

Physics							
	Seasonal changes	Light	Forces and magnets	Forces	Sound	Electricity	Earth and space
EYF S	<p>Autumn 1: Know that in Autumn the leaves on some trees change colour and start to fall.</p> <p>Know that in Autumn some animals prepare to hibernate for the winter. Hibernate means sleep for a long time.</p> <p>Know that conkers fall in the Autumn.</p> <p>Spring 1: Know that in the spring, trees sprout and grow new leaves and some have blossom.</p> <p>Know that in the spring lots of new plants start to grow as it begins to get warmer.</p> <p>Know that in the spring lots of animals have their babies and lay their eggs.</p> <p>Summer 1: Know that in the summer crops grow bigger and some trees grow fruits.</p> <p>Know that in the summer the weather usually gets warmer.</p>						<p>Autumn 2: Know that we live on planet Earth.</p> <p>Know that the sun keeps us warm.</p> <p>Know that the moon is not a planet.</p> <p>Know that astronauts can travel in rockets to visit other planets and the moon.</p>

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Year 1	Name the four seasons. <i>Y1 CS L1</i>						
	Observe and describe the appearance of an evergreen and deciduous tree across the seasons. <i>Y1 CS L1, L5</i>						
	Identify local plants and animals found across the seasons. <i>Y1 CS L1, L5</i>						
	Compare differences between local plants and animals across the four seasons. <i>Y1 CS L6</i>						
	Observe changes across the four seasons. <i>Y1 CS L1, L2, L3, L4, L5, L6</i>						
	List the different types of weather. <i>Y1 CS L1</i>						
	Understand weather can be recorded using symbols and recognise these. <i>Y1 CS L1</i>						
	Record observations of the daily weather using symbols on a weather chart. <i>Y1 CS L2</i>						
	Describe changes in the weather across the seasons. <i>Y1 CS L4, L6</i>						
	Compare how dark or light it is at bed time and in the morning throughout the seasons. <i>Y1 CS L3, L6</i>						
	Understand that day length refers to the length of daylight. <i>Y1 CS L3</i>						
Observe and describe weather associated with the seasons and how day length varies. <i>Y1 CS L1, L2, L3, L4, L5, L6</i>							
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Year 2							
	Seasonal changes	Light	Forces and magnets	Forces	Sound	Electricity	Earth and space
Year 3		Experience darkness and light. <i>Y3 L L1</i>	Understand that a force is needed to make objects move. <i>Y3 MAF L1</i>				

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	<p>Recognise that they need light in order to see things and that dark is the absence of light. Y3 L L1</p>	<p>Describe how the amount of force applied changes how objects move. Y3 MAF L1</p>				
	<p>Know that light comes from a source. Y3 L L1</p>	<p>Describe how a rolling object moves on different surfaces. Y3 MAF L2</p>				
	<p>Recognise that shiny objects can reflect light. Y3 L L1</p>	<p>Compare how objects slide on different surfaces. Y3 MAF L2</p>				
	<p>Distinguish between light sources and light reflectors. Y3 L L1</p>	<p>Compare how things move on different surfaces. Y3 MAF L1, L2, L6</p>				
	<p>Notice that light is reflected from surfaces. Y3 L L1</p>	<p>Know that a magnetic force can move some objects without making direct contact. Y3 MAF L3, L5, L6</p>				
	<p>Know that the Sun is a powerful source of light. Y3 L L1</p>	<p>Notice that some forces need contact between two objects, but magnetic forces can act at a distance. Y3 MAF L3, L5, L6</p>				
	<p>Understand that some powerful sources of light, such as our Sun, can cause damage to our eyes. Y3 L L1, L2</p>	<p>Recall and use the terms 'attract' and 'repel' accurately. Y3 MAF L3, L4</p>				
	<p>Know that they should not look directly at the Sun, even when wearing dark glasses. Y3 L L4</p>	<p>Identify materials that are magnetic and those which are non-magnetic. Y3 MAF L4, L6</p>				
	<p>Recognise that light from the Sun can be dangerous and that there are ways to protect their eyes. Y3 L L4</p>	<p>Observe how magnets attract or repel each other and attract some materials and not others. Y3 MAF L4</p>				
	<p>Know that some materials block light. Y3 L L3</p>	<p>Group materials that are magnetic and those which are non-magnetic. Y3 MAF L4</p>				
	<p>Understand that when light from a source is blocked a shadow can form. Y3 L L2</p>	<p>Know that not all metals are magnetic. Y3 MAF L4</p>				
	<p>Know that shadows are similar in shape to the objects forming them. Y3 L L4</p>	<p>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. Y3 MAF L4</p>				
	<p>Know that shadows can be formed when opaque objects block light. Y3 L L4</p>	<p>Recall that the poles of a magnet are described as North and South. Y3 MAF L3, L4</p>				
	<p>Be able to sort materials into transparent, translucent and opaque. Y3 L L3</p>	<p>Describe magnets as having two poles. Y3 MAF L3</p>				
<p>Recognise that shadows are formed when the light from a light source is blocked by a solid object. Y3 L L2, L3, L4</p>	<p>Describe how the opposite poles on a magnet are attracted to each other and two like poles repel each other. Y3 MAF L3, L4</p>					

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		<p>Make and record observations and measurements of shadows. Y3 L L5</p> <p>Find patterns in the way that the size of shadows change. Y3 L L5, L6</p>	<p>Predict whether two magnets will attract or repel each other, depending on which poles are facing. Y3 MAF L3</p>				
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Year 4					<p>Identify a variety of sounds. Y4 S L1</p> <p>Know that sounds come from a source. Y4 S L1</p> <p>Recognise that sounds can be classified in different ways, e.g. loud, quiet, high, low. Y4 S L1</p> <p>Understand the term 'vibrate' (to move very quickly from side to side). Y4 S L1</p> <p>Understand and identify that all sounds are made by something vibrating. Y4 S L1</p> <p>Identify how sounds are made, associating some of them with something vibrating. Y4 S L1, L2</p> <p>Know that we hear with our ears. Y4 S L1, L2</p> <p>Know that sounds can travel. Y4 S L2</p> <p>Know that sound can travel through solids, liquids and gases. Y4 S L2</p> <p>Recognise that vibrations from sounds travel through a medium to the ear. Y4 S L2</p> <p>Know that the highness or lowness of a sound is called the pitch of the sound. Y4 S L3</p> <p>Recognise that there are high and low pitched sounds. Y4 S L3, L4</p> <p>Understand that the pitch of sounds can be changed. Y4 S L3</p>	<p>Understand that electricity is needed to make some appliances work. Y4 E L1</p> <p>Sort (pictures of) household objects into those that use electricity and those that don't. Y4 E L1</p> <p>Identify common appliances that run on electricity. Y4 E L1, L2</p> <p>Explore making bulbs light and buzzers buzz. Y4 E L2</p> <p>Record in their own way how to make a bulb light and/or a buzzer buzz. Y4 E L2</p> <p>Describe how to use a switch to turn off a light or stop a buzzer buzzing. Y4 E L2</p> <p>Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers. Y4 E L2</p> <p>From photographs of circuits including a bulb, predict whether the bulb will light, and then test their prediction. Y4 E L3</p> <p>Understand that a lamp will light only if it is part of a complete loop with a battery. Y4 E L3</p> <p>Identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery. Y4 E L3</p> <p>Explore placing a switch in a circuit that lights a lamp and describe what happens when it is used. Y4 E L6</p> <p>Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit. Y4 E L6</p> <p>Explain what an electrical conductor and insulator are. Y4 E L4</p>	

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					<p>Identify features of an object that can be changed to alter its pitch e.g. length of tube, length of string, tension of string. Y4 S L4</p> <p>Find patterns between the pitch of a sound and features of the object that produced it. Y4 S L3, L4</p> <p>Know that volume refers to how loud a sound is. Y4 S L5</p> <p>Know that the volume of sounds can be changed. Y4 S L5</p> <p>Know that the volume of sounds can be measured with a sound meter (data logger). Y4 S L5</p> <p>Know that the unit of measurement of volume is a decibel (dB). Y4 S L5</p> <p>Find patterns between the volume of a sound and the strength of the vibrations that produced it. Y4 S L5</p> <p>Know that sounds can travel from a source. Y4 S L1, L2, L6</p> <p>Recognise that sounds gets fainter as the distance from the sound source increases. Y4 S L6</p>	<p>Test and then classify objects as those that conduct electricity and those that don't. Y4 E L4, L5</p> <p>Know that metals are good conductors of electricity. Y4 E L5</p> <p>Recognise some common conductors and insulators, and associate metals with being good conductors. Y4 E L4, L5</p>	
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Year 5				<p>Understand that a force is needed to make things move. Y5 F L1</p> <p>Know that gravity is an invisible force that pulls falling objects back to Earth. Y5 F L1</p> <p>Recognise that objects fall because of a force called gravity. Y5 F L1</p>			<p>Recognise the term 'spherical'. Y5 EAS L1</p> <p>Know that the Earth, Sun and Moon are part of the solar system. Y5 EAS L1</p> <p>Describe the Sun, Earth and Moon as approximately spherical bodies. Y5 EAS L1</p>

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				<p>Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object. Y5 F L1, L3</p>			<p>Know that Earth has one moon. Y5 EAS L1</p>
				<p>Describe how friction acts on moving objects to slow them down. Y5 F L2</p>			<p>Describe the movement of the Moon relative to the Earth. Y5 EAS L5</p>
				<p>Understand how friction can be used to improve how well an object grips to a surface. Y5 F L2</p>			<p>Know that the Sun is a star. Y5 EAS L2</p>
				<p>Recognise that air resistance is a force. Y5 F L3</p>			<p>Know that the Earth is a planet. Y5 EAS L2</p>
				<p>Describe how air resistance reduces the speed at which objects fall. Y5 F L3</p>			<p>Know that the Earth, the other planets and their moons form our solar system. Y5 EAS L2</p>
				<p>Explain how air can be used to push objects and make them move. Y5 F L4</p>			<p>Understand that the Sun does not move in space. Y5 EAS L2, L3, L4</p>
				<p>Recognise that water resistance is a force. Y5 F L5</p>			<p>Know that the planets, including Earth, move around the Sun. Y5 EAS L2</p>
				<p>Describe how water resistance slows down moving objects. Y5 F L5</p>			<p>Understand the term 'orbit' and be able to describe what a planetary orbit is. Y5 EAS L1, L2</p>
				<p>Describe how the shape of objects can be used to reduce the effects of water resistance. Y5 F L5</p>			<p>Describe the movement of the Earth, and other planets, relative to the Sun in the solar system. Y5 EAS L2, L6</p>
				<p>Identify the effects of air resistance, water resistance and friction, that act between moving surfaces. Y5 F L2, L3, L4, L5</p>			<p>Know that Earth has an axis. Y5 EAS L3</p>
				<p>Recall the terms 'spring', 'lever', 'pulley' and 'gear ('cog'). Y5 F L6</p>			<p>Understand that Earth spins on its axis. Y5 EAS L3</p>
				<p>Describe how the use of levers, pulleys and other simple machines reduces the amount of effort needed to move things. Y5 F L6</p>			<p>Understand that by spinning on its axis, some parts of the Earth are in daylight when other parts are in darkness. Y5 EAS L3, L4</p>
				<p>Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect. Y5 F L6</p>			<p>Use the idea of the Earth's rotation to explain day and night and the apparent movement of the Sun across the sky. Y5 EAS L3, L4</p>

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Year 6		<p>Know that light comes from a source and be able to name some sources of light. Y6 LS L1</p>					
		<p>Know that light can travel from a source. Y6 LS L1</p>					
		<p>Know that light can be reflected from shiny surfaces and be able to name some reflectors. Y6 LS L1</p>				<p>Explore and describe how to construct circuits with a very dim bulb and others with very quiet buzzers. Y6 CC L2, L3</p>	
		<p>Notice how light from a source such as a torch travels. Y6 LS L2</p>				<p>Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit. Y6 CC L2, L3</p>	
		<p>Recognise that light appears to travel in straight lines. Y6 LS L2</p>				<p>Explore the variation in how different electrical components function, constructing different circuits and describing findings. Y6 CC L2, L3, L4</p>	
		<p>Know that without light we cannot see. Y6 LS L3</p>				<p>Compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches. Y6 CC L2, L3, L4, L5</p>	
		<p>Understand that an object can be seen when it gives out or reflects light into our eyes. Y6 LS L3, L4</p>				<p>Understand the need for universally recognised symbols for electrical components. Y6 CC L1</p>	
		<p>Use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye. Y6 LS L3, L4, L5</p>				<p>Identify recognised electrical component symbols for a bulb, buzzer, battery (cell), wire, switch and motor. Y6 CC L2</p>	
		<p>Know that light can be reflected from surfaces. Y6 LS L4</p>				<p>Use recognised symbols when representing a simple circuit in a diagram. Y6 CC L1, L2, L3, L6</p>	
		<p>Know that different surfaces reflect light in different ways. Y6 LS L4</p>					
	<p>Know that light is more scattered when it is reflected off a dull surface. Y6 LS L4</p>						
	<p>Know that smooth and shiny surfaces reflect light well. Y6 LS L4</p>						

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	<p>Explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes. <i>Y6 LS L1</i></p>						
	<p>Understand that light travels in straight lines. <i>Y6 LS L2</i></p>						
	<p>Know that light cannot travel around objects. <i>Y6 LS L6</i></p>						
	<p>Know that some materials let light pass through them. <i>Y6 LS L6</i></p>						
	<p>Understand that light is blocked by opaque materials. <i>Y6 LS L6</i></p>						
	<p>Understand that when opaque materials block the path of light a shadow can be cast. <i>Y6 LS L6</i></p>						
	<p>Know that shadows are similar in shape to the objects which make them. <i>Y6 LS L6</i></p>						
	<p>Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them. <i>Y6 LS L6</i></p>						