Station 4: The Canadian Shield

Experiment—

Objective: The purpose of this experiment is to show how glacial erosion happens.

Materials: Filer, pieces of wood.

Procedure:

1. Place a piece of wood straight up. Start filing using the filer provided.
2. Take observations on what happens.
3. As a team, hold up four or five pieces of wood in a line and place the filer on top. Start filing.
4. Take observations on what happens.
5. Place two pieces of wood apart and the filer in the middle. Start filing.
6. Take observations on what happens.

Observations:

~~Student take notes here~~

Discussion:

1. Imagine the filer as a large glacial ice sheet during the Ice Age. By understanding how powerful large masses of ice are we can start to see the picture on how the Canadian Shield has come to be today when previously, it used to be an entire volcanic mountain range.

Conclusion:

This experiment serves as a model for how powerful glacial erosion can be and to show the final steps of how we see the Canadian Shield today. The filer on top of a single wood block tries to show how glacial erosion happens on a single mountain. The filer on top of multiple wood blocks tries to show an example of what an ice sheet’s erosion may look like on a chain or range of volcanic mountains. Finally, the filer in between two wood blocks shows how a glacier—not an ice sheet would erode 2 mountains side by side.

Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Block:\_\_\_\_\_

# Station 4 Worksheet: The Canadian Shield

How are subduction volcanoes formed?

**Oceanic plate goes underneath a continental plate. As it goes down it brings pressurized water down also that forces magma underground to burst upwards causing a volcanic eruption. Lava cools down next to the hole to form a volcano.**

Describe in your own words how an ice sheet or glacier erodes:

**When ice advances and retreats many times, it acts like a filer eroding down mountains and volcanoes.**

Describe the topography, climate, and vegetation of this area:

1. Topography:

**Barren rock surface**

**Chaotic patterns of rivers, lakes, swamps, and muskeg (bog).**

**100m above sea level**

1. Climate:

**As you travel north, the winters become longer and colder with the summers being shorter and cooler.**

1. Vegetation:

**Boreal forest (spruce, pine, fir)**

**Sandy soils**

**Deciduous trees (poplar, birch)**