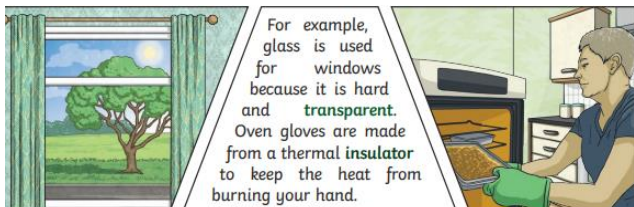


**Key Knowledge**

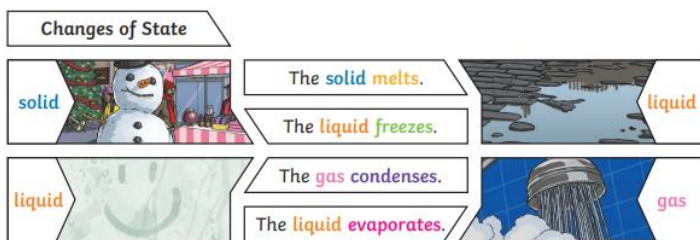
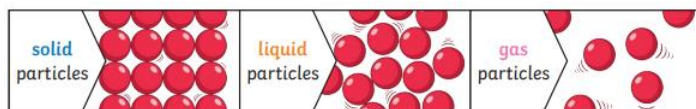
Different materials are used for particular jobs based on their **properties**: electrical conductivity, flexibility, hardness, insulators, magnetism, solubility, thermal conductivity & transparency.



Materials can be grouped based on their properties using more complex vocabulary.



**States of Matter- Solid, Liquid or Gas?**



**Reversible and Irreversible changes.**

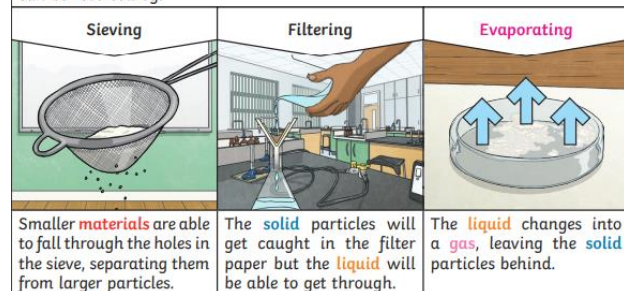
Reversible Changes	Irreversible Changes
Melting chocolate	Burning wood
Freezing water	Baking a cake
Dissolving sugar in water	A candle melting

**Irreversible changes** often result in a **product** being made from the old materials (**reactants**).



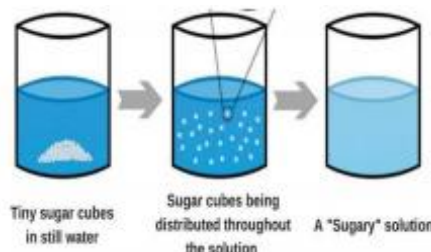
**Key knowledge**

Reversible changes, such as mixing and dissolving **solids** and **liquids** together, can be reversed by:



**Dissolving-** Sometimes when a solid (**solute**) is mixed with a liquid (**solvent**) it will dissolve to form a **solution** e.g. dissolving sugar in hot tea.

The solid seems to disappear in the solution but it is still there it has just become part of the liquid. A **soluble** material **can dissolve** however an **insoluble** material **cannot dissolve**.



**Key vocabulary**

- Solid-** having a firm shape or form that can be measured in length, width, and height.
- Liquid-** flows to take the shape of the container.
- Gas-** fills the shape of the container and takes the shape and volume of the container.
- Transparent-** you can see through it as light is let through.
- Conductor-** a material that heat (**thermal**) or electricity (**electrical**) can pass through.
- Filtering-** a process used to remove dirt or other solids from liquids or gases.
- Melting-** Heating a solid turns it into a liquid.
- Freezing-** Cooling a liquid turns it into a solid.
- Evaporation-** a change of state from a liquid into gas.
- Condensing-** Cooling a gas turns it into a liquid.

**Useful Websites**

<https://www.bbc.co.uk/bitesize/topics/zryycdm>

