Education and Research: Testing Hypotheses

Name: _____

Date: _____

Period: _____

"I'm Melting, I'm Melting!"

Flubber Lab Activity

Objectives:

- To see where glaciers flow the fastest
- To observe the formation of a moraine and understand how moraines form
- To change variables (temperature, viscosity, slope, sediment) to see how the changes affect glacial flow

Materials:

- Flubber
- PVC pipe
- Toothpicks
- Sediment
- Colored pencils

Vocabulary:

- Moraine -
- Viscosity -

Directions:

Control. See where glaciers flow the fastest. Put your flubber together where there are multiple layers of flubber, using different colors for each layer. Use colored pencils and draw the layers every 5 minutes to see the progression of the glacier.

Top of the glacier

Start	5 min	10 min	15 min	20 min	25 min

Bottom of the glacier

Test 1: Which part of the control glacier moves the fastest? Push 2 toothpicks vertically into the surface of the flubber. One should be in the middle and one should be on the side of the flubber. Draw how they move and change direction (as you look at the flubber from the side) during the experiment.

Start	5 min	10 min	15 min	20 min	25 min

Cut away part of the flubber to represent glacial retreat. Draw the shape the of moraine and the size of the sediments left behind.

Now that the class has determined what would happen to a control glacier, draw the initial and final conditions of the test that you perform. For the remaining 4 tests, discuss with your classmates to determine what happened in their experiments. Be sure to take note of the initial conditions, final conditions, and any unique occurrences for each setup. Use additional sheets of paper if necessary.

Test Drawing:
Top of the glacier

Start	5 min	10 min	15 min	20 min	25 min

Bottom of the glacier

Test 2: How does sediment affect glacial movement?

Test 3: How does viscosity affect glacial movement?

Test 4: How does temperature affect glacial movement?

Test 5: How does glacial type affect glacial movement?

Test 6: How does slope affect glacial movement?

Questions:

1. Under which conditions did the flubber move the fastest? Why do you think that is?

2. What shaped valleys do glaciers form?

3. Describe the sediment that was left behind by the glacier. Use glacial vocabulary.

Bonus- What part of New York State is a moraine?