



<p>Vocabulary</p> <p>Materials, Hardness, Transparency, Magnetism, Electrical conductivity, Thermal conductivity, Reversible/irreversible changes, Hazards, Comparative testing, Filtering, Reactant</p>	<p>Skills <i>Enquiry and working scientifically skills (UKS2)</i></p> <ul style="list-style-type: none"> plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs use test results to make predictions to set up further comparative and fair tests report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations identify scientific evidence that has been used to support or refute ideas or arguments. 	<p>What we already know</p> <p><u>KS1 knowledge</u></p> <ul style="list-style-type: none"> Y2/Sp1 – Everyday materials – properties and uses including what properties are needed to implement a change in appearance of material Y2/Sp1 - Shapes of solids objects can be changed by squashing, bending, twisting and stretching <p><u>KS2 knowledge</u></p> <ul style="list-style-type: none"> Y3/A2 – Rocks - Different surfaces ‘feel’ different Y3/Sp2 – Magnets - can separate ‘magnetic’ from ‘non-magnetic’ materials Y4/Sp1/2 – States of Matter – The differences between solids, liquids and gases. Understand that ice, water and steam are the same ‘material’ in different ‘states’
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Illustration

Materials and their properties

5 Electrical Conductors: silver, gold, copper, steel, sea water

5 Electrical Insulators: rubber, glass, oil, diamond, dry wood

Application/ Outcomes

- Separating solutions
- Solubility investigation
- Information booklet – new man made materials
- Identify materials that are good insulators or conductors of heat. Design a product with real life benefits using this knowledge (eg. Packed lunch bag)
- Build a circuit using different electrical conductors.
- Group materials based on their properties and suggest uses
- Reversible and irreversible changes
- Changes of state

Concepts

- Different materials are used for different jobs based on their properties (electrical conductivity, flexibility, hardness, insulators, magnetism, solubility, thermal conductivity, transparency)
- Some materials can change state and these changes can be reversible (through sieving, filtering or evaporating)
- Some materials can change state and these changes can be irreversible – A new product is formed, and this is called a reactant.

<p>Other/Cross Curricular Links with English/Maths</p> <p>Topic reading – new materials Diversity – women in science</p>	<p>SEND Adaptations</p> <p>Word banks, image mats, differentiated worksheets, adult support</p>
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