

Improving Teacher Quality

Arts and Science Integration

Visual Art

**Earth, Physical and Life
Sciences**

Grade 4

(revised 6-2014)

Grade 4

EARTH SCIENCE

and

Visual Art

Lessons

1. Art Elements and Landforms
2. Slow Sculpting of the Earth
3. Rapid Changes in the Landscape

**ITQ ARTS AND SCIENCE INTEGRATION
GRADE 4
VISUAL ART AND EARTH SCIENCE**

Art Elements and Landforms Lesson 1

FOSS Kit Grade 4, Earth Science: Solid Earth, Investigation 5: Landforms

CONTENT STANDARDS

Visual Art Grade 4

- 1.5 Describe and analyze the elements of art (line, shape/form, color, texture, space and value) emphasizing form, as they are used in works of art and found in the environment.
- 2.1 Use shading (value) to transform a two-dimensional shape into what appears to be a three-dimensional form (e.g., circle to sphere).
- 3.1 Describe how art plays a role in reflecting life (e.g., in photography, quilts, architecture).
- 4.5 Describe how the individual experiences of an artist may influence the development of specific works of art.

Science Grade 4

- ES5c Students know moving water erodes landforms, reshaping the land by taking it away from some places and depositing it as pebbles, sand, silt and mud in other places (weathering, transport and deposition).

ESSENTIAL QUESTIONS *(Questions students might ask about the topic)*

- What is **form** and **value** in art?
- What are landforms?
- How are landforms created?
- How can I create a work of art that shows my knowledge of landforms, form and value?

OBJECTIVES & STUDENT OUTCOMES *(Students will be able to.....)*

- Describe a landscape, especially the depicted landforms, using the vocabulary of visual art and science.
- Define form as an element of art and how it is different from shape.
- Create a value scale of five values including white
- Create a Landforms book that uses **value** to show **form**, and depicts the following landforms: Mountain, Canyon, Mesa, Plateau, and Plain.

ASSESSMENT *(Various strategies to evaluate effectiveness of instruction and student learning)*

- **Feedback for Teacher**
 - Informal assessment of student skills by observation
 - Formal assessment of completed work of art
- **Feedback for Student**
 - Informal verbal feedback from teacher
 - Direction and suggestions offered at conferences throughout work process

WORDS TO KNOW

Visual Art Vocabulary

- **Form:** A three-dimensional volume or the illusion of three dimensions; the particular characteristics of the visual elements of a work of art (as distinguished from its subject matter or content).
- **Shape:** A two-dimensional area or plane that may be open or closed, free-form or geometric. It can be found in nature or is made by humans.
- **Sketch:** a drawing without much detail, usually completed in a short amount of time; sometimes used as a rough draft for a later work of art.
- **Value:** Lightness or darkness of a hue or neutral color.
- **Value Scale:** Scale showing range of values from black to white and light to dark

Earth Science Vocabulary

- **canyon:** a deep gorge, a long narrow valley with high cliffs on either side

- **delta:** a triangular tract of sediment deposited at the mouth of a river, typically where it diverges into several outlets
- **landform:** a feature of the land, such as a mountain, canyon or beach.
- **mesa:** an isolated flat-topped hill with steep sides, found in landscapes with horizontal strata
- **mountain:** a large natural elevation of the earth's surface rising abruptly from the surrounding level; a large steep hill
- **plateau:** an area of relatively level high ground
- **plain:** a large area of flat land with few trees
- **valley:** a low area of land between hills and mountains, where a stream often flows

MATERIALS

- Black and white photographic images of landforms captured by Ansel Adams (included)
- "Photographer and Ecologist: Ansel Adams" (included)
- 3 x 6 strip of drawing paper, one per student
- 6 pieces (varied sizes) of white construction paper per student:
 - (2 pieces) 12" x 3"
 - (1 piece) 12" x 4"
 - (1 piece) 12" x 5"
 - (1 piece) 12" x 6"
 - (1 piece) 12" x 7"
- Graphite pencil, one per student
- Eraser, one per student
- Box of crayons (16 colors), one per student
- Science notebook, 1 per student

RESOURCES

- *FOSS Kit Grade 4, "Earth Science: Solid Earth", Investigation 5: Landforms*
- *Portfolios, Grade 4*, Robyn Montana Turner, Kendall Publishing
 - Ansel Adams (page 73),
 - Earthworks (page 76),
 - Landscapes (pages 78 & 79)
 - Value (page 73)
- Internet
 - Photographs of various landforms: ask.com Landform Picture Gallery
<http://geology.about.com/library/bl/images/bl/landformindex.htm>
 - Black and white photograph depicting multiple landforms
 - *The Tetons and The Snake River* by Ansel Adams
http://en.wikipedia.org/wiki/File:Adams_The_Tetons_and_the_Snake_River.jpg
- Instructional Media Center (IMC)
2442 Cardinal Lane, San Diego, CA 92123
To order instructional materials on line: <http://destiny.sandi.net>

PREPARATION

- This lesson can be taught before or after *FOSS Kit Grade 4, "Earth Science: Solid Earth", Investigation 5: Landforms*
- Make copies of the "Photographer and Ecologist: Ansel Adams", one per student
- Prepare the following paper sizes (one per student)
 - On one 12" x 3" write "ocean" and "island"
 - On one 12" x 3" write "plain"
 - On the 12" x 4" write "plateau"
 - On the 12" x 5" write "mesa"
 - On the 12" x 6" write "canyon"
 - On the 12" x 7" write "mountain", "valley" and "delta"
-

WARM UP (*Engage students, access prior learning, review, hook or activity to focus the student for*

learning)

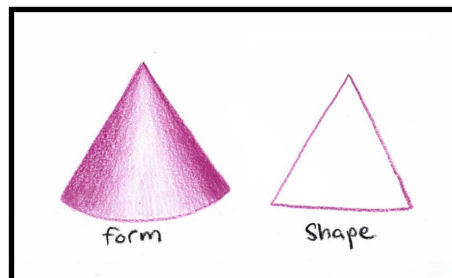
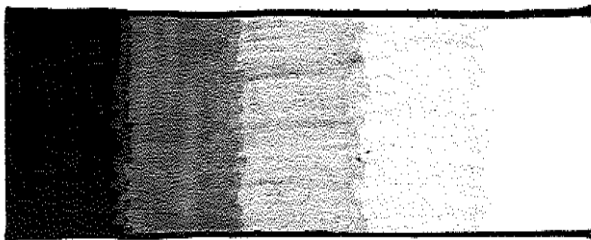
(10 minutes)

- Display *The Tetons and The Snake River* by Ansel Adams in an area easily seen by all students. (This photograph appears at the end of this lesson.)
- Instruct students to examine the photograph silently for 1 minute.
- Say:
 - *This image shows many **landforms** or features of the earth.*
- Ask:
 - *What **landforms** do you see?* [mountains, valley, plateau, mesa]
 - *How do you think this image was made?*
 - *What makes you think that?* [black and white photograph using camera and film, NOT digital]
 - *Where are the darkest areas of the image?*
 - *Where are the lightest areas of the image?*
- Say:
 - *This is a photograph was created by the famous American photographer, Ansel Adams. Before this photo was published, Americans were interested in expanding cities and creating more and more factories and businesses. This particular photograph changed how Americans thought about the land.*
- Ask:
 - *How do you think this photograph changed their minds?* [protection of natural landforms, establishment of national parks, wildlife reserve areas]
 - *What makes you say that?*

MODELING (Presentation of new material, demonstration of the process, direct instruction)

(15 minutes)

- Have students read “Photographer and Ecologist: Ansel Adams”, a selection about a famous American photographer from California and his contribution to ecological awareness and art.
- Say:
 - *In art, the word “**form**” refers to “three-dimensional volume or the illusion of three-dimensional volume”.*
- Distribute a 3”x 6” strip of white construction paper and a pencil to each student.
- Instruct students to divide the strip into five sections.
- Use any crayon to create the darkest area possible in one of the end sections.
- Create three gradually lighter sections of the chosen color by applying less and less pressure to the crayon while coloring.
- Remind students to color in a left-to-right or up and down motion to evenly fill the section, (*avoid scribbling in all directions around the shape*)
- The fourth section should barely be shaded with the crayon.
- Leave the opposite end section empty, or white.



- Say:
 - *You have just created a **value scale**. “**Value**” is an element of art and refers to the lightness and darkness of a hue or color. A **value scale** shows the range of **color** from dark to light.*
- Ask:
 - *How could we use these **values** when we create a drawing?*
- Say:

- Artists use value to make things look rounded, curved, or three-dimensional. They use different values to create **form**. Now we will try an example where we change a **shape** into a **form** by shading with different values. (use attached example)
- On the back of the value scale, instruct students to create a **shape**, and then transform it into a **form** by shading it appropriately with different values of one color. Rounded or curved shapes should have a gradual change in value. Some choices include: triangle to cone, circle to sphere, or rectangle to cylinder. (See Image 1.1)

GUIDED PRACTICE (Application of knowledge, problem solving, corrective feedback)

(20 minutes)

- Distribute the selections of paper to each student explaining that each piece will be used to illustrate a different landform.
- Instruct students to write the landform vocabulary words along the bottom of the back of the papers as follows (see Image 1.2):
 - On one 12" x 3" write "ocean" and "island"
 - On one 12" x 3" write "plain"
 - On the 12" x 4" write "plateau"
 - On the 12" x 5" write "mesa"
 - On the 12" x 6" write "canyon"
 - On the 12" x 7" write "mountain", "valley" and "delta"
- Instruct students to draw the designated landforms on each piece of paper, using crayon to add color.
- Students should use changes in **value** to create **form**. (e.g., mountains are similar to cone **forms**. By gradually changing the value from dark to light and then dark again, the mountains look more three dimensional in the drawing.)
- Advise students to refer to the **value scale** they created so that they consider the variations they can make using crayon.
- Monitor student progress.
- Remind students to refer to the Ansel Adams photograph or their science textbooks to represent each landform to the best of their ability. (e.g., mountains are pointed, mesas are flat on top, plains are very flat expanses of land, a plateau is flat large elevated chunk of land, etc.).
- Finally, have students cut along the top of the landforms creating a different silhouette for each page and stack the pages together into a book adding staples along the left side (smallest in the front to largest in the back), (see Image 1.3).

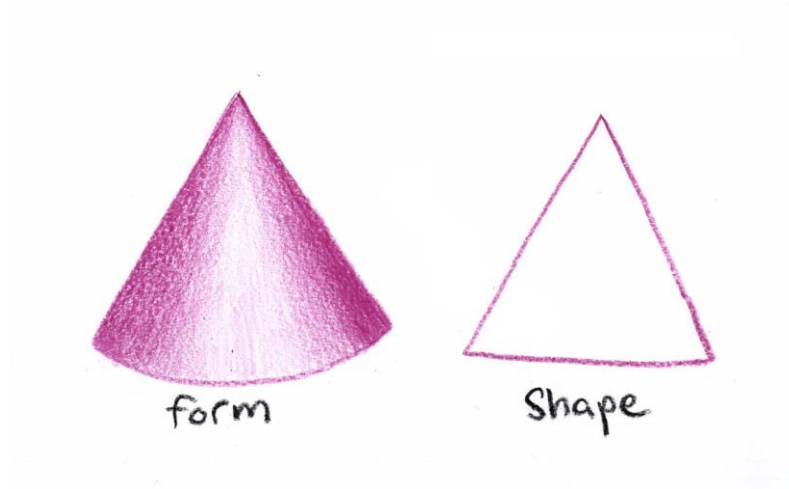
DEBRIEF & REFLECT (Identify problems encountered, ask and answer questions, discuss solutions and learning that took place. Did students meet outcomes?)

(10 minutes)

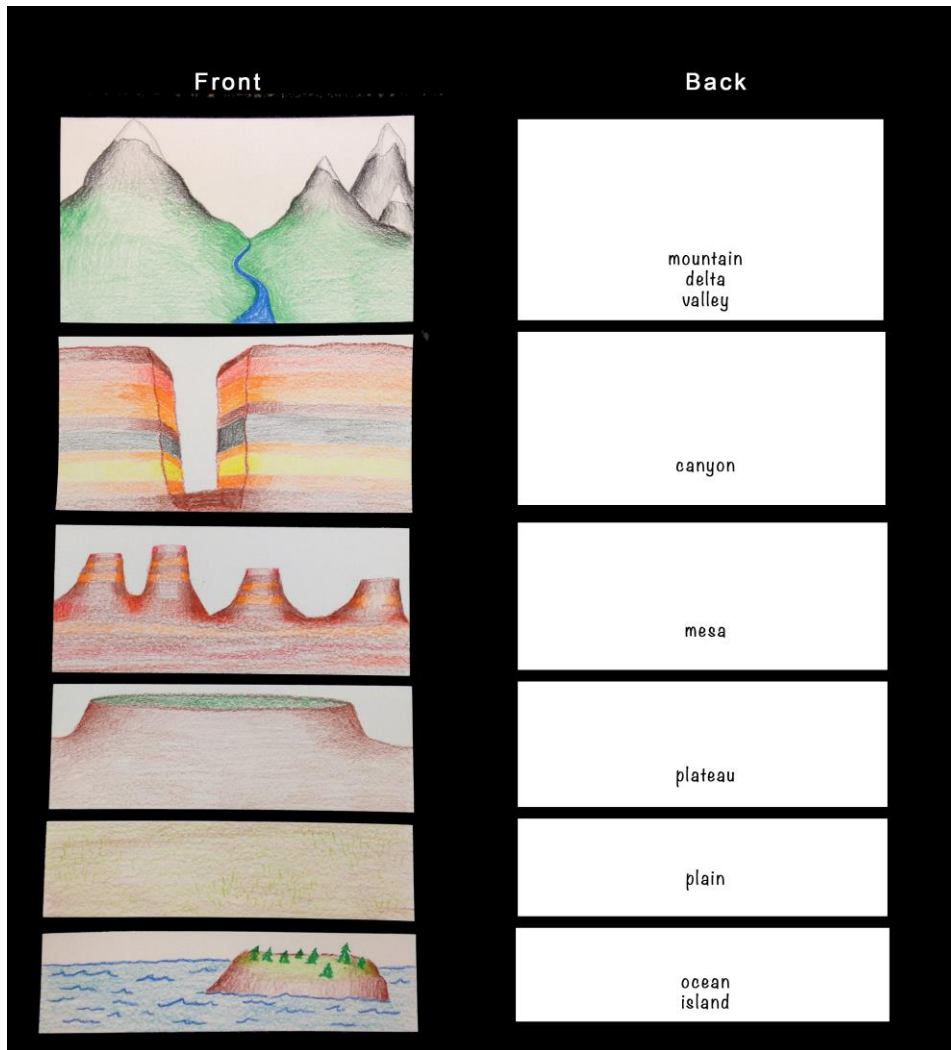
- Ask students to form small groups of 3 or 4 students and within their group they should discuss the following:
 - Describe how you used **value** to create **form** on one of your landform drawings
 - Point out the **valley** and **delta** included in your **mountain** drawing.
 - What were the difficulties you experienced when doing this project?
- Instruct students to attach their **value scales/ form** example to their science notebook.
- Science Notebook Prompt: How did drawing landforms help you to understand them better?

EXTENSION (Expectations created by the teacher that encourage students to participate in further research, make connections, and apply understanding and skills previously learned to personal experiences.)

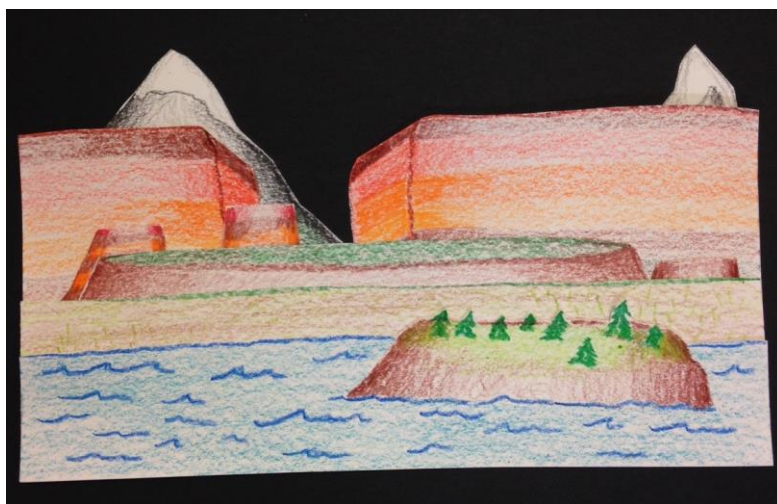
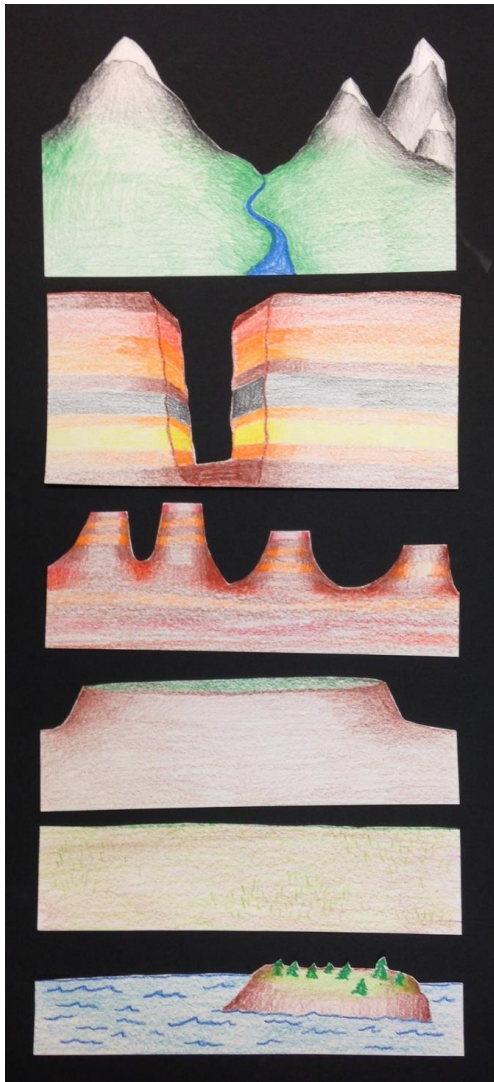
- Identify **landforms** in the school and neighborhood environment.
- Allow students to create digital photographs in black and white depicting **landforms** from their environment.
- Look at Portfolios Grade 4, page 76. Discuss how humans manipulated the land to create art called "earthworks".



Example Image 1.1



Example Image 1.2



Example Image 1.3

Photographer and Ecologist: Ansel Adams



http://4.bp.blogspot.com/_loU3bEFUwWc/S9BN1qMb3cl/AAAAAAAAIQE/k9e35jmJG_I/s400/Ansel+Adams.jpg

Ansel Adams was born in San Francisco, California on February 20, 1902. He was an only child. His family home was on a high part of the land, facing the Golden Gate Bridge, where he spent most of his time exploring nature. Ansel liked collecting bugs, exploring creek beds and beaches and climbing sea cliffs.

When Ansel was 14 years old his family decided to visit Yosemite National Park for vacation. Yosemite was the first National Park and was established in 1890. Ansel's father gave him a Kodak Brownie box camera and it changed his life. Yosemite is where Ansel took his first photographs in 1916.

After his trip to Yosemite, he wanted to learn everything he could about photography. Ansel read photography magazines, went to camera club meetings, to photography and art exhibits. He even started working part time in a photography shop. He also began to hang out with his uncle, a retired geologist (one who studies rocks) and amateur ornithologist (one who studies birds). Together they explored the High Sierras, building stamina and skill so Ansel could photograph at high elevations and in the heat of summer and cold of winter.

At age 17, Ansel joined the Sierra Club, a group dedicated to preserving the natural world's wonders and resources. He became a board member of the Sierra Club in 1934 and served until 1971. Ansel believed that sharing his photographs with the world would encourage people to conserve and protect the land.

Ansel Adams is well known for his curious way to photograph landforms. He mounted a platform on top of his station wagon. There he would climb up, mount his camera and take unobstructed pictures of the landscape.

As an adult, Ansel published books about photography and nature. He testified before the United States Congress in 1940 to establish another national park in California, Sequoia and Kings Canyon. He taught workshops to thousands of photographers every year until his death in 1981.

"...the splendor of Yosemite burst upon us and it was glorious. One wonder after another descended upon us. There was light everywhere...a new era began for me!" -Ansel Adams

The Tetons and the Snake River

By: Ansel Adams



http://www.archives.gov/exhibits/picturing_the_century/images/port_adams_107_v88.jpg

More Photographs by Ansel Adams

<http://inspirationhut.net/inspiration/world-famous-collection-of-ansel-adams-photography/>





**ITQ ARTS AND SCIENCE INTEGRATION
GRADE 4
VISUAL ART AND EARTH SCIENCE**

**Slow Sculpting of the Earth
Lesson #2**

FOSS Kit Grade 4, Earth Science: Solid Earth, Investigation 5: Landforms, Part 4: Erosion

CONTENT STANDARDS

Visual Art Grade 4

- 1.1 Describe how negative shapes/forms and positive shapes/forms are used in chosen works of art.
- 1.5 Describe and analyze the elements of art (e.g., color, shape/form, line, texture, space, value), emphasizing form, as they are used in works of art and found in the environment.

Science Grade 4

- ES5a Students know some changes in the earth are due to slow processes, such as erosion, and some changes are due to rapid processes such as landslides, volcanic eruptions and earthquakes.

ESSENTIAL QUESTIONS (*Questions students might ask about the topic*)

- What is contrast in visual art?
- What is emphasis in visual art?
- What is erosion and how does it occur?
- What is transport and how does it relate to landform change?

OBJECTIVES & STUDENT OUTCOMES (*Students will be able to.....*)

- Describe how negative and positive shapes are used in a work of art.
- Describe how erosion occurs and changes landforms.
- Create a work of art depicting the result of erosion using positive and negative space.

ASSESSMENT (*Various strategies to evaluate effectiveness of instruction and student learning*)

- **Feedback for Teacher**
 - Informal Observation
 - Finished work of art
- **Feedback for Student**
 - Comments from teacher during discussion, instruction and individual conferencing

WORDS TO KNOW

Visual Art Vocabulary

- **negative:** refers to shapes or spaces that are or represent areas unoccupied by objects
- **positive:** shapes or spaces that are or represent solid objects
- **value:** lightness and darkness of a hue or neutral color. A value scale shows the range of values from black to white.

Earth Science Vocabulary

- **erosion:** the carrying away of weathered earth materials by water, wind or ice
- **slope:** a surface of which one end or side is at a higher level than another; a rising or falling surface
- **transport:** to move or carry from one place to another

MATERIALS

- Reproduction of Gunnar Mauritz Widforss' Grand Canyon painting (included in this lesson).
- Photograph of the Cliffs at Torrey Pines (included in this lesson).
- Science notebook, one per student

- 12" x 18" white construction paper, one per student
- Set of 16 crayons, one per student
- Set of watercolor paints (and paintbrush), water cup, and paper towel, one per student

RESOURCES

- *FOSS Kit, Grade 4, Earth Science: Solid Earth*
- *Portfolios Grade 4*, Robyn Montana Turner, Barrett Kendall Publishing
 - Negative/positive spaces and shapes: page, 10, 11, 16-17, 32, 117
 - Visual Record of Landmarks: pages 26, 27
 - *Moon and Half Dome, Yosemite National Park*, Ansel Adams, page 73
 - Using a paintbrush: page 134
- Internet:
 - Painters of the Grand Canyon: http://www.askart.com/AskART/interest/Grand_Canyon_Painters_1.aspx?id=19
 - Gunnar Mauritz Widforss: <http://www.gunnarwidforsspaintings.com/>
 - Torrey Pines State Reserve: <http://www.torreypine.org/>
- Instructional Media Center (IMC)
2442 Cardinal Lane, San Diego, CA 92123
To order instructional materials on line: <http://destiny.sandi.net>

PREPARATION

- *FOSS Kit Grade 4 Solid Earth*, Investigation 5 "Landforms, Part 4 "Rapid Changes". Complete the stream table experiment before introducing this lesson.

WARM UP *(Engage students, access prior learning, review, hook or activity to focus the student for learning)*

(5 minutes)

- Display Gunnar Widforss' painting, *Grand Canyon* (*Image 2.1 can be found in the lesson plan or at: <http://www.gunnarwidforsspaintings.com/>*) in an area easily seen by all students.
- Allow students one minute to examine the work of art visually without talking.
- Say:
 - *Now that you have had a chance to examine this image, describe what you see.* (e.g., trees, mesas, canyons, colors, lines, The Grand Canyon, etc.)
 - *What art media did Widforss use to create this painting?* (watercolor)
 - *Let's recall how we discussed the Grand Canyon during our science lesson. Scientists wonder how the Colorado River could have created such a massive, deep canyon.*
 - *What were some of your ideas about how **slope** may have played a part in creating the Grand Canyon?*
 - *Who can explain **slope**?* (a surface of which one end or side is at a higher level than another; a rising or falling surface)
 - *How did Artist Gunnar Widforss illustrate **slope** in this work of art?* (diagonal lines)
- Have students take out their science notebooks and find the page where they previously attached the **value** scale created based on Ansel Adams and Landforms.
 - *Look at the painting by Gunnar Widforss and share with the class where you see examples of **value**.* (light and dark places)
 - *What do you notice about the colors he used to depict the Grand Canyon?* (he used lots of tints and shades of the same color)
 - *How does his use of the **value** of red compare to the **value** scale you created?* (he used values of red and orange)
 - *How did Widforss make the Grand Canyon look deep?* (use of tints and shades to create dark areas and contrasting light areas to show depth and shadow)
 -

MODELING *(Presentation of new material, demonstration of the process, direct instruction)*

(20 minutes)

- Display the photographs of Torrey Pines State Park cliffs (*Image 2.2*) in an area easily seen by all students.

- Discuss the beach waterfall, cave and concretion, wind caves, and bay point formation photographs.
- Say:
 - *Does anyone know where this photograph was taken?* (Torrey Pines State Park)
 - *How do you think the crevices in the cliffs were formed?* (erosion caused by water and wind)
 - *What happened to the earth that used to be in the crevices?* (washed and blown onto the beach)
 - *Who can remember the scientific term for what we call moving or carrying earth from one place to another?* (**transport**)
 - *Can someone point out the crevices?*
 - *In art, wherever earth is, we call it **positive space**. We call the crevices in this illustration **negative space** because it is space around and between the subject(s).*
 - *Today we are going to make a drawing illustrating the erosion similar to that at Torrey Pines State Park*
- Display the photograph taken of the beachfront cliff (*Image 2.3*)
- Distribute one 12 x 18 piece of white construction paper and one set of 16 crayons to each student.
- Instruct students to draw a scene showing erosion (*utilize the guide in Image 2.4 for reference to aid in your demonstration*)
- Remind students that their drawings should not look *exactly* like yours because they are creative artists creating their own original works of art. All pieces should look different because landforms are different.

GUIDED PRACTICE (*Application of knowledge, problem solving, corrective feedback*)

(20 minutes)

- Allow students time to work independently illustrating the effects of **erosion** on the landforms similar to those at Torrey Pines State Park.
- Once finished with the initial sketch, students then **outline** the entire drawing using crayons.
- (Caution: Remind them **not to color areas in with crayon**, because the final step is a watercolor paint resist.)
- While students are working, guide individual students as needed
- When the crayon lines are completed, instruct students to prepare their watercolor paint sets with water cups and paper towels at their desks.
- Instruct students to paint over their drawings, considering value to show **negative and positive space**, and to show **form** in their paintings.
- Students can paint selectively within the lines, or wash over larger areas of the drawing (the crayon lines resist the paint and will show through).

DEBRIEF & REFLECT (*Identify problems encountered, ask and answer questions, discuss solutions and learning that took place. Did students meet outcomes?*)

- Science Notebook Prompt: Describe how the earth at Torrey Pines State Park may have looked centuries ago before **erosion** with lots of **positive space** and how it may look in the distant future with more **negative space**.

EXTENSION (*Expectations created by the teacher that encourage students to participate in further research, make connections, and apply understanding and skills previously learned to personal experiences.*)

- Take students on a walk through the school campus or neighborhood after a strong rain. Take a photograph or make a drawing as evidence of **erosion** and **transport**.
- Create sidewalk chalk cakes using:
 - ¾ cup corn starch
 - ¼ cup water
 - several drops of food coloring
- Mix ingredients and let colored mixture dry inside cupcake wrappers overnight (one cake per small group of 2-3 students) Gently remove the cakes from the wrappers when dry. Have students replicate erosion by placing their cakes somewhere out on the playground (preferably near a slope or hill) and slowly pouring water from 2 liter soda bottles onto the center of their cakes watching the chalk erode from the cake and away down the slope.



Image 2.1 - Grand Canyon Landscape by Gunnar Mauritz Widforss, watercolor
<http://www.gunnarwidforsspaintings.com/>

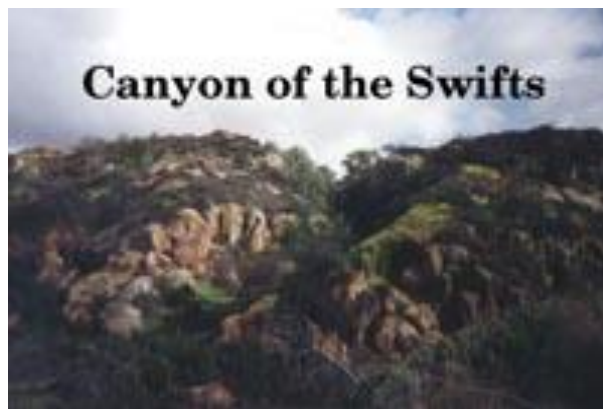
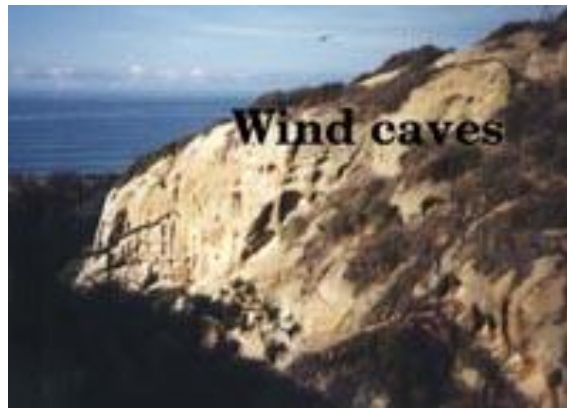
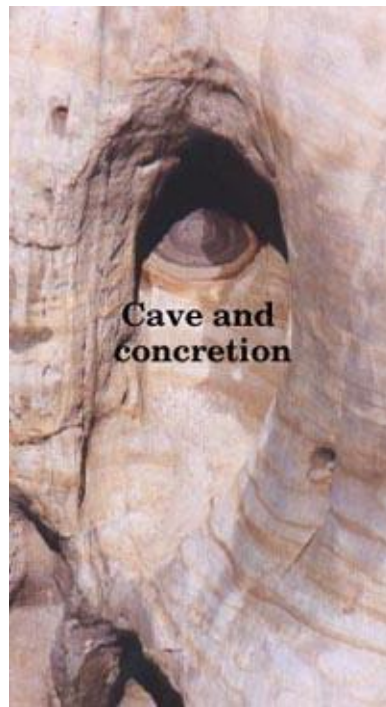
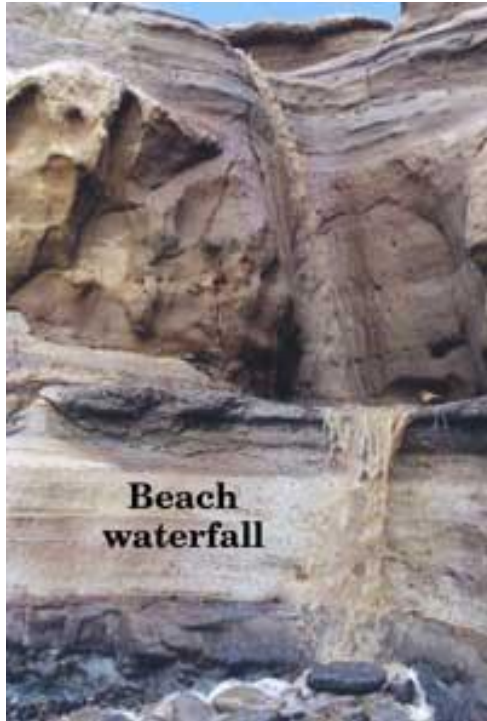
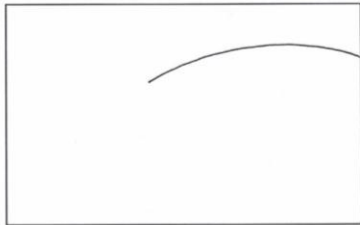


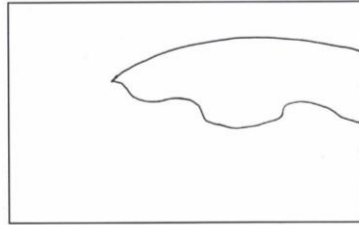
Image 2.2 - Torrey Pines State Park
<http://www.torreypine.org/geology/geology.html#erosion>



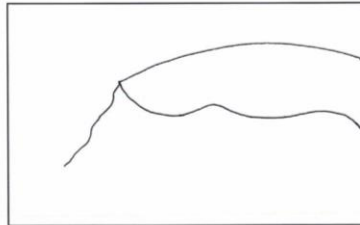
Image 2.3 - Photograph Taken at Torrey Pines State Park



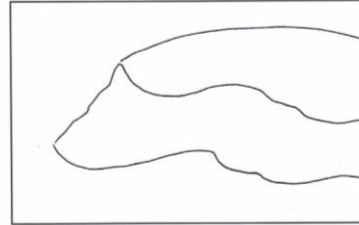
Draw a arched line to represent the top of the land.



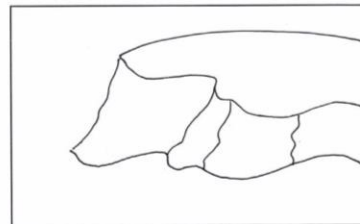
Draw a line that curves back and forth to represent the edge of the cliff.



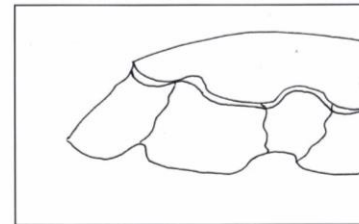
Draw a jagged line that drops down the side of the land.



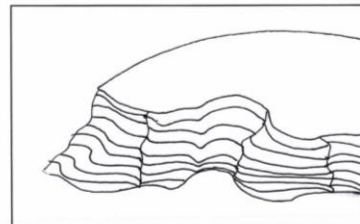
Draw a second curved line that mimics the first curved edge of the cliff. This shows how erosion has carved the edge of the cliff.



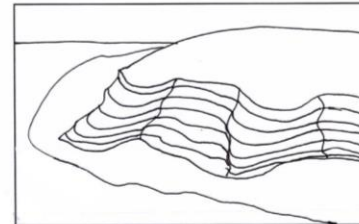
Draw three jagged lines that go from the top to the bottom of the cliff making ridges in the cliffside.



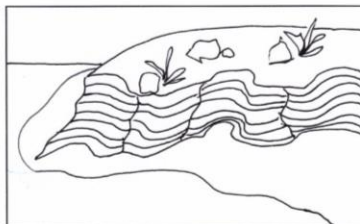
Draw many lines that travel parallel to the curved edge of the cliff showing layers in the earth.



These lines should mimic (somewhat) the curves in the line representing the cliff edge.



Draw a line to represent the shoreline that wraps around the land. Over time the ocean has carved out the side of this cliff. Draw a horizontal line to represent the horizon line in the distance.



Draw some kind of natural scene on top of the cliff. Students can imagine their own beach cliff and what it might include (trees, plants, rocks, animals, shells, fossils).



The final step is using crayon and watercolor resist to add color.

Image 2.4

Image 2.5 - Crayon drawing



Image 2.6 - Watercolor paint resist



**ITQ ARTS AND SCIENCE INTEGRATION
GRADE 4
VISUAL ART AND EARTH SCIENCE**

**Rapid Changes in the Landscape
Lesson #3**

FOSS Kit Grade 4, Earth Science: Solid Earth, Investigation 5: Landforms, Part 4 Rapid Changes

CONTENT STANDARDS

Visual Art Grade 4

- 2.7 Use contrast (light and dark) expressively in an original work of art.
4.3 Discuss how the subject and selection of media relate to the meaning or purpose of a work of art.

Science Grade 4

- ES5a Students know some changes in the earth are due to slow processes, such as erosion, and some changes are due to rapid processes such as landslides, volcanic eruptions and earthquakes.

ESSENTIAL QUESTIONS *(Questions students might ask about the topic)*

- What is contrast?
- What are rapid processes that change the landscape?
- How do I create a work of art that demonstrates rapid processes changing the landscape using contrast?

OBJECTIVES & STUDENT OUTCOMES *(Students will be able to.....)*

- Use and describe contrast in an original work of art.
- Make comparisons between physically tearing and manipulating the paper (media); and the tearing, shifting, and moving of the earth during earthquakes, landslides, volcanoes, and floods
- Describe rapid processes that change landforms.
- Create a landscape depicting rapid landform changes.

ASSESSMENT *(Various strategies to evaluate effectiveness of instruction and student learning)*

- **Feedback for Teacher**
 - Informal observation
 - Formal Assessment of completed works of art
- **Feedback for Student**
 - Comments from the teacher during discussion, instruction and individual conferencing

WORDS TO KNOW

Visual Art Vocabulary

- **Contrast:** difference between two or more elements (e.g., value, color, texture) in a composition; juxtaposition of dissimilar elements in a work of art, also, the degree of difference between the lightest and darkest parts of a picture.

Earth Science Vocabulary

- **Earthquake:** a sudden movement of Earth's crust along a fault.
- **Flood:** covered with water.
- **Landslide:** the movement of earth down a slope.
- **Volcano:** an opening in Earth's crust where lava, cinders, ash and gases come to the surface.

MATERIALS

- Works of art depicting floods, volcanoes, earthquakes and mudslides
- Photographs of changed landforms after floods, volcanoes, earthquakes and mudslides, preferable current, one per pair of students
- One 12 x 18 piece of construction paper, one per student
- A variety of colored papers including various tints, shades, and textures
- Glue bottle or glue stick, one per student
- Science Notebook, one per student

RESOURCES

- FOSS Kit Grade 4, Earth Science “Solid Earth”, Investigation 5
- Portfolios, Grade 4, Robyn Montana Turner, Barrett Kendall Publishing
 - Contrast: pages 10, 11, 16-17, 26, 30-31, 74, 92, 93, 126
 - Making a Collage: page 135
 - Using Glue: page 133
 - Views of Land and Sea: pages 78-79
 - Earthworks: pages 76-77
- Internet
 - Torn Paper Landscape Collage: <http://archive.blisstree.com/live/torn-paper-landscape-collage-150/>
 - Collage Artist: Eileen Downs: <http://www.eileendownes.com/landscape.html>
 - Hansa Arts Learning: http://georgeandbhavna.typepad.com/hansa_arts_learning/2011/03/torn-paper-collage.html
- Instructional Media Center (IMC)
2442 Cardinal Lane, San Diego, Ca 92124
To order instructional materials on line: <http://destiny.sandi.net>

PREPARATION

- FOSS Kit, Grade 4 “Solid Earth, Investigation 5, Part 4
- Collect photographs of landforms recently changed by rapid processes (floods, earthquakes, volcanoes, mudslides, etc.)
- Collect a variety of papers, newspaper, construction, cardboard, paper towel, tissue, tissue paper, wrapping paper, grocery bags, textured, embossed, card stock, etc.

WARM UP *(Engage students, access prior learning, review, hook or activity to focus the student for learning)*

(15 minutes)

- Read “It Happened So Fast!” from the FOSS kit, Grade 4 Solid Earth, Investigation 5: Landforms as a Read Aloud.
- Ask:
 - *What are some ways in which landforms can change quickly? (floods, earthquakes, volcanoes, mudslides)*
 - *What kind of rapid landform changes can we expect to see in San Diego? (flooding: especially the San Diego River in Mission Valley, the Tijuana River at the Border; mudslides during the rainy season, especially after a fire or at slopes and cliffs, earthquakes)*
- Project photos, included at the end of this lesson, of a **mudslide** at Torrey Pines State Park, California **Earthquake**, Hawaiian **volcano** and Cincinnati **food** as students answer the above question.
 - *What effects do earthquakes have on landforms? (breaks or “tears” in the Earth’s surface, landslides, changes in river channels)*
 - *Would an artist create a work of art about one of these rapid changes to the Earth’s surface?*
 - *What makes you think that? (Possibly they will reveal that artists create art as a reaction to or to memorialize important events)*

MODELING (*Presentation of new material, demonstration of the process, direct instruction*)
(10 minutes)

- Project *Landscape* by McCoy included at the end of this lesson (or at: <http://mcoyle.com/learn/lessons/elementary-school/collage-story/what-is-collage.html> created with a variety of paper.
- Say:
 - Take one minute to visually examine this work of art.
 - What type of artwork is this? (a landscape)
 - Where do you see the lightest areas?
 - Where do you see the darkest areas?
 - When an artist uses opposites, like very light and very dark, it is called **contrast**.
 - Is **contrast** important in this work of art? What makes you think that? (more expressive, powerful)
 - How did McCoy create this work of art? (he tore paper, layered it, glued it)
 - What materials did the artist use? (paper and glue)
 - What would the landscape look like if there had just been an **earthquake**?
 - A **flood**? A **volcano**? A **mudslide**?
 - Today you are going to make a torn paper landscape depicting a rapid landform changing process.
 - You can choose to show a **flood**, an **earthquake**, a **volcano** or a **mudslide**.
- Distribute one 12 x 18 sheet of construction paper and a glue bottle or glue stick to each student. This paper will be the background of the work of art.
- Instruct students to write their names on the back of the paper, and then turn it over.
- Allow students to choose 3 or 4 pieces of paper from a variety of colored and/or patterned papers. You may place students in groups at a table or group of desks and have them share from a pile of papers, or you may choose to let individual students choose from a quantity of paper in a central area.
- Instruct students to tear the papers and arrange them on the background sheet.
***Do not provide students with glue until they have torn many pieces of paper and investigated the arrangement of the torn papers to find a desired composition.**
- **Steps:**
 - Choose colored paper that will represent sky
 - Determine where you need to tear the colored paper to create the sky.
 - Tear the colored paper and place it on the background paper.
 - Place paper on the area you wish to cover on the background paper.
 - Choose different colored paper to represent the ground that is farthest away.
 - Tear this paper to the desired shape(s).
 - Place this paper on or next to the sky paper.
 - Choose other paper to represent middle ground and tear it to your needs.
 - Place paper on or next to the others.
 - Move the papers around until you have decided on the best arrangement.
- Distribute glue bottles/ glue sticks and instruct students to glue the torn pieces of paper onto the background sheet overlapping layers to create depth and contrast.(see examples)

DEBRIEF & REFLECT (*Identify problems encountered, ask and answer questions, discuss solutions and learning that took place. Did students meet outcomes?*)

- Ask all students to stand in a circle holding their works of art.
- Ask students to explain how tearing and moving paper was similar to the movement of the earth during events such as earthquakes, floods, landslides, and volcanoes.
- Allow each student to briefly describe the rapid landform change process they chose to depict.
- Science Notebooks Prompt: Explain how the rapid change process you chose in your work of art changes the earth's surface and how you used **contrast** in your work of art.

- **EXTENSION** (*Expectations created by the teacher that encourage students to participate in further research, make connections, and apply understanding and skills previously learned to personal experiences.*)

- Variations of colored paper can be created prior to this lesson by using tempera or watercolor paints on construction paper. By using various brushes, hair combs, sponges, bits of cardboard etc. students can create a variety of textured papers to later tear apart for the landscape collage.



- Research artists who have recorded landform changes through their works of art from around the world and throughout history.
- Explore how artists use the earth to create art. See Portfolios Grade 4, Lesson 12 “Expressions About the Land”, pages 76-77



http://www.onlinecollegecourses.com/wp-content/uploads/2012/02/03_landscapes.jpg



http://2.bp.blogspot.com/-y2D0Bs_pXrY/TpGRsOBjdI/AAAAAAAAAMJI/4UIHPDajBxg/s320/c+-+joyce.JPG

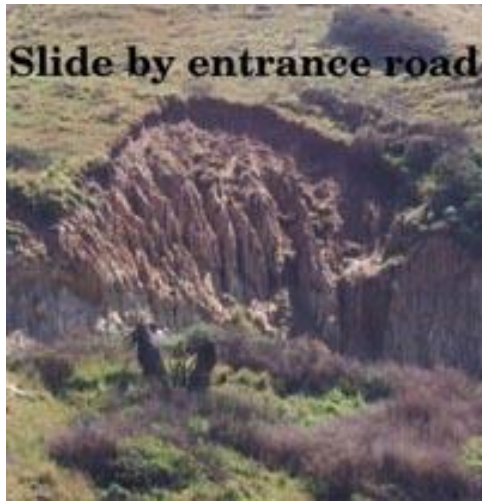


<http://www.makeandtakes.com/creating-torn-paper-landscapes>



http://georgeandbhavna.typepad.com/hansa_arts_learning/2011/03/torn-paper-collage.html

Examples of Quickly changed Landforms



Mudslide: Torrey Pines State Park
<http://www.torreypine.org/geology/geology.html#erosion>

Earthquake: California
<http://www.insurancequotes.com/wp-content/uploads/2011/02/home-insurance-earthquake.jpg>

Volcano: Hawaii
<http://1.bp.blogspot.com/-ovhWmlwyWD4/TaouaykXdil/AAAAAAAAAEI/y287vwwVz0/s640/eruption1.jpg>

Flood: China
<http://graphics8.nytimes.com/images/2013/07/11/world/asia/11china2/11china2-articleLarge.jpg>