



ICEPOD'S BERGY BITS ACTIVITIES ~ Fun with Ice: Its Simple Physics CONCEPT: Basal Friction Slows Ice Flow

IcePod is a packet of instruments collecting highly detailed and accurate images of the polar ice sheets. '**Bergy Bits**' are simple activities introducing science 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 Friction? Friction occurs when one surface or object rubbing against another. Friction always slows a moving object down.

'**Basal**' means at the bottom layer or the base of something; here it refers to the bottom of the glacier or ice sheet where it touches the land below.

Gather Activity Supplies – see supplies sheet for Bergy Bits activities

Glacier Ice Flow Activity:

- Place the matted grid board in the plastic box to create a ramp.
- Mound the glacier goo into a ball and insert a toothpick straight into the center

Make a prediction: will the top flow faster than the bottom? Or will the bottom flow faster than the top? If the top flows faster, the toothpick will tip forward. If the bottom flows faster, the toothpick will tip backwards.

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



1) Mound goo and toothpick is inserted perpendicular to the glacier pointing straight up.

2) As goo begins to flow watch what happens to the top of the toothpick.

3) As goo continues to flow watch what happens to the toothpick.

Describe your observations:

- 1) What happened to the toothpick?
- 2) What part of the glacier is flowing the fastest?
- 3) Friction slows things down. Where is the 'friction' on the ice in this activity?
- 4) How do you think this activity relates to a real glacier moving in the polar-regions?