Solids, liquids and gases

All materials are either a **solid**, a **liquid**, or a **gas** - these are the three **states of matter**. All materials are made up of **particles** and particles behave in different ways depending on the material's state.

### Solids

- **Don’t flow**
  - The particles are tightly packed and cannot move past each other.
  - The particles vibrate.
- **Don’t compress easily**
  - There is very little space between the particles for movement.
- **Keep their own shape**
  - The particles are tightly locked in place.

**Ice**

**Sugar**

### Liquids

- **Can flow and be poured easily**
  - Particles can move easily past each other.
  - The particles have some movement energy.
- **Don’t compress easily**
  - There is little space between the particles.
- **Take the shape of containers**
  - Particles can move past each other and are easily poured.

**Water**

**Milk**

### Gases

- **Can flow easily**
  - Particles can move very easily past each other.
  - The particles have lots of energy and move fast.
- **Can be compressed easily**
  - There’s lots of space between the particles.
- **Take the shape of containers**
  - The particles can move easily past each other.

**Helium**

**Water vapour**
Did you know?

At Drax Power Station, we have examples of all three states of matter.

Turbines

Steam (gas)

Condensers

Steam (gas) and water (liquid)

Biomass

The fuel we use

Machinery

Solids

Fascinating fact

Most metals are solid at room temperature. Mercury, the silvery liquid used in thermometers, is an exception.

Some solids, such as sand and sugar, can appear to behave like a liquid as they can be poured. This is because of the tiny size of the particles that make up the solid.

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