



IcePod's Bergy Bits Activities ~ Fun with Ice - Its Simple Physics! CONCEPT: 'Drag' Redirects Ice Flow

IcePod is a packet of instruments collecting highly detailed and accurate images of the polar ice sheets. '**Bergy Bits**' are simple activities that introduce physics concepts through student experimentation, tying these concepts to real glacier physics. Named for small pieces of ice found in both the Arctic and Antarctic, 'bergy bits' in nature are small pieces of floating ice that break from an iceberg, ice shelf or glacier.

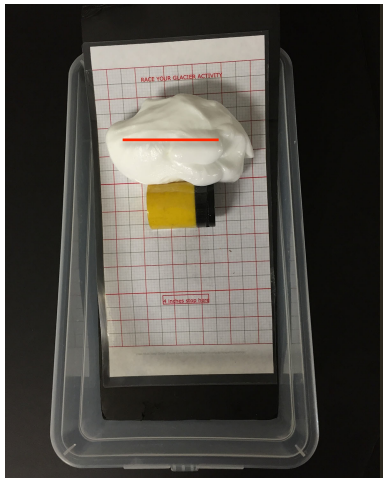
What is Drag? Drag is a type of friction or resistance that happens when forces act opposite to the motion of a moving object. Drag can result from two fluids or a solid and a fluid, and in this case glacial ice behaves like a fluid. We placed an object in front of the 'glacier' creating drag for the goo that is flowing.

Gather Activity Supplies using supplies sheet for Bergy Bits activities.

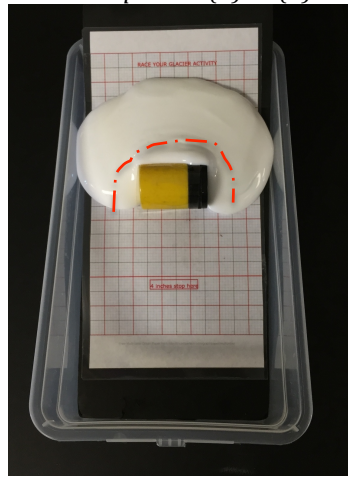
Glacier Gravity Activity:

- Place the matted grid board in the plastic box to create a ramp
- Select an object (we used a pencil sharpener) that fits across about 1/3 of the width of the container.
- Secure carefully to the board using clear packing tape
- Position the Glacier Goo above it.
- Make a prediction: Will it flow more quickly over the object or around the edges?

Note: Do not let students see picture (2) or (3) until the end of the activity



1) Tape an object just below the 'start line' on the matboard. Place glacier goo above in a ball.



2) Let the glacier goo begin to flow and see how it moves on the board.



3) Russell glacier flows around a landform in western Greenland. (photo P. Spector)

Describe your observations:

- 1) How did the glacial goo move when it met the obstacle you placed in its path?
- 2) 'Drag' occurs when something flows into something else, slowing it down. What created the 'drag' in your activity?
- 3) Image (3) shows Russell glacier in western Greenland. it flows from the edge of the Greenland ice sheet towards the ocean. Recall the activity you just did, how do you think this mound of land affects the speed of the ice in this section of Russell glacier?