



Subject	Science	Theme	Forces and Magnets	Term	Spring 2
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What should I already know?
<ul style="list-style-type: none"> - Objects are made from a range of materials. - Everyday materials can be grouped and compared on the basis of their simple physical properties. - The shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.

What should I know by the end of the unit?
<ul style="list-style-type: none"> - A force is a push or a pull in a particular direction. - Some forces need contact between two objects, but magnetic forces can act at a distance. - Objects move in different ways depending on the surface that they travel on. - Magnets create a push force (repel) or pull force (attract). - Magnets have poles called North and South. - Some materials are attracted to magnets and some are not - Magnets have different strengths. - Some uses of magnets in everyday life
<p>Silver Threads:</p> <p>Changes – Changing a surface changes how an object moves</p> <p>Energy – Magnetism is a form of energy. It can be used for different purposes, such as sorting waste, keeping doors open or closed, mag-trains, etc</p>

Working Scientifically
<ul style="list-style-type: none"> - Develop understanding of a 'fair' test (<i>comparing how objects move on different surfaces</i>) - Take accurate measurements using standard units (cm) (<i>how far do objects move on different surfaces</i>) - Record findings using simple scientific language and tables (<i>grouping according to properties</i>) - Conclude: What is it about different surfaces that causes differences in movement? - Predict: how would an additional surface affect movement (<i>eg thick woollen blanket, ice, polished wooden floor</i>)? - Ask relevant questions and identify how to answer them (<i>can magnets be different strengths?</i>) - Use evidence to answer questions (<i>can magnets have different strengths?</i>) - Conclude: How could magnets be used in everyday life?

Enquiries & Investigations
<ul style="list-style-type: none"> - Does the surface they're on affect how objects move? Compare how objects move on different surfaces. - Is it magnetic? 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. - What happens when two magnets touch? Look for patterns and predict whether two magnets will attract or repel each other, depending on which poles are facing. - Are all magnets the same? Test the strength of different magnets.

Forces and Magnets

Forces
Forces are pushes and pulls.
No object will move unless a force acts upon it.

Magnets
Magnetism is an invisible force. A magnet can either attract or repel other magnets.
Opposite poles of a magnet will attract each other (pull together).
Similar poles of a magnet will repel each other (push away).
Objects can be sorted by whether they are attracted to a magnet or not.
Magnets have a north pole (N) and a south pole (S).
Magnetism, like gravity, is different to most forces because it does not need contact with an object to make it move.
Magnets come in lots of different shapes and sizes. Some magnets will be stronger than others and create bigger pushing or pulling forces.

The Earth is like a giant magnet with a magnetic north and south pole.
A compass points towards the north pole because of the Earth's magnetic field.

Key Vocabulary	
attract	Cause something to move closer
force	A push or a pull between objects
magnet	A rock or a piece of metal that can pull certain types of metal towards it
magnetic force	The invisible force from a magnet which makes certain objects/materials attract or repel
material	What something is made from, for example wood, aluminium, steel, plastic
pole	The ends of a magnet – North pole (red) and South pole (blue)
repel	Cause something to be pushed away