



Year 5

Properties of Materials

Working Scientifically:

- Use and develop keys and other information records to identify, classify and describe living things and materials (non-statutory).
- Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs
- Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary
- Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate
- Using test results to make predictions, to set up further comparative and fair tests
- Use relevant scientific language and illustrations to discuss, communicate and justify scientific ideas.

Key Vocabulary:

- | | |
|------------------------|--------------------|
| • transparent | • anomalous result |
| • translucent | • properties |
| • opaque | • wood |
| • magnetism | • metal |
| • hardness | • plastic |
| • electrical conductor | • lifespan |
| • electrical insulator | |
| • circuit | |
| • cell | |
| • bulb | |
| • independent variable | |
| • dependent variable | |
| • controlled variable | |
| • thermal insulator | |
| • thermometer | |
| • control beaker | |
| • temperature | |
| • data | |
| • conclusion | |

Statutory Requirements:

- Compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets
- Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic

Key Learning Steps:

1. Test materials - magnetism, transparency and hardness
2. Test materials - electrical conductivity
3. Plan - insulating heat experiment
4. Investigate - insulating heat experiment
5. Evaluate - insulating heat experiment
6. Uses of everyday materials - plastic, wood and metal

Key Scientists:



Classic

Marie Curie
(1867-1934)

French-Polish physicist who conducted pioneering research on radioactivity.



Contemporary

Saiful Islam

Researching materials for clean energy and batteries.