# Fourth Grade

# Science Lessons

# Next Generation Science Standard- 4th Grade Science Lessons

**18 Weeks of Science Lessons that incorporate all of the NGSS standard for 4th grade**

****go to www.science4th.weebly.com to click the hyperlinks as you teach**

## Week 1

**Supplies: Handouts; Pretest/Post-test; Activity #1 Flour, Salt, Water for fossil activity Activity #2 peanut butter, jelly, and graham crackers for Sedimentary Rock model.**
**Student Objective: Students will be able to describe how landscape changes over time due to weathering.**
**Standard(s) 4.ESS1.1 Identify evidence from patterns in rock formations and fossils in rock layers to support an explanation for changes in landscape over time.**
**Essential Question: How do rocks and fossils form over time? How does landscape change over time?**
**Monday- Pre-Test; Introduce Fossils; Watch Magic School Bus and the Busasaurus, *Flashcards with partner, Discuss- Ask class, "How do rocks and fossils form over time?"**
**Tuesday- Close Read on Fossils, (Handout) Activity #1- Create Fossils; Ask class, "How do rocks and fossils form over time?"; writing connection- (Handout) Homework- "How are Fossils Formed Over Time?"**
**Wednesday- Introduce the Rock Cycle, We will Rock You, (handout) draw a diagram of the Rock Cycle,**
**Watch Video #1and Video # 2. Discuss what students noticed. (Handout) Create a model of how sedimentary rock is formed with graham crackers, peanut butter, and jelly. Ask class, "How do rocks form over time?". (Handout) Homework- Write about how sedimentary rock is formed.**
**Thursday- Watch video demonstrating landscape changes. Watch Newscast demonstrating how landscape changes over time. Partners- talk to your partner about changes that they noticed and share out to the group. *Review for Test-Work with partners on flashcards, scatter, or Test Practice. Ask class, "How does landscape change over time?"**
**Friday- Test on Rocks and Fossils (in handouts)**
***Practice Each Day if time (Test Prep)- Rocks and Fossils**

## Week 2

**Supplies: Weathering Handouts, Pretest/Post-test; Experiments-Clear plastic rectangular container, sand, water, plastic sheet paper, stones, straw, small stick to make river, funnel, tray, water spray bottle, sticks or toothpicks, butterscotch and soft peppermint candy for each student.**

**Student Objective: Students will be able to describe how landscape changes over time due to weathering.**

**Standard(s): 4.ESS2.1 Make observations and/or measurements to provide evidence of the effects of weathering or the rate of erosion by water, ice wind, or vegetation.**

**Essential Question: How does landscape change over time?**

**Monday- Pre-Test, Introduce Weathering; Watch Magic School Bus Rock and Roll; Introduce Weathering Song with Lyrics, do (handout) Erosion Experiment (Video for teacher to watch) with ocean-Draw Before/After pictures, Discuss results. Ask class, "How does landscape change over time? *Partner/Flashcards**

**Tuesday- Weathering Song with Lyrics, do (handout) (Erosion Experiment- teacher views...the wind starts at 2:01) with wind-Draw Before/After pictures, Discuss results. Ask class, "How does landscape change over time?" *Partner/Play Scatter-Try to beat each partner's score.**

**Wednesday- Weathering Song with Lyrics, Do (handout) (Erosion Experiment-teacher views.... the river starts at 3:40) River Model-Draw Before/After pictures, Discuss results. Ask class, "How does landscape change over time? *Partner/Play Scatter-Try to beat each partner's score.**

**Thursday- Weathering Song with Lyrics, do (handout) (Erosion Experiment-teacher views...the mountain/rain starts at 5:25/adding trees starts at 6:58) Mountain/Rain (with and without "trees"-Model-Draw Before/After pictures, Discuss results. Ask class, "How does landscape change over time?" *Practice "Test" for review practice.**

**Friday- Weathering Song with Lyrics,, Do Erosion Candy Experiment (handout). The purpose of the candy experiment is to help students remember what "erode" or "erosion" means. I use the words a lot during this experiment.. Pass out candy erosion handout and the butterscotch and/or peppermint. Students will draw a model of their butterscotch and/or peppermint "before" picture on their handout. Let them suck on their candy while they are reviewing for their test on Quizlet. After two minutes, they will draw their candies and label them. (The soft peppermint erodes faster.) Let them continue working. After another 2 minutes they will draw and label their candies (four minutes). If they are doing both candies per student repeat. Let them talk to a partner about what they noticed. Students will write what they noticed and wondered at the bottom of the handout. Have the partners discuss the questions at the top of the handout to generalize what they've learned from the combination of experiments from the week. Review Test on Quizlet; Take Test (in handout)**

# List of Formative and Summative Assessments

This is a list to simplify inputting grades into gradebook.

| | |
|---|---|
| **Week 1- Rocks and Fossils** | |
| Pre-Test | Formative |
| How Fossils Are Formed Over Time | Summative |
| The Rock Cycle | Formative |
| Sedimentary Rock Model | Formative |
| How Sedimentary Rocks Are Formed | Summative |
| Test | Summative |
| **Week 2- Landscape Changes** | |
| Pre-Test | Formative |
| Water Erosion | Formative |
| Wind Erosion | Formative |
| River Erosion | Formative |
| Mountain Erosion | Formative |
| Mountain with Trees | Formative |
| Candy Erosion | Formative |
| Test | Summative |
| **Week 3-Renewable and Non-renewable Resources** | |
| Pre-Test | Formative |
| Solar Energy Diagram | Formative |
| Hydroelectric Energy Diagram | Formative |
| Wind Energy Diagram | Formative |
| Experiment-Solar Oven | Summative |
| Test | Summative |
| **Week 4- Earth Preservation** | |
| Natural Disaster Pages 1-14 | Formative |
| Week 5-Earth Preservation (2nd Week) Presentation | Summative |
| Disaster Plan | Summative |
| **Week 6 – Engineer, Design, Construct & Improve** | |
| Pet Rock Prototype 1 | Formative |
| Group Pet Rock Prototype 2 | Formative |
| Let's Rock! (Story) | Formative |
| Let's Rock! Pet Rock Profile | Formative |
| Let's Rock! How to care for our pet | Formative |
| Let's Rock! How to build Habitat | Formative |
| Habitat Prototype 1 | Formative |
| Group Habitat Prototype 2 | Formative |

| | |
|---|---|
| **Week 7 – Engineer, Design, Construct &** | |
| **Presentation of Habitats Problems/Improvements** | **Formative** |
| **Final Pet Rock Habitat** | **Summative** |
| **Week 8- Interpret Data from Maps/Continent** | |
| **Pre-Test** | **Formative** |
| **Discovery! Notice/Wonder p. 3** | **Formative** |
| **Four Forces/Landscape Change p. 4** | **Formative** |
| **Pangaea-Comprehension** | **Formative** |
| **Flip Book** | **Formative** |
| **Exit Ticket** | **Summative** |
| **Week 9- Build a Topographic Map?** | |
| **Topographical Map-Notice/Wonder** | **Formative** |
| **Activity-Create Topographical Map** | **Formative** |
| **Real World Question** | **Summative** |
| **Model, Map, Presentation** | **Summative** |
| **Week 10- Sound** | |
| **Pre-Test** | **Formative** |
| **Sound Wave Model Activity** | **Formative** |
| **Sound Transfers Energy Experiments, 5-7** | **Formative** |
| **Test** | **Summative** |
| **Week 11- Light Energy** | |
| **Refraction Experiment p. 2** | **Formative** |
| **Diffusion Experiment p. 3** | **Formative** |
| **Reflection Experiment p. 4** | **Summative** |
| **Model- How we see Light p. 7** | **Summative** |
| **Week 12 Patterns to Transfer Energy** | |
| **Morse Code Worksheet** | **Summative** |
| **Science Project/Build Hidden Alarm** | **Summative** |
| **Week 13-Heat Transfer of Energy** | |
| **Conduction, Convection, Radiation p. 2** | **Formative** |
| **Scavenger Hunt p.3** | **Formative** |
| **Heat Transfer Prototype 1** | **Formative** |
| **Heat Transfer Poster** | **Summative** |
| **Week 14- Electric Transfer of Energy** | |
| **Magic School Bus Guide p.1`** | **Formative** |
| **Simple Circuit Experiment p. 2 & 3** | **Summative** |
| **Circuit Circus! Jeopardy** | **Formative** |

| | |
|---|---|
| **Week 15 – Relationship of Speed and Energy** | |
| Scientific Journal Notes p. 3 | Formative |
| Experiment: Defeat the Sorcerer! p. 6 Defeat the Sorcerer! | Formative |
| Story Ending p. 7 | Formative |
| Defeat the Sorcerer! p. 9 | Summative |
| Defeat the Sorcerer! Exit Ticket | Summative |
| **Week 16 – Speed of Object and How it Relates to the Energy of the Object** | |
| Design a Rollercoaster- Prototype 1 | Formative |
| Design a Rollercoaster-Prototype 2 | Formative |
| Experiment: Construct Rollercoaster p. 4 | Formative |
| Design a Rollercoaster-Prototype 3 | Formative |
| Design a Rollercoaster-Prototype 4 | Formative |
| Experiment: Construct Rollercoaster p. 8 | Formative |
| Exit Ticket p. 9-11 | Summative |
| **Week 17 – Animal and Plant Adaptation** | |
| Animal Adaptation Discovery Packet | Formative |
| Adaptation Jeopardy | Formative |
| Plant Adaptation | Formative |
| Discovery Packet | Formative |
| Group Poster | Summative |
| **Week 18- Animal Senses & Processing** | |
| Animal and Plant Adaptation Written | Summative |
| Animal Senses Activity 1 p. 1 | Formative |
| Animal Senses Activity 2 p. 2 & 3 | Formative |
| Animal Senses Assessment p. 6 | Summative |

# About Ordering Supplies

I have broken the list down into categories. My suggestion would be to get a tub and have all of your science supplies in one spot to simplify your life. I have broken the supplies down into two ways. 1. By category and 2. By weeks.

It is difficult for me to say the quantity when building your tub supplies. I don't know how many students your class has. I also always get extra. (just in case)

There is a checklist to make notes on. This can help you plan for the second year. You can make notes about quantity or highlight things that need replaced each year.

Many of the items will need replaced year to year. Some items will need replaced, but the might last several years. Any good science tub needs refilled each year.

There is a parent note to ask for students to bring in items. I would send it out at the beginning of the year. Most parents will try to quickly get the items in. Some students will bring in "extra" if you tell the students. This helps for the students that won't bring in anything.

# Supplies Needed-A Week by Week Breakdown

## Supplies at a Glance

| | |
|---|---|
| **Week 1** **Supplies: Rock/Fossil Handouts; Pretest/Post-test; Activity #1 Flour, Salt, Water for fossil activity. Activity #2 peanut butter, jelly, and graham crackers for Sedimentary Rock model. | **Week 10** **Supplies: Sound Energy Handout #1 plastic cups, kite string, paper clips, a pen to make holes. (Tuesday) #2 pipe cleaners (Thursday) #3 bowl, saran cling wrap, sprinkles/crystals/salt. |
| **Week 2** **Supplies: Weathering Handouts, Pretest/Post-test; Experiments-Clear plastic rectangular container, sand, water, plastic sheet paper, stones, straw, small stick to make river, funnel, tray, water spray bottle, sticks or toothpicks, butterscotch and soft peppermint candy for each student. | **Week 11** **Supplies: Light Energy Handouts/Assessments/Experiments, and #1 Experiment- a piece of paper with an arrow (included in handout), glass, water (to pour), student page on refraction (included in handout); #2 Experiment- a jar, hot water, food coloring, student page on diffusion (included in handout); #3 Experiment- two-liter empty bottle with a hole in it, colored laser light, water, & student page on reflection (included in handout). |
| **Week 3** **Supplies: Renewable and Non-renewable energy handouts. Cardboard box with lid for each student (3”), clear plastic wrap, aluminum foil, black paper, tape, stick or pencil, scissors, graham crackers, jumbo marshmallows, chocolate | **Week 12** **Supplies: Transfer Information Handout, Experiment: 1 AA battery for each student, 1–2 feet of electrical wire for each student, 1 buzzer for each student (wires attached preferred), Tape (duct or masking), Thin cardboard (Also called chipboard; you can use cereal boxes, too.), Tin—foil, Scissors, Wire strippers (students can share) |
| **Week 4** **Supplies: Handouts; Set up a Classroom Glogster or have group or individual posters for presentations, (They have free Trials-Sign up and set up classroom) | **Week 13** **Supplies: Heat transfer Activity Handout, supplies to make posters (poster board/butcher paper, markers/colored pencils/crayons), popcorn (air popper, microwave, or stovetop method) |
| **Week 5** **Supplies: See Week 4 | **Week 14** **Supplies- Electric Current Handouts (playdoh recipes are on p. 4), Experiment-conductive playdoh, insulating playdoh, a battery pack, batteries, light emitting diodes/LEDS |
| **Week 6** **Supplies-Pet Rock Handouts; a large rock for each group; items to decorate rock with (pipe cleaners, wiggly eyes, glitter, paint, construction paper, feathers, buttons, scissors, glue, etc. | **Week 15** **Supplies: Defeat the Sorcerer Handouts; Chart paper, post-its, tape. (or markers) Experiment- Each group in your class needs 1) 2 marbles (one small and one large), 2) a ruler with a groove down the middle, a Styrofoam cup, 3) tape, 4) a meter stick or measuring tape, and 4) the paper sorcerer. |
| **Week 7** **Supplies-See Week 6 | **Week 16** **Supplies: Constructing Roller Coaster Handouts; Experiment-Each group needs a 6 foot ½ inch pipe insulation foam tube, Marble, Plastic cup, Masking tape, Pencil, crayons, and/or markers. |
| **Week 8** **Supplies: Pangaea/Continental Drift Handouts, crayons | **Week 17** **Supplies: Animal Adaptation Exploration Handouts, & Plant Adaptation Handouts, Poster boards, markers, pencils. |
| **Week 9** **Supplies: Topographic Map handout, clay, ruler, construction paper (different colors), scissors, glue, pencils, cardboard, and dental floss, copy paper: Option: Clay recipe in handout. If you are making your own clay, you also need flour, salt, water, cream of tartar, vegetable oil, food coloring (optional) | **Week 18** **Supplies: Animal Senses Handouts |

# Tub Ordering Supply List

## Supplies at a Glance

** The week you'll need this item is in the parenthesis behind item.

Misc. items
dental floss (9)
a bag of sand (2)
A straw (2)
plastic cups (10, 16)
Styrofoam cups (15)
kite string (10)
clear plastic saran wrap (3, 10)
aluminum foil (3, 12)
tooth picks (2)

One Time Purchases
plastic bowls (one per group) (10)
air popper (or access to microwave) (13)
a glass (must see through) (11)
a clear jar (11)
an empty 2-liter bottle (11)
a rectangular container (2)
funnel (2)
tray (2)
spray bottle (water) (2)
laminate a piece of construction paper (2)
laser light (11)
a AA battery (12, 14)
2 feet of electric wire per student (12)
1 buzzer for each student (wires attached preferred
wire strippers (12)
battery pack (14)
light emitting diodes/LEDS (14)
large marbles one for each group of 3-5 (15)
small marbles one for each group of 3-5 (15, 16)
6' ½ "pipe insulation foam tube for each group of 3-5 (15)

Students Will Bring In*Parent note attached
stones (2)
sticks (2,3)
Large rock for each group of 5 (6)
cardboard box with lid for each student -3" depth (3)

Will need to restock Each School Year
Flour (1, 9, 14)
Salt (1, 9, 14))
peanut butter (1)
jelly (1)
graham crackers (2 activities) (1, 3)
butterscotch (one per student) (2)
soft peppermint candies (one per student) (2)
jumbo marshmallows (3)
chocolate (for solar s'mores) (3)
cream of tartar (9, 14)
vegetable oil (9, 14)
food coloring (9,11, 14)
popcorn (choose type) (13)
sprinkles or crystals (10)
distilled water (14)

Typical Classroom Supplies
clay (alt. recipe included) (9)
poster board/butcher paper (4, 13, 17)
construction paper (colors) (6, 9)
blank paper (9)
chart paper (15)
post-its (15)
cardboard (9)
chipboard (12)
tape (3, 15)
duct tape
(12)
masking tape (16)
pencils (9, 16)
pens (10)
crayons (8, 4, 13, 16, 17)
markers (4, 13, 15, 16, 17)
colored pencils (4, 13, 16, 17)
glue (6, 9)
1 ruler for each group of 3 (9, 15)
Meter or yard stick (15)
paper clips (10)
scissors (3, 6. 9, 12)
pipe cleaners (6, 10)
wiggly eyes (6)
glitter (6)
paint (6)
feathers (6)
buttons (6)
pom poms (6)

# Checklist for Supplies

**** The week you'll need this item is in the parenthesis behind item.**

**Misc. items**

_____dental floss (9)
_____a bag of sand (2)
_____A straw (2)
_____plastic cups (10, 16)
_____Styrofoam cups (15)
_____kite string (10)
_____clear plastic saran wrap (3, 10)
_____aluminum foil (3, 12)
_____tooth picks (2)

**One Time Purchases**

_____plastic bowls (one per group) (10)
_____air popper (or access to microwave) (13)
_____a glass (must see through) (11)
_____a clear jar (11)
_____an empty 2-liter bottle (11)
_____a rectangular container (2)
_____funnel (2)
_____tray (2)
_____spray bottle (water) (2)
_____laminate a piece of construction paper (2)
_____laser light (11)
_____a AA battery (12, 14)
_____2 feet of electric wire per student (12)
_____1 buzzer for each student (wires attached preferred
_____wire strippers (12)
_____battery pack (14)
_____light emitting diodes/LEDS (14)
_____large marbles one for each group of 3-5 (15)
_____small marbles one for each group of 3-5 (15, 16)
_____6' ½ "pipe insulation foam tube for each group of 3-5 (15)

**Students Will Bring In*Parent note attached**

_____stones (2)
_____sticks (2,3)
_____Large rock for each group of 5 (6)
_____cardboard box with lid for each student -3" depth (3)

# Checklist for Supplies page 2

**Will need to restock Each School Year**

_____Flour (1, 9, 14)
_____Salt (1, 9, 14))
_____peanut butter (1)
_____jelly (1)
_____graham crackers (2 activities) (1, 3)
_____butterscotch (one per student) (2)
_____soft peppermint candies (one per student) (2)
_____jumbo marshmallows (3)
_____chocolate (for solar s'mores) (3)
_____cream of tartar (9, 14)
_____vegetable oil (9, 14)
_____food coloring (9,11, 14)
_____popcorn (choose type) (13)
_____sprinkles or crystals (10)
_____distilled water (14)

Typical Classroom Supplies

_____clay (alt. recipe included) (9)
_____poster board/butcher paper (4, 13, 17)
_____construction paper (colors) (6, 9)
_____blank paper (9)
_____chart paper (15)
_____post-its (15)
_____cardboard (9)
_____chipboard (12)
_____tape (3, 15)
_____duct tape(12)
_____masking tape (16)
_____pencils (9, 16)
_____pens (10)
_____crayons (8, 4, 13, 16, 17)
_____markers (4, 13, 15, 16, 17)
_____colored pencils (4, 13, 16, 17)
_____glue (6, 9)
_____1 ruler for each group of 3 (9, 15)
_____Meter or yard stick (15)
_____paper clips (10)
_____scissors (3, 6. 9, 12)
_____pipe cleaners (6, 10)
_____wiggly eyes (6)
_____glitter (6)
_____paint (6)
_____feathers (6)
_____buttons (6)
_____pom poms (6)
_____tissue paper (6)

Dear Parents,
I have planned so many different fun and exciting science experiments, activities, projects, and discoveries this year.

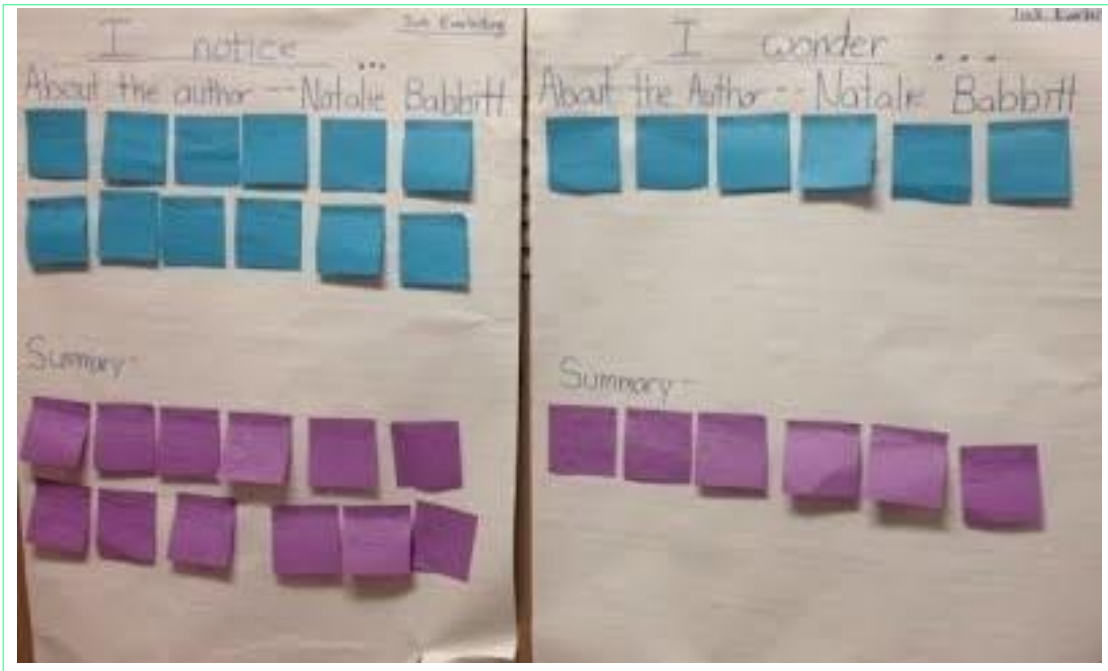
For science classes, I'm asking your child to bring in 1) 6 small stones, 2) a small stick, 3) a large rock (not bigger than your child's fist, though), 4) a cardboard box with a lid that has about a 3 inch depth. (pizza boxes work great for this)

Thank you so much for your contributions and participation! I appreciate you!

Dear Parents,
I have planned so many different fun and exciting science experiments, activities, projects, and discoveries this year.

For science classes, I'm asking your child to bring in 1) 6 small stones, 2) a small stick, 3) a large rock (not bigger than your child's fist, though), 4) a cardboard box with a lid that has about a 3 inch depth. (pizza boxes work great for this)

Thank you so much for your contributions and participation! I appreciate you!




Close Read with Post-Its (steps)

1. Hang up chart paper.
2. Pass out Post-its (or have available)
3. Students write things they "notice" or "wonder"
4. Go around the room and have students share one of their thoughts on their post-its.

Note: Great for brainstorming, getting students to delve deeper into non-informational text, getting students active in learning, helping students that don't generate as many ideas, organizing thoughts, reviewing ideas, non-threatening way to get everyone to participate, sharing, speaking, writing, differentiating, engaging.

The next two pages are:

1 ) Science Tub Label
2 ) Binder cover

# 4th Grade Science Supplies

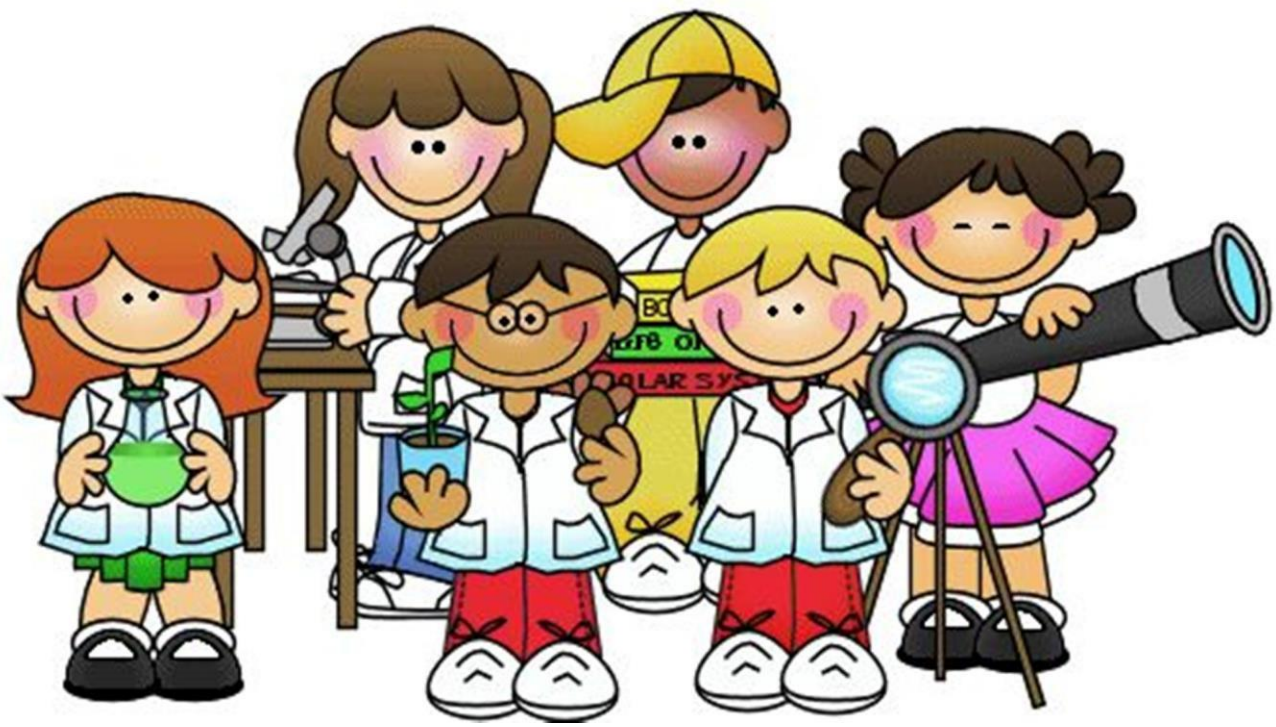
## Making Science Fun

18 Weeks of Interactive, Hands-On, Easy to Implement Lessons, All Inclusive

# Science Lessons for Fourth Grade!

## Making Science Fun

18 Weeks of Interactive, Hands-On, Easy to Implement Lessons, All Inclusive



# Next Generation Science Standards/CCSS

# Fourth Grade

## Earth and Space Science

4.ESS1.1 Identify evidence from patterns in rock formations and fossils in rock layers to support an explanation for changes in landscape over time.

4.ESS2.1 Make observations and/or measurements to provide evidence of the effects of weathering or the rate of erosion by water, ice, wind, or vegetation.

4.ESS2.2 Analyze and interpret data from maps to describe patterns of Earth's features.

4.ESS3.1 Obtain and combine information to describe that energy and fuels are derived from natural resources and their uses affect the environment.

4.ESS3.2 Generate and compare multiple solutions to reduce the impacts of natural earth processes on humans.

# Next Generation Science Standards/CCSS

## Fourth Grade

### Engineering Design

4.ETS1.1 Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time or cost.

4.ETS1.2 Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.

4.ETS1.3 Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.

Name _____

# Rocks and Fossils

## Matching questions

_____ 1. minerals
_____ 2. soil
_____ 3. igneous rock
_____ 4. sand
_____ 5. metamorphic rock
_____ 6. rock cycle
_____ 7. weathering

a. anything that is a solid, was formed in nature, and was never alive
b. soil made up of large grains
c. any type of rock changed by heat and pressure
d. the loose material in which plants can grow
e. the way rocks are broken down into smaller pieces
f. process of rocks changing into other types of rocks
g. a rock once melted, but cooled and hardened

## Multiple choice questions

8. formed when mud or minerals fill the mold
   a. clay
   b. mold
   c. cast
   d. sand

9. a soil made up of very small grains
   a. cast
   b. clay
   c. soil
   d. sand

**10.** something that has lasted from a living thing that died long ago

a. rocks

b. soil

c. erosion

d. fossils

11. a rock that forms from material that is settled into layers

a. erosion

b. sedimentary rock

c. igneous rock

d. metamorphic rock

**12.** the movement of weathered rock and soil

a. fossils

b. soil

c. erosion

d. rocks

13. the shape of a plant or animal left in sediments when the rock formed

a. rocks

b. mold

c. sand

d. soil

14. anything made out of minerals

a. soil

b. rocks

c. mold

d. cast

Name _____

# Rocks and Fossils

## Matching questions

| | | |
|---|---|---|
| a | 1. | minerals |
| d | 2. | soil |
| g | 3. | igneous rock |
| b | 4. | sand |
| c | 5. | metamorphic rock |
| f | 6. | rock cycle |
| e | 7. | weathering |

a. anything that is a solid, was formed in nature, and was never alive
b. soil made up of large grains
c. any type of rock changed by heat and pressure
d. the loose material in which plants can grow
e. the way rocks are broken down into smaller pieces
f. process of rocks changing into other types of rocks
g. a rock once melted, but cooled and hardened

## Multiple choice questions

8. formed when mud or minerals fill the mold
   a. clay
   b. mold
   c. cast
   d. sand

9. a soil made up of very small grains
   a. cast
   b. clay
   c. soil
   d. sand

10. something that has lasted from a living thing that died long ago
    a. rocks
    b. soil
    c. erosion
    d. fossils

11. a rock that forms from material that is settled into layers
    a. erosion
    b. sedimentary rock
    c. igneous rock
    d. metamorphic rock

12. the movement of weathered rock and soil
    a. fossils
    b. soil
    c. erosion
    d. rocks

13. the shape of a plant or animal left in sediments when the rock formed
    a. rocks
    b. mold
    c. sand
    d. soil

14. anything made out of minerals
    a. soil
    b. rocks
    c. mold
    d. cast

# Create Your Own Fossil

## Recipe for Salt Dough

**For Each Student…..**

* 1 cup of flour
* 1 cup of salt
* half a cup of water
* Mix it together and knead it.
*When ready to cook, put on a baking sheet in the oven at 100 degrees C/ 200 F for 2-3 hours.
*When cool, paint or decorate.

# How Fossils Are Formed Over Time

**By** _____

Name _____

# The Rock Cycle

## Draw a Diagram of the Rock Cycle

# Create a Model of Sedimentary Rock

## Make a by layering….

- Graham Crackers Cinnamon
- Peanut Butter
- Jelly or frosting
- Mini marshmallows or white chocolate chips
- Sprinkles (optional)

**Steps:**

1. Use any combination to create a multi-layer model.
2. Have students name their layers, demonstrating that they understand what their model layers are representing.
3. Extended Activity- Have students draw a model and label it, demonstrating that they understand how sedimentary rocks are formed.

# How Sedimentary Rocks Are Formed

By _____

# Pretest/Posttest

**Name** _____

## Erosion and Weathering

### Matching Questions

_____ **1. types of erosion**

_____ **2. landslide**

_____ **3. deposition**

_____ **4. erosion**

_____ **5. moving water**

_____ **6. gravity**

a. process by which natural forces move weathered rock

b. major agent of erosion that shapes Earth's surface

c. force that moves rock and other materials downhill

d. gravity, running water, glaciers, wind, waves

e. where the agents of erosion drop the sediment

f. most destructive mass movement, happens when rock and soil slide quickly down a steep slope

## Multiple choice questions

7. quick downhill movement of a combination of water rock and soil
   a. mudflow
   b. gravity
   c. landslide
   d. erosion

8. large mass of ice that moves slowly over land, continental glaciers and valley glaciers
   a. erosion
   b. gravity
   c. sediment
   d. glaciers

9. material moved by erosion
   a. erosion
   b. sediment
   c. glaciers
   d. mudflow

10. wind erosion and deposition forms sand dunes
   a. deposition
   b. wind deposition
   c. erosion
   d. wind erosion

11. wind erodes the Earth's through deflation and abrasion
   a. deposition
   b. erosion
   c. wind erosion
   d. wind deposition

**Pretest/Posttest**

**Name** key

**Erosion and Weathering**

**Matching Questions**

d **1. types of erosion**

f **2. landslide**

e **3. deposition**

a **4. erosion**

b **5. moving water**

c **6. gravity**

a. process by which natural forces move weathered rock

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# The Weathering Song

**At: https://www.youtube.com/watch?v=2311yO5opVk**

When rock will break up pieces
and become smaller now
If they remain simply breaking down

Weathering when water freezes
and thaws in the springtime
It splits rocks in two

And it's ice in a cold December
But water when it becomes warm
And rocks broken they're expanding
and seeps in fissures and the holes
that freezes on now

Start with a chunk of large bedrock
It's weathering when it's breaking
down
Mechanical and chemical
Biotic, rocks are smaller now

Movement of rocks, taking some
time
Erosion rocks moving aside
and out of all the forces done
By water, wind, they travel now, now

It can be chemical reactions
Breaking down bonds
That do hold the rocks together
Makes them fall apart

Oxidation, carbonation, hydrolysis
rocks are soft
Helping to break them all apart
by some other force

Start with a chunk of large bedrock
It's weathering when it's breaking
down

Movement of rocks, taking some
time
Erosion rocks moving aside and
out of all the forces done By
water, wind, they travel now

The roots go down
The rocks are cracking and breaking
They wedge and widen space they
make

And its ice in a cold December
But water when it becomes warm
And rocks broken they're expanding
and seeps in fissures and the holes
that freezes on now

Start with a chunk of large bedrock
It's weathering when it's breaking
down
Mechanical and chemical
Biotic, rocks are smaller now

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It's weathering when it's breaking
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Mechanical and chemical
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**Note: concept, vocabulary, and fluency**

Name _____

# Water Erosion

| 1st Observation | 2nd Observation |
| --- | --- |
| | |
| I noticed: | I wonder: |
| | |

Name _____

# Wind Erosion

| 1st Observation | 2nd Observation |
| --- | --- |
| | |
| I noticed: | I wonder: |
| | |

Name _____

# River Erosion

| 1st Observation | 2nd Observation |
| --- | --- |
| | |
| I noticed: | I wonder: |
| | |

Name _____

# Mountain Erosion

| 1st Observation | 2nd Observation |
| --- | --- |
| | |
| I noticed: | I wonder: |
| | |

Name _____

# Mountain with Trees Erosion

| 1st Observation | 2nd Observation |
| --- | --- |
| | |
| I noticed: | I wonder: |
| | |

Name _____

**Research Questions:**
**What causes erosion?**
**What causes more erosion water and movement or water alone?**

# Candy Erosion Experiment

| Butterscotch Observation | Soft Peppermint Observation |
|---|---|
| | |
| I noticed: | I wonder: |
| | |