



Measuring Ice Cores

Background: One of the research projects of the ITASE team is to drill for and collect ice cores which will be studied stateside for a number of properties including chemical make-up, permeability, density, microstructures, and the evidence of past climatic events. The team will drill cores at six sites along their route and they anticipate collecting 70 to 80 meters of core at each site. This will give them a record over the past 200 years.



Activity Idea



- 1) Use adding machine tape. (You will need several rolls.) For each recorded drill, measure the length of the cores taken then cut the strips. Label it with the date and the site number. You will need a long space to do this. It is a great visual representation. Keep the cut pieces from each drill site together. As the team leaves each site, the pieces could be rolled out end-to-end to see the total length, if you have a long space available. The team plans to collect 70 to 80 meters at each site. This activity gives measuring practice to a few at a time and subtly models the idea of record keeping and labeling. The math could be done right on the tape to find the amount collected on that day and to keep a running total.
- 2) Have the students keep bar graphs of the ice collected. Set up the graphs so the amount at each site is kept on one bar, but the amount of each drill is recognizable within the bar. The x-axis represents each of the 6 sites. The y-axis represents meters of ice drilled. (See Figure 1)

3) **OR, a more radical idea:** Measure and cut each new drill length. .
Hang them up on the wall by winding around the room horizontally, adding each new core to the last! Be ready to wind around 480 meters!

4) **Notes:**

- Last year they recorded the ice cores as a running total, so the subtraction will need to be done before recording.
- Adding machine tape comes in rolls anywhere from 85' to 190'.
- The longest drill last year was 119.5 m.
- The most core drilled at a site last year was about 130m.

Figure 1 Sample graph set up

Meters of
ice core
drilled

