

Materials and Magnets Lesson Plan for Year 3 and 4

Time	Introduction / Activity	Objective(s)	Logistics	Resources
10 mins	<p>Introduction</p> <p>Explain to about the plan for the session</p> <p>Ask their opinions of what scientists and engineers do</p>	<ul style="list-style-type: none"> Get children comfortable and talking freely Find out how they perceive science, the importance of science and the role of scientists. 	<p>Group discussion</p> <p>Children sitting on carpet if appropriate or in groups at tables. Discuss with teacher best groups for them to be working in.</p>	
10 mins	<p>Grouping materials</p> <p>Recap groups of materials and simple properties of materials</p>	<ul style="list-style-type: none"> Encourage children to recall previous work. Identify key properties of metals, plastics, ceramics (glass), wood, fibres. 	<p>Group discussion</p> <p>As above</p>	Materials handling collection
15 mins	<p>Using materials</p> <p>Conduct simple materials survey of classroom and explain use of materials in particular applications on basis of simple properties.</p>	<ul style="list-style-type: none"> Children should use a simple table and bar char to present the results of their findings. Identify link between a particular use of a material and the key property 	<p>Working in pairs</p> <p>Walking around the classroom and identifying materials used for particular applications</p>	Clip boards and worksheet booklet
10 mins	<p>Introduction to magnets</p> <p>Find out what children already know about magnets and introduce / recap terminology: POLES, ATTRACT, REPEL, MAGNET, FORCE</p>	<ul style="list-style-type: none"> Magnetic forces can act over a distance Magnets have two poles Like pole repel and opposite poles attract 	<p>Group discussion</p> <p>As above.</p>	Flip chart / magnets poster Large magnets
15 mins	<p>BREAK</p>	Tidy away Materials Handling Collection and materials resources. Get magnets out and set up experiment.		
15 mins	<p>How strong are magnetic forces</p> <p>Explain that only three materials are naturally magnetic and all magnets contain one of these.</p> <p>Conduct simple group experiment to</p>	<ul style="list-style-type: none"> Magnets made from different materials have different strengths Record results in a table and present them in the form of a bar chart 	<p>Whole group experiment</p> <p>Equipment at front of room. Children asked to come and add more weight to the magnets</p>	Magnets, steel bar, bag and sand

	investigate magnets made from four different materials		and record their own results in workbooks. Plot bar chart if times allows.	
15 mins	<p>What materials are attracted to magnets?</p> <p>Encourage children to make predictions of what might happen based on current knowledge.</p> <p>Use magnetic wands to conduct survey of classroom and identify objects that stick to magnet and those that don't. Use Venn diagram to record results</p> <p>Gather results together and identify patterns.</p>	<ul style="list-style-type: none"> • Compare and group materials on the basis of whether they are attracted to a magnet or not. • Identify some magnetic materials 	<p>Working in pairs</p> <p>Walking around the classroom and identifying materials that are magnetic.</p> <p>Group discussion</p>	Magnet wands, worksheet in booklet.
5 mins	<p>Plenary</p> <p>Recap of activities</p> <p>Ideas for things to look for at home</p> <p>Closing comments</p>			