






Science Medium Term Plan

	Year Group:	Term:	Topic/Unit :		
	3	Autumn	Forces and Magnets		
National Curriculum Programme of Study	<ul style="list-style-type: none"> • Compare how things move on different surfaces. • Notice that some forces need contact between two objects, but magnetic forces can act at a distance. • Observe how magnets attract or repel each other and attract some materials and not others. • 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. • Describe magnets as having two poles. • Predict whether two magnets will attract or repel each other, depending on which poles are facing. 				
Prior Learning	<ul style="list-style-type: none"> • Explore how things work. (Nursery – Forces) • Explore and talk about different forces they can feel. (Nursery – Forces) • Talk about the differences between materials and changes they notice. (Nursery – Forces) • Explore the natural world around them. (Reception – Forces) • Describe what they see, hear and feel whilst outside. (Reception – Forces) • Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. (Y2 - Uses of everyday materials) 				
Future Learning	<ul style="list-style-type: none"> • Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object. (Y5 - Forces) • Identify the effects of air resistance, water resistance and friction, that act between moving surfaces. (Y5 - Forces) • Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect. (Y5 - Forces) • Magnetic fields by plotting with compass, representation by field lines. (KS3) • Earth's magnetism, compass and navigation. (KS3) 				
Links to other subjects	Geography – using a compass				
Enrichment	Allow children to explore magnets and materials				
Working Scientifically	Comparative tests 	Identify and classify 	Observation over time 	Pattern seeking 	Research 
	Which magnet is strongest?	Which materials are magnetic?	If we magnetise a pin, how long does it stay magnetised for?	Does the size and shape of a magnet affect how strong it is?	How have our ideas about forces changed over time?
Working Scientifically	Plan/ Do: Set up enquiry Working Scientifically Review: Set up simple practical enquiries, comparative and fair tests Assessment Focus				

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Assessment Focus	<ul style="list-style-type: none"> • · Can children decide on an approach to compare magnet strength? • · Can children recognise and control variables where necessary?
Sticky vocabulary	<p>Force, push, pull, twist, contact force, non-contact force, magnetic force, magnet, strength, bar magnet, ring magnet, button magnet, horseshoe magnet, attract, repel, magnetic material, metal, iron, steel, poles, north pole, south pole</p> <p>Working scientifically vocabulary: question, fair test, practical enquiry, accurate, table, information</p>
End points	<ul style="list-style-type: none"> • 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. • It may help the object to move better or it may hinder its movement e.g. ice skater compared to walking on ice in normal shoes. • A magnet attracts magnetic material. • Iron and nickel and other materials containing these, e.g. stainless steel, are magnetic. • The strongest parts of a magnet are the poles. • Magnets have two poles – a north pole and a south pole. • If two like poles, e.g. two north poles, are brought together they will push away from each other – repel. • If two unlike poles, e.g. a north and south, are brought together they will pull together – attract. • For some forces to act, there must be contact e.g. a hand opening a door, the wind pushing the trees. • Some forces can act at a distance e.g. magnetism. The magnet does not need to touch the object that it attracts.