

Forces and Magnets



Prior Learning	
<p>This unit is the first forces related science unit in the primary science curriculum although they will develop their scientific enquiry skills, making observations, predictions and conclusions. The aim is to give children a basic overview of forces, friction and magnetic attraction</p> <p>Prior learning will be children's own knowledge of forces through the reading of books etc. and comparing how things move.</p>	
Key vocabulary for this unit	
Forces Pushes Pulls Friction Magnet Poles Magnetic Field	Attract Repel Compass Prediction Bar chart Electromagnet
Learning Sequence	
Pushes and Pulls	<ul style="list-style-type: none"> To notice that some forces need contact between two objects by identifying the different types of forces acting on objects.
Faster And Slower	<ul style="list-style-type: none"> To compare how things move on different surfaces by investigating the speed of a toy car over different surfaces.
Scrapyard Challenge	<ul style="list-style-type: none"> To compare and group materials according to whether they are magnetic by sorting materials.
Magnet Strength	<ul style="list-style-type: none"> To observe how magnets attract or repel each other and attract some materials and not others by investigating the strength of different magnets.
Magnetic Poles	<ul style="list-style-type: none"> To describe magnets as having two poles and to predict whether two magnets will attract or repel each other, depending on which poles are facing by making a compass to hunt for treasure.
Marvellous Magnets	<ul style="list-style-type: none"> To observe how magnets attract or repel each other and attract some materials and not others by making, playing and evaluating a magnetic game.
Electromagnets	<ul style="list-style-type: none"> To make systematic and careful observations by exploring electromagnets.

	<ul style="list-style-type: none"> To use results to draw simple conclusions and make new predictions by exploring electromagnets. To explore how electromagnets attract some materials.
Assessment milestones	
Working Scientifically: <ul style="list-style-type: none"> Set up reliable and accurate investigations. Construct a bar chart on labelled axes. Form a conclusion from their results. 	Scientific Knowledge: <ul style="list-style-type: none"> Identify forces as pushes and pulls Describe friction as a force that slows objects down. Sort materials according to whether they are magnetic or not.

Light



Prior Learning	
<p>This unit is the first light related science unit in the primary science curriculum although they will develop their scientific enquiry skills, making observations, predictions and conclusions. The aim is to give children a basic overview of light, reflections and shadows</p> <p>Prior learning will be children's own knowledge of light through the reading of books etc. and being able to observe and name a variety of light sources and explain that we see things because light travels from them to our eyes.</p>	
Key vocabulary for this unit	
<p>Sources</p> <p>Reflect and Reflective</p> <p>Surface</p> <p>Shadow</p> <p>Opaque</p> <p>Translucent</p> <p>Transparent</p> <p>Concave and convex</p>	
Learning Sequence	
Light and Dark	<ul style="list-style-type: none"> To recognise that we need light in order to see things and that dark is the absence of light by taking part in a 'feely bag' investigation.

Reflective Surfaces	<ul style="list-style-type: none"> To notice that light is reflected from surfaces by choosing the most reflective material for a new book bag.
Marvellous Mirrors	<ul style="list-style-type: none"> To notice that light is reflected from surfaces by playing mirror games.
Sun Safety	<ul style="list-style-type: none"> To recognise that light from the sun can be dangerous and that there are ways to protect our eyes by designing and advertising a pair of sunglasses or a sun hat.
Making Shadows	<ul style="list-style-type: none"> To recognise that shadows are formed when the light from a light source is blocked by a solid object by investigating the best material for curtains for a baby's bedroom.
Changing Shadows	<ul style="list-style-type: none"> To find patterns in the way that the size of shadows change by investigating what happens when you change the distance between the object and the light source.
Concave and Convex	<ul style="list-style-type: none"> To investigate how images change in concave and convex mirrors.
Assessment milestones	
<p>Working Scientifically:</p> <ul style="list-style-type: none"> Make and explain predictions. Make and record accurate observations. Use scientific language to explain their findings. 	<p>Scientific Knowledge:</p> <ul style="list-style-type: none"> Identify light sources and reflective surfaces Know that light travels in a straight line. Understand that a shadow is formed when a solid object blocks light.