

MELTING AND FRAGILITY OF PACK ICE

(Level: Primary school to middle school)

SUBJECT: CONSEQUENCES OF CLIMATE CHANGE
EXPERIMENTS TO DO IN CLASS

1. THE QUESTION

Joël: “If the pack ice becomes more fragile, then it melts more easily. Why is this?”

To answer this question, the association Planète Sciences proposes the following experiment.

2. MATERIAL

- 2 small identical plastic boxes
- 1 small basin
- Water
- Freezer (home or at school)
- Kitchen towel

3. EXPERIMENT

1. Fill the two identical boxes with exactly the same amount of water (maximum 2cm deep) and put them into the freezer.
2. When the water has frozen in the boxes (they represent the pack ice), take them out and wrap one on the kitchen towel. Break it into pieces.
3. Fill the basin with water. Put the broken ice and the non-broken ice into the basin and observe how each melts. Was Joel right?
4. Use the water in the basin to water plants!

4. GOING FURTHER

Rising temperatures at the North Pole are melting the pack ice, which is becoming more fragile and subsequently breaks up into pieces. The above experiment shows us that when the pack ice becomes fragile, it melts more quickly. When the ice is broken into pieces, more surface area is exposed to heat exchange. Climate change is threatening the equilibrium of the North Pole and our planet!

This experiment was designed by the association Planète Sciences.