



Meadows First School Knowledge Organiser

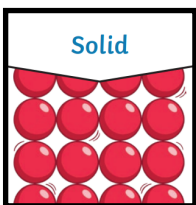
SCIENCE

Year 4 Autumn 2

Focus: States of Matter

Key Knowledge

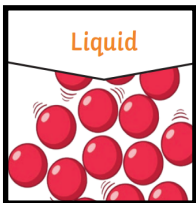
I can compare and group materials according to whether they are a solid, liquid or gas.



- Particles are close together.
- They can not move and can only vibrate.
- Solids can't be poured.
- Solids always take up the same space.

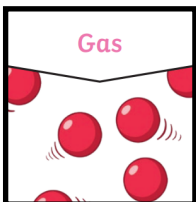
Retrieval questions:

Which of these is a solid?
Orange juice, paper or helium? (**paper**)



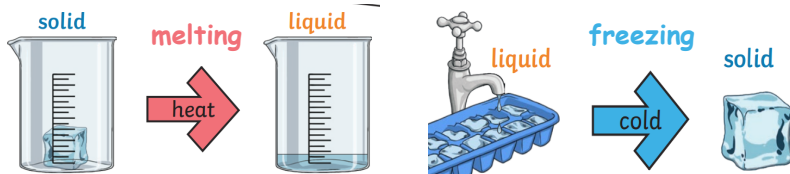
- Particles are close together but move around easily.
- Liquids hold the shape of the container they are in.
- Liquids can be poured.

Which of the states of matter can be poured?
(**liquid**)

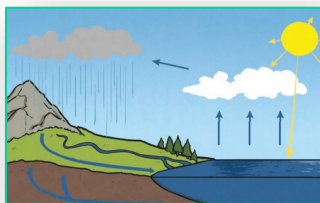


- Particles are spread out and move quickly.
- Gases can escape from open containers.

I can observe that materials change state when they are heated or cooled.



I know how evaporation and condensation have a role in the water cycle.



1. Water from lakes, puddles, rivers and seas is **evaporated** by the sun's heat turning it into vapour.
2. This water vapour rises then cools to form clouds (**condensation**).
3. When the droplets get too heavy they fall to the earth as rain.

Key Vocabulary

Condensation	When water vapour is cooled down and turns into water.
Evaporation	When water is heated it turns into water vapour.
Freezing	When a liquid turns into a solid.
Melting	When a solid turns into a liquid.
particles	The small things that everything is made of.

Working Scientifically

- We will make predictions about how much carbon dioxide is in our fizzy drinks. We will then carry out an investigation to find out the answer so that we can draw scientific conclusions from our data.
- We will make systematic and careful observations of temperature—using thermometers to record accurate data in investigations of our own design.

Prior learning

Nursery: creating with everyday materials (Aut 2, Spr 1)

Rec: sorting and describing everyday materials (Spr 1)

Y1: Selecting materials for purpose based on their properties (Aut 2)

Y2: Sorting materials for purpose based on properties; exploring changing materials by squashing/bending/twisting/stretching

Information on states of matter: <https://www.bbc.co.uk/bitesize/topics/zkqg87h>

Information on the water cycle <https://www.bbc.co.uk/bitesize/topics/zkqg87h/articles/z3wpp39>