



Marietta City Schools 2023-2024 District Unit Planner

5th Grade

Topic Title:	<i>Unit #2 Earth and Changes Over Time</i>	Unit Duration	<i>3 weeks</i>
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Mastering content and skills through KNOWLEDGE-BUILDING (establishing the purpose of the unit):

What enduring understandings will students gain from this unit? Earth's surface changes in response to natural and man-made forces, and humans take measures to mitigate the impact of those changes.

Priority GSE Standards

ELA

ELAGSE5RI1: Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text.

ELAGSE5RI3: Explain the relationships or interactions between two or more individuals, events, ideas, or concepts in a historical, scientific, or technical text based on specific information in the text.

ELAGSE5RI7: Draw on information from multiple print or digital sources, demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently.

ELAGSE5RI9: Integrate information from several texts on the same topic in order to write or speak about the subject knowledgeably.

ELAGSE5W3: Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences.

Science

S5E1. Obtain, evaluate, and communicate information to identify surface features on the Earth caused by constructive and/or destructive processes.

- a. Construct an argument supported by scientific evidence to identify surface features (examples could include deltas, sand dunes, mountains, volcanoes) as being caused by constructive and/or destructive processes (examples could include deposition, weathering, erosion, and impact of organisms).
- b. Develop simple interactive models to collect data that illustrate how changes in surface features are/were caused by constructive and/or destructive processes.
- c. Ask questions to obtain information on how technology is used to limit and/or predict the impact of constructive and destructive processes. (Clarification statement: Examples could include seismological studies, flood forecasting (GIS maps), engineering/construction methods and materials, and infrared/satellite imagery.)

Essential Questions

Factual— The Earth’s surface is covered with a variety of different landforms that were formed by erosion and deposition. Explain three factors that cause erosion and deposition and describe how these processes create landforms.

Inferential— Construct an argument supported by scientific evidence to identify surface features as being caused by constructive and/or destructive processes.

Critical Thinking - How do human activities impact different landforms?

Tier II Words- High Frequency Multiple Meaning

Earth, runoff, pond, volcano, earthquakes

Multiple meanings: fault, waves, force

Tier III Words- Subject/ Content Related Words

weathering, erosion, deposition, delta, tectonic plates, trenches, glaciers, valleys, canyons, ridges, magma, landforms, tsunamis, flood, seismic wave, seismograph, constructive, destructive, beach reclamation, levees, retention ponds

Assessments- 3rd-5th Social Studies and Science assessments are available through AMP. Please see your instructional coach for support if needed.

Transfer of Integrated Skills:

Paired Texts: Watch for Steady Rocks and Preparing for a Disaster

- 5 constructed response items that require integration of both texts

ELAGSE5RI1: Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text.

ELAGSE5RI9: Integrate information from several texts on the same topic in order to write or speak about the subject knowledgeably.

S5E1. Obtain, evaluate, and communicate information to identify surface features on the Earth caused by constructive and/or destructive processes.

Paired Texts: Eruption! and Fleeing Goma, Eruption in the Congo

- 5 constructed response items that require integration of both texts

ELAGSE5RI1: Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text.

ELAGSE5RI9: Integrate information from several texts on the same topic in order to write or speak about the subject knowledgeably.

S5E1. Obtain, evaluate, and communicate information to identify surface features on the Earth caused by constructive and/or destructive processes.

Content-Specific GSE/Skills:

Earth and Changes Over Time Summative Assessment

Writing Task and Rubric:

- [Discovery Education “Earth and Changes Over Time” Constructed Response](#)
- [Discovery Education CER Rubric](#)

Objective or Content	Learning Experiences	Differentiation Considerations
Daily Lessons for Text Comprehension	15-Day Plan: Earth and Changes Over Time	
Connected SS/Sci Experiences (omit this row if KBU does not contain SS or Sci connections)	<p><i>Challenge groups of students to develop and design a model showing Earth’s processes involving changes in the surface of the Earth. Models should be 2 dimensional or 3 dimensional and can include a booklet, a shoebox diorama, a poster, or a newsletter. Have them divide their model into three sections:</i></p> <ul style="list-style-type: none"> • <i>Constructive Force,</i> • <i>Destructive Force</i> • <i>Both Constructive and Destructive.</i> <p><i>Share the models with others by displaying them in the hallway, media center or other central location.</i></p>	
	<p><i>Slowing the Effects of Rain</i></p> <p><i>Materials Needed</i></p> <ul style="list-style-type: none"> • <i>large pan (like an aluminum baking pan)</i> • <i>watering can or paper cup with holes at the bottom</i> 	

	<ul style="list-style-type: none"> ● grass growing in soil or sand and soil <p><i>Procedure: 1. Put a layer of sand and soil or soil in the bottom of a large pan. 2. A few days before doing the erosion investigation, plant some grass seeds in half the pan of soil or find a place where grass is growing on a slope with bare patches. 3. Sketch what you see. 4. Use your watering can or cup to “rain” on the grass and on the bare soil. 5. Describe in a second sketch or write a paragraph about what happened. 6. When did the water flow more quickly? Was any of the soil washed away? 7. How can you prevent soil loss on a bare patch in your home yard or school yard? 8. How does this activity help you understand the impact of vegetation on a hillside?</i></p>	
	<p><i>Beach Front Property</i></p> <p><i>Materials Needed</i></p> <ul style="list-style-type: none"> ● Plastic tub or metal baking pan ● Sand ● Wooden block or sponge ● Water ● plastic houses or blocks <p><i>Procedure</i></p> <p><i>1. Place the plastic houses or blocks on the sand a few inches from the edge of the water.</i></p> <p><i>2. Measure the distance from the houses to the edge of the beach. Measure the area that the sand covers. Draw what the beach looks like once you have set it up, and label it with your measurements.</i></p> <p><i>3. Then draw a profile of the beach and include the measurements. (A profile is how the beach looks when you view it from the side of the container).</i></p> <p><i>4. Place the wooden block or sponge in the container at the opposite end of the sand. Move it back and forth to create ten gentle waves. Make sure you are holding the block parallel to the beach.</i></p> <p><i>5. Measure the area that the sand covers and the distance from the houses to the edge of the water. Draw a picture of the beach and the profile after this step, include the measurements.</i></p> <p><i>6. Now repeat the steps but create ten stronger “storm strength” waves. What do you understand about moving water as an agent of erosion? How do you know?</i></p>	
	<p><i>Wind Erosion</i></p> <p><i>Materials per group:</i></p> <ul style="list-style-type: none"> ● Container ● Sand, ● Rocks or gravel 	

	<ul style="list-style-type: none"> • <i>Straws</i> • <i>Ruler</i> • <i>String</i> • <i>Cup</i> • <i>Safety goggles for each student and teacher</i> <p><i>Procedure 1. Put on safety goggles. 2. Carefully pour the sand into the pan to form a small hill. 3. Measure the height of the hill and the circumference of the base of the hill (may use a string). Sketch a picture of your hill and include the measurements. 4. Using the straw, blow gently on the hill for 15 to 30 seconds. Make sure you do not blow the sand out of the pan. 5. Measure the height and the circumference. Draw a sketch of your hill after the wind erosion has occurred, include the measurements. 6. Carefully pour the sand back into the cup. 7. Again, pour the sand back onto the pan to form another small hill. 8. Carefully place the rocks and gravel on top of the hill. Measure the height and circumference. 9. Draw a picture of the new hill with the rocks and gravel on top. Be sure to include the measurements. 10. Using the straw, blow gently on the hill for 15 to 30 seconds. Measure and draw a sketch of the hill again. Include measurements. 11. Analyze your sketches using math. What do you know about wind as an agent of erosion? What role does the rock play in erosion?</i></p>	