



Icy blast

LINKED CHALLENGE

To free a Lego™ character who is trapped in a block of ice

ACTIVITY OVERVIEW

Before the session:

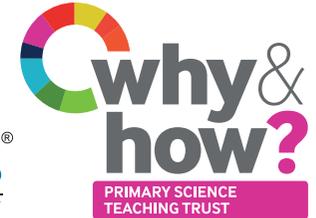
1. Half fill small containers with water and put a Lego™ figure in each (the characters will float).
2. Put the containers in a freezer for a couple of hours.
3. Remove from the freezer and fill up the container with water, ensuring room is left for the ice to expand. Leave in the freezer overnight.

During the session, discuss some different climates that exist on the Earth (e.g. desert and tropical regions) before focussing on the polar regions (the linked video can support this) and ask the children what they think it would be like to live in these regions, what they might wear and how animals are adapted to the conditions. The children's challenge during the session is to rescue an Arctic explorer who has become stuck in ice.

1. Present the blocks of ice containing the Lego 'Arctic explorers' to the children. Pose the question: how can we rescue them from the ice?
2. Allow children time to explore and observe the ice blocks.
3. Food colouring could be dripped on to highlight the cracks in the ice. Encourage the children to look closely at these, providing a magnifying glass if possible.
4. Children should experiment with different resources to free the explorers from the ice.

KEY FACTS/SCIENCE

Different climates on Earth are identified by conditions such as their average temperatures, humidity, wind and rain and these affect the land, its plants and animals. To live in certain regions, animals may have specific *adaptations* such as thick fur or fat. Humans can change their clothing. The *freezing point of a liquid* is the temperature at which it changes state to form a solid. The freezing point of water is 0°C. At all temperatures below this, water will be ice. Salt makes it more difficult for water to freeze. A water and salt solution has a lower freezing point than just water (around -6°C for a 10% solution). This means that when salt is sprinkled on the ice, the ice will melt faster than without salt. The surrounding temperature needs to be above the freezing point for ice to begin to melt.



RESOURCES

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| Lego™ figures (or similar) | Food colouring |
| Small containers, such as sandwich boxes or margarine tubs | Magnifying glasses |
| Salt | Cups of water (different temperatures) |

QUESTIONS/FURTHER LEARNING

- What do you think the Arctic explorer could have done to prevent himself being frozen?
- What would you wear if you were an Arctic Explorer and why?
- Can you name any animals that live in the frozen regions at, or near, the poles?
- How are these animals adapted to live in such extreme environments?

Online supporting video on polar regions:

<https://tinyurl.com/y8yldy6t>

