

Key Equipment when conducting tests:

Thermometers wires batteries/cells bulbs magnets
data loggers stop watch

Science: Properties of Materials



KEY QUESTIONS

- How do we know if a material is magnetic or not?
- Which material works best for insulating a cup of tea?
- How can we test the hardness of a material?
- What is an everyday use for wood, and why?
- Why are electrical insulators so important?

Key Knowledge (our main take aways):

- Different materials have different properties or characteristics that mean they are useful for specific purposes e.g. glass is entirely transparent so functions well as a window!
- The main properties that materials can be classed as are: transparent, translucent, opaque, hardness, electrical insulator/conductor, thermal insulator/conductor, magnetic
- Electrical insulating materials help stop electrical currents travelling where they are not supposed to (rubber coating on a cable)
- Thermal insulating materials help keep hot, or cold, temperatures within specific areas (winter coats keep heat close to our bodies)
- Some materials are better than others for various purposes – like keeping tea hot. We will explore which ones are the best!

Vocabulary

- **Transparent** – allows all light through
- **Translucent** – allows some light to pass through
- **Opaque** – does not allow any light to pass through
- **Conductor** – a material that allows something to pass through it (electrical/thermal)
- **Insulator** – a material that does not allow something to pass through (electrical/thermal)
- **Independent variable** – what will change
- **Dependent variable** – what will be measured
- **Controlled variable** – what will be kept the same to ensure a fair test
- **Thermal** - heat
- **Anomalous** – an unexpected result that does not fit in with other results