on paint as a representation.
 - **Music:** This lesson included learning new vocabulary through song.
 - **Math:** This lesson can help demonstrate fractions by seeing how the rainforest has 4 layer ($1/4 =$ one layer, etc.)
 - **Reading:** This lesson applies to several trade books the children can read

- **Writing:** This lesson allows development of expressing learned knowledge through writing (in their science journals)

Acknowledgements: Instructional Plan by Tricia Badillo

Sing the following song that will familiarize each child with the names of the layers of the rainforest:

Tune: “If you’re happy and you know it”

There are four layers in the rainforest.

4 LAYERS

There are four layers in the rainforest.

4 LAYERS!

Forest floor, understory, canopy, emergent

There are four layers in the rainforest.

4 LAYERS!

THE AMAZON RAINFOREST

Within the Rainforest Alliance website, there is a tab for the “Kids Corner”. Within the Kids Corner there are fun facts, and school curriculum ideas. Also, within the Kids Corner, you will find a fun Rainforest Survival Challenge and the opportunity to adopt-a-rainforest. There are so many different links/tabs at the website that a lot of ideas for a lesson could come from here.



The Rainforest Alliance learning site offers curricula and resources to help students understand how rainforests contribute to our collective well-being. There is a curriculum for grades K-8. This program teaches science, math, language arts, and social studies. It is extremely useful for teachers because this site even includes the national learning standards! There is information about forests, wildlife, and local communities. The importance of protecting the world’s natural resources is the main

You will find:

- Complete Lesson Plans
- Illustrated Stories
- Presentations
- Articles
- Profiles of Rainforest Species

<http://www.rainforest-alliance.org/curriculum>

Maren Talcott

Instructional Plan

Teacher Candidate: _____ Maren Talcott _____ **Date:** _____ 2-29-12 _____
Cooperating Teacher: _____ **Grade:** _____ K _____
School District: _____ **School:** _____
University Supervisor: _____
Unit/Subject: _____ Art and Science _____
Instructional Plan Title/Focus: Rain Forest Scene Alive

Learning Targets/Purpose/Previous Learning

- o. **Instructional Plan Purpose:** *Students will learn about the rainforest through participating in scene alive. In a scene alive the students will be acting out the scenes from the book "Rain Forest" Eye Wonder Series. Each group will focus on one aspect of the rain forest (section in the book). The group of students will then be asked to act out the words as the teacher is reading the section.*

p. **State Learning Standards:**

Science:

- EALR 1: Systems
- K-1 SYSA Living and nonliving things are made of parts. People give names to the parts that are different from the name of the whole object, plant, or animal.

Art (Theatre):

- EALR 1: The student understands and applies arts knowledge and skills in dance, music, theatre, and visual arts.
- Component 1.2: Develops theatre skills and techniques.
- GLE 1.2.1 Creates facial expressions for a character in a reenactment of a story.
- Acting Techniques and Skills: *Movement*, Voice, Character Development, and Improvisation

q. **Content Objectives:**

- SWBAT understand and gain knowledge about different aspects of a rainforest through literacy and theater.
- SWBAT learn how to act out a Scene Alive.
- SWBAT communicate knowledge about the Rainforest system.

r. **Language Objectives:**

- SWBAT Communicate through gestures, motions, and symbols without the use of words (theater/scene alive).

- s. **Previous Learning Experiences:** The students should have experience with acting, but not necessarily a scene alive. They will be taught exactly how a scene alive is done, and learn it for this lesson. This will be the first time they are asked to act without the use of words.

Assessment Strategies

- **Formative:** measures process/progress toward mastery of target(s)
- **Summative:** measures outcomes/achievement of target(s)

Content/Language Objectives	Assessment Strategies
<ul style="list-style-type: none"> • SWBAT understand and gain knowledge about different aspects of a rainforest through literacy and theater. 	<p>Formative: Teacher will ask the students half way through the book, which part of the rainforest is most interesting to them. The expectation is that which ever student the teacher calls on, they will be able to verbally answer this question. This is a check up to make sure that the students are paying attention.</p> <p>Summative: After the book, each student will be asked to reflect on the rainforest, and describe to a partner what they found to be the most interesting fact. This will be done before the students do their reflection in their journal (journal entry)</p>
<ul style="list-style-type: none"> • SWBAT learn how to act out a Scene Alive. 	<p>Formative: Groups of students will act out the scene alive to a specific section in the book. Each student will be expected to participate. This includes getting up in front of the class, and acting out the scene through body and hand movements.</p> <p>Summative: After each group has had practice acting out their assigned section in the book, they will be asked individually how they would define a scene alive. The teacher will verbally ask the students, and they will respond without writing it down anywhere. They will have to explain to the teacher what they think a scene alive is and what the purpose of a scene alive is. The teacher expects each student to try to answer the question.</p>
<ul style="list-style-type: none"> • SWBAT communicate knowledge about the Rainforest system. 	<p>Formative: When the book is about half way through, the teacher will ask the students which animal is their favorite in the rainforest. Not every child will have the opportunity to answer this question, this is just another check-in to see who is paying attention. The teacher will know if someone can't answer this question whether or not they are paying attention.</p> <p>Summative: After the book and the scene alive are finished, the students will have to write about the rainforest. There are guiding questions for their journal entry. They are expected to answer at least three of the guiding questions.</p>
<ul style="list-style-type: none"> • SWBAT Communicate through 	<p>Formative: As the groups act out the scene alive, the</p>

gestures, motions, and symbols without the use of words (theater/scene alive).	<p>teacher will record comments about the student’s ability to communicate through gestures and motions. Each student is expected to act out and participate in the scene alive. If there is a student just standing up there, then the teacher will make note of it at this time.</p> <p>Summative: The teacher will write a short evaluation about each student, and recognize the strengths and weaknesses of the student’s performance. This will be in a chart format, so that each student can see what he or she needs to improve on for the next time.</p>
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Student Voice:

K-12 students will:	Student-based evidence to be collected (things produced by students: journals, work samples, projects, papers, etc.)	Description of how students will reflect on their learning
<p>7. <i>Communicate the learning targets and their progress toward them.</i></p>	<p>Journal- Free Writing</p>	<p>The students will all be asked to write about their favorite animal or plant in the rainforest that was talked about in the book. This will give them a chance to reflect on what they read, and why they liked it best.</p>
<p>8. <i>Review their performance and set personal learning goals based on those assessments.</i></p>	<p>Self Evaluation</p>	<p>Similar to the journal, the students will have a chance to evaluate their own individual performance. A worksheet will be given with a few guiding questions, and the students will then make a goal for the next time we do scene alive in the classroom.</p>

Grouping of Students for Instruction

- Individual: The students will all do an individual reflection at the end of the lesson. They will be asked to reflect on their performance AND to write about their favorite animal/plant from the book.
- Groups: There will be groups of about 4 students. The groups will be acting out the scene alive together. They will be assigned a section from the book, and as a group they will do the scene alive in front of the class as the teacher reads the section.

Learning/Teaching Experiences

20. **Introduction:** Hello class, today we are going to be incorporating some drama into our lesson on Rainforests. We will learn about animals, plants, and other wildlife that live in the rainforest. We are going to be leaning about the rainforest from a book called, “ Rain Forests-Open your eyes to a world of discovery”. We are going to be using a new form a drama, that we have not tried before, it is called

Scene Alive. In a Scene Alive, we act out a story as we hear it for the first time, and we do not use words.

21. Questions:

- Why are we learning about the rainforest?
- What kind of living things would we find in a rainforest?
- What is your favorite part of a rainforest?
- What is a very famous rainforest?
- Have you ever been to a rainforest?

- I will approach these questions in two different ways. Some of the questions will be asked as a group, at the start of the lesson. This will help the teacher see what prior knowledge the students have. Other questions will be asked to random, individual students while the work period times are taking place.

22. Learning Activities:

- First the teacher will introduce the lesson of the day, Rainforests.
- Then she will explain what a Scene Alive is. And give an example/demonstration of a scene alive so that the students can have an example.
- The teacher will then introduce the book, "Rain Forests-Open your eyes to a world of discovery" and give a little background about the book.
- After the book is introduced, the teacher will then assign the class into groups. The groups will consist of about 4 people per group.
- The teacher will assign each group at least two topics from within the book. Example: Tree Houses, Canopy Creatures.
- Then, one group will go at a time and act out the scene alive section they were assigned.
- After each group has acted out their section, they will have the chance to evaluate their own performance on a self-evaluation worksheet.
- On this worksheet they will make a goal for the next time they do a scene alive in class.
- Lastly, the next day, they will review the book a little as a whole class.
- Then individually, each student will do a free-write about their favorite section in the book. This may include animal, plant, habitat, or interesting fact.

23. Instructional Considerations:

Instructional procedures:

- Teacher will explain what a scene alive is.
- Teacher will give an intro to the rainforest.
- Teacher will demonstrate a scene alive for the students.
- Teacher will put the students into groups.
- Teacher will read the book.
- Students will actively listen to the teacher's intro and demonstration.
- Students will communicate with group members during scene alive.
- Students will fill out self-evaluation sheet.
- Students will create a goal.
- Students will do a free-write about their scene alive section from the book.

Multiple means of access:

- Teacher will give out worksheet about the rainforest (Overview)
- Teacher will provide the book "Rain Forest"
- Teacher will give self-evaluation to students

Multiple means of engagement:

- Students will engage in discussion about rainforest.
- Students will get into groups for scene alive.
- Students will act out section in food for scene alive.
- Students will do a free write in journal.
- Students will fill out self-evaluation.

Multiple means of expression:

- Students will perform their scene alive in front of the class.
- Students will reflect to show their understanding of the book.
- Students will evaluate their performance.

Methods of differentiation:

- For students with disabilities, they will watch the scene alive, and they will have the opportunity to perform just in front of the teacher without such a large audience if they want. This will be helpful if they are shy to perform in front of the class.

Language learning objectives:

- Through the use of theatre, the students are forced to communicate with their peers through movement.

Cultural responsive pedagogy:

- There is a cultural aspect to this lesson because the students will all have different movements and motions that they associate with words. It will be interesting to compare what one student does, versus another.
- The students are learning about culture by learning about a place/environment very different from our own. The people that live by a rainforest live a very different life. Even though the focus is not on the people, a Rainforest is part of the world environment. They appear in different continents and cultures all around the world.

Remedial activities:

- To re-teach this activity, a similar book could be used and the same procedure could take place. This would allow for the students to have additional practice. Also, the teacher could still use the same book, but change the groups and assign different sections to the groups.
- As an additional activity, the students could create a painting or drawing of their favorite aspect in a rainforest. (animal, tree, plant)

Extension activities:

- If a student were to finish early they would be asked to write an extended free write.
- If a student were to finish early they would be asked to draw a picture to go along with their free write.

Closure:

Now that we have accomplished our first scene alive, we can get excited to incorporate them into our class more often. We will be learning more about the rainforest over the next week, this was just an intro to our new lesson, Rainforest.

By doing your free-write in the journal, I am able to see what you have learned from this activity. I will use that information for continuing my teaching about Rainforests.

Scene Alive can be used for a variety of subjects, and we will be doing them more often in class. You can practice this skill in your daily life by communicating through body movement with less verbal communication. Scene Alive could even be used as a game with your friends! We strengthen our creativity by using a Scene Alive.

Your family can always read a story to you at home, as you do a scene alive to practice. The more you practice, the more comfortable/confident you will get for doing them in class. I am sure your parents would love to see you act out a scene alive as well.

- Questions:
- What was the most interesting part about the book for you?
- What do you want to learn more about?

24. **Independent Practice:**

- Outside of class, the students can be asked to create a collage of rainforest animals. The pictures can be from magazines, or hand drawn pictures of the animals.

Instructional Materials, Resources, and Technology

- The book, “ Rain Forests-Open your eyes to a world of discovery” By: Elinor Greenwood
- Physical Body
- Self-Evaluation Worksheet
- Journals

Additional Requirements

- **Integration with Other Content Areas:**
 - Drama
 - Science
 - Art
 - Writing
- **Acknowledgements:** This instructional plan was created by Maren Talcott.

Student Evaluation

Scene Alive

1. How comfortable did you feel while participating in the Scene Alive?
(circle one)

- Very comfortable
- Moderately comfortable
- Not at all comfortable

2. How creative was your group?
(circle one)

- Very creative
- Moderately creative
- Not at all creative

3. Do you want to participate in a Scene Alive again?
(circle one)

- Yes
- No

4. Who do you feel did the best in your group?

5. How many points does your group deserve? (Out of 10 points)

Journal Free-Write Entry

This journal entry is to see what you have learned from our Scene Alive activity. I will be expecting you to answer at least 3 of the guiding questions below. Please write one page front and back. Be thoughtful and creative and remember to have fun! You may incorporate pictures into your journal entry.

- Why are we learning about the rainforest?
- What kind of living things would we find in a rainforest?
- What is your favorite part of a rainforest?
- What is a very famous rainforest?
- Have you ever been to a rainforest?
- How did you feel about the Scene Alive activity?
- What was your favorite part of the Scene Alive?
- Would you want to participate in a Scene Alive again, if yes what would you change?

Teacher Evaluation

Scene Alive

Student Name: _____

<u>Strengths</u>	<u>Weaknesses</u>
1.	1.
2.	2.
3.	3.