

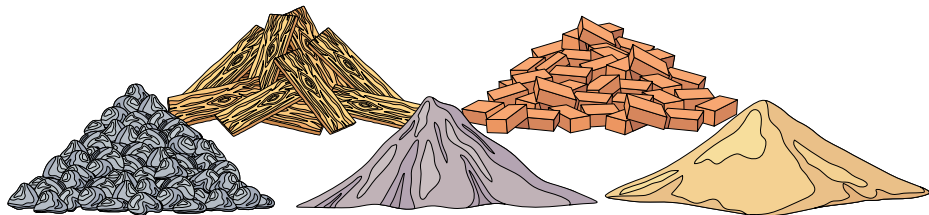
Conductivity is a measure of how quickly and easily a material will let heat or electrical charge pass through.

- Good **conductors**, like metal, will let heat and electricity pass through quickly.
- Good **insulators**, like plastic and rubber, will not let heat and electricity pass through easily.

Hardness is a measure of how easily a material can be scratched or dented.

- **Hard** materials, like most metals, cannot be scratched or dented easily.
- **Soft** materials, like clay or wax, can be scratched and dented easily.

Materials are chosen for specific uses according to their **properties**. For example, buildings are made from strong, durable materials like wood, stone, brick, concrete and metal.

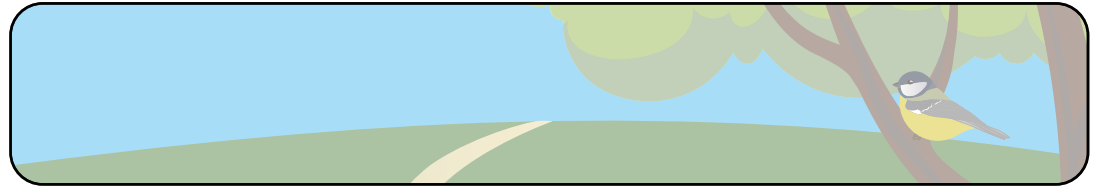


Transparency is a measure of how much light a material lets pass through.

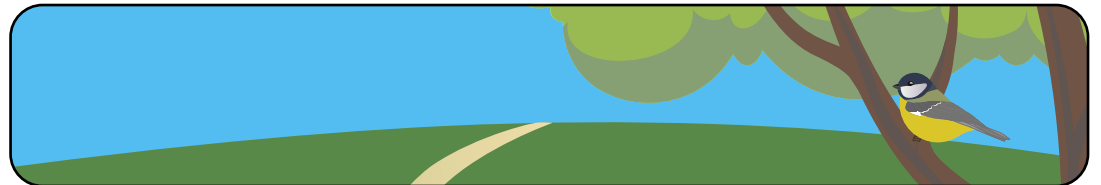
- **Opaque** materials, like metal and wood, do not let any light pass through so objects on the other side cannot be seen.



- **Translucent** materials, like some plastics, let some light pass through. The light is scattered as it passes through so objects on the other side (if visible) appear fuzzy, coloured or distorted.



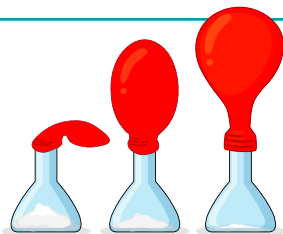
- **Transparent** materials, like glass, let most light pass through with minimal scattering so objects on the other side are clearly visible.



A **reversible change** is when a material is changed but can be easily reverted to its original state.

Dissolving is a reversible change because the dissolved substance can be reclaimed by evaporating the liquid.

Mixing vinegar and bicarbonate of soda is an irreversible change. A new product (a gas) is formed which causes fizzing.

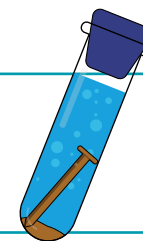


An **irreversible change** occurs when a material is changed but cannot be easily reverted to its original state. New materials are produced in the process.

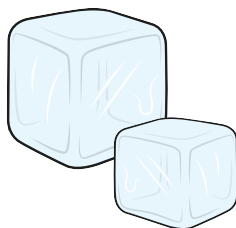


Burning is an irreversible change in which a material is burned and makes new products.

Rusting is an irreversible change in which **iron** makes **rust** when exposed to **water** and **air** (oxygen).



Changes of state are all examples of reversible changes because heating or cooling the substance will change it back to its original state.



solid

melting



freezing



liquid

evaporating



condensing



gas

