

Hardness of materials

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 or dented easily.



Transparency of materials

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.

Conductivity of materials

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.



Reversible changes

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.



Irreversible changes- burning and rusting

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).



Irreversible changes-mixing

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.

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

