



NATURAL ARCHITECTS

HOW GLACIERS SHAPE THE LAND

OBJECTIVE	Students will be able to demonstrate and understand the processes associated with glaciation in a hands-on glacier activity.
GRADES	Middle or High school students
DURATION	1 50-minute class period
MATERIALS	<ul style="list-style-type: none">▪ Pre-made “glacier”▪ Paper towels▪ Unglazed brick or flat paving brick▪ Flat limestone rock▪ Smooth piece of wood▪ Protective or plastic gloves
KEY CONCEPT	Glacial scouring



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NATIONAL EDUCATION STANDARDS

Science:

NS.5-8.1 Science as Inquiry

- Abilities necessary to do scientific inquiry
- Understandings about scientific inquiry

NS.9-12.1 Science as Inquiry

- Abilities necessary to do scientific inquiry
- Understandings about scientific inquiry

NS.5-8.4 Earth and Space Science

- Structure of the earth system

NS.9-12.6 Personal and Social Perspectives

- Natural resources

NS.5-8.6 Personal and Social Perspectives

- Populations, resources, and environments.

NS.9-12.7 History and Nature of Science

- Science as a human endeavor
- Nature of scientific knowledge

NS.5-8.7 History and Nature of Science

- Science as a human endeavor
- Nature of science

Name:

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◆ HOW GLACIERS SHAPE THE LAND ◆

Purpose: This activity will demonstrate the processes associated with glaciation.

Materials:

1. Your group's "glacier"
2. Paper towels
3. Unglazed brick or flat paving brick
4. A flat limestone rock (optional)
5. Smooth piece of wood
6. Protective or plastic gloves

Procedure:

1. Get the glacier that your group made.
2. Un-wrap the plastic wrap and peel off the paper cup.
3. Once you have put your gloves on, perform the following steps for the brick, the wood, and the rock (if you have one).
 - a. With the gravel side down, scrape your glacier across your object.
 - i. To simulate the movement of a glacier, you should only scrape in one direction.
 - ii. It may be necessary to scrape, in the same direction, a number of times before you get any results.
 - b. Draw any patterns you see in the table below.

Patterns		
Wood	Brick	Rock

- c. Record your observations in the Observations table on the following page.
 - i. Was the surface of your object or glacier scratched?
 - ii. Was any material removed from your object or glacier?
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Name:

Observations		
Wood	Brick	Rock

Results:

1. What happened when you scraped the glacier against the wood?
2. What happened when you scraped the glacier against the rock?
3. What happened when you scraped the glacier against the brick?

Making a Connection:

1. What can you infer about the way that real glaciers affect the landforms over which they move?
2. If evidence of glacial scouring is found in an area that is too warm for glaciers to exist, what can you infer about the past climate of that area?