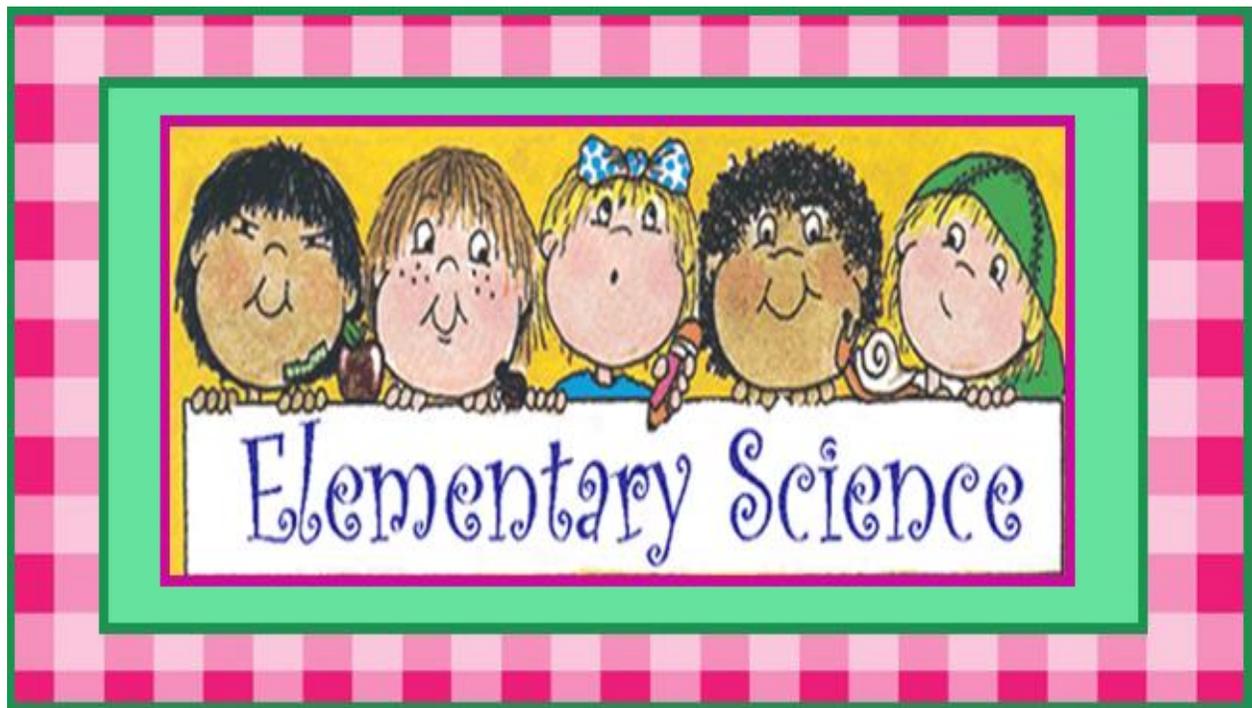


Second Grade

Science Lessons



Next Generation Science Standard- Second Grade Lessons

**go to <http://secondgradesciencengss.weebly.com/weeks-1-9.html> to click the hyperlinks as you teach

Week 1

Supplies: Handouts; cardboard boxes; bags of flour; water; boxes of salt; containers for the salt dough; food coloring; brown construction paper (for mountains); tape; notecards; scissors; markers; deep pan; plastic cup; scissors; water; potting soil

Student Objectives: Students will be able to describe what landscapes and erosion are. Students will develop a 3-D model to represent landforms.

Standard(s): 2.ESS1.1 Make observations from media to construct an evidence-based account that Earth events can occur quickly or slowly. 2.ESS2.2 Develop a model to represent the shapes and kinds of land and bodies of water in an area.

Essential Question: What are landforms? What is erosion? How can you show a model to represent landforms?

Monday- Play [video 1](#). Post the vocabulary anchor charts and read over them with the class.

(Keep up through week 4) Pass out the "Formation of Landforms" student investigation booklets. Play [video 2](#). Students will make their own anchor charts on pages 1-4 and write what they are. Play [video 3](#) and do page 5. If time, let students explore [Landform Memory Match](#).

Tuesday- Play [video 1](#). Ask: What are some landforms you remember from the song? (waterfall, river, lake, valley, glacier, volcano, cliff, plains, island, mountain) Play [video 2](#). Explore [Types of Land](#) (<--click link) together and discuss. (Ask: "How can you remember the difference between _____ and _____?") Do 3-D Landform project. If time, let students explore [Solrock & Lunatone's Waterfall Fun!](#)

Wednesday- (Encourage any engagement with videos 1 & 2. Singing/Movement) Play [video 1](#). Ask: What is erosion? (They won't get all of this yet, but start shaping their answers---When the land breaks down, moves, and/or changes over a long time) Play [video 2](#). Pass out the "Formation of Landforms" student investigation booklets. Play [video 3](#), do the erosion lab, and do pages 6 & 7. If time, let students explore [Shape It Up](#).

Thursday- (Encourage any engagement with videos 1 & 2. Singing/Movement) Play [video 1](#) and [video 2](#). Ask: Can you describe erosion to a partner? Play [video 3](#). Read a book about landforms and erosion from your classroom library. (or see suggested book list) Pass out the "Formation of Landforms" student investigation booklets and do page 8. If time, let students explore [Landform Memory Match](#).

Friday- Watch [Bill Nye Erosion](#). Ask: Turn to your partner and tell them something that you noticed from the video. Pass out assessment. If time, let students explore [Shape It Up](#).

Week 2

Supplies: Handouts; soil; water; baking soda; dish soap; red food coloring; vinegar; measuring spoons and cups; spoon or sticks

to stir; plastic cups; 12" x 12" cardboard squares cut diagonally for each group; green paint

Student Objectives: Students will be able to identify evidence that Earth landforms can change quickly or slowly.

Standard(s): 2.ESS1.1 Make observations from media to construct an evidence-based account that Earth events can occur quickly or slowly.

Essential Question: What evidence is there that Earth landform changes can happen quickly or slowly?

Monday- Play [video 1](#), [video 2](#), and [video 3](#). Do page 1 (mountain part only). Read two books about mountains from your classroom library. (or see suggested book list) If time, let students explore [Rocky Mountain Roundup](#) and [Mountain Scramble](#).

Tuesday- Play [video 1](#), [video 2](#), and [video 3](#). ([Read together](#). (<--Click on link.) Pass out the "Fast or Slow" " student investigation booklets. Do page 1 (glaciers part only), page 2, and color page 3. If time, let students explore [Ice Age Hidden Objects](#).

Wednesday- Play [video 1](#), [video 2](#), and [video 3](#). Do page 1. (volcano part only) and page 4. Do Lava Lab! If time, let students explore [Volcano Airways](#).

Thursday- Play [video 1](#), [video 2](#), and [video 3](#). Do the Earthquake Lab. Do page 1 (earthquake part only) and page 5. If time, let students explore [Disaster Master](#). (they must pass levels to get to the Earthquake one.

Friday- Tell students that they need to watch the video closely for their performance assessment. After watching the video, they will be expected to answer if water erosion is fast or slow and to describe how water erosion happens. Play [video 1](#). (32 second [Jeopardy Theme](#) to use. Optional.) Play [Jeopardy Game](#) to review. Pass out assessment.

List of Formative and Summative Assessments

Week 1- Landforms	
“Formation of Landforms” Investigation Booklet	Formative
“How are Landforms Formed?” Assessment	Summative
Week 2- Landforms Fast or Slow?	
“Fast or Slow?” Investigation Booklet	Formative
“Fast or Slow?” Assessment	Summative
Week 3-Wind Erosion	
“Gone with the Wind” Investigation Booklet	Formative
Gone with the Wind Assessment	Summative
Week -4 Water Erosion	
“Don’t Test the Waters” Investigation Booklet	Formative
Don’t Test the Waters Assessment	Summative
Week 5 & 6 –Engineer and Design	
“Water Under the Bridge Investigation Booklet”	Formative
“Water Under the Bridge Investigation Booklet 2”	Formative
Ducks Take to Water Presentation	Summative
Week 7 –Engineer and Design	
My Investigation Journal 1	Formative
Week 8-Engineer and Design	
My Investigation Journal 2	Formative
Week 9-Engineer and Design	
My Investigation Journal 3	Formative
Engineering Assessment	Summative

List of Formative and Summative Assessments

Week 10- Determining What “Matter” Is	
“What’s the Matter?” Investigation Booklet Exit Ticket	Formative Summative
Week 11- Plan and Test Investigation on Classifying Properties	
“Classify Me” Investigation Booklet Exit Ticket	Formative Summative
Week 12-Testing and Evaluating Properties	
“Being Materialistic” Investigation Booklet Being Materialistic Pre and Post Test	Formative Summative
Week 13- Objects Disassembled and Reassembled	
“Legos Reclaimed” Investigation Booklet Exit Ticket	Formative Summative
Week 14–Physical and Chemical Change	
“What’s the Matter with Change?” Investigation Booklet What’s the Matter with Change pre and post test	Formative Summative
Week 15 –Plants and Water	
“Wa-ter You Need, Plant?” Investigation Booklet “To Water or Not to Water” Performance Assessment	Formative Summative
Week 16-Plants and Sunlight	
“ I Want to Soak up the Sun” Investigation Booklet Performance Assessment	Formative Summative
Week 17-Seed Dispersal and Pollination	
“Sowing Seeds of Love” Investigation Booklet Animal Seed Dispersal Model	Formative Summative
Week 18-Animal and Plant Habitats	
“Ewe Can’t Find the Everywhere” “Which Plant Belongs to the Habitat?” Test “Which Animal Belongs to the Habitat?” Test	Formative Summative Summative

About Ordering Supplies

I have broken the list down into categories. My suggestion would be to get a tub and have all your science supplies in one spot to simplify your life. I have broken the supplies down into three ways. 1. Week by week; 2. One Page at a Glance; 3) Checklist.

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 they 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 to. This helps for the students that won't bring in anything.

Supplies Needed

A Week by Week Breakdown

Supplies at a Glance

Week 1

Handouts; cardboard boxes; bags of flour; water; boxes of salt; containers for the salt dough; food coloring; brown construction paper; paint (for mountains); tape; notecards; scissors; markers; deep pan; plastic cup; scissors; water; potting soil

Week 2

Handouts; soil; water; baking soda; dish soap; red food coloring; vinegar; measuring spoons and cups; spoon or sticks to stir; plastic cups; 12" x 12" cardboard squares cut diagonally for each group; green paint

Week 3

Handouts; apple; knife, cutting board (paint brush and blue and green paint is optional if you want to make the apple into a world in advance); clear plastic cups; marshmallows; Oreo cookies; vanilla pudding; chocolate pudding; gummy worms; plastic spoons; crayons

Week 4

Handouts; 6 empty 2-liter bottles; 1 piece of cardboard (about 18" x 18"); Elmer's glue; scissors; string; soil; compost; a clump of grass; mulch (dried leaves; bark chips, sticks); water; pitcher

Week 5

Handouts; 6 oz. bottle of blue glitter glue per group; ½ TBSP of baking soda; 1½ TBSP saline solution (for contacts); plastic bowl; spoons; Ziploc sandwich bags; permanent marker; Per group: 1 cup brown extra-fine sand; 1 TBSP dishwashing liquid; 1/2 cup of cornstarch; 1/4 cup of water

Week 6

Handouts; small container or box; fake plastic animals or plants; craft supplies (construction paper; large pieces of butcher paper; scissors; glue; tissue paper; pom poms; glitter; pipe cleaners; stickers; other); water slime (made last week); kinetic sand slime (made last week); items brought from home

Week 7

Handouts; 500 popsicle sticks, Elmer's glue; stack of books to test bridges

Week 8

Handouts; Each Group for 2 trials: 20 sticks of dry spaghetti; one yard of string; one yard of tape; one jumbo marshmallow; yard stick or meter stick; a plastic bag; scissors; strings; an egg to test; hole puncher; construction paper; tape

Week 9

Handouts; Easter grass; white paper; scissors; tape; blow dryer; popsicle sticks; glue; stones; playdough

Week 10

Handouts; Cheerios; bowl of water; bowl of ice; black construction paper; hair dryer, 2 cups cornstarch, 3 drops food coloring (optional), 1 cup water, Ziploc sandwich bags (to send the oobleck home in)

Week 11

Handouts; [printable rulers](#), permanent marker to label the bottles and shoeboxes, 1-liter bottles (3 for each station) (all different shapes), pitchers for 3-5 volume stations, 3-5 large plastic measuring cups for pouring, 3-5 funnels, 2 different sized shoe boxes per investigation station (depends on the size of your class), 3-5 rulers or tape measures. (there are printable tape measures online. [printable rulers](#)), magnets for each group, cylinder, honey, corn syrup, maple syrup, milk, dish soap; vegetable oil; rubbing alcohol, food coloring (for water and rubbing alcohol), turkey baster, bolt, penny, popcorn kernel; ping pong ball

Week 12

Handouts; [Print Quizlet flashcards](#) (<--Click) on Monday and send home to study for the test on Friday., Ziploc bags, paper, straws, matchbox car, string, balloon, magnet, metal bolts, tape.

Week 13

Handouts; Legos, timer, Construction paper, glue, scissors, crayons, markers, or colored pencils, old newspapers, odds and ends like mixed and matched left-over toy or game pieces, magazines, any old toys or loose items around the classroom that you want to get rid of, craft supplies

Week 14

Handouts; [Print Quizlet flashcards](#) (<--Click) on Monday and send home to study for the test on Friday., one stick of butter or margarine in a microwave-safe container, loaf of bread, toaster or toaster oven, paper plates; plastic knife, 2 large chocolate bars or a large bag of chocolate chips, chocolate molds, bowl, rubber spatula

Week 15

Handouts; 8 lima beans or pinto beans; 4 clear plastic cups; 4 small plastic lids per cup (to catch the water); topsoil; pencils; permanent marker; craft supplies, glue, scissors, construction paper; beach ball; racket (optional); cones or chairs; masking tape; labels

Week 16

Handouts

Week 17

Handouts; book [The Tiny Seed](#) by Eric Carle, scissors, construction paper, glue, crayons, markers, or colored pencils.

Week 18

Handouts, [Quizlet Flashcards for plants](#). Send home on Monday. The test on these will be on Wednesday. [Quizlet Flashcards for animals](#). Send home on Wednesday. The test for these will be on Friday.

Tub Ordering Supply List Supplies at a Glance

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

Typical Classroom Supplies

Paint (1), (2)
 Construction paper (1), (6), (8), (10), (13), (15), (17)
 Notecards (1)
 Scissors (1), (4), (6), (8), (9), (13), (15), (17)
 Markers (1), (13), (17)
 Masking tape (1), (8), (9), (12), (15)
 Paint brushes (3)
 Crayons (3), (13), (17)
 Elmer's glue (4), (6), (9), (13), (15), (17)
 Colored pencils (13), (17)
 String (4), (8), (12)
 Permanent markers per group (5), (11), (15)
 Large pieces of butcher paper (6)
 Pom poms (6)
 Glitter (6)
 Pipe cleaners (6)
 Stickers (6)
 Other craft supplies (6)
 Yard or Meter stick (8)
 Hole puncher (8)
 White paper (9)
 Playdough (9)
 Rulers (11) (or use printable rulers online-link on week 10)
 Paper (12)
 Timer (13)
 Cardstock (13)
 Pencil (15)
 Labels (15)
Misc.
 Bags of flour (1)
 Cardboard boxes (1) (one for each group of 3-4/lid of copy paper box)
 Boxes of salt (1)
 Food coloring (1), (2), (10), (11)
 Deep pan (1)
 Potting soil (1), (2), (16)
 Baking soda (2), (5)
 Dish soap (2), (5), (11)
 Vinegar (2)
 12"x12" cardboard squares with diagonal cuts (2)
 Apples (3)
 18"x18" piece of cardboard (4)
 Soil compost (4)
 A clump of grass (4)
 2 Cups of mulch (4)
 Bottle of saline solution/for contacts (5)
 Stack of books (7)
 Egg (8)
 Easter grass (9)
 Blow Dryer (9). (10)
 Milk (11)
 Vegetable oil (11)
 Rubbing alcohol (11)
 Turkey baster (11)
 Matchbox cars (12)
 Balloons (12)
 Left over toy or game pieces& odds and ends (13)
 Butter or margarine (14)
 8 Lima beans or pinto beans for planting (15)

One Time Purchases

Container for salt dough (1)
 Measuring spoons (2)
 Measuring cups (2), (10)
 Knife (3)
 Cutting Board (3)
 3-5 Pitchers (4), (11) *Dollar Tree \$1 each
 Plastic bowls (per group) (5), (11), (14)
 3-5 Funnels (11)
 Magnets (11), (12)
 Cylinder (11)
 Bolts (11), (12)
 Penny (11)
 Popcorn kernel (11)
 Ping pong ball (11)
 Legos (13)
 Microwave safe container (14)
 Toaster or toaster oven (14)
 Chocolate mold (14)
 Spatula (14)
 Beach ball (15)
 Racket -Optional (15)
 Cones or Chairs (15)
Parent Donations
 Plastic cups (1), (2)
 Plastic spoons (2), (3), (5)
 Paper plates (14)
 Plastic knives (14)
 Apples (3)
 Clear plastic cups (3), (15)
 Marshmallows (3)
 Oreo cookies (3)
 Vanilla pudding cups (3)
 Chocolate pudding cups (3)
 Gummy worms (3)
 Chocolate Chips (14)
 6 Empty 2-Liter bottles (4)
 6 oz. bottles of blue glitter glue/per group (5)
 Ziploc sandwich bags (5), (10), (12)
 Brown extra fine craft sand (5)
 Cornstarch (5), (10)
 Small boxes (6)
 Fake plastic animals (6)
 Fake plastic plants (6)
 Tissue paper (6)
 Craft popsicle sticks (7), (9)
 Dry spaghetti (8)
 Stones (9)
 Jumbo marshmallows (8)
 Trash bags (8)
 Cheerios (10)
 1-liter empty plastic bottles different shapes and sizes (10)
 Shoeboxes (11)
 Honey (11)
 Corn syrup (11)
 Maple syrup (11)
 Straws (12)
 Old newspapers or magazines (13)
 Loaf of bread (14)
 Plastic lids (sour cream lids, whipped topping, butter, etc.) (15)

Books

To save money, use your own books with the same topic. After the supplies, there is a "Suggested Book List" if you need more books.

Supply List Checklist

Keep track of Supplies for ordering/Room for Notes

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

Books: Can substitute with same content from classroom library

Typical Classroom Supplies

- _____ Paint (1), (2)
- _____ Construction paper (1), (6), (8), (10), (13), (15), (17)
- _____ Notecards (1)
- _____ Scissors (1), (4), (6), (8), (9), (13), (15), (17)
- _____ Markers (1), (13), (17)
- _____ Masking tape (1), (8), (9), (12), (15)
- _____ Paint brushes (3)
- _____ Crayons (3), (13), (17)
- _____ Elmer's glue (4), (6), (9), (13), (15), (17)
- _____ Colored pencils (13), (17)
- _____ String (4), (8), (12)
- _____ Permanent markers per group (5), (11), (15)
- _____ Large pieces of butcher paper (6)
- _____ Pom poms (6)
- _____ Glitter (6)
- _____ Pipe cleaners (6)
- _____ Stickers (6)
- _____ Other craft supplies (6)
- _____ Yard or Meter stick (8)
- _____ Hole puncher (8)
- _____ White paper (9)
- _____ Playdough (9)
- _____ Rulers (11) (or use printable rulers online-link on week 10)
- _____ Paper (12)
- _____ Timer (13)
- _____ Cardstock (13)
- _____ Pencil (15)
- _____ Labels (15)

Miscellaneous

- _____ Bags of flour (1)
- _____ Cardboard boxes (1) (one for each group of 3 4/lid of copy paper box)
- _____ Boxes of salt (1)
- _____ Food coloring (1), (2), (10), (11)
- _____ Deep pan (1)
- _____ Potting soil (1), (2), (16)
- _____ Baking soda (2), (5)
- _____ Dish soap (2), (5), (11)
- _____ Vinegar (2)
- _____ 12"x12" cardboard squares with diagonal cuts (2)
- _____ Apples (3)

Checklist for Supplies page 2

Miscellaneous continued

- _____ 18"x18" piece of cardboard (4)
- _____ Soil compost (4)
- _____ A clump of grass (4)
- _____ 2 Cups of mulch (4)
- _____ Bottle of saline solution/for contacts (5)
- _____ Stack of books (7)
- _____ Egg (8)
- _____ Easter grass (9)
- _____ Blow Dryer (9). (10)
- _____ Milk (11)
- _____ Vegetable oil (11)
- _____ Rubbing alcohol (11)
- _____ Turkey baster (11)
- _____ Matchbox cars (12)
- _____ Balloons (12)
- _____ Left over toy or game pieces& odds and ends (13)
- _____ Butter or margarine (14)
- _____ Loaf of bread (14)
- _____ 8 Lima beans or pinto beans for planting (15)

One Time Purchases

- _____ Container for salt dough (1)
- _____ Measuring spoons (2)
- _____ Measuring cups (2), (10)
- _____ Knife (3)
- _____ Cutting Board (3)
- _____ 3-5 Pitchers (4), (11) *Dollar Tree \$1 each
- _____ Plastic bowls (per group) (5), (11), (14)
- _____ 3-5 Funnels (11)
- _____ Magnets (11), (12)
- _____ Cylinder (11)
- _____ Bolts (11), (12)
- _____ Penny (11)
- _____ Popcorn kernel (11)
- _____ Ping pong ball (11)
- _____ Legos (13)
- _____ Microwave safe container (14)
- _____ Toaster or toaster oven (14)
- _____ Chocolate mold (14)
- _____ Spatula (14)
- _____ Beach ball (15)
- _____ Racket -Optional (15)
- _____ Cones or Chairs (15)

Checklist for Supplies page 3

Parent Donations (send out letter-included)

- _____ Plastic cups (1), (2)
- _____ Plastic spoons (2), (3), (5)
- _____ Paper plates (14)
- _____ Plastic knives (14)
- _____ Clear plastic cups (3), (15)
- _____ Marshmallows (3)
- _____ Oreo cookies (3)
- _____ Vanilla pudding cups (3)
- _____ Chocolate pudding cups (3)
- _____ Gummy worms (3)
- _____ Chocolate Chips (14)
- _____ 6 Empty 2-Liter bottles (4)
- _____ 6 oz. bottles of blue glitter glue/per group (5)
- _____ Ziploc sandwich bags (5), (10), (12)
- _____ Brown extra fine craft sand (5)
- _____ Cornstarch (5), (10)
- _____ Small boxes (6)
- _____ Fake plastic animals (6)
- _____ Fake plastic plants (6)
- _____ Tissue paper (6)
- _____ Craft popsicle sticks (7), (9)
- _____ Dry spaghetti (8)
- _____ Stones (9)
- _____ Jumbo marshmallows (8)
- _____ Trash bags (8)
- _____ Cheerios (10)
- _____ 1-liter empty plastic bottles different shapes and sizes (10)
- _____ Shoeboxes (11)
- _____ Honey (11)
- _____ Corn syrup (11)
- _____ Maple syrup (11)
- _____ Straws (12)
- _____ Old newspapers or magazines (13)
- _____ Plastic lids (sour cream lids, whipped topping, butter, etc.) (15)

Books

To save money, use your own books with the same topic. Following the parent letter for supplies, there is a "Suggested Book List" if you need more books.

Dear Parents,

I have planned so many different fun and exciting science experiments, activities, projects, and investigations this year. Supplies for these are our only limitation.

For science classes please send in the following for your child:
a stone, shoebox, an empty 1-liter bottle (any shape or size)

I often get parents that offer to pick up some items for our class to pitch in. I put together a list. If each student brought in **one or two** of the following, it would be greatly appreciated! Most of [Our Class Wish List for Science Investigations](#) and activities are most are found easily at local dollar stores.

Solo Plastic cups	Chocolate Chips	Craft popsicle sticks (We need A LOT)
Plastic spoons	6 oz. bottles of blue glitter glue/per group	Dry spaghetti
Paper plates	Empty 2-Liter bottles	Jumbo marshmallows
Plastic knives	Ziploc sandwich bags (we use these A LOT)	Trash bags
Clear plastic cups	Brown extra fine craft sand	Cheerios
Marshmallows	Cornstarch	Honey
Oreo cookies	Small boxes	Corn syrup
Vanilla pudding cups	Fake plastic animals	Maple syrup
Chocolate pudding cups	Fake plastic plants	Straws
Gummy worms	Tissue paper	Old newspapers or magazines

I'm looking forward to having a great school year! Thank you for all that you do!

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Marshmallows	Cornstarch	Honey
Oreo cookies	Small boxes	Corn syrup
Vanilla pudding cups	Fake plastic animals	Maple syrup
Chocolate pudding cups	Fake plastic plants	Straws
Gummy worms	Tissue paper	Old newspapers or magazines

I'm looking forward to having a great school year! Thank you for all that you do!

Suggested Book List

The following list are suggestions. Some teachers have reached out and wanted to include more literature with their science. They generally indicate that their districts provide them with the extra supplies. If your district does not provide extra assistance and you don't want to spend the extra funds, you can find a similar book from your classroom library or search youtube. Many books I can find as a read aloud. I was able to find all the following books on Amazon.

Week 1

- Land by Dona Herweck Rice
- Cracking Up: A Story About Erosion (Science Works) by Jacqui Baley and Matthew Lilly

Week 2

- A Mountain of Blintzes by Barbara Diamond Goldin
- Where the Mountain Meets the Moon by Grace Lin

Week 3

- Children of the Dust Bowl: The True Story of the School at Weedpatch Camp by Jerry Stanley
- Dust for Dinner by Ann Turner

Week 4

- Soil Erosion and How to Prevent It by Natalie Hyde
- Earth's Landforms and Bodies of Water by Natalie Hyde

Week 5

- Hello Ocean by Pam Munoz Ryan and Mark Astrella
- Eye Wonder: Ocean by Prentice Hall

Week 6

- A Day at the Lake by Stephanie Wallingford and Dawn Rynders
- Cecil the Pet Glacier by Matthea Harvey (Author), Giselle Potter

Week 7

- The Three Billy Goats Gruff by Paul Galdone

Week 8

- Jack and the Beanstalk by Teresa Mlawer

Week 9

- The Three Little Pigs by Patricia Seibert

Suggested Book List Continued

Week 10

- What Is the World Made Of? by Kathleen Zoehfeld
- Bartholomew and the Oobleck by Dr. Seuss

Week 12 & 13

- What's the Matter in Mr. Whiskers' Room? by Michael Elsohn Ross

Week 12 & 13

- Karina Garcia's Must-Try DIYs: 20 Crafts & Life Hacks by Karina Garcia

Week 14

- Cooling (First Step Nonfiction Changing Matter) by Sheila Rivera
- Heating (First Step Nonfiction Changing Matter) by Sheila Rivera

Week 15

- Water Plants: All Wet! (Plant-ology) by Ellen Lawrence

Week 16

- What the Sun Can Do by Sharon Coan

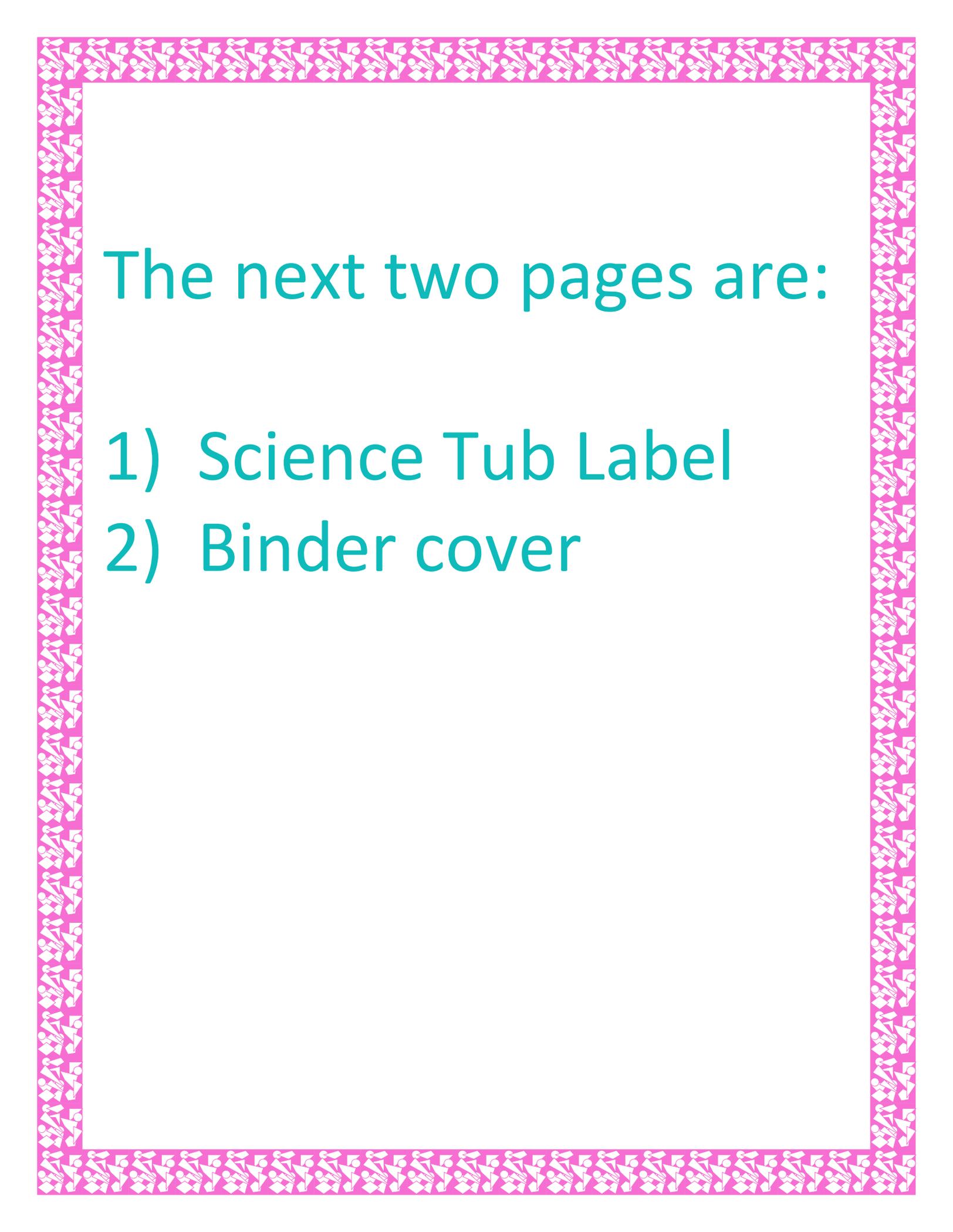
Week 17

- The Tiny Seed by Eric Carle

Week 18

**These two books are great classroom resource books.

- Plants in Different Habitats by Bobbie Kalman & Rebecca Sjonger
- Children's Illustrated Animal Atlas Hardcover by DK



The next two pages are:

- 1) Science Tub Label
- 2) Binder cover

Second Grade

Science Lessons

Making Science Fun

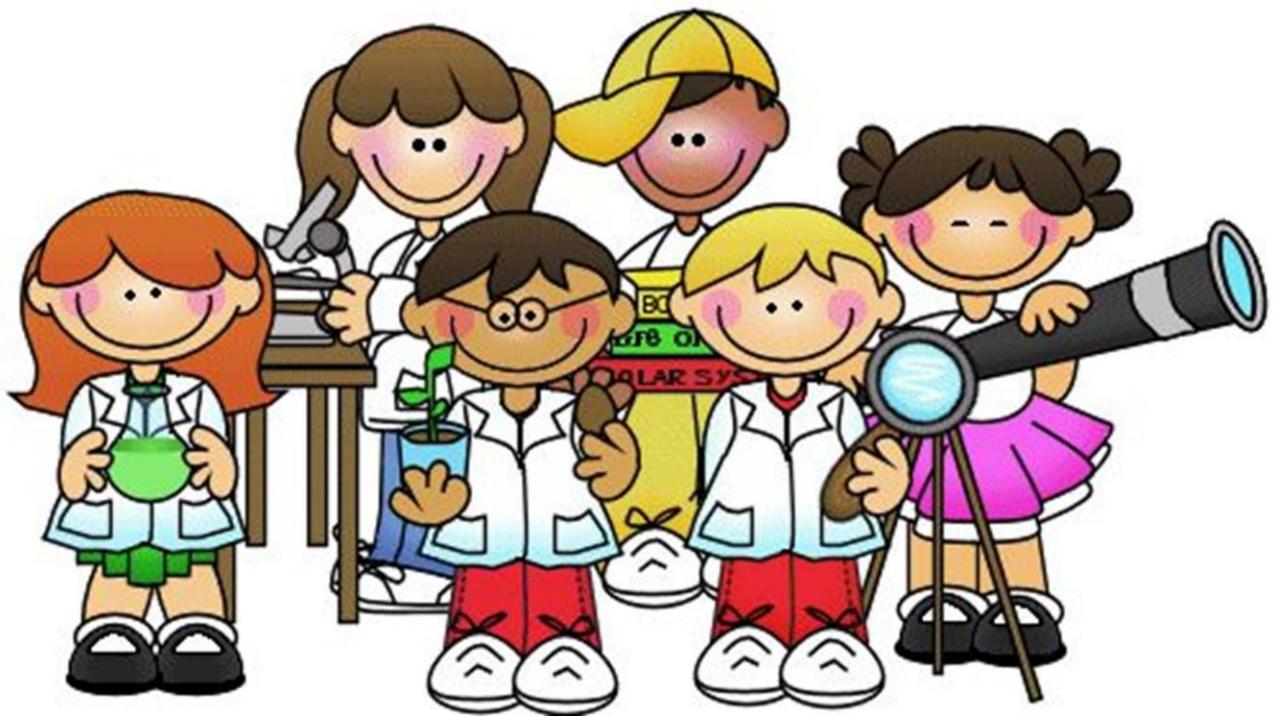
18 Weeks of Interactive, Hands-On, Easy to Implement Lessons



Second Grade Science Lessons

Making Science Fun

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



Next Generation Science Standards

Second Grade

Earth & Space Sciences

- 2.ESS1.1** Make observations from media to construct an evidence-based account that Earth events can occur quickly or slowly.
- 2.ESS2.1** Compare multiple solutions designed to slow or prevent wind or water from changing the shape of the land.
- 2.ESS2.2** Develop a model to represent the shapes and kinds of land and bodies of water in an area.
- 2.ESS2.3** Obtain information to identify where water is found on Earth and that it can be solid or liquid.

Next Generation Science Standards

Second Grade

Engineering Design

- 2.ETS1.1** Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.
- 2.ETS1.2** Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.
- 2.ETS1.3** Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs.

Next Generation Science Standards

Second Grade

Physical Sciences

- 2.PS1.1** Plan and conduct an investigation to describe and classify different kinds of materials by their observable properties.
- 2.PS1.2** Analyze data obtained from testing different materials to determine which materials have the properties that are best suited for an intended purpose.
- 2.PS1.3** Make observations to construct an evidence-based account of how an object made of a small set of pieces can be disassembled and made into a new object.
- 2.PS1.4** Construct an argument with evidence that some changes caused by heating or cooling can be reversed and some cannot.

Next Generation Science Standards

Second Grade

Life Sciences

- 2.LS2.1** Plan and conduct an investigation to determine if plants need sunlight and water to grow.
- 2.LS2.2** Develop a simple model that mimics the function of an animal in dispersing seeds or pollinating plants.
- 2.LS4.1** Make observations of plants and animals to compare the diversity of life in different habitats.

For the Teacher

Week 1

Landforms

Student Objectives: Students will be able to describe what landscapes and erosion are.

Standard(s): 2.ESS1.1 Make observations from media to construct an evidence-based account that Earth events can occur quickly or slowly.

Essential Question: What are landforms? What is erosion?

<http://secondgradesciencengss.weebly.com/weeks-1-9.html>

Procedure:

Monday- Play video 1. Ask: What do you think that we will be learning about this week? (Landforms) Post the vocabulary anchor charts and read over them with the class. Pass out the "Formation of Landforms" student investigation booklets. Play video 2. Students will make their own anchor charts on pages 1-4 and write what they are. Stop at each landform (only 2 minutes for each..... promise them more time at the end or sometime this week for those that need more time and remember to give them extra time) so that students can draw a picture of the landforms shown. Point out ways to remember each. (i.e. How can you tell the difference between a lake and a river? (A lake is more circular. A river is long and flows, or moves.) You only want to give about two minutes on each. The objective is for students to practice each landform in isolation, so when they see a scenery, they will still be able to identify several in one scene. Play video 3 and do page 5. If time, let students explore Landform Memory Match.

Tuesday- Play video 1. Ask: What are some landforms you remember from the song? (waterfall, river, lake, valley, glacier, volcano, cliff, plains, island, mountain) Play video 2. Explore Types of Land (<--click link) together and discuss. (Ask: "How can you remember the difference between _____ and _____?") Do 3-D Landform project. If time, let students explore Solrock & Lunatone's Waterfall Fun!

Wednesday- (Encourage any engagement with videos 1 & 2. Singing/Movement) Play video 1. Ask: What is erosion? (They won't get all of this yet, but start shaping their answers---When the land breaks down, moves, and/or changes over a long time) Play video 2. Pass out the "Formation of Landforms" student investigation booklets. Play video 3, do the erosion lab, and do pages 6 & 7. If time, let students explore Shape It Up.

Thursday- (Encourage any engagement with videos 1 & 2. Singing/Movement)
Play video 1 and video 2. Ask: Can you describe erosion to a partner?
lay video 3. Read a book about landforms and erosion from your classroom
library. (or see suggested book list) Pass out the "Formation of Landforms"
student investigation booklet and do page 8. If time, let students explore
Landform Memory Match.

Friday- Watch Bill Nye Erosion. Ask: Turn to your partner and tell them
something that you noticed from the video. Pass out assessment. If time,
let students explore Shape It Up.

Salt Dough 3-D Landform Map

Supplies: cardboard boxes; brown, green, and blue paint, bags of flour; water; boxes of salt; containers for the salt dough; food coloring; brown construction paper (for mountains); tape; notecards; scissors; markers; deep pan; plastic cup; scissors; water; potting soil

Create in Advance: Mix equal parts flour and salt together to make the salt dough. Mix just enough water to create a dough that is the consistency of Playdoh. (One container of salt with equal parts flour makes about 3-4 cups.) Using the food color, make green, blue, white, and brown.

Break students into groups of 3-5.

Procedure:

1. Paint half of the inside of the box green to indicate land and the other half blue for water.
2. Using the brown construction paper, design mountains and tape into the box on the green side.
3. Plan with the group where you are going to put hills, a valley, lake, river, plateau, plain, peninsula, and island. Use a pencil to mark where you will put each.
4. Shape the dough to show hills, a valley, lake, river, plateau, plain, peninsula, and island. Students will build the dough up to depict mountains and valleys. Paint when dry.
5. Use the notecards to create labels and tape on model.
6. Let maps dry overnight.

Sample



Erosion Lab

Whole Class Investigation

❖ Do with the video 3. Pause as needed.

Supplies: deep pan; plastic cup; scissors; water; potting soil

Procedure:

1. Fill pan half full with soil.
2. Arrange a slope
3. Form a cliff and a couple of mountains.
4. Poke a hole in the bottom of the cup.
5. Hold the cup over the highest part of the soil.
6. Pour the water slowly into the cup.
7. Do page 6.

Sample



Vocabulary

landform- types of how land forms

mountain- a landform that rises high
above its surroundings

hills- a landform that makes a mound
about its surroundings

valley- is a stretch of low land between
two mountain or hill ranges.

lake- natural or man-made body of water
that is surrounded by land.

Vocabulary

river- a natural wide flow of fresh water across the land into a larger body of water

plateau- a large area of high flat land

plains- a large area of nearly level land

peninsula-an area of land surrounded by water on three sides.

island- an area of land surrounded by water on all sides.

Formation of Landforms

Student Investigation Booklet

Name

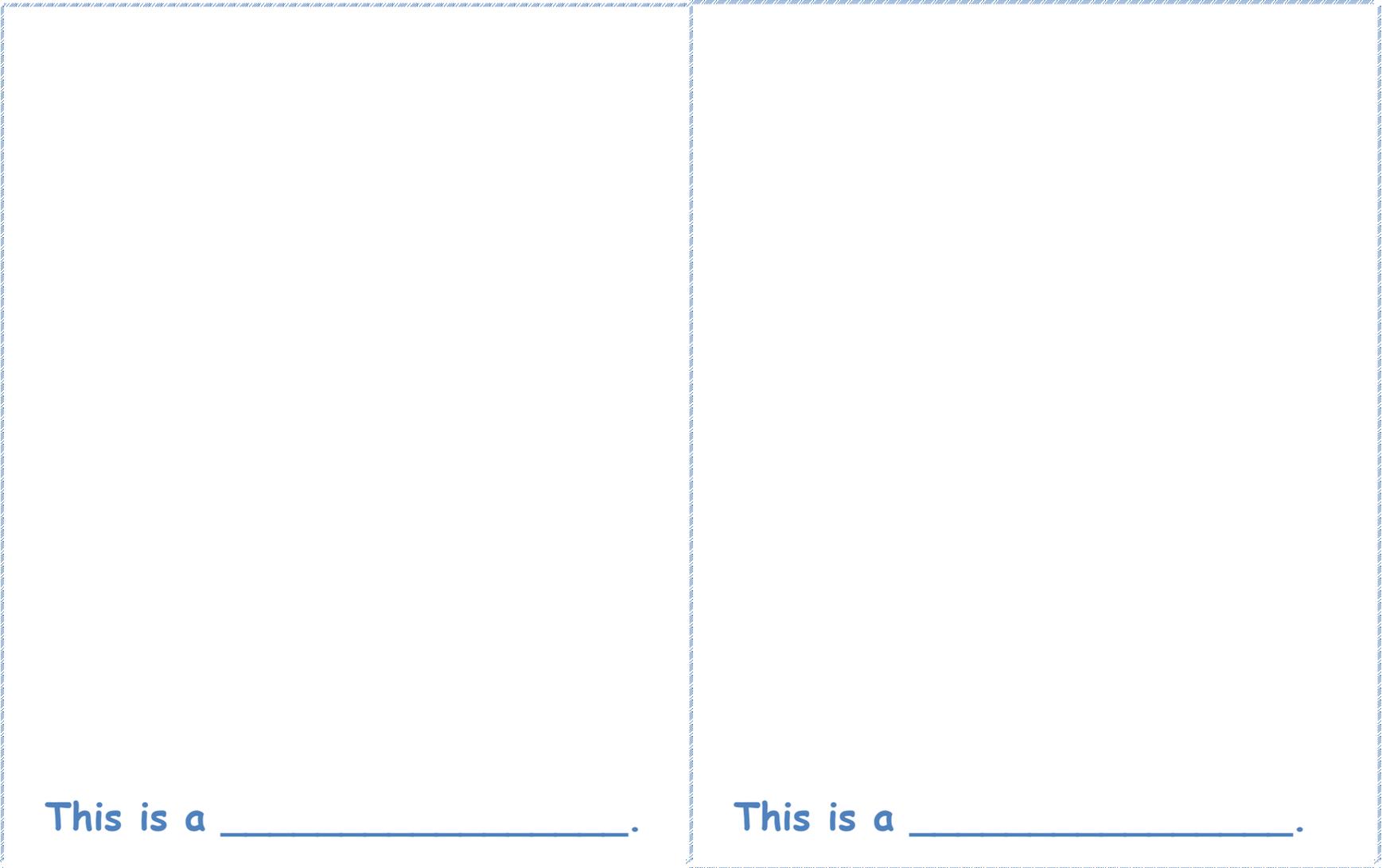


Draw a picture and fill in the sentence to remember each landform
Draw a model from video 2 of each landform.

This is a _____.

This is a _____.

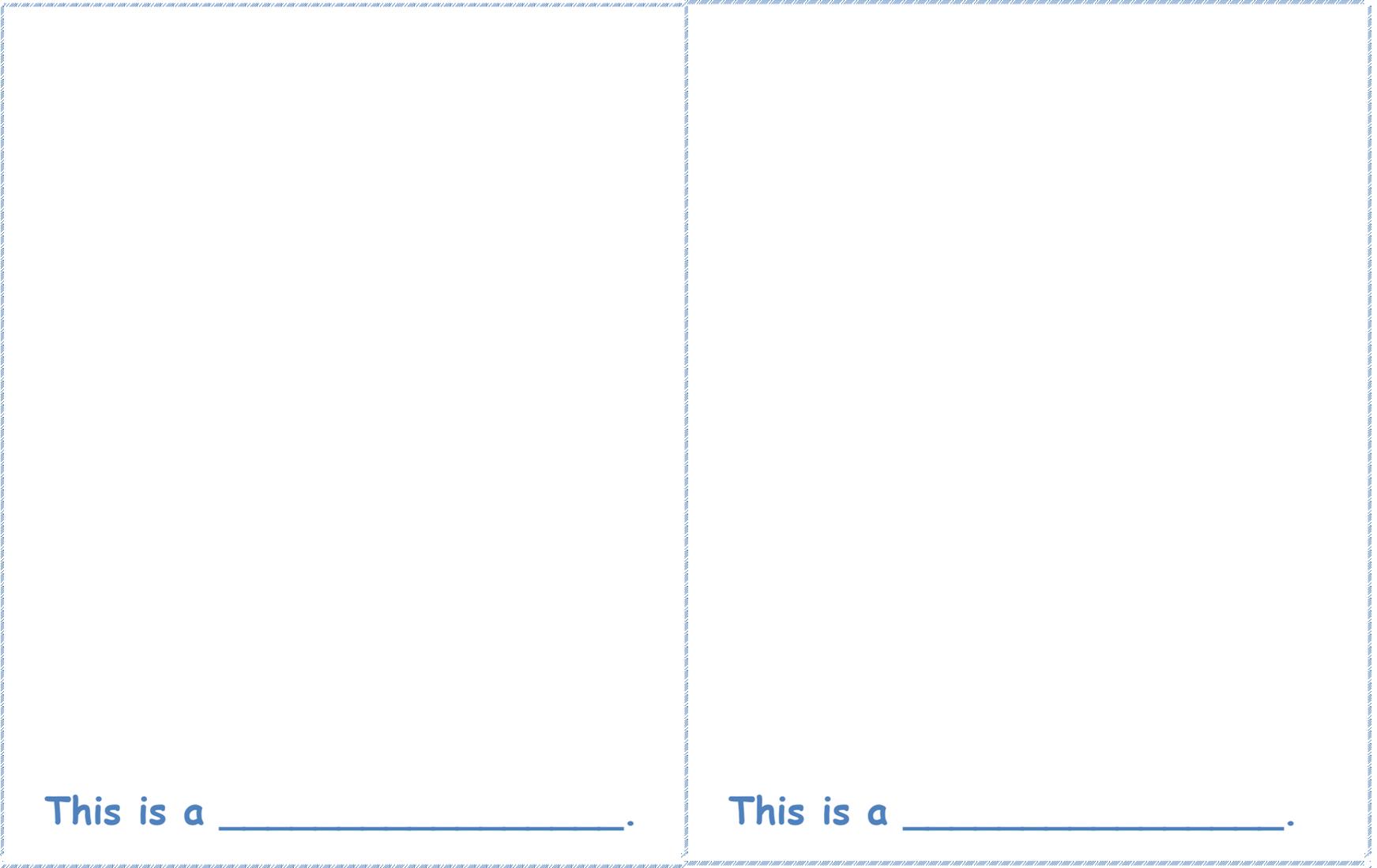
Draw a picture and fill in the sentence to remember each landform
Draw a model from video 2 of each landform.



This is a _____.

This is a _____.

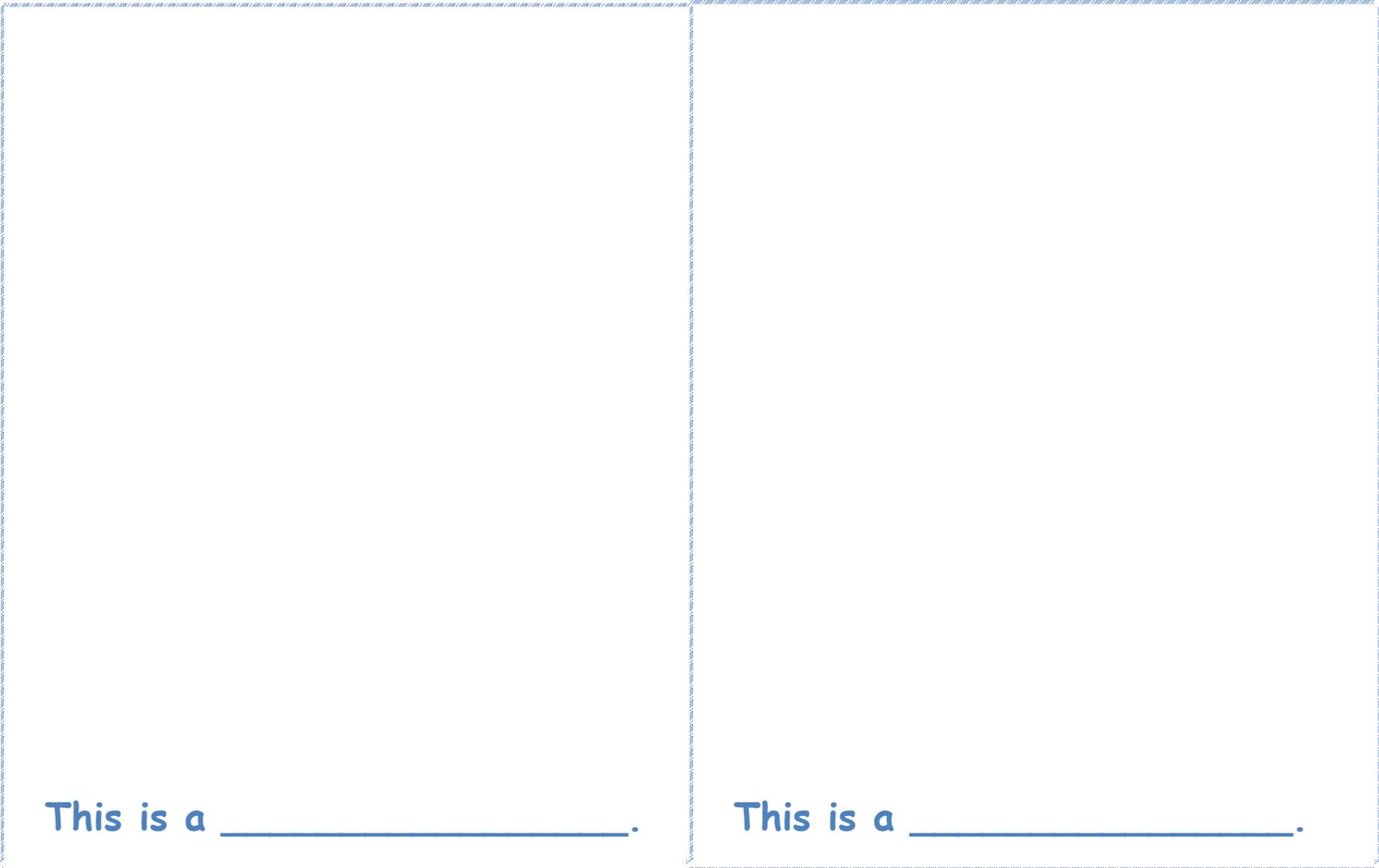
Draw a picture and fill in the sentence to remember each landform
Draw a model from video 2 of each landform.



This is a _____.

This is a _____.

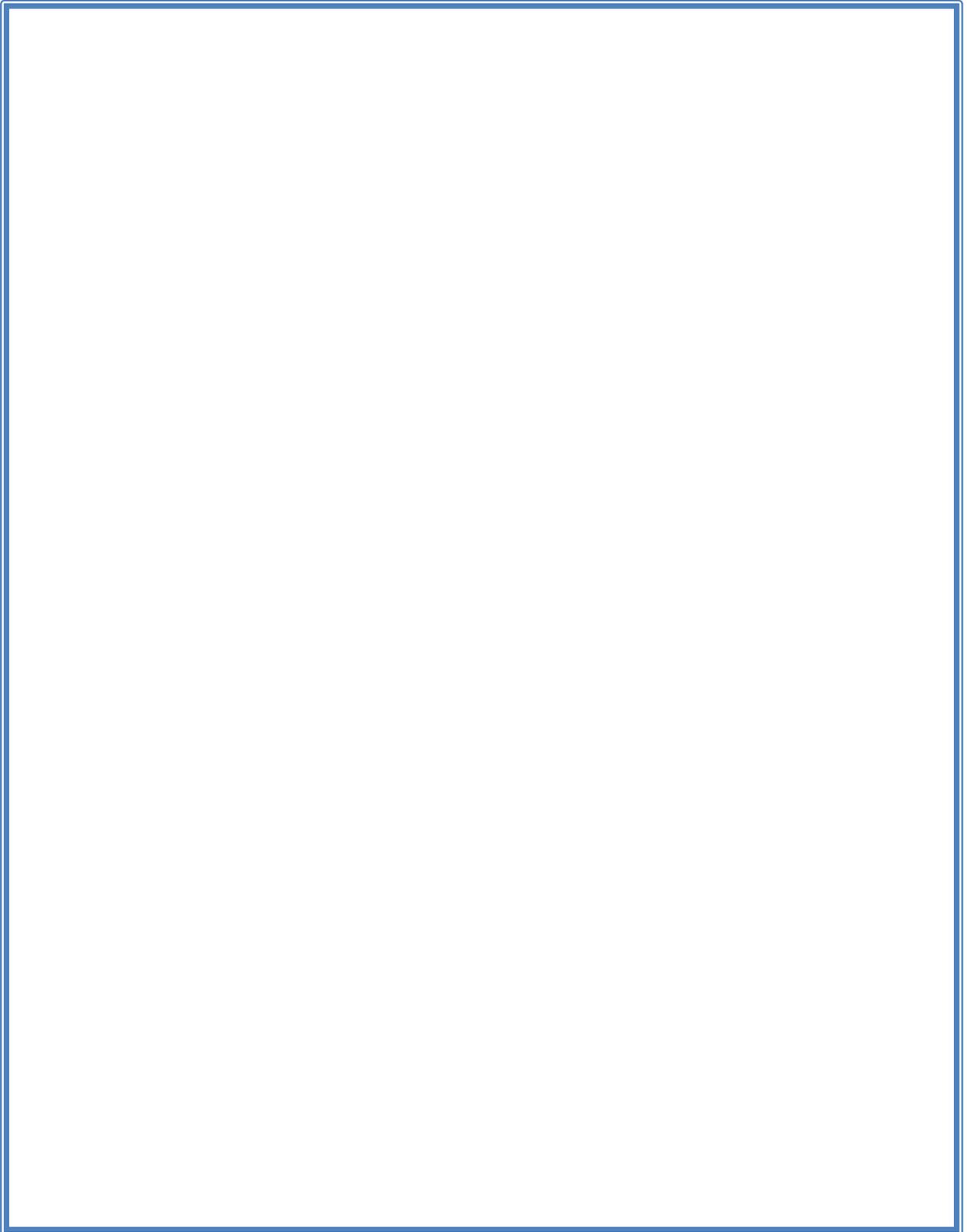
Draw a picture and fill in the sentence to remember each landform
Draw a model from video 2 of each landform.



This is a _____.

This is a _____.

Let's Draw Landforms! (hint: Don't draw too big!)



Erosion Lab: What did you notice?

Draw a "before" picture.

Draw an "after" picture.

Erosion Lab: What did you notice?

1. What did you notice?

I noticed that _____

_____.

2. How does the landscape look different?

The landscape looks different because _____

_____.

3. Is there more dirt at the bottom than there was before?
(Circle) Yes/No there is more dirt on the bottom than there was before.

4. What color is the water at the bottom?

The water at the bottom is _____.

5. How do we know that we created erosion?

We know that we created erosion because _____

_____.

6. Do you have any other comments or observations?

My other observations are _____

_____.

Weathering and Erosion

My name is _____ and this is my island.
Design a model of an island.

This is my island after weathering.

How Are Landforms Formed? Assessment

Name

Three examples of landforms are

1.

2.

3.

Draw with labels or describe how erosion forms landforms.

For the Teacher

Week 2

Fast or Slow?

Student Objectives: Students will be able to identify evidence that Earth landforms can change quickly or slowly.

Standard(s): 2.ESS1.1 Make observations from media to construct an evidence-based account that Earth events can occur quickly or slowly.

Essential Question: What evidence is there that Earth landform changes can happen quickly or slowly?

<http://secondgradesciencengss.weebly.com/weeks-1-9.html>

Procedure:

Monday- Play [video 1](#). Ask: What do you think that we will be learning about today? (mountains) Pass out the "Formation of Landforms" student investigation booklets. Play [video 2](#). Play [video 3](#) and do page 1.. Ask: Do mountains form fast or slowly? (Mountains form slowly). Can anyone describe how they form? (Two plates push towards each other over and over. The pressure eventually pushes the land upward forming mountains.) Pass out the "Formation of Landforms" student investigation booklets. Do page 1 (mountain part only). Read two books about mountains from your classroom library. (or see suggested book list) If time, let students explore [Rocky Mountain Roundup](#) and [Mountain Scramble](#).

Tuesday- Play [video 1](#). Ask: Does anybody know what a glacier is? (rivers of ice that change the Earth's landscape) Play [video 2](#). Play [video 3](#). Ask: Do glaciers change the Earth slow or fast? (Slow) What evidence is there that they form slowly? (The changes are slow.) Can anyone describe how they form? (The ice travels slowly and drags everything with it.); What evidence is there that ice forms slowly? (The evidence is that you won't observe changes for long periods of time.) ([Read together](#). (<--Click on link.) Pass out the "Formation of Landforms" student investigation booklets. Do page 1 (glaciers part only), page 2, and color page 3. If time, let students explore [Ice Age Hidden Objects](#).

Wednesday- Play [video 1](#). Ask: What is lava? (magma when it is hot and comes out of a volcano) Play [video 2](#). Ask: What is a volcano? (an opening that can heat up inside and erupt) Play [video 3](#). Ask: Do volcanoes change landforms fast or slowly? (After it erupts its cooled lava becomes rock. That happens quickly. However, to form a really big volcano, that happens slowly) What evidence is there that volcanoes eruptions can change landforms slowly over time? (The evidence is that you won't observe big volcanoes for hundreds of years.) Pass out the "Formation of Landforms" student investigation booklets. page 1. (volcano part only) and page 4. Do Lava Lab! If time, let students explore [Volcano Airways](#).

Thursday- Play [video 1](#). Ask: What do you think we will be talking about today? (earthquakes) Play [video 2](#). Ask: What is an earthquake? (when the plates rub against each other with lots of pressure and it shakes the earth) Play [video 3](#). Ask: Do earthquakes change landform fast or slowly? (Earthquakes change the land fast.) What evidence is there that earthquakes can change landforms quickly? (The evidence is that right after an earthquake whole buildings, towns, or areas of land are changed.) Do the Earthquake Lab. Do page 1 (earthquake part only) and page 5. If time, let students explore [Disaster Master](#). (they have to pass levels to get to the Earthquake one.

Friday- Tell students that they need to watch the video closely for their performance assessment. After watching the video, they will be expected to answer if water erosion is fast or slow and to describe how water erosion happens. Play [video 1](#). ([Jeopardy Song](#) 33 seconds-optional however you want to use it) Play [Jeopardy Game](#) to review. Pass out assessment.

Lava Lab!

Student Investigation

Supplies:

Each group: page 4; soil; water; water; 3-6 TBSP baking soda; 1 tsp of dish soap; red food coloring 1 cup (8 oz) of vinegar; measuring spoons and cups; spoon or sticks to stir; plastic cup

Procedure:

1. Choose a location outside that the rain can clean up the mess naturally that won't be as intrusive. If there are no such locations, you might want to use deep pans and do it in the classroom.
2. Students will make a mound out of the soil and water. Make a deep opening to pour the ingredients in.
3. Inside the volcano, students will put in 3-6 tablespoons of baking soda, 1 tsp of dish soap and red food coloring. Let the students determine how much baking soda they want to use. They will log their investigation on page 4.
4. Stir the contents with a spoon or stick.
5. The eruption: Measure 1 cup of vinegar into the plastic cup.
6. Test one volcano at time. (videotaping is optional) One student from the group will dump the vinegar in all at once. This will create the eruption.

Samples



Earthquake Lab!

Student Investigation

Make Ahead of Time:

Approximately 12" x 12" cardboard squares cut diagonally.

Paint green and store in gallon Ziploc bag for next year.

One per group.



Supplies:

Each group: page 5 of investigation booklet; piece of cardboard cut diagonally; different colors of playdoh

Procedure:

1. Break the students into groups.
2. Pass out the supplies.
3. Students will design a scenery. They should include a house, a road that crosses over the diagonal line, and any other landscape that they would like to add on their scenery.
4. Students will draw their scene on page 5.
5. When everyone is finished, two students will grab opposite corners and pull their scenery apart about 2 inches. (show students with your fingers about two inches. This is the earthquake simulation.
6. Have the groups discuss what changed during their "earthquake".
7. Finish page 5.

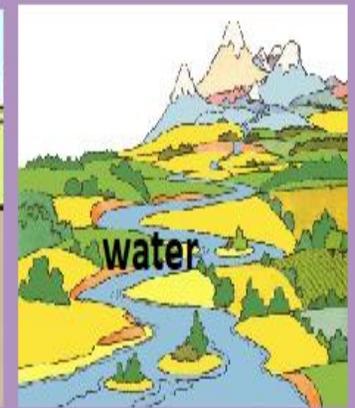
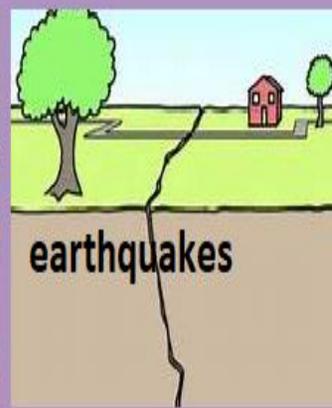
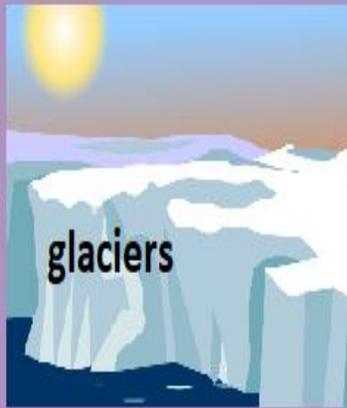
Sample



Fast or Slow?

Student Investigation Booklet

Name



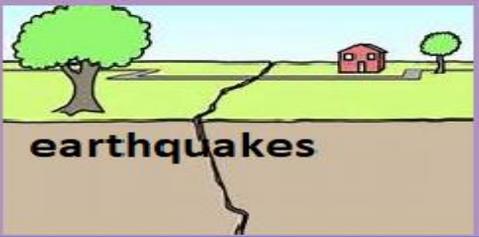
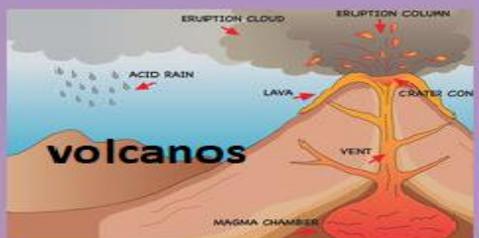
Landform Changes

Study and Collect Data: Check the slow erosion or fast erosion box.

Earth Events

Slow Changes

Fast Changes



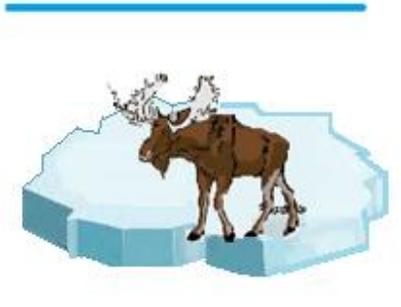


Glaciers

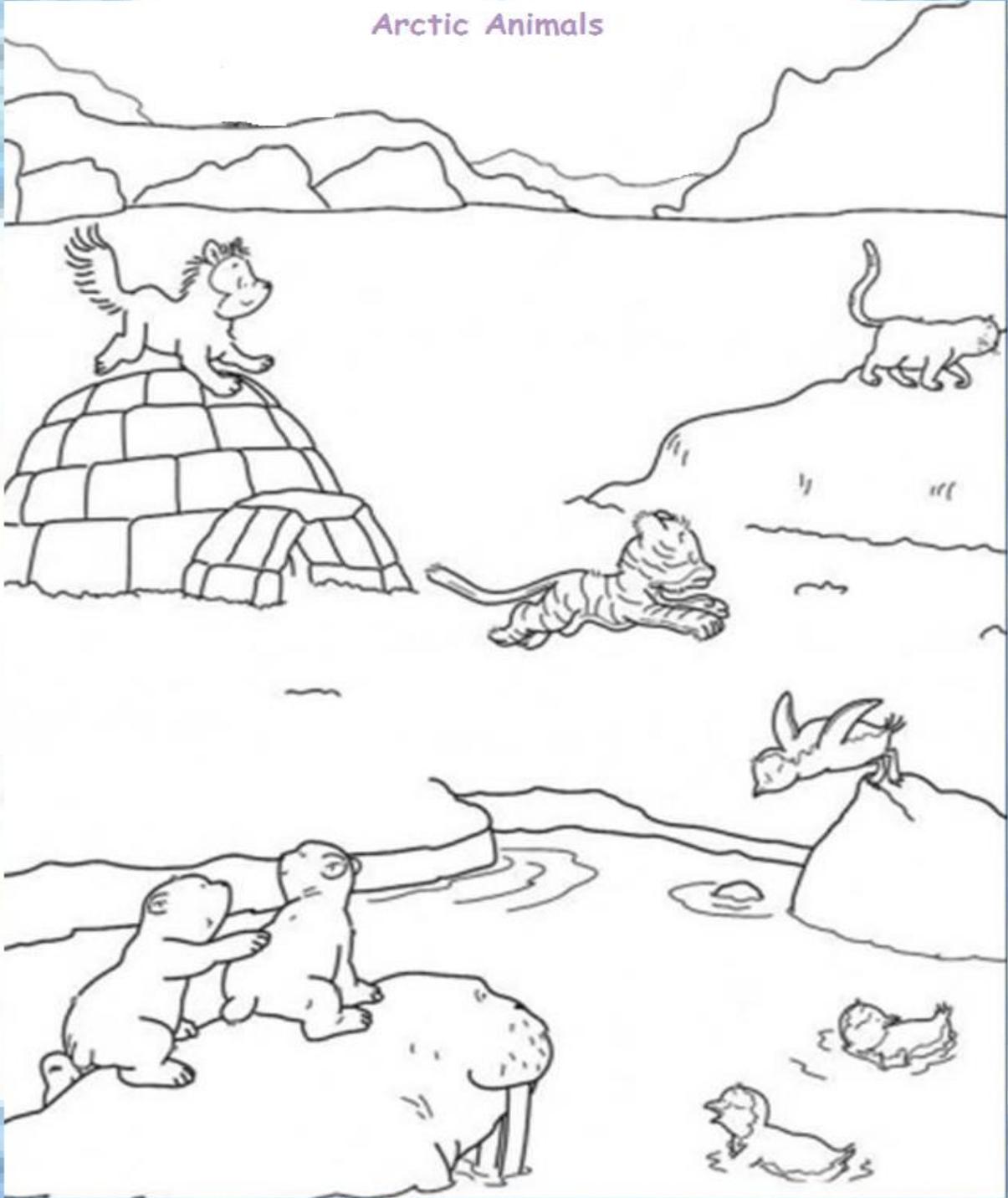
Animals that love the cold!

Write the name of the arctic animal under their iceberg.

- seal
- moose
- artic fox
- arctic goat
- polar bear
- penguin
- walrus
- whale



Arctic Animals



Lava Lab!

Student Investigation

2.ESS1.1

Today we are going to do a volcano lava lab! Your responsibility is to help your group and record data for the lab. Each group can choose their own amount of baking soda. Let's see which group makes the most lava.

What are you trying to do?	I am trying to _____ _____ _____.
What was your groups recipe?	_____ TBSP. of baking powder _____ tsp. of liquid dishwashing soap _____ drops of red food coloring _____ 1 cup of vinegar
How did it go?	My group came in _____ place. (1 st , 2 nd , 3 rd , 4 th , etc.)
What else can we try or we will leave our recipe the same.	Improvements. Discuss with your group. Circle one. Same Change _____ to _____.
How did it go?	My group came in _____ place. (1 st , 2 nd , 3 rd , 4 th , etc.)
Do volcanos change the landscape quickly or slowly?	_____ _____ _____ _____ _____.

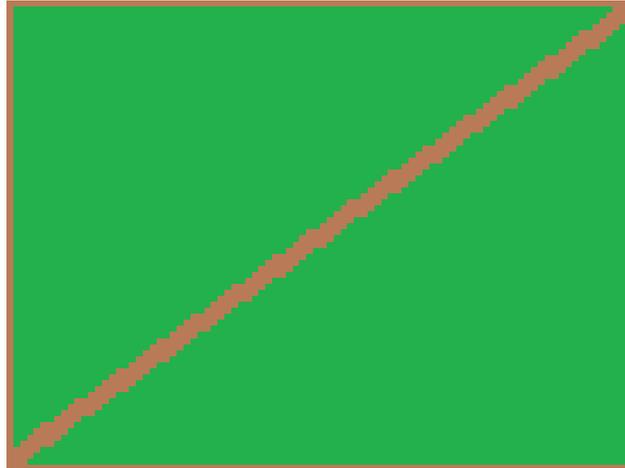
Earthquake Lab!

Student Investigation

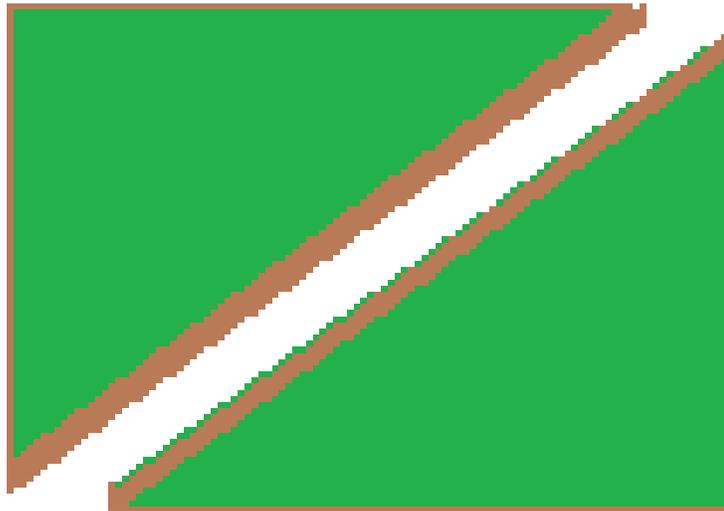
2.ESS1.1

Today we are going to do an earthquake investigation lab!

Draw a model of your playdoh model below.



Draw a model of your playdoh model below after the earthquake.

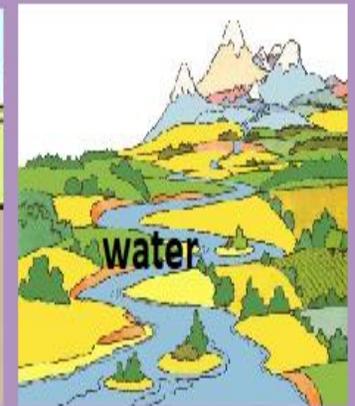
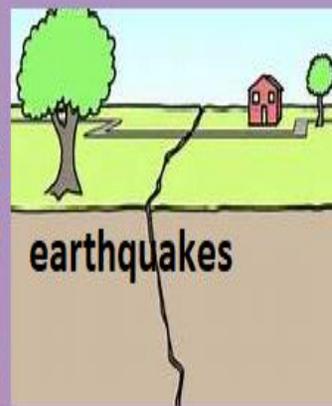
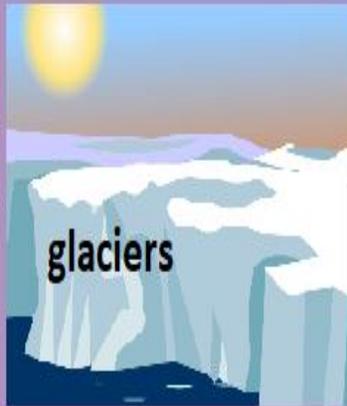


Do earthquakes change the landscape quickly or slowly? How?

Fast or Slow?

Assessment

Name _____



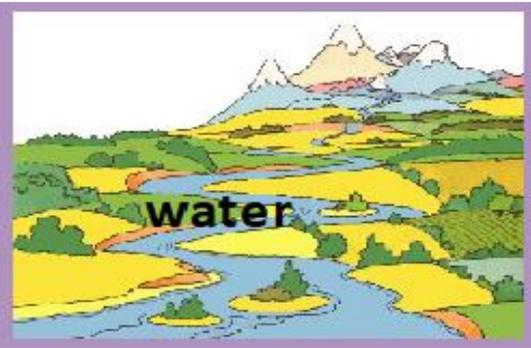
Landform Changes

1. Check the slow erosion or fast erosion box.

Earth Events

Slow Changes

Fast Changes

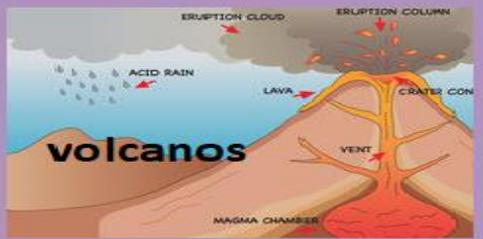
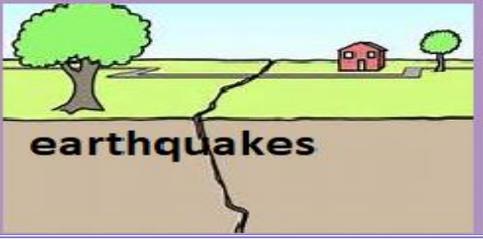


2. Describe how water erosion changes land.

Key

Landform Changes

Study and Collect Data: Check the slow erosion or fast erosion box.

Earth Events	Slow Changes	Fast Changes
 <p>mountains</p>	X	
 <p>glaciers</p>	X	
 <p>volcanos</p>	X	X
 <p>earthquakes</p>		X

Key



Glaciers

Animals that love the cold!

Write the name of the arctic animal under their iceberg.

- seal
- moose
- artic fox
- arctic goat
- polar bear
- penguin
- walrus
- whale



polar bear



whale



arctic fox



walrus



penguin



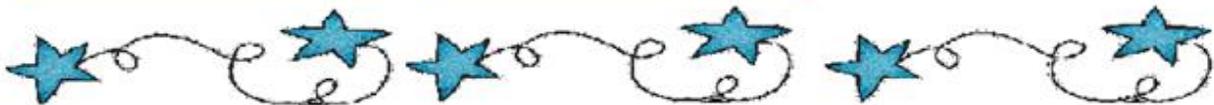
seal



arctic goat



moose



Key

Lava Lab!

Student Investigation

2.ESS1.1

Today we are going to do a volcano lava lab! Your responsibility is to help your group and record data for the lab. Each group can choose their own amount of baking soda. Let's see which group makes the most lava.

What are you trying to do?	I am trying to <u>build a volcano model and make it erupt with lava.</u> _____ _____.
What was your groups recipe?	Will vary-Students will be investigating what works. ____ Tbsp. of baking powder ____ tsp. of liquid dishwashing soap ____ drops of red food coloring ____ 1 cup of vinegar
How did it go?	My group came in _____ place. (1 st , 2 nd , 3 rd , 4 th , etc.)
What else can we try or we will leave our recipe the same.	Improvements. Discuss with your group. Circle one. Same Change _____ to _____.
How did it go?	My group came in _____ place. (1 st , 2 nd , 3 rd , 4 th , etc.)
Do volcanos change the landscape quickly or slowly?	Volcanoes change land quickly when they first erupt with lava. Volcanoes change slowly, because it takes a long time before they become large. ____.

Key

Earthquake Lab!

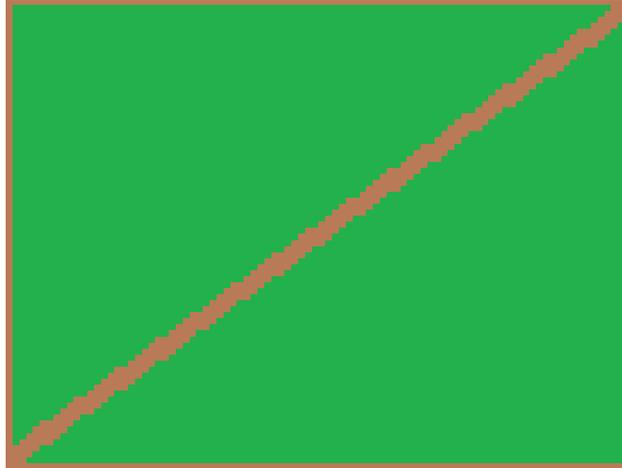
Student Investigation

2.ESS1.1

Today we are going to do an earthquake investigation lab!

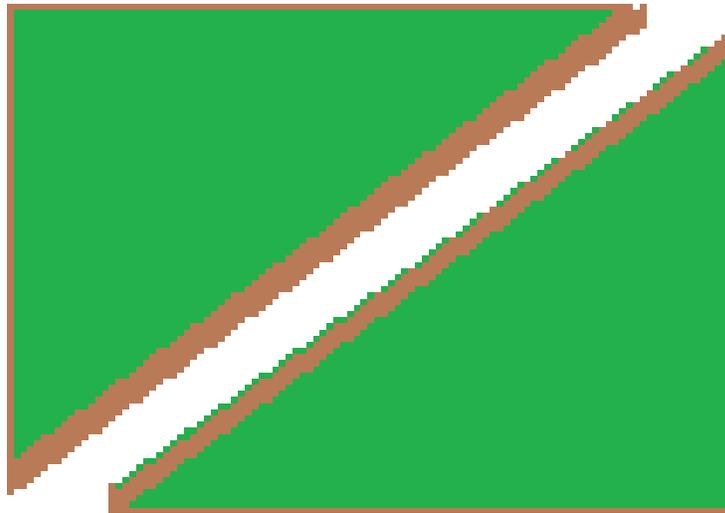
Draw a model of your playdoh model below.

Will vary.



Draw a model of your playdoh model below after the earthquake.

Will



vary.

Do earthquakes change the landscape quickly or slowly? How?

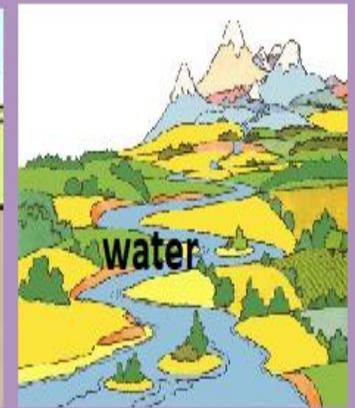
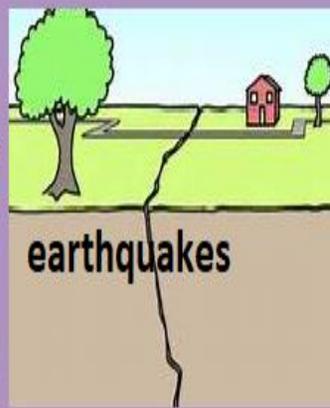
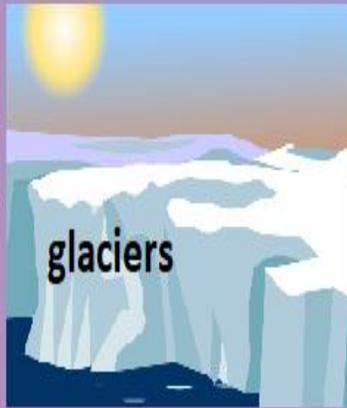
Earthquakes change land quickly. When plates rub together it can cause the Earth to shake.

Fast or Slow?

Assessment

Key

Name _____



Landform Changes

1. Check the slow erosion or fast erosion box.

Earth Events	Slow Changes	Fast Changes
		

2. Describe how water erosion changes land.

Water changes land when it moves through the land. It moves a little bit of dirt or rock over a long time. After a long time, it changes how the land looks. Examples: rivers or rain.