



**Science Driver:** How did the witch build the gingerbread house?

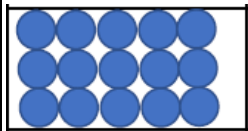
States Of Matter

LKS2

Advent 1

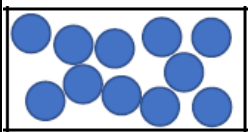
## Solids, liquids and gases

There are three states of matter that materials can be- solids, liquids or gases. Some materials are able to change to and from different states.



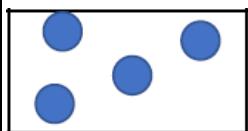
### Solid

Particles are very close together. They can vibrate, but not move.



### Liquid

Particles are close together, but can move around easily.



### Gas

Particles are spread out. They can move around freely and quickly

## Dissolving

Some substances dissolve when they are mixed with water. It might look like they have disappeared, but it has actually mixed with the water to form a solution. These substances are called soluble substances. Substances like sugar and salt dissolve in water to make transparent solutions. Substances that do not dissolve in water are called insoluble substances. Substances like sand or flour do not dissolve in water.

## Core Knowledge

- I can sort and describe materials.
- I can investigate gases and explain their properties.
- I can investigate materials as they change state.
- I can explore how water changes state.
- I can investigate how water evaporates.
- I can identify and describe the different stages of the water cycle.

**By the end of this science unit pupils be stronger at... (working scientifically)**

- Asking simple scientific questions.
- Using simple equipment to make observations.
- Carrying out simple tests.
- Identifying and classify things.
- Explaining to others what I have found out.
- Using simple data to answer questions.

## Key vocabulary

## Definition

solid	Materials that keep their shape unless a force is applied to them.
liquid	Liquids take the shape of their container. They can flow or be poured.
gas	Gases can spread out to fill the container they are in. They have no fixed shape.
mixture	A substance made from mixing other substances together.
density	How compacted a substance is.
freezing	The process of liquid turning to a solid.
steam	The vapour that water is turned into when heated.
solution	A liquid mixture where substance has been dissolved into a solvent.
melting	The process of a solid turning to a liquid.
evaporation	The process of turning from liquid to vapour.
dissolve	Causing something to become mixed into a liquid so it becomes a solution.

## Changes of State

Most solids can be changed to a liquid or gas by changing its temperature. The boiling point and freezing point is at different temperatures for different substances. The solid melts to become a liquid. The liquid evaporates to become a gas. The gas deposits to become a solid. The changes also occur in the opposite direction. The solid sublimates to become a gas. The gas condenses to become a liquid. The liquid freezes to become a solid.



## Reversible and Irreversible Changes

Some changes can not be reversed. For example, when vinegar and bicarbonate of soda are mixed, they create a chemical reaction that cannot be undone. Some changes are reversible, Here are some ways that mixing and dissolving solids and liquids can be reversed.



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