

Year 3 Progression map – Forces and Magnets		
National curriculum objectives:	Scope:	Coherence:
<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><b>Misconceptions:</b></p> <ul style="list-style-type: none"> <li>that we can see forces</li> <li>that friction is unhelpful</li> <li>that all metals are magnetic</li> <li>copper coins are magnetic</li> <li>magnetic attraction only works through air</li> </ul>	<p><b>HEP Science lesson titles:</b></p> <ol style="list-style-type: none"> <li>How forces can make things move</li> <li>Different contact forces and how they work</li> <li>Different non-contact forces and how they work</li> <li>Which metals are magnetic</li> <li>Factors that affect the strength of a magnet</li> <li>How compasses work</li> </ol> <p><b>Working scientifically:</b></p> <ul style="list-style-type: none"> <li><b>Observe and model</b> make a tornado</li> <li><b>Comparative testing</b> friction investigation</li> <li><b>Comparative testing</b> magnetic behaviour</li> <li><b>Comparative testing</b> magnetic materials</li> <li><b>Comparative testing</b> magnetic strength</li> <li><b>Modelling</b> making a compass</li> <li><b>Experimental design</b> magnet assessment</li> </ul> <p><b>Key scientists and inventors:</b></p> <ul style="list-style-type: none"> <li>Maglev trains</li> </ul>	<p><b>English:</b></p> <p>Reporting on findings, including oral and written explanations, text comprehension</p> <p><b>Key vocabulary:</b></p> <p>contact, contraction, tendon, friction, lubricant, attract, repel, gravity, magnetic, pole, compass</p> <p><b>Maths:</b></p> <p>Taking accurate measurements using standard units, gathering</p> <p><b>Geography:</b></p> <p>Using compasses Spanish Inquisition</p> <p><b>DT:</b></p> <p>Making a magnet, levers, pulleys and gears, lubricants and machines, engineering of Maglev trains, uses of magnets for construction and engineering</p>
<b>Builds on:</b>	<b>Future learning:</b>	<b>Further reading:</b>
<p><b>Year 2:</b> everyday materials and their properties, pushing and pulling, floating and sinking</p> <p><b>Year 3:</b> Properties of some rocks and the effects of forces in the rock cycle</p>	<p><b>Year 5:</b> Changes and properties of materials – materials properties and testing, Forces - effects of air resistance, water resistance and friction between surfaces, mechanisms, levers, pulleys and gears, Gravity in Earth and space</p>	<p><a href="#">Forces (BOOM) Science</a> , Georgia Amson-Bradshaw</p> <p><a href="#">Magnets, pushing together, pulling apart</a>, Natalie Rosinsky</p>