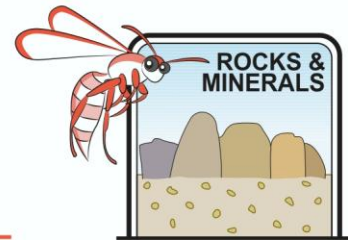


Frost Heave - Student Activity



In areas where the ground freezes and thaws during winter, expanding freezing ground water causes the land surface to rise and fall. After repeated freezing and thawing, farmers go into the fields to pick up the large rocks which have been brought to the surface by frost heave.



*Hooker Valley, New Zealand
(photo courtesy of Lawrie Davidson)*

Materials per student or group

- A disposable cup (paper or plastic)
- Half a cup of soil (preferably clay rich soil rather than sandy)
- Water
- 5 toothpicks, straight sticks
- Access to a freezer

1. Half fill a clear plastic drinking glass or small beaker with wet soil.
2. Mark the level of the soil on the outside of the container with a pen or piece of sticky tape.
3. Stick 5 toothpicks or broken skewers vertically into the wet soil.
4. Freeze and describe what happened.

What happened to the toothpicks?

What do you think will happen to roads or houses constructed on soil which freezes and thaws?

Where in Australia would people suffer from this problem?

Can you suggest anything that might help minimise this problem? _____
