



<b>Science Topic:</b>	Forces		<b>Year 5</b>		<b>Autumn</b>
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<b>What? (Key Vocabulary)</b>	
Spelling	Definition/Sentence
<b>Streamlined</b>	A shape that presents least resistance to air or water
<b>Surface</b>	The top layer of something
<b>Grip</b>	To have a good connection with a surface
<b>Drag</b>	To cause to slow down
<b>Centre</b>	The middle

**Diagrams and Symbols**

Diagrams of forces in action

<b>Recommended Experiments</b>	
<p>A minimum of two experiments should take place during this unit of work with one final written outcome linked to the scientific enquiry skills and approaches used.</p>	
	Identify the effects of air resistance by designing and testing a parachute which would slow a car down a ramp
	Testing water resistance when swimming (during Year 5 swimming lessons)
	Recognising the impact of mechanisms on forces when using pulleys, levers and gears during technology lessons
	Choosing a feature of a spinner to investigate, for example, size of wings, height dropped or number of paper clips

<b>What? (Key Knowledge)</b>	
Forces	
What is a force?	A force is either: push or a pull
Forces can make things...	Speed up, slow down, change shape and change direction
A force that speeds something up	The child is pushing the car to speed it up
A force that slows something down	The girl is pulling the dog to slow it down
A force that changes the shape of something	The can is being squeezed so that it changes shape and becomes smaller
A force that changes the direction of something	When the ball is hit with the racket, it will change direction
Types of force	

<p>Magnetism</p> <p>Magnets attract or repel each other or other objects</p>	<p>Attract:</p>  <p>Repel:</p>  <p>North and South attract. But North and North or South and South will repel.</p>	<p>Friction</p> <ul style="list-style-type: none"> <li>• Friction happens when two surfaces touch each other</li> <li>• Friction gives us grip</li> <li>• Friction produces heat</li> <li>• Rougher surfaces slow things down a lot</li> <li>• Smoother surfaces don't slow things down as much</li> </ul>	
<p>Air Resistance</p>	<ul style="list-style-type: none"> <li>• Air resistance slows down moving objects, because air slows you down as you move through it</li> <li>• To travel faster through the air, things need to be streamlined</li> </ul>	<p>Gravity (another force)</p>	
<p>Water Resistance</p>	<ul style="list-style-type: none"> <li>• Water resistance slows down moving objects, because water slows you down as you move through it</li> <li>• To travel faster through the water, things need to be streamlined</li> </ul>	<p>What is gravity?</p>	<p>Gravity is the forces that <b>pulls</b> objects <b>down</b> towards the centre of the Earth.</p> <p>Gravity stops things from floating away into space.</p> <p>When things go into the air (like a football) gravity pulls them back down.</p>

<p><b>Builds on:</b> learning in Year 3 - Summer - Unit: Sound and Electricity</p>	<p>Learning links</p>	<p><b>Leads to:</b> learning in Year 5 - Summer 2 - Unit: Earth and Space</p>
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