Properties of Materials

All materials have properties. Properties can be physical or chemical.

Physical properties

- Physical properties include electrical conductivity; thermal conductivity; being malleable; absorbent; magnetic; hard/soft; rough/smooth; dull/shiny; and being windproof.

Thermal conductivity

- Some materials are good thermal conductors. This means that they are good at transferring energy from a material that is at a higher temperature to a material that is at a lower temperature. Metal is a good thermal conductor.
- A material that is a good thermal insulator is poor at transferring energy. Trapped air and plastic are good thermal insulators.
- In homes, we use thermal insulators to reduce energy loss.

Elasticity

- Some materials are elastic. Elastic materials can stretch and then return to their original form. An elastic band can be stretched but returns to its original size.

Chemical properties

- Scientists need to use specialist equipment to measure chemical properties.
- Some chemicals are flammable. This means they set on fire easily.
- If we see this hazard sign, we know a chemical is flammable.

- Some chemicals are toxic. This means they are harmful to living things.
- If we see this hazard sign, we know a chemical is toxic.