

An Interdisciplinary Unit for 1<sup>st</sup> Grade incorporating Common Core State Standards and Florida New Generation Sunshine State Standards

Created By: Tiffany Scheer

TiffanyScheer@yahoo.com

### Overview

This unit is designed in order to allow students to explore the life cycles of plants and animals, specifically pumpkin, apple tree, butterfly, and frog. It uses Common Core Exemplar texts as well as additional poetry, digital, fiction, and non-fiction literature resources as the basis for instruction. The unit is designed to last approximately two weeks and provides eight lessons. The timing is flexible and can be adjusted for individual student needs and differentiation.

This unit was created as a culminating activity for my curriculum and instruction master's program. The activities are research based and allow students freedom of choice in order to provide for more authentic and meaningful instruction. In addition this unit incorporates technology to increase interest and motivation in the classroom.

### Unit Goals

At the end of this unit, students will understand the life cycles of two different plants and two different animals. Students will also be able to compare and contrast the characteristics which make these plants and animals unique.

### Enduring Understandings

Students will understand what a life cycle is and why it is important for survival. Students will also learn to make careful and accurate observations through guidance of life cycle experiments and the completion of an observation journal.

### Essential Questions

What is a life cycle?

How do parts of living things help them survive?

How are plants and animals similar and different?

### Standards

Throughout the lessons in this unit, the following Florida Sunshine State Standards as well as Common Core State Standards will be covered.

### Common Core State Standards

CCSS.ELA-Literacy.RL.1.1 Ask and answer questions about key details in a text.

CCSS.ELA-Literacy.RL.1.5 Explain major differences between books that tell stories and books that give information, drawing on a wide reading of a range of text types.

CCSS.ELA-Literacy.RL.1.10 With prompting and support, read prose and poetry of appropriate complexity for grade

CCSS.ELA-Literacy.RI.1.1 Ask and answer questions about key details in a text

CCSS.ELA-Literacy.RI.1.5 Know and use various text features (e.g., headings, tables of contents, glossaries, electronic menus, icons) to locate key facts or information in a text.

CCSS.ELA-Literacy.RI.1.6 Distinguish between information provided by pictures or other illustrations and information provided by the words in a text.

CCSS.ELA-Literacy.RI.1.10 With prompting and support, read informational texts appropriately complex for grade 1

CCSS.ELA-Literacy.RF.1.4a Read grade-level text with purpose and understanding

CCSS.ELA-Literacy.W.1.2 Write informative/explanatory texts in which they name a topic, supply some facts about the topic, and provide some sense of closure.

CCSS.ELA-Literacy.W.1.5 With guidance and support from adults, focus on a topic, respond to questions and suggestions from peers, and add details to strengthen writing as needed.

CCSS.ELA-Literacy.W.1.6 With guidance and support from adults, use a variety of digital tools to produce and publish writing, including in collaboration with peers.

CCSS.ELA-Literacy.W.1.7 Participate in shared research and writing projects (e.g., explore a number of "how-to" books on a given topic and use them to write a sequence of instructions).

CCSS.ELA-Literacy.W.1.8 With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question.

CCSS.ELA-Literacy.SL.1.1 Participate in collaborative conversations with diverse partners about *grade 1 topics* and texts with peers and adults in small and larger groups.

CCSS.ELA-Literacy.SL.1.1a Follow agreed-upon rules for discussions (e.g., listening to others with care, speaking one at a time about the topics and texts under discussion).

CCSS.ELA-Literacy.SL.1.1b Build on others' talk in conversations by responding to the comments of others through multiple exchanges.

CCSS.ELA-Literacy.SL.1.4 Describe people, places, things, and events with relevant details, expressing ideas and feelings clearly.

CCSS.ELA-Literacy.SL.1.5 Add drawings or other visual displays to descriptions when appropriate to clarify ideas, thoughts, and feelings.

CCSS.Math.Content.1.MD.A.2 Express the length of an object as a whole number of length units, by laying multiple copies of a shorter object (the length unit) end to end; understand that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps.

### Florida New Generation Sunshine State Standards

SC.1.L.14.1: Make observations of living things and their environment using the five senses.

Cognitive Complexity: Level 1: Recall

SC.1.L.14.2: Identify the major parts of plants, including stem, roots, leaves, and flowers.

Cognitive Complexity: Level 1: Recall

SC.1.L.14.3: Differentiate between living and nonliving things.

Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning

SC.1.L.16.1: Make observations that plants and animals closely resemble their parents, but variations exist among individuals within a population.

Cognitive Complexity: Level 1: Recall

SC.1.L.17.1: Through observation, recognize that all plants and animals, including humans, need the basic necessities of air, water, food, and space.

Cognitive Complexity: Level 1: Recall

SC.1.N.1.1: Raise questions about the natural world, investigate them in teams through free exploration, and generate appropriate explanations based on those explorations.

Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning

SC.1.N.1.2: Using the five senses as tools, make careful observations, describe objects in terms of number, shape, texture, size, weight, color, and motion, and compare their observations with others.

Cognitive Complexity: Level 2: Basic Application of Skills & Concepts

SC.1.N.1.3: Keep records as appropriate – such as pictorial and written records – of investigations conducted. Cognitive Complexity: Level 2: Basic Application of Skills & Concepts

### Objectives

Students will demonstrate prior knowledge about the topic by volunteering information to fill in the KWL chart. The chart will illustrate the information the class knows (K) about life cycles and questions or curiosities they want (W) to learn about life cycles. Throughout the unit the students and teacher will reference back to the KWL chart in order to fill in information they have learned (L) about life cycles.

Students will understand the life cycle of a pumpkin. Students will learn key vocabulary terms: seed, sprout, vine, flower, baby pumpkin, and adult pumpkin.

Students will understand the life cycle of a tree. Students will learn key vocabulary terms: seed, seedling, blossoms, baby apple, and mature apple. Students will understand the beginnings of what a plant needs to survive and why specific parts of a plant are important. The vocabulary terms for plant survival are: soil, sun, roots, water, stem, flower, seeds and leaves.

Students will understand the life cycle of a butterfly. Students will learn key vocabulary terms: egg, caterpillar, chrysalis, and butterfly.

Students will understand the life cycle of a frog. Students will learn key vocabulary terms: egg, tadpole, froglet, and frog.

Students will create a science observation journal. Students will understand that scientists use their five senses to make careful observations through the reading of the Common Core Exemplar Text My Five Senses by Aliki. Students will understand scientists ask questions.

Students will demonstrate their knowledge of life cycles and the organisms they represent. Students will create a poster, book, or unique artifact which demonstrates their knowledge of the life cycle.

Students will choose two plants or animals from the study in order to compare and contrast their attributes.

### Materials, Resources, & Technology

A wide variety of materials are used to complete each of these activities. The specific materials for each activity are listed in each specific lesson plan. Supplementation and adaptation of each lesson is encouraged in order to differentiate for the specific needs of your particular classroom.

### Lesson 1: Introduction to Life Cycles

### Overview:

Students will be introduced to what a life cycle is. Students will demonstrate prior knowledge and activate schema through the production of a KWL chart.

### Objective:

Students will demonstrate prior knowledge about the topic by volunteering information to fill in the KWL chart. The chart will illustrate the information the class knows (K) about life cycles and questions or curiosities they want (W) to learn about life cycles. Throughout the unit the students and teacher will reference back to the KWL chart in order to fill in information they have learned (L) about life cycles.

### Materials:

KWL Chart(s)

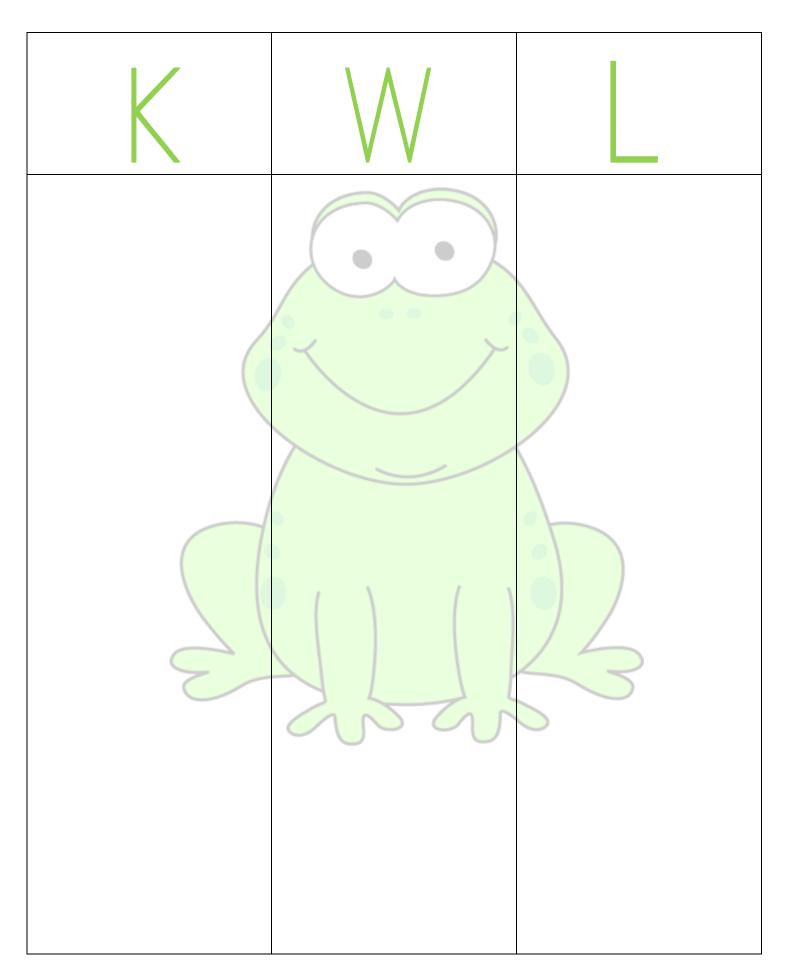
Writing Utensil

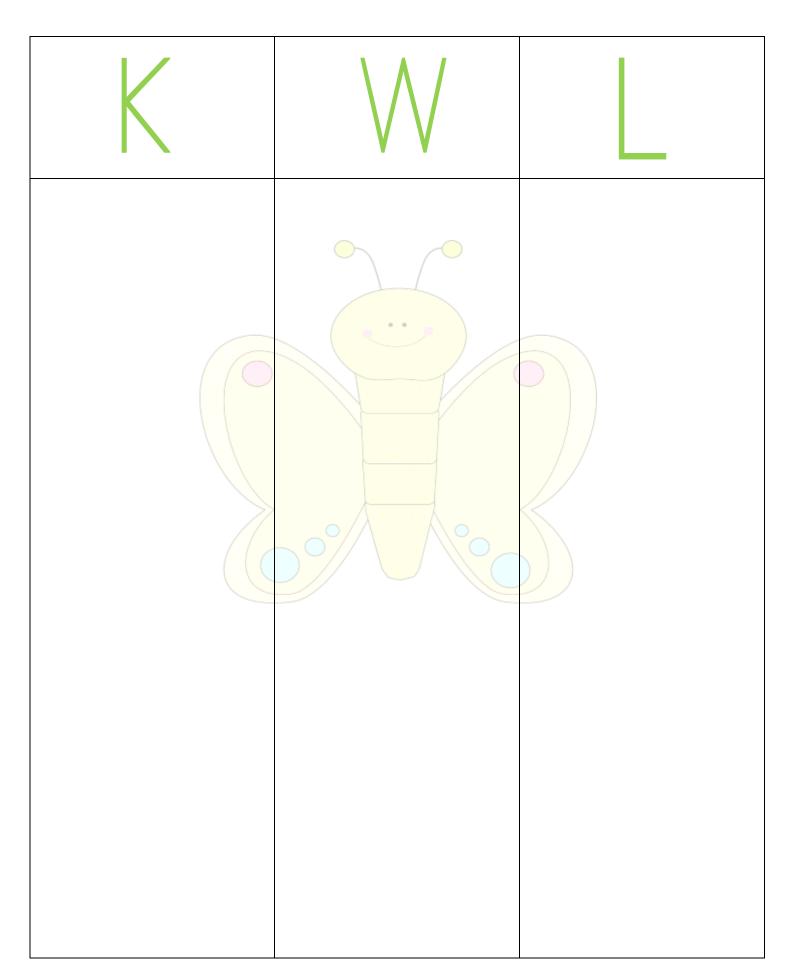
### Procedure:

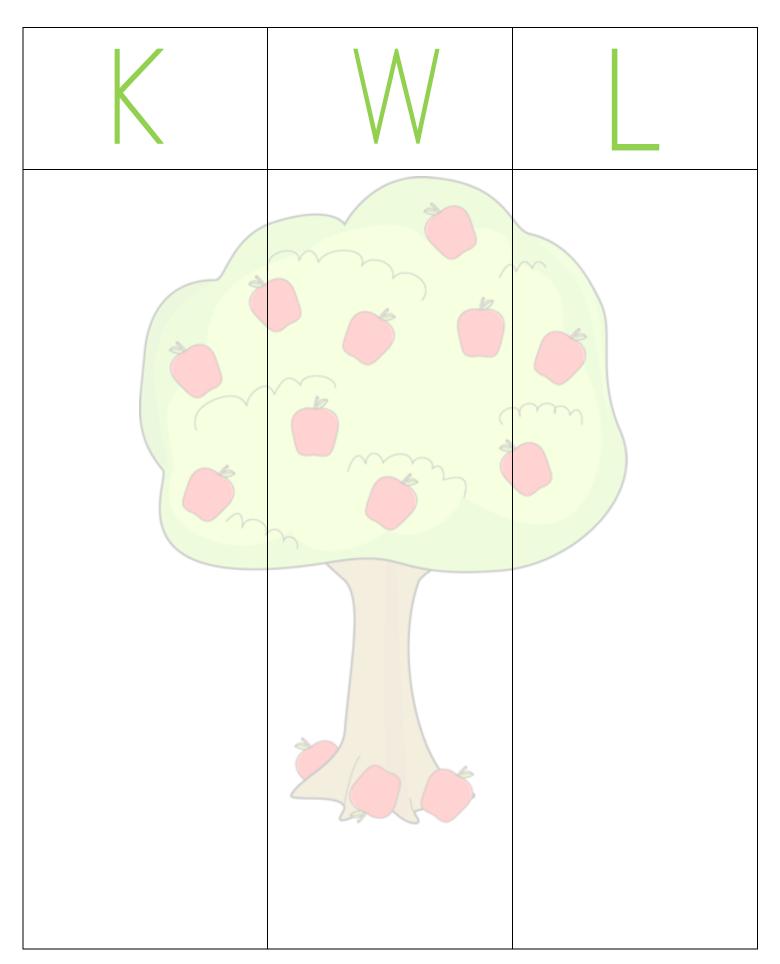
Discuss with the students that they will be completing a unit of study on life cycles. Specifically they will be working collaboratively with classmates in order to complete research and activities on one of the four life cycles pumpkin, plant, butterfly, or frog which interests themselves or their group the most. At the culmination of the unit each group will present to the classroom a product which they have created which will teach the class about their chosen life cycle. As an introductory activity the class will create a KWL chart in order to see what we already know about life cycles and what we are interested in learning during the unit. The KWL chart will be displayed in a prominent location in the classroom and be referred to as needed to record knowledge gained throughout the study. Depending on teacher preference on KWL chart can be completed on life cycles in general or four different KWL charts can be completed to represent the four main life cycles which will be studied in the unit.

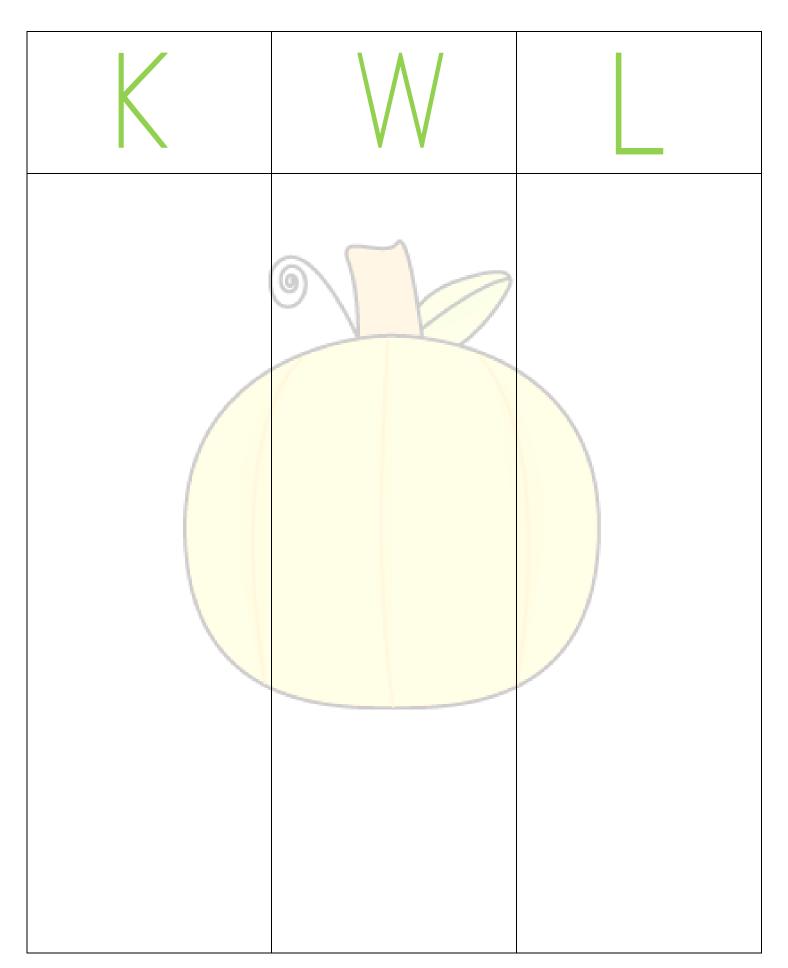
### Evaluation:

This introductory activity will be used as a pre-assessment to gauge the prior knowledge of the class.









### Lesson 2: Pumpkins

### Overview:

Students will get an overview of the life cycle of a pumpkin by reading the Common Core Text Exemplar From Seed to Pumpkin by Wendy Pfeffer.

### Objective:

Students will understand the life cycle of a pumpkin. Students will learn key vocabulary terms: seed, sprout, vine, flower, baby pumpkin, and adult pumpkin.

### Materials:

Pfeffer, W. (2004). From seed to pumpkin. New York: Harper Collins.

Photo Cards/ Vocabulary Cards

Pumpkin Life Cycle Activity Page

Pumpkin Life Cycle Writing

### Procedure:

Before reading the teacher should preview the vocabulary for the book using the vocabulary cards. These are the terms which will be important for understanding of the text. The teacher should read aloud the book <u>From Seed to Pumpkin</u>. While reading the teacher should stop at appropriate times to engage the students in meaningful discussion related to the topics in the story. After the read aloud students will demonstrate their knowledge about the life cycle of a pumpkin. Explain to students there will be opportunities for further research and study after all life cycles are introduced.

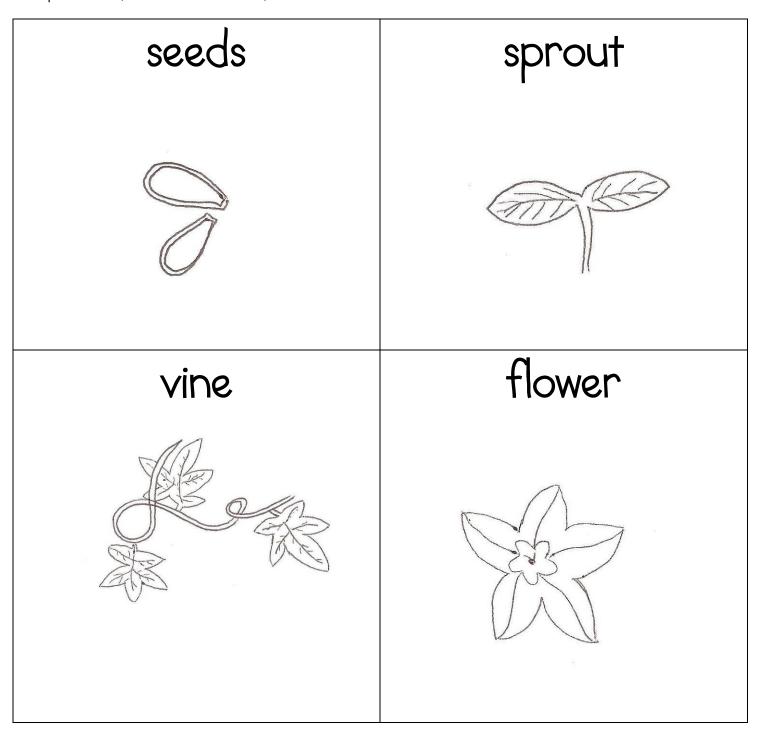
### Evaluation:

Options for differentiated assessment are included. Choose the assessment which you feel is best for each particular student or use parts to create your own unique assessment.

Students may sequence photo cards and orally describe the life cycle of a pumpkin.

Students may cut and paste pictures and labels illustrating the sequence with arrows.

Students may write a process paper about the life cycle of a pumpkin and illustrate the steps in appropriate order using appropriate vocabulary.



## green baby pumpkin adult pumpkin

Pumpkin	Life	Cycle	Activity	/ Paae
1 GITIPINIT		~ , CIC	/ (011111)	, , ,,

N I			
Name:			

Directions: Cut out the photos of the pumpkin life cycle. Glue them in order on another piece of paper. Cut out the labels for each stage. Glue them under the correct pictures. Number the pictures in order and use arrows to illustrate the process.

seeds	green baby pumpkin	sprout	
vine	adult pumpkin	flower	

### 

1	
i	
i	
I	

### Lesson 3: Plant (Apple Tree)

### Overview:

Students will get an overview of the life cycle of an apple tree by reading the Common Core Text Exemplar <u>A Tree is a Plant</u> by Robert Clyde Bulla. In addition they will also understand the important parts of a plant in order to ensure survival.

### Objective:

Students will understand the life cycle of a tree. Students will learn key vocabulary terms: seed, seedling, blossoms, baby apple, and mature apple. Students will understand the beginnings of what a plant needs to survive and why specific parts of a plant are important. The vocabulary terms for plant survival are: soil, sun, roots, water, stem, flower, seeds and leaves.

### Materials:

Bulla, R.C. (1960). A tree is a plant. New York: Harper Collins.
Photo Cards/ Vocabulary Cards
Tree Life Cycle Activity Page
Tree Life Cycle Writing
Parts of a Plant Activity
Parts of a Plant Writing

### Procedure:

Before reading the teacher should preview the vocabulary for the book using the vocabulary cards. These are the terms which will be important for understanding of the text. The teacher should read aloud the book  $\underline{A}$   $\underline{Tree}$  is a Plant. While reading the teacher should stop at appropriate times to engage the students in meaningful discussion related to the topics in the story. After the read aloud students will demonstrate their knowledge about the life cycle of a tree. In addition this book allows for exploration of parts of a plant which are essential to survival of a plant. Explain to students there will be opportunities for further research and study after all life cycles are introduced.

### Evaluation:

Options for differentiated assessment are included. Choose the assessment which you feel is best for each particular student or use bits and pieces to create your own unique assessment.

Students may sequence photo cards and orally describe the life cycle of a tree.

Students may cut and paste pictures and labels illustrating the sequence with arrows.

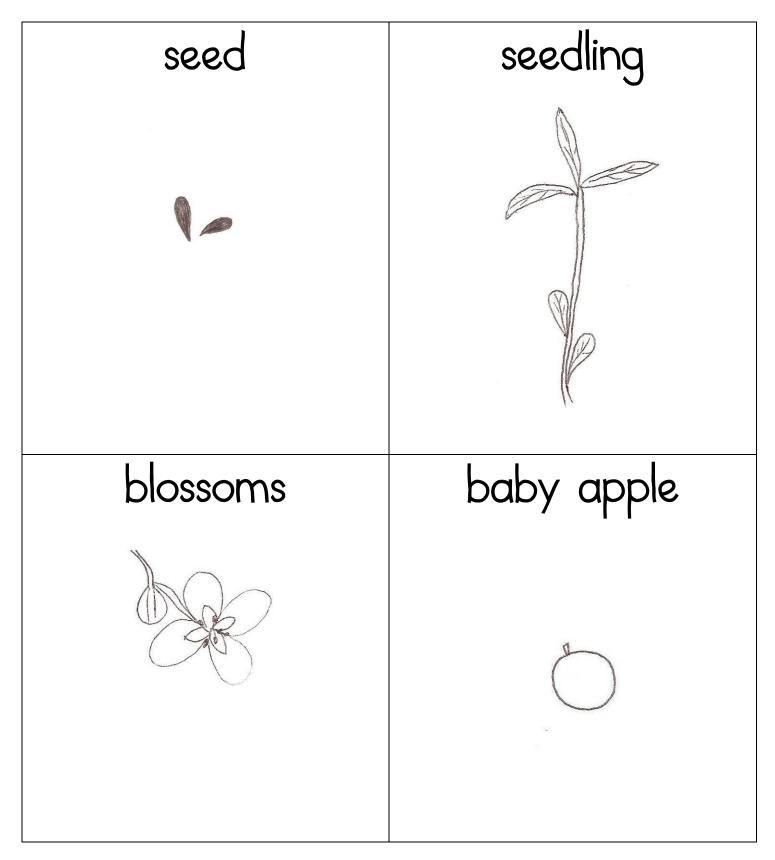
Students may write a process paper about the life cycle of a tree and illustrate the steps in appropriate order using appropriate vocabulary.

### Optional Evaluation:

Students may sequence photo cards and orally describe the parts of a plant.

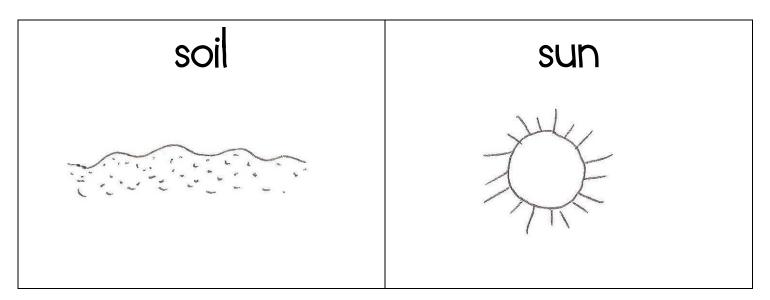
Students may cut and paste pictures and labels illustrating the parts of a plant.

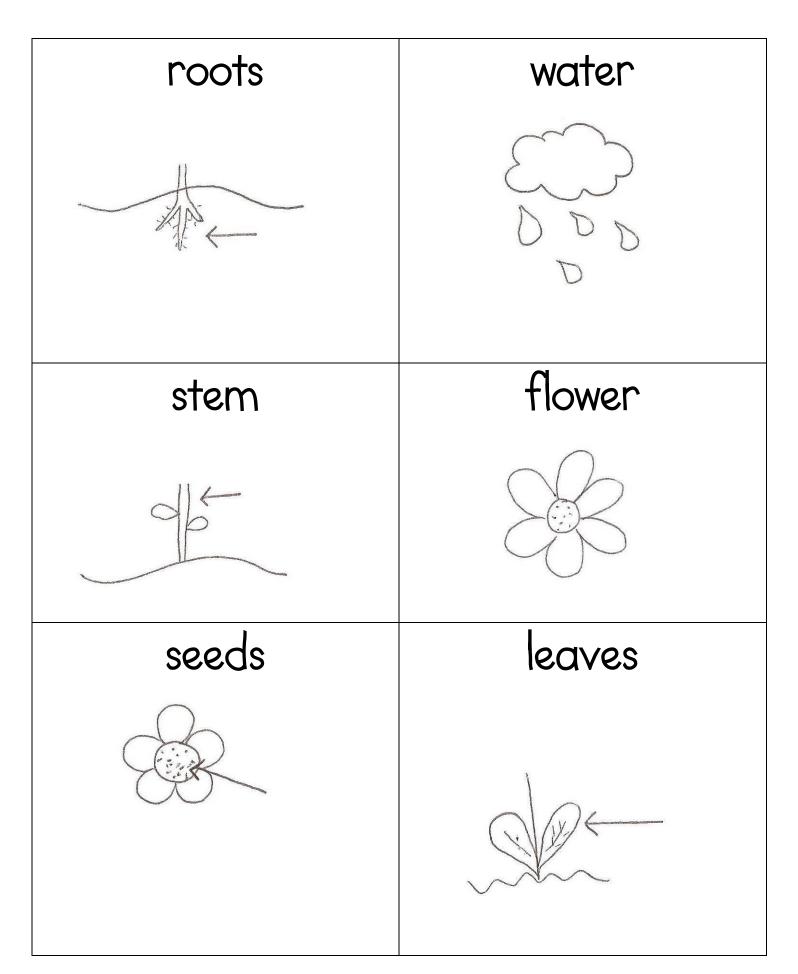
Students may write about and describe the parts of a plant using appropriate vocabulary.



# mature apple apple tree

### Cards for Parts of a Plant





### Tree Life Cycle Activity Page

Directions: Cut out the photos of the apple tree life cycle. Glue them in order on another piece of paper. Cut out the labels for each stage. Glue them under the correct pictures. Number the pictures in order and use arrows to illustrate the process.

seed	apple tree	seedling
blossoms	mature apple	baby apple

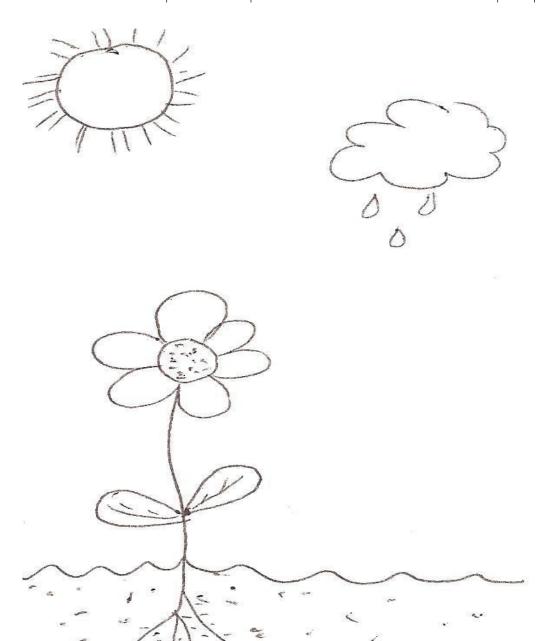
### Tree Life Cycle Writing

Name:		
	e life cycle c	of an apple tree. Illustrate the steps.
· · · · · · · · · · · · · · · · · · ·		
	l	
	] 1	
	1	
	·	
	j l	

Parts	of o	Plant	Activity	Sheet
1 41 13	OI C	<i>a</i> 1 10111	/ (CIIVIIV	

Name: \_\_\_\_\_

Directions: Cut out the labels for the parts of the plant. Glue them next to the correct plant part.



soil	seeds	sun
roots	leaves	water
stem	flower	

Parts of a	Plant Writin	g					
	Use the voca		ne box and des		s of a plant. To abel a plant dic		
soil	sun	roots	water	stem	flower	seeds	leaves

### Lesson 4: Butterfly

### Overview:

Students will get an overview of the life cycle of a butterfly by reading <u>From Caterpillar to Butterfly</u> by Deborah Heiligman.

### Objective:

Students will understand the life cycle of a butterfly. Students will learn key vocabulary terms: egg, caterpillar, chrysalis, and butterfly.

### Materials:

Heiligman, D. (1996). From caterpillar to butterfly. New York: Harper Collins.

Photo Cards/ Vocabulary Cards

Butterfly Life Cycle Activity Page

Butterfly Life Cycle Writing

### Procedure:

Before reading the teacher should preview the vocabulary for the book using the vocabulary cards. These are the terms which will be important for understanding of the text. The teacher should read aloud the book <u>From Caterpillar to Butterfly</u>. While reading the teacher should stop at appropriate times to engage the students in meaningful discussion related to the topics in the story. After the read aloud students will demonstrate their knowledge about the life cycle of a butterfly. Explain to students there will be opportunities for further research and study after all life cycles are introduced.

### Evaluation:

Options for differentiated assessment are included. Choose the assessment which you feel is best for each particular student or use bits and pieces to create your own unique assessment.

Students may sequence photo cards and orally describe the life cycle of a butterfly.

Students may cut and paste pictures and labels illustrating the sequence with arrows.

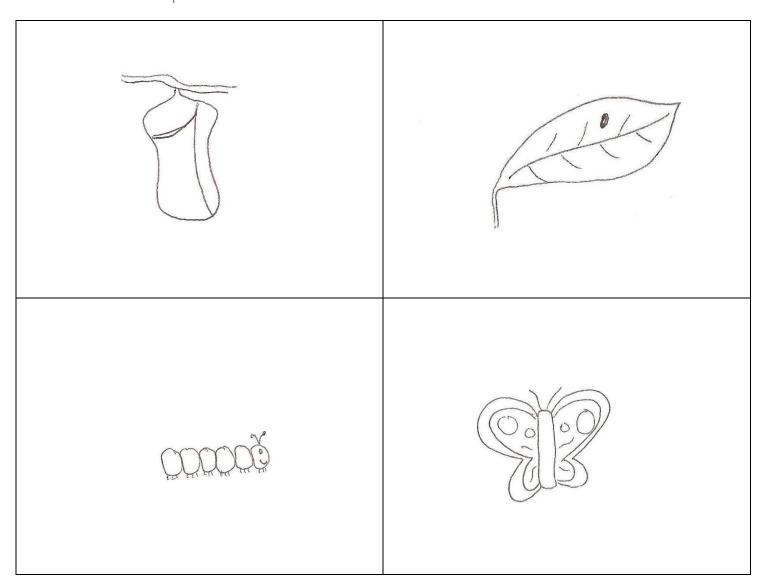
Students may write a process paper about the life cycle of a butterfly and illustrate the steps in appropriate order using appropriate vocabulary.

### caterpillar chrysalis butterfly

### Butterfly Life Cycle Activity Page

Λ	lame:			
1 \	1011110.			

Directions: Cut out the photos of the butterfly life cycle. Glue them in order on another piece of paper. Cut out the labels for each stage. Glue them under the correct pictures. Number the pictures in order and use arrows to illustrate the process.



egg	caterpillar
chrysalis	butterfly

uttertly L	ite Cycle VVriting		
lame: irections:		—— e life cycle ot	f a butterfly. Illustrate the steps.
		7	
		_	

### Lesson 5: Frog

### Overview:

Students will get an overview of the life cycle of a butterfly by reading <u>From Tadpole to Frog.</u> by Wendy Pfeffer

### Objective:

Students will understand the life cycle of a frog. Students will learn key vocabulary terms: egg, tadpole, froglet, and frog.

### Materials:

Pfeffer, W. (1994). From Tadpole to Frog. New York: Harper Collins. Photo Cards/ Vocabulary Cards
Frog Life Cycle Activity Page
Frog Life Cycle Writing

### Procedure:

Before reading the teacher should preview the vocabulary for the book using the vocabulary cards. These are the terms which will be important for understanding of the text. The teacher should read aloud the book <u>From Tadpole to Frog.</u> While reading the teacher should stop at appropriate times to engage the students in meaningful discussion related to the topics in the story. After the read aloud students will demonstrate their knowledge about the life cycle of a frog. Explain to students there will be opportunities for further research and study after all life cycles are introduced.

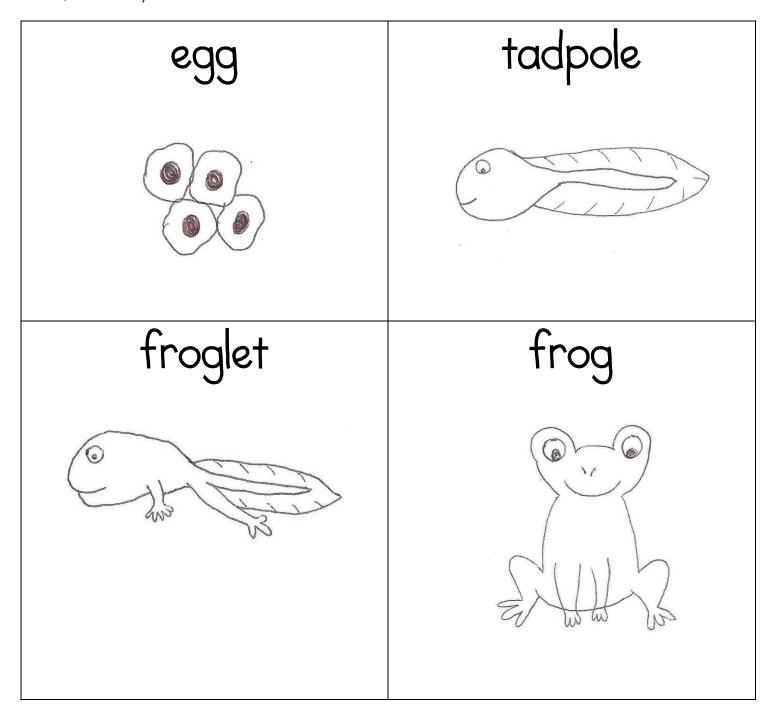
### Evaluation:

Options for differentiated assessment are included. Choose the assessment which you feel is best for each particular student or use bits and pieces to create your own unique assessment.

Students may sequence photo cards and orally describe the life cycle of a frog.

Students may cut and paste pictures and labels illustrating the sequence with arrows.

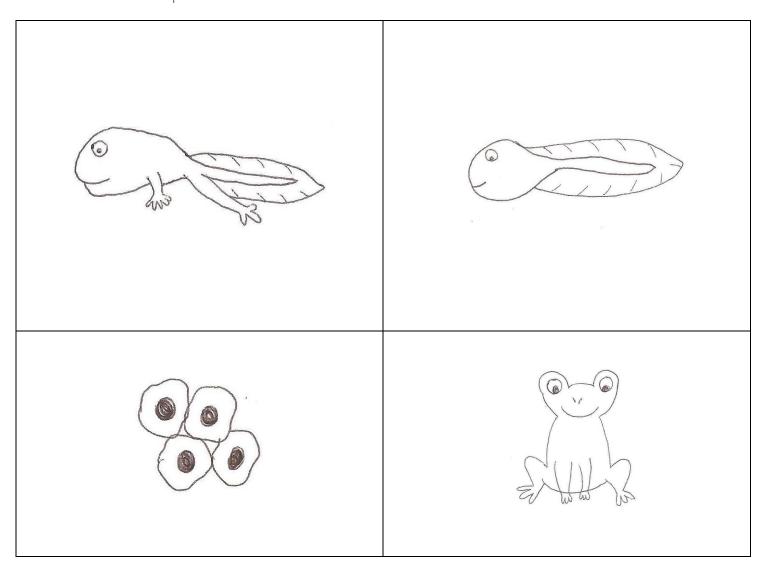
Students may write a process paper about the life cycle of a frog and illustrate the steps in appropriate order using appropriate vocabulary.



### Frog Life Cycle Activity Page

Name:			
i vame:			

Directions: Cut out the photos of the frog life cycle. Glue them in order on another piece of paper. Cut out the labels for each stage. Glue them under the correct pictures. Number the pictures in order and use arrows to illustrate the process.



egg	tadpole
froglet	frog

Name:	Frog Life Cycle Writing		
	Directions: Write the steps in the	e life cycle of	a butterfly. Illustrate the steps.
		¬ Г	
		7 [	

### Lesson 6: Observation Journals

### Overview:

The teacher will work with the students to set up an observation journal. Students will be completing a long term observation of one of the four life cycles introduced in the previous days. Simultaneously in the classroom frog eggs will go through metamorphosis, butterflies will hatch, and pumpkin and apple seeds will be growing. Students will choose which project interests them most and keep an observation journal on their chosen topic.

### Objective:

Students will create a science observation journal. Students will understand that scientists use their five senses to make careful observations through the reading of the Common Core Exemplar Text My Five Senses by Aliki. Students will understand scientists ask questions.

### Materials:

Aliki. (1962). My five senses. New York: Harper Collins.

Observation Journal Worksheets or Blank Notebooks

Folders

Rulers

Writing Utensils

### Procedure:

Read the story My Five Senses to the class. Discuss and review with students what each sense is and relate the senses to how scientists use their senses to make observations. Guide students through the set up of an observation journal which will be used to record observations and questions from the life cycle experiments which will be set up in the classroom. (Experiments can be set up at this time or another time) The journals can be set up with the template page or created in a blank notebook but should have spaces for questions, predictions, data recording, drawings, and notes.

### Evaluation:

At the end of the experiment window teachers can assess the observation journals according to the rubric provided. Ensure that the students understand the rubric prior to the investigations.

CATEGORY	4	3	2	1
Drawings/Diagrams	Clear, accurate diagrams are included and make the experiment easier to understand. Diagrams are labeled neatly and accurately.	Diagrams are included and are labeled neatly and accurately.	Diagrams are included and are labeled.	Needed diagrams are missing OR are missing important labels.
Journal/Notebook	Clear, accurate, dated notes are taken regularly.	Dated, clear, accurate notes are taken occasionally.	Dated, notes are taken occasionally, but accuracy of notes might be questionable.	Notes rarely taken or of little use.
Scientific Concepts	Journal illustrates an accurate and thorough understanding of scientific concepts underlying the experiments.	Journal illustrates an accurate understanding of most scientific concepts underlying the experiments.	Journal illustrates a limited understanding of scientific concepts underlying the experiments.	Journal illustrates inaccurate understanding of scientific concepts underlying the experiments.

(Rubistar, 2008)

Total: \_\_\_\_/12

### Lesson 7: Life Cycle Research Projects

### Overview:

As students are completing the observations of the various life cycle experiments set up in the classroom, they will also be working on creating a product which demonstrates their knowledge of a particular life cycle that is of interest to them. Students may work alone, with a partner, or in a group for this project.

### Objective:

Students will demonstrate their knowledge of life cycles and the organisms they represent. Students will create a poster, book, or unique artifact which demonstrates their knowledge of the life cycle.

### Materials:

Reference Books on Frogs, Butterflies, Apple Trees, Plants, or Pumpkins

Arts & Crafts Supplies as Needed

Digital Resources...

Common Core Text Exemplar Poem: Two Tree Toads

http://www.watchknowlearn.org/Video.aspx?VideoID=34947&CategoryID=9450

Common Core Text Exemplar: A Tree is a Plant

http://www.watchknowlearn.org/Video.aspx?VideoID=34452&CategoryID=9451

Common Core Text Exemplar: Garden Helpers

http://ngexplorer.cengage.com/ngyoungexplorer/0909/readstory.html

National Geographic Explorer: Frogs

http://ngexplorer.cengage.com/ngyoungexplorer/1003/readstory.html

National Geographic Explorer: Butterflies

http://ngexplorer.cengage.com/ngyoungexplorer/0804/readstory.html

### Procedure:

Explain to students that they will be creating a product of their choosing to present to the class which demonstrates what knowledge they have gained in regards to the particular plant or animal they have chosen to study and their life cycle. There is quite a bit of freedom within this project but the products must reflect knowledge gained. Students may work individually, with partners, or in groups in order to create the product and present the material to their classmates. Students can be given as much time as necessary to complete the projects.

### Evaluation:

Once students have chosen a project they should be given a rubric in order to explain the expectations. Specific rubrics for a variety of projects can be created easily and free at <a href="http://rubistar.4teachers.org/">http://rubistar.4teachers.org/</a> or



### Lesson 8: Comparing and Contrasting Plants & Animals

### Overview:

After the presentations are complete, students will use their newfound knowledge to compare and contrast the plants and animals studied in the unit.

### Objectives:

Students will choose two plants or animals from the study in order to compare and contrast their attributes.

### Materials:

Research Materials from Previous Lesson
Completed Projects for Reference
Science Observation Journals
KWL Charts
Venn Diagrams

### Procedure:

Review and highlight the important knowledge learned in this unit. Refer back to the KVVL charts from day one in order to complete the learned (L) column. Direct students to work with a partner to choose two animals, two plants, or a combination of both in order to complete a Venn diagram.

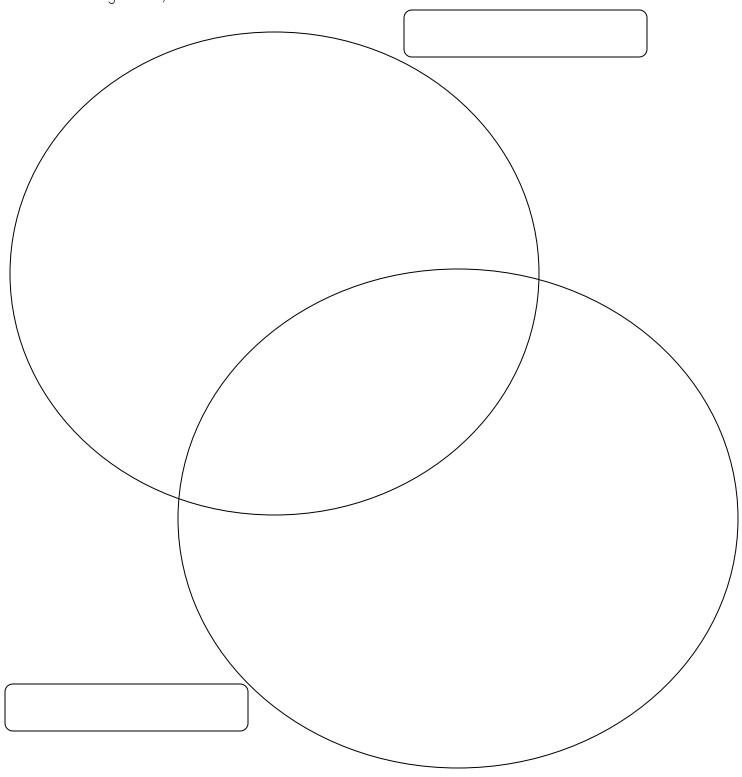
### Evaluation:

Teacher will evaluate the Venn Diagrams for accuracy.

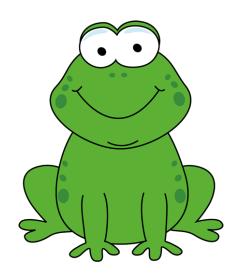
Venn	diagram

N I			
Name:			

 $\mbox{\sc Directions:}$  Choose two animals, two plants, or one of each and complete the Venn diagram to compare and contrast the organisms you chose.



Thank you for downloading this Life Cycle Freebie. If you have any additional questions or feedback please email me at <a href="mailto:TiffanyScheer@yahoo.com">TiffanyScheer@yahoo.com</a>



Graphics From: www.mycutegraphics.com

Original Drawings by: Tiffany Scheer

Fonts From: Fonts 4Teachers

Rubistar Rubric Creator: <a href="http://rubistar.4teachers.org/">http://rubistar.4teachers.org/</a>