Snow Pit
Student Task Cards

#1 - Site Preparation
1. Dig a ~1 x 1.5 m pit out to ground level being sure that one wall faces south.
2. Cut the south wall of the pit trench carefully. Try to keep it vertical. This will be the observation site.
3. List the main qualities (vegetation type and slope) of the site on the data sheet.

#2 - Snow depth:
1. Measure the depth of your snow bank from the ground level to the top using your meter stick.
2. Measure and record the depth in three different places along the wall of your trench.
3. Determine and record average depth on data sheet.

#3 - Snow Temperature
1. General directions – insert the thermometer horizontally into the snow pack and let the thermometer equilibrate for 3 minutes at each location. Quickly read and record temperature readings on the data sheet each time you remove a thermometer.
2. Start at the ground level. Gently place thermometer into the snow bank, as close to the ground as possible. Try to keep thermometer as close to horizontal as possible.
3. Snow pack: Take snow temperatures every 20 centimeters by completely inserting the thermometer into the wall of the trench.
4. Surface: Slide thermometer beneath the surface of snow, so it is just covered. Shade with shovel.
4. Air: let thermometer dangle in the air of the trench shaded from the sun.
#4 - Snow Layers/Hardness

1. Use your eyes to carefully observe the layers of your wall. How many layers can you see? How are the layers different? Alike? Record observations.
2. Slowly "slice" the wall of your trench from top to bottom with your stake, paying close attention to changes in resistance.
   - Did the snow feel the same all the way down?
   - Was it harder or easier to slice at any particular place?
   - Did you meet any resistance which could indicate an ice layer?
3. Insert stakes horizontally at the top of each layer.
4. Measure the height of the top of each layer from the ground surface up. This may work best with two people; one person holds a meter stick while the other reads and records the measurement.
5. Record an "H" on the profile sheets for any layer that felt hard.

#5 - Snow Crystals

1. Observe and draw snow crystals within each layer of the snow pit. Use paintbrush to move crystals onto black felt board and examine crystals with hand lens.
2. Try to draw accurate pictures of the crystals. Measure them if appropriate.
3. Record observations. If there are several different types of crystals in one layer, record the most common.