

Glacier recession

The following experiment serves to illustrate the global impact of glaciers melting.



Material:

- 5 to 8 large yogurt containers, filled with freshwater that you will have placed in the freezer and made into ice beforehand
- Large plastic bin
- A few bricks
- Scraps of stiff cardboard (from recovered boxes), scissors, glue and poster paint (optional) for making miniature characters, animals and trees *OR* plastic trees, animals and characters
- Heavily salted water
- Hair dryer (if you wish to accelerate the process)

Process:

1. Discussion

Ask students if they have heard of global warming.

- How does this phenomenon affect us?
- How can glacier recession have an effect on us when the melting glaciers are so far away?

Explain to your students that you will simulate glacier recession together, using a plastic bin.

2. Setup

Preparing the necessary material

- Fill the yogurt containers with drinking water three quarters of the way up and place them in the freezer until frozen.

- Ask students to make stand-up characters, animals and trees using stiff cardboard, glue, scissors and poster paint (optional). These miniature objects should be approximately 2 to 5 cm tall.

OR

- Use plastic characters, trees and animals from a play farm.

- At the bottom of the bin, place one brick horizontally, one on its side and one standing up. Explain to students that these bricks represent the continents and their landscape, the highest peaks representing mountainous areas and the lower ones symbolizing countries at sea level.

- Place animals, characters and trees on the bricks.

- Remove the glaciers from the yogurt container moulds and place them in the bin.

- Add heavily salted water until water levels reach almost to the upper edge of the lowest brick.

Cf. photos 1, 2 and 3

3. Observation/Reflection:

- Take a picture of the model at the beginning.

- What will happen?

- Let the ice melt. If you wish to accelerate the process, use a hair dryer to melt the ice.

Cf. photo 4

- What happens?

- Take a picture of the model at the end.

- How is it possible for ice blocks placed away from the island to cause flooding?

Cf. photos 5 and 6

- What will happen of the environmental refugees?

- When all islands become full, where will all these people go?

- At the beginning, water from the glaciers was drinkable. We call that spring water and package it in bottles.

Now that it has flowed into the sea, can we drink it?

Why?

Can water be desalinated?

How?

Is desalinated water safe for drinking?

Why?

How can we remove bacteria from desalinated water?



Fig. 1



Fig. 2



Fig. 3



Fig. 4



Fig. 5



Fig. 6