



Grade 3 Teacher Resource- Glacier in a Pan

Curricular Outcome: Science 3 “Wind, water, and ice change the shape of the land.”

Core Concepts:

Glaciers are masses of moving ice that can shape the land over time.

Moving ice can cause erosion by scraping, carving, and carrying materials.

Glaciers can create landforms such as valleys that move rocks from one location to another.

Much of Yukon’s landscape was shaped by glaciers and melting ice over time.

Earth’s surface changes slowly through natural processes.

Big Questions:

How does ice shape the land?

What evidence can glaciers leave behind?

How did glaciers shape Yukon’s present landscape?

How do rocks and sediment relocate?

Learning Outcomes:

Students will:

Describe how glaciers shape the land

Observe and record changes from moving ice

Identify evidence of glacial activity

Explain how glaciers have formed Yukon’s landscape

Connect a classroom model to real-world examples

Introduction:

Students will create a model of a mountain and valley system. Using sand, soil, pebbles, and ice, students will simulate the movement of a glacier and observe how it can shape the land. Students will compare observations to real Yukon landscapes influenced by glaciers during the Ice Age.

Materials Needed:

Shallow trays, baking pans, or plastic containers

Sand

Dirt

Small rocks/pebbles

Ice cubes/blocks of ice

Water spray bottles (optional)

Magnifying glasses (optional)

Observation sheets (provided)

Activity:

Before beginning, students should have a basic understanding of what glaciers are and what they do. This video provides an understandable explanation for kids:

<https://www.youtube.com/watch?v=PbYXJsF5mw>

Explain that during the Ice Age, glaciers covered large areas near Yukon and were essential to shaping today's landscape.

Students will receive a tray with a mixture of sand, dirt, and small rocks. Create small ridges, hills, and valleys to simulate a landscape. ***Be sure to be clear about expectations and cleanliness during this time!**

Students will examine their landscape before the glacier arrives and note what it looks like on their worksheet. This can include drawing a before picture according to teacher preference.

Students will place their ice at the peaks of their landscape. At some peaks, students should wait for it to melt, and at some, they should push it forward. Students will observe what happens to the sand, if rocks move, note any marks left behind, and if the shape of the land changes. Students will note glacial evidence as it is found.

Pictures will be provided of Yukon landscapes where glaciers have shaped the land. These pictures should be displayed and students can discuss how glaciers shaped the land.