



Areas of study	EYFS	Y1	Y2	Y3	Y4	Y5	Y6
Core substantive knowledge			<p>Materials and their properties</p> <ul style="list-style-type: none"> <li>Investigate how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching</li> </ul>	<p>Forces (and magnets)</p> <ul style="list-style-type: none"> <li>Compare how things move on different surfaces</li> <li>Notice that some forces need contact between 2 objects, but magnetic forces can act at a distance</li> <li>Observe how magnets attract or repel each other and attract some materials and not others</li> <li>Compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials</li> <li>Describe magnets as having 2 poles</li> <li>Predict whether 2 magnets will attract or repel each other, depending on which poles are facing</li> </ul>		<p>Forces</p> <ul style="list-style-type: none"> <li>Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object</li> <li>Identify the effects of air resistance, water resistance and friction, that act between moving surfaces</li> <li>Recognise that some mechanisms including levers, pulleys and gears allow a smaller force to have a greater effect</li> </ul>	



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<b>Cross-curricular links</b>	English - talk about push/pull/stretchy	English - talk effect of forces on objects observed	English - talk effect of forces on objects observed	English – instructions / explanations Maths - measurement		English – instructions / explanations Maths - measurement Computing - PowerPoint/research	
<b>Range and depth of scientific knowledge-substantive knowledge</b>		.	Understand that <b>a force</b> is a push or a pull. When an object moves on a surface, the texture of the surface and the object affect how it moves	Understand that A force is a push or a pull. When an object moves on a surface, the texture of the surface and the object affect how it moves  A magnet attracts magnetic material and other materials containing these  Understand that the strongest parts of a magnet are the poles.  Understand that 2 like poles repel. If two unlike poles are brought together they  Identify that for some forces to act there must be contact  Some forces can act at a distance e.g. magnetism.		Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object  Identify the effects of air resistance, water resistance and friction that act between moving surfaces.  Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.	



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<b>Range and depth of disciplinary knowledge.</b>				Begin to compare and classify how things move  Carry out tests with guidance  Record data when answering questions  Begin to look for patterns in the way magnets behave		Explore the speed of falling objects  Explore the effects of levers, pulleys, gears and/or springs  Design and make products that use levers, pulleys, gears and/or springs	
<b>Scientific enquiry-disciplinary knowledge</b>				Comparative tests  Identifying, grouping and classifying  Identification of patterns		Comparative tests Identification of patterns Predictions Pattern-seeking Problem-solving	
<b>Organisation and communication</b>				Diagrams Charts Explanations		Diagrams Charts Explanations PowerPoint	