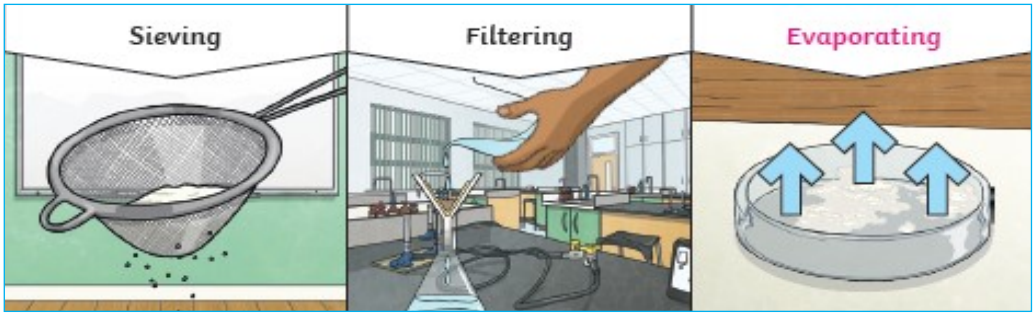
Properties of Materials – Year 5

Previous Learning:

In Year 2, you identified and compared the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses. You also found out how the shapes of solid objects made from some materials could be changed by squashing, bending, twisting and stretching. In Year 3, you compared and grouped together a variety of everyday materials on the basis of whether they were attracted to a magnet, and identify some magnetic materials. In Year 4, you compared and grouped materials together, according to whether they were solids, liquids or gases. You also observed that some materials change state when they are heated or cooled, and measured or researched the temperature at which this happens in degrees Celsius (°C) and identified the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.



Smaller materials are able to fall through the holes in the sieve, separating them from larger particles.

The solid particles will get caught in the filter paper but the liquid will be able to get through.

The liquid changes into a gas, leaving the solid particles behind.

Sugar is a soluble material.

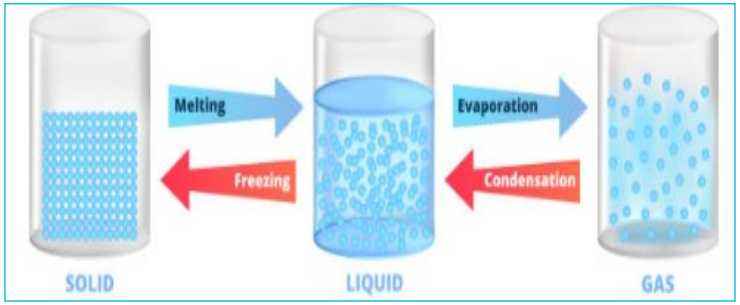
Sand in insoluble.

Dissolving

A solution is made when solid particles are mixed with liquid particles. Materials that will dissolve are known as soluble. Materials that won't dissolve are known as insoluble. A suspension is when the particles don't dissolve.

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

Key vocabulary	Definitions
reversible	Reversible changes, such as mixing and dissolving solids and liquids together, can be
irreversible	Irreversible changes can not be reversed and often result in a new product being made from the old materials (reactants). For example, burning wood produces ash. Mixing vinegar and
soluble	able to be dissolved, especially in water.
properties	a characteristic of that material.
conductor	A conductor is a material that heat or electricity can easily travel through. Most metals are both thermal conductors (they conduct heat) and electrical conductors (they
insulator	An insulator is a material that does not let heat or electricity travel through them. Wood and plastic are both thermal and electrical insulators.



Future learning:

You will continue to develop your understanding of materials and testing properties when you are at secondary school, such as exploring the difference between chemical and physical reactions,.