

THAWING PERMAFROST AND BUILDINGS

Time Needed For Activity: One 45 minute period to mix permafrost contents and build structures, at least 10 hours of frosting, and one 45 minute period to observe, record and present results of activity.

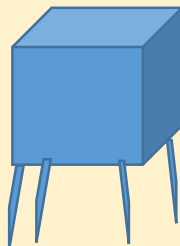
Materials Needed:

FOR „PERMAFROST“

- One plastic box (e.g. food container)
- One liter of fresh water
- 1/4 liter of small gravel
- 1/4 liter of garden mud/sand/soil
- Sphagnum moss (Available from garden supply stores.)
- thermometer

FOR „HOUSE“

- Six toothpicks or matches
 - One solid cubic piece of school clay, 6-7 cm on a side (in the shape of a small house)
1. Mix small gravel, garden soil/mud/sand, water, and Sphagnum moss into the plastic box.
 2. Freeze container (overnight)
 3. Construct a small clay house with toothpicks as corner supports so that structure will rest on permafrost.



4. Next day and after freezing, place small clay house on toothpick supports on top of permafrost and place near window to allow surface of frozen permafrost to be heated.

5. Observe and hat happens to the permafrost and the house. Record the temperature of the surface of the permafrost as it melts. Begin recording temperature immediately upon removing plastic container from freezer and graph the temperature (in degrees Celsius) results over time.

Evaluation/Alternative Assessment:

Have each group orally report their findings to the class from student science journals. Chart the results of each group complete discussion following individual presentations of students observations and teacher review of student science journal entries. Also, have students show graphs representing temperature changes of permafrost melting.

SUMMARY: what happens when permafrost is thawing? How does it influence local infrastructure -roads, railway, buildings?

Discuss.