


Year 4 - States of matter

Key Vocabulary	
States of matter	There are three states of matter: solid, liquid and gas
Solid	A solid is an object or material which keeps its shape and has a fixed volume. Some solids are made up of small grains which can be poured into a heap. Some solids can change shape when they are squashed, stretched or twisted. Some solids can be cut.
Liquid	A liquid is a material which has a fixed volume but changes in shape to fit the container. A liquid can be poured and keeps a level, horizontal surface.
Gas	A gas is a material which fills all available space; it has no fixed shape or volume.
Material	Material is the matter from which a thing is or can be made.
Volume	The volume is the amount of space taken up by a solid, liquid or gas.
Melting	Melting is a change of state from solid to liquid.
Freezing	Freezing is a change of state from liquid to solid. The freezing point of water is 0C.


Did you know?

All matter is made up of tiny particles called atoms.


Three states of matter



Gas



Liquid



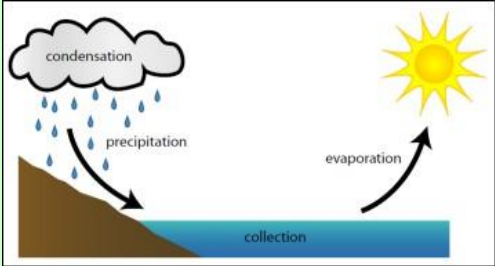
Solid

Oxygen Carbon-dioxide	Water Juice Milk	Ice Wood Plastic
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A solid keeps its shape and has a fixed volume. A liquid has a fixed volume but changes in shape to fit the container. A liquid can be poured and keeps a level, horizontal surface. A gas fills all available space; it has no fixed shape or volume. Granular and powdery solids like sand can be confused with liquids because they can be poured, but when poured they form a heap and they do not keep a level surface when tipped. Each individual grain demonstrates the properties of a solid.

Water Cycle

Water at the surface of sea and rivers **evaporates** into **water vapour** (a gas). This rises, cools, and **condenses** back into a liquid forming clouds. When too much water has condensed, the water droplets in the cloud get too heavy and fall back down as rain, snow, sleet etc. and drain back into rivers etc. This is known as **precipitation**. This is the **water cycle**.



Boiling is a change of state from liquid to gas that happens when a liquid is heated to a specific temperature and bubbles of the gas can be seen in the liquid. **Water boils when it is heated to 100°C.**