# Changing States of Matter







Year 4 Science

Week beginning Monday 1st March 2021

# Boiling

Boiling is the term used to describe **liquid** turning to **gas** at a higher temperature than evaporation.

Different **liquids** boil at different temperatures.

You can see steam rising from boiling water as it is a mixture of water vapour and small droplets of water that make it visible.



What is the boiling point of water?

# Condensation

Condensation is the scientific term for when a **gas** turns into a **liquid**.



You can see this happening in hot rooms when the water vapour in the air touches cold glass of a mirror or window.

The water vapour cools and turns into water droplets that make the glass look misty and cloudy.

# Freezing

Freezing occurs when a **liquid** is made very cold and becomes a **solid**. When water is put into a freezer, it will become ice. Different elements and compounds have different freezing points.





At what temperature does water freeze?

# Melting

Melting happens when a **solid** turns into a **liquid** from being heated.
Different solids melt at different temperatures.





# Solidifying

Solidifying is when a **liquid** becomes a **solid**.

Some **liquids** do not need to be cold to solidify.

Chocolate is solid at room temperature. It does not need to be frozen or chilled to become solid again.



# Fizzy Pop in a Balloon




Gases can dissolve in a liquid, as this example of fizzy pop in a balloon shows. But they won't stay there if you release the pressure that holds them.

What You'll Need:

- Bottle of fizzy pop
- Balloon
- Watch

Step 1: Open a bottle of fizzy pop, and put it on a table.

Step 2: Immediately slip the end of a balloon over the neck of the bottle. Pull the balloon's end well down over the bottle so that it fits tightly.

Step 3: Check on the balloon about every 10 minutes for any changes.

# What Happened?

Fizzy pop is carbonated. This means that carbon dioxide gas has been dissolved in the liquid under high pressure. Opening the bottle releases the pressure, and the carbon dioxide gas begins to escape from the liquid. The balloon trapped the carbon dioxide gas as it left the bottle, and then the gas inflated the balloon.

