

## YEAR 5

	EFYS	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
<b>FORCES AND MAGNETISM PHYSICS</b>	<p>The three <b>Prime ELGs of Communication &amp; Language, PSED and Physical Development provide the foundations of which all other learning is built upon.</b></p> <p><b>Specific:</b> The Natural World ELG Explore the natural world around them, making observations Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class. Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.</p>			<p>Compare how things move on different surfaces.</p> <p>Notice that some forces need contact between 2 objects, but magnetic forces can act at a distance.</p> <p>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.</p> <p>Describe magnets as having 2 poles.</p> <p>Predict whether 2 magnets will attract or repel each other, depending on which poles are facing.</p>		<p>Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object.</p> <p>Identify the effects of air resistance, water resistance and friction, that act between moving surfaces.</p> <p>Recognise that some mechanisms including levers, pulleys and gears allow a smaller force to have a greater effect.</p>	

### FORCES AND MAGNETISM COMPOSITES

Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object.

Identify the effects of air resistance, water resistance and friction, that act between moving surfaces.

Recognise that some mechanisms including levers, pulleys and gears allow a smaller force to have a greater effect.

## COMPONENTS

	1	2	3	4	5	6	End Point
	What are forces?	What is gravity and how does it affect us?	What is friction?	What is water resistance?	What is air resistance?	What are levers and how do we use them?	Children will understand what forces are and how gravity affects us. They will be able to identify the effects of water resistance, air resistance and friction. Children will understand that levers use a small force but have great effect.
<b>CONCEPTS</b> <a href="#">Link to concept map</a>	FORCES	FORCES	FORCES	FORCES	FORCES	FORCES	Children will understand what forces are and how they affect us.
<b>SKILLS</b>	Identify the effects of <b>air resistance, water resistance and friction</b> , that act between moving surfaces	Explain that unsupported objects fall towards the Earth because of the force of <b>gravity</b> acting between the Earth and the falling object Identifying <b>scientific evidence</b> that has been used to support or refute ideas or arguments	Planning different types of <b>scientific enquiries</b> to answer questions, including recognising and <b>controlling variables</b> where necessary Taking measurements, using a range of scientific equipment, with <b>increasing accuracy and precision, taking repeat readings when appropriate</b>	Taking measurements, using a range of scientific equipment, with <b>increasing accuracy and precision, taking repeat readings when appropriate</b> Earth and the falling object Identify the effects of <b>air resistance, water resistance and friction</b> , that act	Planning different types of <b>scientific enquiries</b> to answer questions, including recognising and <b>controlling variables</b> where necessary Taking measurements, using a range of scientific equipment, with <b>increasing accuracy and precision, taking repeat readings when appropriate</b>	Recognise that some <b>mechanisms including levers, pulleys and gears allow a smaller force to have a greater effect</b>	Identify the effects of <b>air resistance, water resistance and friction</b> , that act between moving surfaces  Explain that unsupported objects fall towards the Earth because of the force of

			Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs Identify the effects of air resistance, water resistance and friction, that act between moving surfaces	between moving surfaces	Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs		gravity acting between the Earth and the falling object Identifying scientific evidence that has been used to support or refute ideas or arguments Recognise that some mechanisms including levers, pulleys and gears allow a smaller force to have a greater effect
<b>KNOWLEDGE</b>	Identify a range of forces and name the force shown.	Know who Isaac Newton is and understand his work developing the theory of gravitation.	Know what friction is, what surfaces create and decrease friction.	Know what water resistance is and identify the effects.	Know what air resistance is and identify the effects.	Know what a lever is, how they are used and the force they create.	Children will know what forces are and how they affect us. Children will know what a lever is and how they are used to create force.
<b>LESSON LINK</b>	<a href="#">..\..\MTPs\Science\Year 5\Term 4 - forces\Science\Forces and Magnetism Plan.docx</a>	<a href="#">..\..\MTPs\Science\Year 5\Term 4 - forces\Science\Forces and Magnetism Plan.docx</a>	<a href="#">..\..\MTPs\Science\Year 5\Term 4 - forces\Science\Forces and Magnetism Plan.docx</a>	<a href="#">..\..\MTPs\Science\Year 5\Term 4 - forces\Science\Forces and Magnetism Plan.docx</a>	<a href="#">..\..\MTPs\Science\Year 5\Term 4 - forces\Science\Forces and Magnetism Plan.docx</a>	<a href="#">..\..\MTPs\Science\Year 5\Term 4 - forces\Science\Forces and Magnetism Plan.docx</a>	
<b>PROGRESSIVE VOCABULARY</b>	force gravity balanced unbalanced	gravity Newton meter Newton weight mass force meters	friction smooth rough surface slide resistance	resistance water resistance friction shape stream-lined drag gravity	friction surface resistance difficulty air resistance weighted spinners affects effects	fulcrum pivot beam balance load measure record prediction forces	Articulate and recognise subject specific vocabulary

					record measure observe		
<b>CURRICULUM EXPERIENCES</b>					Create own parachute to use in an experiment.		
<b>END POINT</b>	Children understand what forces are.	Children understands the effects that gravity has.	Children know what friction is and how different surfaces can increase/decrease friction.	Children understand what water resistance is and the effects it has.	Children understand what air resistance is and the effects it has.	Children understand what levers are, what they are used for and what force they create.	

