

* 1.2. Melting, freezing and boiling

Sabera's ice-cream started as a frozen solid. When the sun heated the ice-cream, it changed to a liquid. This change from solid to liquid is called **melting**.



We can show melting in this way:

solid $\xrightarrow{\text{heat causes melting}}$ liquid



Freezing is the opposite of melting. Freezing is when something changes from a liquid to a solid.

Water exists in three different phases: ice (solid), water (liquid) and water vapour (gas), which we often call steam.

Copy and complete the sentence below. Fill in the phase changes the water went through when it cooled down.

steam (..... phase) $\xrightarrow{\text{cool down}}$ (..... phase)

What happens to the water when you put it in the freezer?

Copy and complete the sentence below. Fill in the phase changes the water went through when it froze.

water (..... phase) $\xrightarrow{\text{cool down}}$ (..... phase)

What happens to ice when it is heated?

- 1) Put the ice cubes into the pot.
- 2) Heat the pot on the hot plate.
- 3) Predict what you think will happen to the ice.
- 4) What happens to the ice?

You will need:
ice cubes, pot (pan or saucepan)
and hot plate.

This is the phase change the ice goes through when you heat it:

solid phase (ice) $\xrightarrow{\text{heat}}$ liquid phase (water)

- 5) Now heat the water until it starts to **boil**.
- 6) Observe how the water changes.

Be careful of the hot plate,
it can burn you.
Steam can also burn you.

-  Melting occurs when a solid is heated and it changes into a liquid.
-  Boiling occurs when a liquid is heated and it changes into a gas.
-  Freezing occurs when a liquid is cooled and it changes into a solid.