

# Properties and Changes of Materials

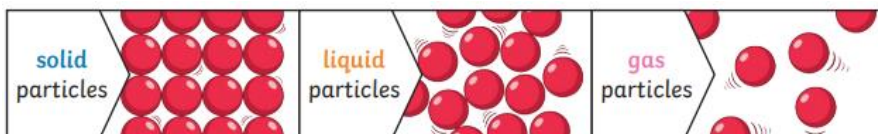


As we have looked at previously, properties of different materials mean they are useful for particular jobs. Properties we have looked at so far: electrical and thermal **conductivity**, flexibility, **insulators**, magnetism, hardness, and **transparency**. We would like you to look at **solubility** for your new science tasks and methods for separating mixtures based on their properties.

## States of Matter

twinkl

<https://www.bbc.co.uk/bitesize/topics/zkgg87h/articles/zsgwwxs>



The particles in solids are very close together and vibrate slightly. This means that solids hold their shape (e.g. wood and glass).

The particles in a liquid are more loosely packed than solids, which allows them to flow and take the shape of the container (e.g. water).

The particles in the gas are spaced apart and they are free to move around (e.g. oxygen and hydrogen).

## Changes of State

Solids **melt** to form a liquid (e.g. ice/snow → water)

Liquids **freeze** to form a solid (e.g. water → ice)

Gases **condense** to form a liquid (e.g. steam → water)

Liquids **evaporate** to form a gas (e.g. water → steam)

## What is dissolving?

<https://www.bbc.co.uk/bitesize/topics/zcvv4wx/articles/zpbdpbk>

Use this link to find out what the word **dissolve** means. What about the words **soluble**, **solution** and **insoluble**? Can you find out what the word **solute** means? Complete the 'Fill the Gap' activity to test your knowledge.

## How can we separate mixtures?

<https://www.bbc.co.uk/bitesize/topics/zcvv4wx/articles/zw7tv9q>

Use this link to find out the three main ways to separate mixtures. Think about what **equipment** you would need to complete each of these processes. Complete the 'Fill the Gap' activity to test your knowledge.

## What is an irreversible change? How is it different to a reversible change?

<https://www.bbc.co.uk/bitesize/topics/zcvv4wx/articles/z9brcwx>

Use this link to find out what an irreversible change is and how a material or object can be irreversibly changed. Complete the 'Sort the Reactions' activity to test your knowledge.