Permafrost Stream Erosion Lab Instructions

Materials: Coffee filter x 2, Frozen stream table, Non frozen stream table, Beaker, Scale

Instructions:

- Wet coffee filter and place in beaker
- Weight beaker with coffee filter inside and record weight in the data table below
- Take coffee filter out of beaker and place it under the plastic sheet at the bottom of the stream in the stream table so that is will catch sediments flowing down the steam
- Pour 25 ml of water down the stream. Try to pour the water on the small piece of plastic taped at the top of the stream, this helps the water make its way all the way down the stream, rather than just sinking into the stream bed.
- Some sediment should have been eroded from the stream bed and carried down onto the coffee filter. Fold the coffee filter up so that sand is contained, put the coffee filter with sand in the beaker and weigh it. Record the weight in the data table below.
- Repeat above steps for second stream table
- In the frozen stream table: after you have done the experiment above, use a toothpick to poke down into the stream table in two places. One where the water flowed, and one where the water did not flow. Measuring the depth that the tooth pick going into the sand before hitting the ice with a ruler.

Data Table 1		
	Frozen stream table	Non frozen stream table
Beaker + filter *weight (grams)*		
Beaker + filter + sand *weight (grams)*		
Depth of toothpick in stream bed *(cm)*		x
Depth of toothpick in bank *(cm)*		x

Draft Questions:

- State your hypothesis. Which stream do you think will erode more sediments? And why?

- Test your hypothesis. What's the weight of the sand which eroded from each stream? Show your work.

- Which stream stable eroded the most sand during the experiment? And by how much (grams)?

- Of the two areas in the frozen stream table which you poked with toothpicks, where did the tooth pick go deeper into the sediment? Where the water flowed or where the water didn't flow? How come?