

Materials

For each student:

- Paper or plastic cup
- dirt, sand, and/or gravel
- blue food coloring
- water

For the class:

- freezer
- cooking spray
- flour
- baking sheet for each group

National Standards

A: Science as Inquiry

D: Earth Science

Source

modified from National Center for Atmospheric Research,
www.eo.ucar.edu/kids

Students will learn about glaciers, how they are made and how they move, by making their own.

Background

Antarctica is different from Arctic in that it is a continental landmass covered in ice. There are two main large ice sheets (or glaciers) that cover the continent, the West Antarctic Ice Sheet (WAIS) and East Antarctic Ice Sheet (EAIS). These ice sheets have retreated and expanded throughout Earth's history. Ice sheets or glaciers scour the surface of the land. In this glacial model, the main path of the glacier is like a U-shaped valley. Smaller scrapes in the bedrock made by individual rocks are called striations. The mound of flour that the glacial model has snow plowed ahead of it is called a moraine. This activity will allow students to see all these features.

Procedure

Day 1

1. Have students read about glaciers and answer questions such as: What is a glacier? What materials make up a glacier? How do they move? Why do they move?
2. Provide each student with a cup and have them fill the cup with some dirt, gravel, and blue-colored water. Label the cups with their names and have them place them in a freezer until the next day.

Day 2

1. Have students collect their glaciers from the freezer and divide into groups of four.
2. Supply each group with a baking sheet sprayed with cooking spray and approximately 2 cups flour.
3. Students sprinkle the flour over the baking sheet to create a uniform land surface.
4. While they were doing this, the glacier has had some time to melt making it easier to remove from the plastic cups.
5. Have students line up the glaciers on one end of the baking sheet land scape and push them across. Remove the glaciers (as if they melted) and discuss the tracks left in the flour.
6. Have students draw a picture of what the glacier paths look like and label places where the material was removed and deposited.

