

Virtual STEAM

Science

Weathering and Erosion Challenge

Goal: I can show how glaciers cause erosion.

Science Indicator: SC.4.13.4.B. Make observations and/or measurements to provide evidence of the effects of weathering or the rate of erosion by water, ice, wind, or vegetation.

Materials:


- 1 - Bag of Sand
- 1 - Clay Stick
- 1 - Paper Plate
- 4 - Paper Towels
- Ice cube (not included)



Book Extension:

[Erosion: How Hugh Bennett Saved America's Soil and Ended the Dust Bowl by Darcy Pattison](#)

Instructions:

1. Watch YouTube Video for background knowledge: Weathering and Erosion
<https://youtu.be/R-lak3Wvh9c>
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2. On a sheet of paper, design your experiment. You will form a landform with your clay, then you will use the ice to erode the clay. Next, you will add sand on the ice to observe its effect on the clay landform.
 3. Design and create a landform out of the provided clay and place it on your paper plate.
 4. Move an ice cube back and forth on the clay landform multiple times. What do you notice happening to the



landform? Add your observations to your original experiment design.

5. Add a small pile of sand to the top of the clay landform and set the ice cube on top of the pile of sand for 2 minutes.
6. Pick up the ice cube with your paper towel and observe the portion that was sitting on top of the sand. Record your observations.
7. Place the sandy side of the ice cube back on the clay and move it back and forth multiple times.
8. Pick up the ice cube and wipe away the sand on the clay with your paper towels. Record your observations about what the surface of the clay looks and feels like.
9. Questions to consider:
 - a. How did the ice affect the surface of the clay landform?
 - b. How did the sand affect the surface of clay landform?
 - c. If a glacier were at the top of a mountain, how would melting and movement of the glacier affect the side of the mountain as it moved down?

d. What examples of glacial erosion can you find in nature?

10. Document the challenge using video, photos, drawings, etc.
11. Have fun!

Video Extension:

- The Power of Water for Kids: How Erosion by Water Shapes Landforms

<https://www.youtube.com/watch?v=qqsTS67BKmA>



Social Emotional Connection:

- **Hard work/ Perseverance/ Resilience** – When we continue to do something despite difficulties that may arise and we don't give up.

