

Date: _____

How Do Glaciers Abrade and Erode the Earth's Surface?

Investigative Question: What happens to the surface of the earth when glaciers move over it?

Materials:

- Aluminum foil
- Clay
- Paper cup of frozen water
- Paper cup of frozen water with sediment
- Paper towels
- Permanent marker
- Tray

Procedure:

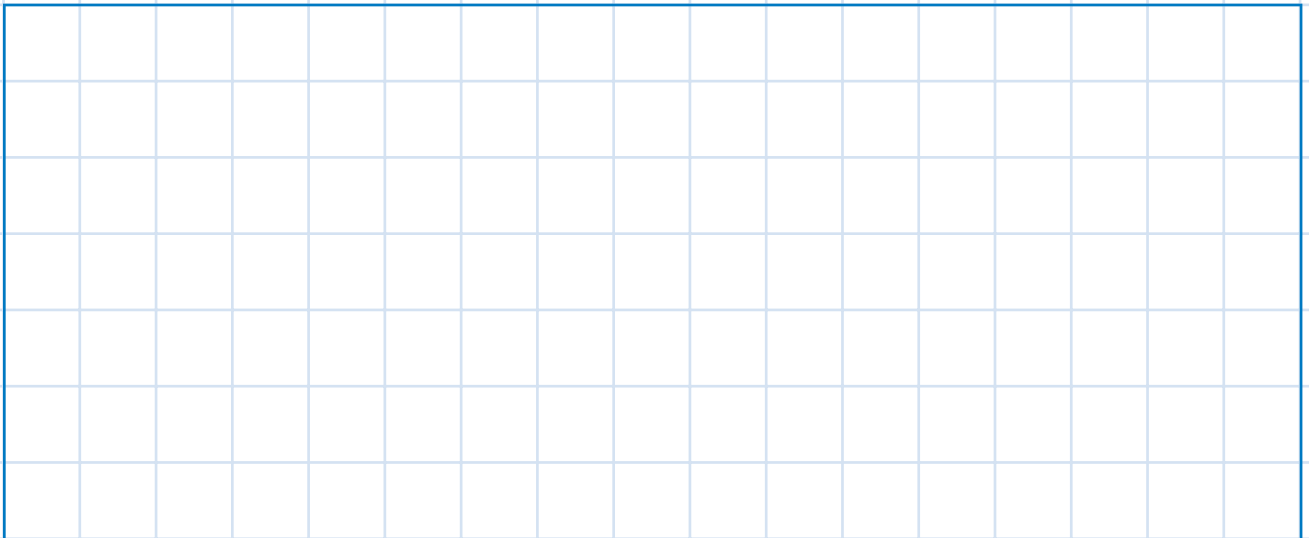
1. Choose two group members to immediately peel the paper off the frozen ice to reveal the model glaciers.
2. At the same time, choose someone else to shape the modeling clay into a flat, smooth piece about 11 cm × 11 cm (4.5 in × 4.5 in).
3. Experiment with how glaciers might change the earth's surface. Put the ice with sediment on the piece of clay and move it backward and forward across the surface of the clay (make sure the side with the sediment is against the clay). Observe the results. Apply more pressure to the ice and move it across the clay again several times.
4. Sketch or describe the appearance of the clay in the observations section on page 21.
5. Turn the piece of clay over. Repeat steps 2 and 3 with the ice without sediment.
6. Form a small dish with the piece of aluminum foil and place it on a sturdy tray (such as a cafeteria tray). Make sure the edges of the dish are at least 1.25 cm (0.5 in) high. Label the foil with your group members' names using a permanent marker. Place the clay in the dish and set the glacier with sediment on top of it. Set the tray on a windowsill or other place where it will not be disturbed until the next science session.

Date: _____

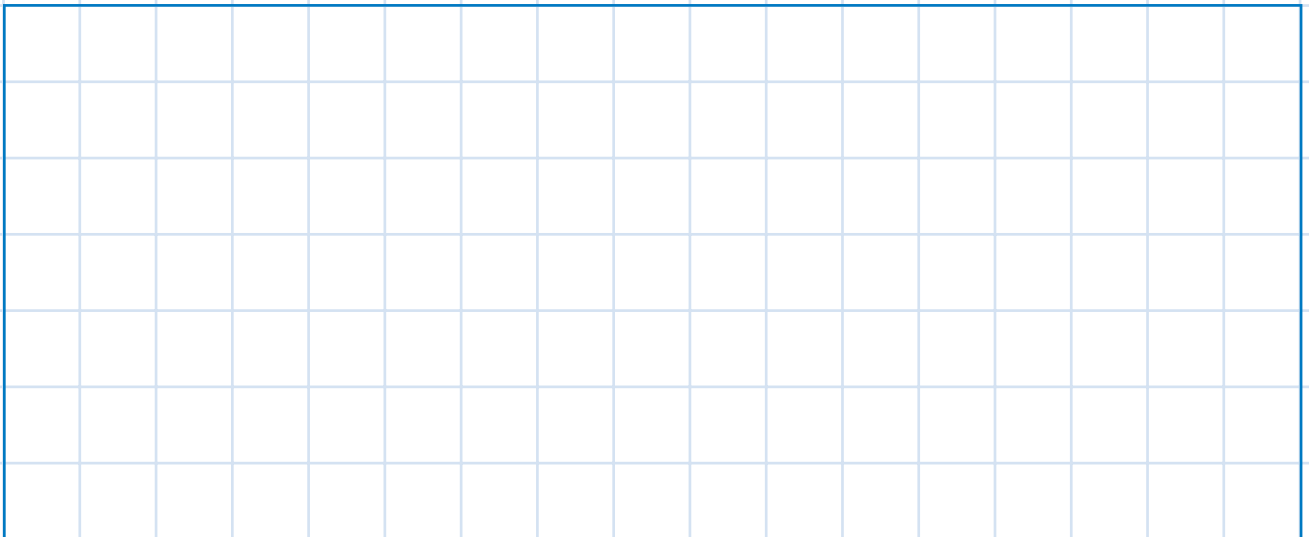
How Do Glaciers Abrade and Erode the Earth's Surface?

Observations:

Sketch or describe the appearance of the clay after moving the ice with sediment across its surface.



Sketch or describe the appearance of the clay after moving the ice without sediment across its surface.



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Observing How Glaciers Deposit Sediment

Investigative Question: When glaciers melt, what happens to the sediment they carry?

Materials:

- Colored pencils
- Melted glacier

Procedure:

1. Have one person collect the melted glacier tray from the location where it is stored and return it to your group.
2. Go on a “glacier walk” around the classroom to observe the glacial deposits of your classmates.
3. Draw what your melted glacier looks like in the observations section on the next page. Then review the illustration on page 67 of your student reference book and identify and label as many landforms made by erosion and deposition caused by glaciers as you can on your drawing.

Date: _____

Observing How Glaciers Deposit Sediment

Observations:

1. After careful observation of your melted glacier, draw the shape of the resulting landforms.



2. Using the illustration of glacial landforms on page 67 of your student reference book, identify and label as many landforms as you can on your melted glacier drawing.

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Reflection on Landforms from Lesson 2

How have your ideas changed about how the landforms were created since you first observed them in Lesson 2? Write your thoughts below.

Date: _____

Glaciers

Conclusion:

What can you conclude about how ice shapes the surface of the earth?