




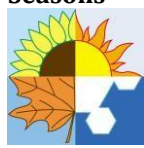


















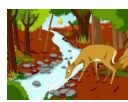
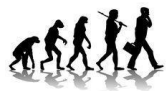
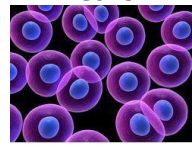





# Bugle School

Aspire Academy Trust

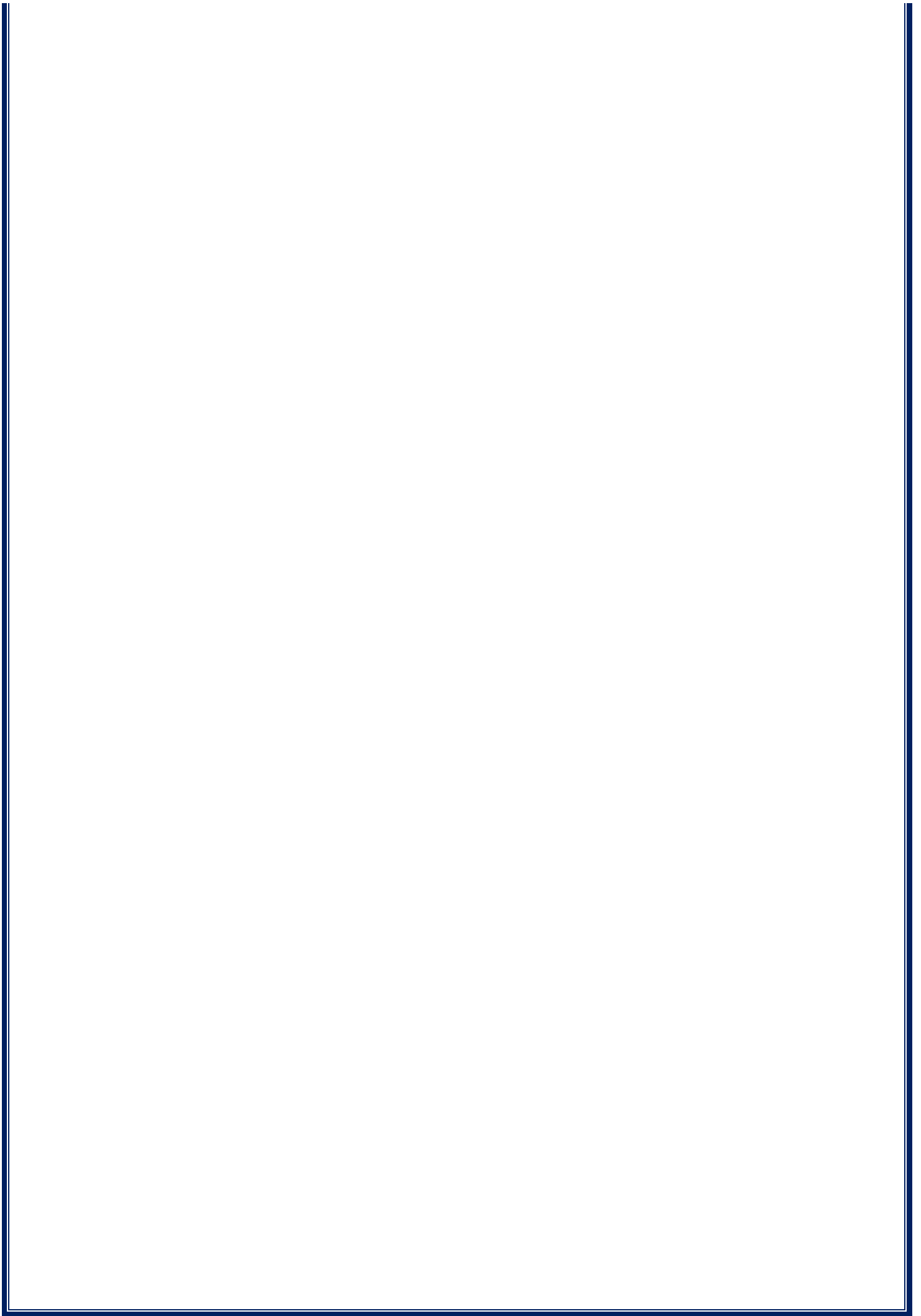


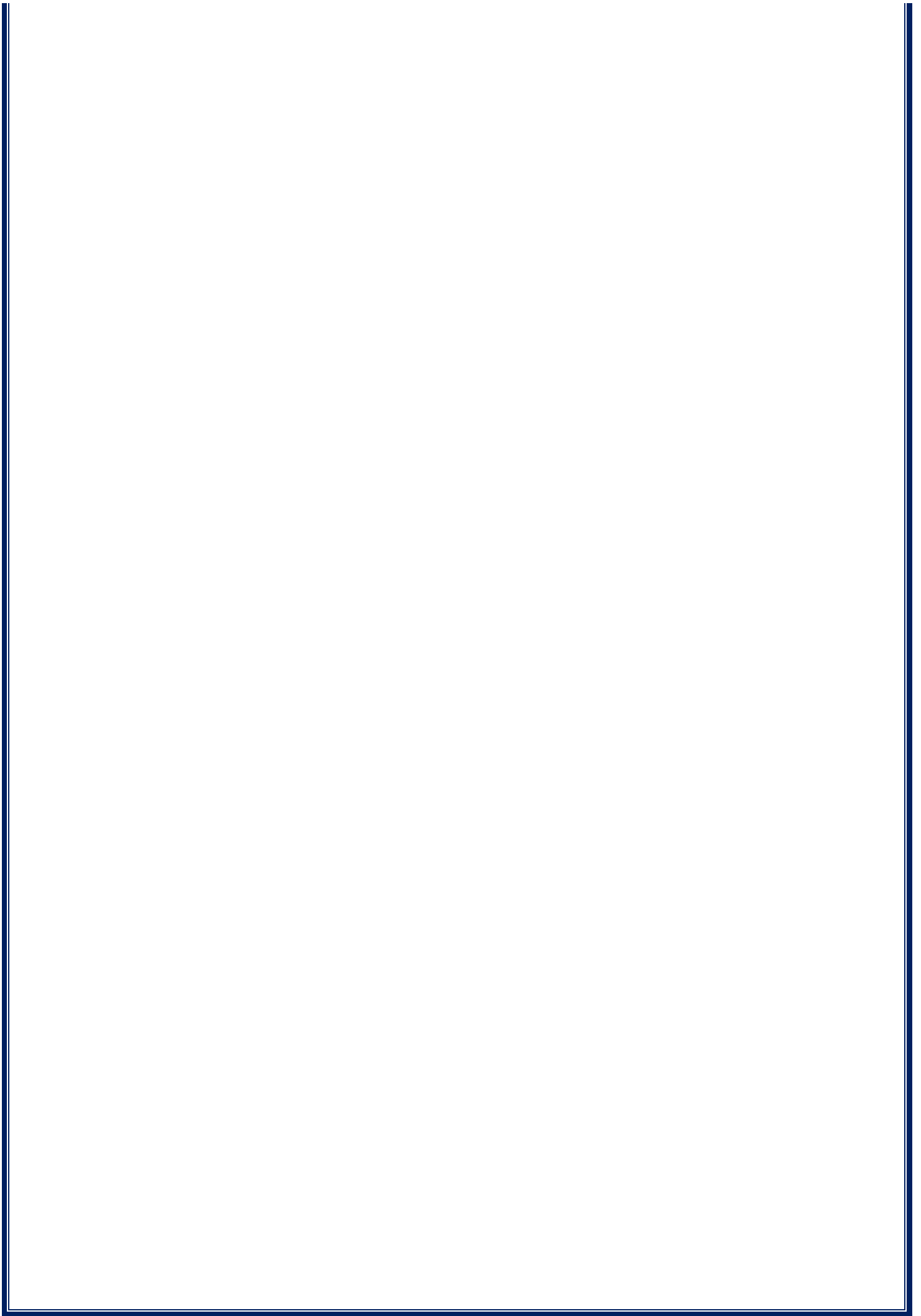
Science Curriculum

	Autumn Term		Spring Term		Summer Term	
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 1	<b>Animals, including humans</b> 		<b>Everyday Materials</b> 		<b>Plants</b> 	<b>Seasons*</b> 
Year 2	<b>Uses of Everyday Materials</b> 		<b>Animals, including humans</b> 		<b>Living Things and their Habitats</b> 	<b>Plants</b> 
Year 3	<b>Rocks</b> 	<b>Animals, including humans</b> 	<b>Light</b> 		<b>Plants</b> 	<b>Forces and Magnets</b> 
Year 4	 <b>Electricity</b>	<b>Sound</b> 	<b>Animals, including humans</b> 		<b>States of Matter</b> 	<b>Living Things and their Habitats</b> 
Year 5	<b>Earth and Space</b> 	<b>Forces</b> 	<b>Properties a Material and Changes of state</b> 		<b>Animals, including humans</b> 	<b>Living Things and their Habitats</b> 
Year 6	<b>Evolution and Inheritance</b> 	<b>Cells</b> 	<b>Animals, including humans</b> 	<b>Electricity</b> 	<b>Light</b> 	





	Observing over time	Pattern seeking	Research	Identifying & classifying	Comparative tests	Fair Tests
Year 1						
Animals and Humans	How does my height change over the year? <sup>(1)</sup>	Do you get better at smelling as you get older? <sup>(2)</sup>		How can we organise all the zoo animals? <sup>(4)</sup>	Is our sense of smell better when we can't see? <sup>(5)</sup>	
Everyday Materials	What happens to shaving foam over time? <sup>(1)</sup>		Which materials can be recycled? <sup>(3)</sup>	Making an umbrella – which materials are waterproof? <sup>(4)</sup>	Which materials are the most absorbent? <sup>(5)</sup>	
Plants	How does my sunflower change each week? <sup>(1)</sup>	Is there a pattern in where we find weeds growing in the school grounds? <sup>(2)</sup>		How can we sort the leaves that we collected on our walk? <sup>(4)</sup>	Which type of compost grows the tallest sunflower? <sup>(5)</sup>	
Seasons and Changes	How does the colour of a UV bead change over the day? <sup>(1)</sup>	Do trees with bigger leaves lose their leaves first in autumn? <sup>(2)</sup>		How would you group these things based on which season you are most likely to see them in? <sup>(4)</sup>	In which season does it rain the most? <sup>(5)</sup>	
Year 2						
Everyday Materials	Would a paper boat float forever? <sup>(1)</sup>		How are plastics made? <sup>(3)</sup>	Which materials will let electricity go through them, and which will not? <sup>(4)</sup>	Which material would be best for the roof of the little pig's house? <sup>(5)</sup>	
Animals and Humans	How does a tadpole change over time? <sup>(1)</sup>	Which age group of children wash their hands the most in a day? <sup>(2)</sup>		Which offspring belongs to which animal? <sup>(4)</sup>	Do bananas make us run faster? <sup>(5)</sup>	
Living things and their habitats	What conditions do woodlice prefer to live in? <sup>(1)</sup>	Which habitat do worms prefer – where can we find the most worms? <sup>(2)</sup>	How does the habitat of the arctic compare to the habitat of the rainforest? <sup>(3)</sup>	How would you group things to show which are living, dead or have never been alive? <sup>(4)</sup>		
Plants	What happens to my bean after I have planted it? <sup>(1)</sup>	Do bigger seeds grow into bigger plants? <sup>(2)</sup>	How can we identify the trees that we observed on our tree hunt? <sup>(3)</sup>		Do cress seeds grow quicker inside or outside? <sup>(5)</sup>	
Year 3						
Rocks	How does tumbling change a rock over time? <sup>(1)</sup>		Who was Mary Anning and what did she discover? <sup>(3)</sup>		Which soil absorbs the most water? <sup>(5)</sup>	How does adding different amounts of sand to soil affect how quickly water drains through it? <sup>(6)</sup>
Animals including Humans		Do male humans have larger skulls than female humans? <sup>(2)</sup>		How do skeletons of different animals compare? <sup>(4)</sup>		How does the angle that your elbow is bent affect the circumference of your upper arm? <sup>(6)</sup>
Light	When is our classroom the darkest? <sup>(1a)</sup>  Is the Sun the same brightness all day? <sup>(1b)</sup>	Are you more likely to have bad eyesight and to wear glasses if you are older? <sup>(2)</sup>	How does the Sun make light? <sup>(3)</sup>			How does the distance between the shadow puppet and the screen affect the size of the shadow? <sup>(6)</sup>
Plants	What happens to celery when it is left in a glass of coloured water? <sup>(1)</sup>		What are all the different ways that seeds disperse? <sup>(3)</sup>		Which conditions help seeds germinate faster? <sup>(5)</sup>	How does the length of the carnation stem affect how long it takes for the food colouring to dye the petals? <sup>(6)</sup>
Forces and Magnets	If we magnetise a pin, how long does it stay magnetised for? <sup>(1)</sup>	Does the size and shape of a magnet affect how strong it is? <sup>(2)</sup>		Which materials are magnetic? <sup>(4)</sup>	Which magnet is the strongest? <sup>(5)</sup>	

	Observing over time	Pattern seeking	Research	Identifying & classifying	Comparative tests	Fair Tests
	Year 4					
Electricity	How long does a battery light a torch for? <sup>(1)</sup>			How would you group these electrical devices based on where the electricity comes from? <sup>(4)</sup>	Which material is the best conductor of electricity? <sup>(5)</sup>	How does the thickness of a conducting material affect how bright the lamp is? <sup>(6)</sup>
Sound	When is our classroom the quietest? <sup>(1)</sup>				Which material is best to use for muffling sound in ear defenders? <sup>(5)</sup>	How does the volume of a drum change as you move further away from it? <sup>(6a)</sup> How does the length of a guitar string/tuning fork affect the pitch of the sound? <sup>(6b)</sup>
Animals inc. humans	How does an egg shell change when it is left in cola? <sup>(1)</sup>		How do dentists fix broken teeth? <sup>(3)</sup>	What are the names for all the organs involved in the digestive system? <sup>(4a)</sup>  How can we organise our teeth into groups? <sup>(4b)</sup>		
States of matter	How does the level of water in a glass change when left on the windowsill? <sup>(1)</sup>	Is there a pattern in how long it takes different sized ice lollies to melt? <sup>(2)</sup>			Do all liquids freeze at the same temperature? <sup>(5)</sup>	How does the surface area of a container of water affect how long it takes to evaporate? <sup>(6)</sup>
Living things and their habitats		Where in our school is the most polluted? <sup>(2)</sup>	Can we find other animals to add complexity to our classification key? <sup>(3)</sup>	Can we use the classification keys to identify all the animals that we caught pond dipping? <sup>(4)</sup>		Does the amount of light affect how many woodlice move around? <sup>(6)</sup>
	Year 5					
Earth and Space	How does shadow length change over the day? <sup>(1)</sup>	Is there a pattern between the size of a planet and the time it takes to travel around the sun? <sup>(2)</sup>	What unusual objects did Jocelyn Bell Burnell discover? <sup>(3)</sup>	Can you observe and identify all the phases in the cycle of the moon? <sup>(4)</sup>		
Forces		Do all objects fall through water in the same way? <sup>(2)</sup>		Can you label and name all the forces acting on the objects in each of these situations? <sup>(4)</sup>	Which shape parachute takes the longest to fall? <sup>(5)</sup>	How does the surface area of a container affect the time it takes to sink? <sup>(6)</sup>
Properties & Changes of materials	How does a container of salt water change over time? <sup>(1a)</sup>  How does a nail in salt water change over time? <sup>(1b)</sup>				Which type of sugar dissolves the fastest? <sup>(5)</sup>	How does the temperature of tea affect how long it takes for a sugar cube to dissolve? <sup>(6)</sup>
Animals and humans		Are the oldest children in our school the tallest? <sup>(2)</sup>		Can you identify all the stages in the human life cycle? <sup>(4)</sup>	Who grows the fastest, girls or boys? <sup>(5)</sup>	How does age affect a human's reaction time? <sup>(6)</sup>
Living things and their habitats	How does a bean change as it germinates? <sup>(1)</sup>		Can you explain the work of David Attenborough? <sup>(3)</sup>	What are the differences between the life cycle of an insect and a mammal? <sup>(4)</sup>		How does the level of salt affect how quickly brine shrimp hatch? <sup>(6)</sup>
	Year 6					
Evolution and Inheritance		Is there a pattern between the size and shape of a bird's beak and the food it will eat? <sup>(2)</sup>	What happened when Charles Darwin visited the Galapagos islands? <sup>(3)</sup>	Compare the skeletons of apes, humans and Neanderthals <sup>(4a)</sup> How are certain animals adapted to their environments? <sup>(4b)</sup>		
Cells	What happens to a piece of bread if you leave it on the windowsill for two weeks? <sup>(1)</sup>		What do different microorganisms do? Are they always harmful? <sup>(3)</sup>		Where in the school are the most microorganisms found? <sup>(5)</sup>	
Animals and Humans	How does my heart rate change over the day? <sup>(1)</sup>			Which organs of the body make up the circulatory system? <sup>(4)</sup>	Which types of exercise has the greatest effect on our heart rate? <sup>(5)</sup>	Can exercising regularly affect your lung capacity? <sup>(6)</sup>
Electricity			How has our understanding of electricity changed over time? <sup>(3)</sup>		Which make of battery lasts the longest? <sup>(5a)</sup>  Which type of fruit makes the best fruity battery? <sup>(5b)</sup>	How does the voltage of the batteries in a circuit affect the brightness of the lamp? <sup>(6)</sup>
Light		Is there a pattern to how bright it is in school over the day? Is it the same in every classroom? <sup>(2)</sup>		Can you identify all the colours of light that make white light when mixed together? What colours do you get if you mix different colours of light together? <sup>(4)</sup>	Which material is most reflective? <sup>(5)</sup>	How does the angle that a light ray hits a plane mirror affect the angle at which it reflects off the surface? <sup>(6)</sup>









# Year 2

	Autumn Term		Spring Term		Summer Term	
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	
<b>Overview</b>	<b>Animals, including humans</b> 		<b>Everyday Materials</b> 		<b>Plants</b> 	<b>Seasons*</b> 
<b>Suggested Content</b>	<p><i>Name and identify common animals</i></p> <p><i>Describe the structures of different animals</i></p> <p><i>Compare the structures of different animals</i></p> <p><i>Classify animals based on their features<sup>(4)</sup></i></p> <p><i>Understand the parts of the body</i></p> <p><i>Associate parts of the body with different senses<sup>(5)</sup></i></p> <p><i>Explore the sense of touch using different parts of the body</i></p> <p><i>Make close observations of facial features<sup>(2)</sup></i></p> <p><i>Compare different parts of the body both between people and over time<sup>(1)</sup></i></p> <p><i>Understand the features of fish, amphibians, reptiles and birds</i></p> <p><i>Group animals as fish, amphibians, reptiles and birds</i></p> <p><i>Identify what different animals eat</i></p> <p><i>Classify animals as carnivores, herbivores and omnivores</i></p>		<p><i>Identify between an object and how it is made</i></p> <p><i>Name a variety of everyday materials including plastic, wood, metal, glass, water and rock</i></p> <p><i>Understand which materials can be recycled<sup>(3)</sup></i></p> <p><i>Examine absorption when selecting a material for an animals bedding<sup>(5)</sup></i></p> <p><i>Consider and experiment with materials for creating an umbrella<sup>(4)</sup></i></p> <p><i>Identify and name materials based on their properties</i></p> <p><i>Describe how shaving foam changes over time<sup>(1)</sup></i></p>		<p><i>Examine seeds in an apple</i></p> <p><i>Visit and examine a variety of local trees over time</i></p> <p><i>Find weeds and examine their roots<sup>(2)</sup></i></p> <p><i>Identify and name plants in the school grounds</i></p> <p><i>Note changes in growth of a sunflower<sup>(1)</sup></i></p> <p><i>Experiment with different types of compost<sup>(5)</sup></i></p> <p><i>Collect and sort leaves<sup>(4)</sup></i></p>	<p><i>Compare leaves on the ground and on the trees</i></p> <p><i>Describe leaves and their structure</i></p> <p><i>Use senses to describe a leaf</i></p> <p><i>Compare leaf loss and tree size<sup>(2)</sup></i></p> <p><i>Measure rainfall at different points in the year<sup>(5)</sup></i></p> <p><i>Describe weather over a short period of time<sup>(1)</sup></i></p> <p><i>Describe weather in different the seasons<sup>(4)</sup></i></p> <p><i>Observe how day length varies</i></p> <p><i>Understand why animals hibernate</i></p> <p><i>*unit runs throughout the year</i></p>
<b>Key Vocabulary</b>	<p><i>sight</i> <i>taste</i> <i>cleanliness</i> <i>aroma</i> <i>healthy</i> <i>exercise</i> <i>hearing</i> <i>require</i></p> <p><i>carnivore</i> <i>omnivore</i> <i>herbivore</i> <i>identify</i> <i>predator</i> <i>construct</i> <i>responsibility</i> <i>grouping</i></p>		<p><i>object</i> <i>material</i> <i>hard</i> <i>soft</i> <i>stretchy</i> <i>stiff</i> <i>bendy</i> <i>rough</i></p> <p><i>smooth</i> <i>waterproof</i> <i>absorbent</i> <i>everyday</i> <i>dull</i> <i>see through</i> <i>plastic</i> <i>recycle</i></p>		<p><i>warmth</i> <i>evergreen</i> <i>deciduous</i> <i>bud</i> <i>leaf</i> <i>branch</i> <i>root</i> <i>stem</i></p>	<p><i>humidity</i> <i>cloudy</i> <i>pouring</i> <i>droplet</i> <i>crystal</i> <i>blizzard</i> <i>shiver</i> <i>clear</i></p>
<b>Observing over time</b>	How does my height change over the year? <sup>(1)</sup>		What happens to shaving foam over time? <sup>(1)</sup>		How does my sunflower change each week? <sup>(1)</sup>	How does the colour of a UV bead change over the day? <sup>(1)</sup>
<b>Pattern seeking</b>	Do you get better at smelling as you get older? <sup>(2)</sup>				Is there a pattern in where we find weeds growing in the school grounds? <sup>(2)</sup>	Do trees with bigger leaves lose their leaves first in autumn? <sup>(2)</sup>
<b>Research</b>			Which materials can be recycled? <sup>(3)</sup>			

Identifying & classifying	How can we organise all the zoo animals? <sup>(4)</sup>	Making an umbrella – which materials are waterproof? <sup>(4)</sup>	How can we sort the leaves that we collected on our walk? <sup>(4)</sup>	How would you group these things based on which season you are most likely to see them in? <sup>(4)</sup>
Comparative tests	Is our sense of smell better when we can't see? <sup>(5)</sup>	Which materials are the most absorbent? <sup>(5)</sup>	Which type of compost grows the tallest sunflower? <sup>(5)</sup>	In which season does it rain the most? <sup>(5)</sup>








# Year 2

	Autumn Term		Spring Term		Summer Term	
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
<b>Overview</b>	<b>Uses of Everyday Materials</b> 		<b>Animals, including humans</b> 		<b>Living Things and their Habitats</b> 	<b>Plants</b> 
<b>Suggested Content</b>	<p>Examine and investigate different materials</p> <p>Describe the properties of everyday materials</p> <p>Identify which materials let electricity pass through them <sup>(1)</sup></p> <p>Identify and describe the suitability of everyday materials for particular uses</p> <p>Explore how paper changes when left in water <sup>(1)</sup></p> <p>Apply knowledge of materials <sup>(5)</sup></p> <p>the Design a box to keep an egg safe</p> <p>Investigate boxes that keep eggs safe</p> <p>Explore fabrics for a particular use</p> <p>Investigate how materials can be shaped</p> <p>Research how plastics are made <sup>(3)</sup></p> <p>Identify a new use for a material</p>		<p>Sort and classify importance of different types of food</p> <p>Analyse and describe the healthiness of different meals</p> <p>Design a meal based on knowledge of healthy eating</p> <p>Choose a physical activity and evaluate impact on their group the</p> <p>Examine if certain our running pace <sup>(5)</sup></p> <p>Understand the hygiene for humans <sup>(2)</sup></p> <p>Investigate and how germs spread through contact</p> <p>Write a set of on instructions for how to wash your hands</p> <p>Match animals to their offspring <sup>(4)</sup> the bodies Sort and needs of a human baby foods increase</p> <p>Observe tadpoles as they grow <sup>(1)</sup></p>		<p>Explore and compare the difference between living and dead things <sup>(4)</sup></p> <p>Identify things that have never lived</p> <p>Take a survey to compare animals in two habitats <sup>(2)</sup></p> <p>Research to compare two different habitats <sup>(3)</sup></p> <p>Describe the features of a habitat that are suitable for woodlouse growth <sup>(1)</sup></p> <p>Create a simple food chain</p>	<p>Observe how plants grow from a seed/bulb into a plant <sup>(1)</sup></p> <p>Know that plants need water to survive</p> <p>Know plants need light to survive <sup>(5)</sup></p> <p>Know plants need a suitable temperature to survive <sup>(5)</sup></p> <p>Compare the growth of different sized seeds <sup>(2)</sup></p>
<b>Key Vocabulary</b>	absorbent waterproof stretch man-made material metal suitable properties		exercise hygiene allergy vitamins portion balanced active perspire		suited suitable habitat micro-habitat food chain shelter feature leaf litter	germinate require stunted dormant shade condition moist produce
<b>Observing over time</b>	Would a paper boat float forever? <sup>(1)</sup>		How does a tadpole change over time? <sup>(1)</sup>		What conditions do woodlice prefer to live in? <sup>(1)</sup>	What happens to my bean after I have planted it? <sup>(1)</sup>
<b>Pattern seeking</b>			Which age group of children wash their hands the most in a day? <sup>(2)</sup>		Which habitat do worms prefer – where can we find the most worms? <sup>(2)</sup>	Do bigger seeds grow into bigger plants? <sup>(2)</sup>
<b>Research</b>	How are plastics made? <sup>(3)</sup>				How does the habitat of the arctic compare to the habitat of the rainforest? <sup>(3)</sup>	How can we identify the trees that we observed on our tree hunt? <sup>(3)</sup>






Identifying & classifying	Which materials will let electricity go through them, and which will not? <sup>(4)</sup>	Which offspring belongs to which animal? <sup>(4)</sup>	How would you group things to show which are living, dead or have never been alive? <sup>(4)</sup>	
Comparative tests	Which material would be best for the roof of the little pig's house? <sup>(5)</sup>	Do bananas make us run faster? <sup>(5)</sup>		Do cress seeds grow quicker inside or outside? <sup>(5)</sup>

# Year 3



	Autumn Term		Spring Term		Summer Term	
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Overview	<p><b>Rocks</b></p> 	<p><b>Forces and Magnets</b></p> 	<p><b>Light</b></p> 	<p><b>Plants</b></p> 	<p><b>Animals, including humans</b></p> 	
Suggested Content	<p>Understand what rocks are and how they can be classified</p> <p>Examine how rocks change <sup>(1)</sup></p> <p>Understand what fossils are and the legacy of Mary Anning <sup>(3)</sup></p> <p>Classify fossils by type</p> <p>Explain how fossils are formed</p> <p>Examine different types of soils and understand what it is made up of</p> <p>Examine absorption of different types of soil <sup>(5)</sup> <sup>(6)</sup></p>	<p>Examine which types of objects are magnetic <sup>(4)</sup></p> <p>Undertake experiments to measure the strengths of different magnets <sup>(2)</sup> <sup>(5)</sup></p> <p>Understand how one magnet reacts to another</p> <p>Create a temporary magnet <sup>(1)</sup></p> <p>Find out how magnets are used in real-life situations</p>	<p>Examine different sources of light <sup>(3)</sup></p> <p>Examine how light changes in our classroom over time <sup>(1a)</sup> <sup>(1b)</sup></p> <p>Understand how light allows us to see different objects</p> <p>Understand how sight changes as people get older <sup>(2)</sup></p> <p>Experiment with how light travels through different materials</p> <p>Vary the position, shape and size of a shadow <sup>(6)</sup></p> <p>Understand the dangers of light and how you can protect yourself from them</p> <p>Examine different types of mirrors</p> <p>Understand how mirrors can be used in espionage</p>	<p>Understand what a plant needs for growth <sup>(5)</sup></p> <p>Describe the function of roots <sup>(1)</sup></p> <p>Describe the function of the stem <sup>(6)</sup></p> <p>Describe the function of leaves</p> <p>Describe the function of flowers</p> <p>Understand the life cycle of a plant</p> <p>Compare how plants disperse their seeds <sup>(3)</sup></p>	<p>Examine the structure of a skeleton <sup>(2)</sup></p> <p>Describe the functions of a skeleton</p> <p>Examine how skeletons vary between animals <sup>(4)</sup></p> <p>Describe how muscles and bones work together</p> <p>Compare strengths of muscles <sup>(6)</sup></p> <p>Investigate voluntary and involuntary muscles</p> <p>Learn how to care for our bones</p>	
Key Vocabulary	<p>fossil</p> <p>sedimentary rock</p> <p>metamorphic rock</p> <p>igneous rock</p> <p>amber</p> <p>magma</p> <p>preserved</p> <p>decay</p> <p>permeable</p> <p>erosion</p>	<p>lodestone</p> <p>iron</p> <p>attract</p> <p>repel</p> <p>maglev train</p> <p>magnetic</p> <p>needle</p> <p>pendulum</p> <p>magnetize</p> <p>force poles</p>	<p>proximity</p> <p>defined</p> <p>ultraviolet</p> <p>concave</p> <p>convex</p> <p>emit</p> <p>reflect</p> <p>transparent</p> <p>translucent</p> <p>opaque</p>	<p>vascular</p> <p>xylem</p> <p>phloem</p> <p>spore</p> <p>sucrose</p> <p>starch</p> <p>fertilisation</p> <p>conifer</p> <p>transpiration</p> <p>respiration</p>	<p>bone</p> <p>x-ray</p> <p>tendon</p> <p>cartilage</p> <p>ligament</p> <p>voluntary muscle</p> <p>reflex joint</p> <p>hollow fracture</p>	
Observing over time	<p>How does tumbling change a rock over time? <sup>(1)</sup></p>	<p>If we magnetise a pin, how long does it stay magnetised for? <sup>(1)</sup></p>	<p>When is our classroom the darkest? <sup>(1a)</sup></p> <p>Is the Sun the same brightness all day? <sup>(1b)</sup></p>	<p>What happens to celery when it is left in a glass of coloured water? <sup>(1)</sup></p>		
Pattern seeking		<p>Does the size and shape of a magnet affect how strong it is? <sup>(2)</sup></p>	<p>Are you more likely to have bad eyesight and to wear glasses if you are older? <sup>(2)</sup></p>		<p>Do male humans have larger skulls than female humans? <sup>(2)</sup></p>	
Research	<p>Who was Mary Anning and what did she discover? <sup>(3)</sup></p>		<p>How does the Sun make light? <sup>(3)</sup></p>	<p>What are all the different ways that seeds disperse? <sup>(3)</sup></p>		
Identifying & classifying		<p>Which materials are magnetic? <sup>(4)</sup></p>			<p>How do skeletons of different animals compare? <sup>(4)</sup></p>	
Comparative tests	<p>Which soil absorbs the most water? <sup>(5)</sup></p>	<p>Which magnet is the strongest? <sup>(5)</sup></p>		<p>Which conditions help seeds germinate faster? <sup>(5)</sup></p>		

Fair Tests	How does adding different amounts of sand to soil affect how quickly water drains through it? <sup>(6)</sup>		How does the distance between the shadow puppet and the screen affect the size of the shadow? <sup>(6)</sup>	How does the length of the carnation stem affect how long it takes for the food colouring to dye the petals? <sup>(6)</sup>	How does the angle that your elbow is bent affect the circumference of your upper arm? <sup>(6)</sup>
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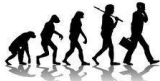
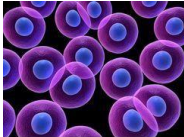



# Year 4

	Autumn Term		Spring Term		Summer Term	
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Overview	<p><b>Electricity</b></p> 	<p><b>Sound</b></p> 	<p><b>Animals, including humans</b></p> 		<p><b>States of Matter</b></p> 	<p><b>Living Things and their Habitats</b></p> 
Suggested Content	<p>Identify and group appliances that run on electricity <sup>(4)</sup></p> <p>Construct simple series cells using common electrical parts</p> <p>Identify whether a lamp will light in a circuit</p> <p>Investigate whether materials are conductors or insulators or electricity <sup>(5)</sup></p> <p>Examine the thickness of a conductor on the brightness of a bulb <sup>(6)</sup></p> <p>Investigate battery life <sup>(1)</sup></p>	<p>Investigate the volume of sound at different points in the day <sup>(1)</sup></p> <p>Explore how sounds are made by vibrations</p> <p>Explore how sounds travel through different objects <sup>(5)</sup></p> <p>Investigate how sounds change with distance from the source <sup>(6a)</sup></p> <p>Find patterns between the volume of a sound and the strength of the vibrations it produces</p> <p>Explore how the pitch of an object can be changed<sup>(6b)</sup></p>	<p>Identify types of teeth in humans <sup>(4b)</sup></p> <p>Describe the functions of different teeth types</p> <p>Compare teeth between carnivores and herbivores</p> <p>Examine tooth decay <sup>(1)</sup></p> <p>Describe how teeth should be cared for<sup>(3)</sup></p> <p>Understand the purpose of the digestive system</p> <p>Describe the functions of the parts of the digestive system <sup>(4a)</sup></p> <p>Examine and describe a food chain</p> <p>Construct a food chain using provided information</p>		<p>Examine features of the three states of matter</p> <p>Classify materials and objects by state of matter</p> <p>Investigate how quickly solids melt <sup>(2)</sup></p> <p>Find out if all liquids freeze at the same temperature <sup>(5)</sup></p> <p>Investigate evaporation pace <sup>(6) (1)</sup></p> <p>Understand condensation</p> <p>Examine how water changes state in nature</p>	<p>Recognise different ways animals can be grouped</p> <p>Classify animals using classification keys <sup>(4)</sup></p> <p>Add animals to a classification key <sup>(3)</sup></p> <p>Examine how a light changes the behaviour of woodlice <sup>(6)</sup></p> <p>Undertake investigations to find out where in the school is most polluted <sup>(2)</sup></p>
Key Vocabulary	<p>electricity</p> <p>electron</p> <p>battery</p> <p>motor</p> <p>bulb</p> <p>circuit</p> <p>switch</p> <p>insulator</p> <p>conductor</p> <p>national grid</p>	<p>eardrum</p> <p>sound waves</p> <p>decibel</p> <p>frequency</p> <p>distorted</p> <p>muffle</p> <p>vibration</p> <p>insulation</p> <p>vocal chords</p> <p>pitch</p>	<p>decay</p> <p>digestion</p> <p>enamel</p> <p>plaque</p> <p>stomach</p> <p>intestine</p> <p>predator</p> <p>prey</p> <p>omnivore</p> <p>oesophagus</p>		<p>solid</p> <p>liquid</p> <p>gas</p> <p>grains</p> <p>melting</p> <p>freezing</p> <p>evaporation</p> <p>condensation</p> <p>transpiration</p> <p>precipitation</p>	<p>habitat</p> <p>ecology</p> <p>bacteria</p> <p>reintroduce</p> <p>emission</p> <p>pesticide</p> <p>complacent</p> <p>woodland</p> <p>ecosystem</p> <p>interdependent</p>
Observing over time	How long does a battery light a torch for? <sup>(1)</sup>	When is our classroom the quietest? <sup>(1)</sup>	How does an egg shell change when it is left in cola? <sup>(1)</sup>		How does the level of water in a glass change when left on the windowsill? <sup>(1)</sup>	
Pattern seeking					Is there a pattern in how long it takes different sized ice lollies to melt? <sup>(2)</sup>	Where in our school is the most polluted? <sup>(2)</sup>
Research			How do dentists fix broken teeth? <sup>(3)</sup>			Can we find other animals to add complexity to our classification key? <sup>(3)</sup>
Identifying & classifying	How would you group these electrical devices based on where the electricity comes from? <sup>(4)</sup>		What are the names for all the organs involved in the digestive system? <sup>(4a)</sup>			Can we use the classification keys to identify all the animals that we caught pond dipping? <sup>(4)</sup>
Comparative tests	Which material is the best conductor of electricity? <sup>(5)</sup>	Which material is best to use for muffling sound in ear defenders? <sup>(5)</sup>			Do all liquids freeze at the same temperature? <sup>(5)</sup>	
Fair Tests	How does the thickness of a conducting material affect how bright the lamp is? <sup>(6)</sup>	How does the volume of a drum change as you move further away from it? <sup>(6a)</sup>			How does the surface area of a container of water affect how long it takes to evaporate? <sup>(6)</sup>	Does the amount of light affect how many woodlice move around? <sup>(6)</sup>
		How does the length of a guitar string/tuning fork affect the pitch of the sound? <sup>(6b)</sup>				

# Year 5

	Autumn Term		Spring Term		Summer Term	
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Overview	<div>Earth and Space</div> 	<div>Forces</div> 	<div>Properties and Changes of Materials</div> 	<div>Animals, including humans</div> 	<div>Living Things and their Habitats</div> 	
Suggested Content	<div>Describe the movements of the planets in the solar system</div> <div>Compare key features of the planets in the solar system <sup>(2)</sup></div> <div>Describe how our knowledge of the solar system has changed over time <sup>(3)</sup></div> <div>Explain why day and night occur</div> <div>Investigate how shadows change throughout the day</div> <div>Identify and order the phases in the cycle of the moon <sup>(4)</sup></div>	<div>Understand what a force is and how it can affect an object</div> <div>Investigate friction caused by different materials</div> <div>Investigate whether the mass of an object affects how quickly it falls to the ground</div> <div>Explore the effects of air resistance <sup>(5)</sup></div> <div>Understand the effects of water resistance and up-thrust <sup>(2) (6)</sup></div> <div>Explain how simple levers work</div>	<div>Consolidate our knowledge of state of matter</div> <div>Classify materials based on their conductivity</div> <div>Understand and explain how simple solutions are made</div> <div>Investigate how the temperature of water affects how much sugar can be dissolved? <sup>(6)</sup></div> <div>Investigate which type of sugar dissolves the fastest <sup>(5)</sup></div> <div>Examine how a container of salt changes over time <sup>(1a)</sup></div> <div>Utilise evaporation as a method for separation of a solution</div> <div>Make informed decisions about how to separate solutions and mixtures</div> <div>Examine how a nail in salt water changes over time <sup>(1b)</sup></div> <div>Understand that some changed can be reversed whilst others cannot</div>	<div>Identify all stages in the human life cycle <sup>(4)</sup></div> <div>Understand changes which happen during adolescence</div> <div>Compare growth by both age and gender <sup>(2) (5)</sup></div> <div>Describe changes that happen as humans develop to old age</div> <div>Investigate how age affects a human's reaction time <sup>(6)</sup></div> <div>Examine gestation in a variety of animals</div>	<div>Research about a famous naturalist <sup>(3)</sup></div> <div>Order the life cycle of a house fly</div> <div>Seek patterns in life cycles of different animals <sup>(4)</sup></div> <div>Classify and group animals based on their life cycles</div> <div>Grow plants from parts of a parent plant <sup>(1)</sup></div> <div>-Investigate the impact of a habitat on the hatching of brine shrimp <sup>(6)</sup></div>	
Key Vocabulary	<div>universe</div> <div>orbit</div> <div>solar system</div> <div>axis</div> <div>spherical</div> <div>revolve</div> <div>rotate</div> <div>gravitational pull</div> <div>solar eclipse</div> <div>lunar eclipse</div>	<div>air resistance</div> <div>water resistance</div> <div>upthrust</div> <div>friction</div> <div>newton</div> <div>mass</div> <div>lever</div> <div>fulcrum</div> <div>pulley</div> <div>equilibrium</div>	<div>chemical change</div> <div>physical change</div> <div>particle</div> <div>solution</div> <div>substance</div> <div>sieve</div> <div>filter</div> <div>evaporate</div> <div>polymers</div> <div>reversible/irreversible</div>	<div>gestation</div> <div>puberty</div> <div>reproduce</div> <div>adolescence</div> <div>hormone</div> <div>memory</div> <div>dormant</div> <div>fertilisation</div> <div>chromosome</div> <div>degeneration</div>	<div>mammal</div> <div>amphibian</div> <div>insect</div> <div>life-cycle</div> <div>naturalist</div> <div>asexual reproduction</div> <div>sexual reproduction</div> <div>environment</div> <div>tuber</div> <div>diversity</div>	
Observing over time	<div>How does shadow length change over the day? <sup>(1)</sup></div>		<div>How does a container of saltwater change over time? <sup>(1a)</sup></div> <div>How does a nail in saltwater change over time? <sup>(1b)</sup></div>		<div>How does a bean change as it germinates? <sup>(1)</sup></div>	
Pattern seeking	<div>Is there a pattern between the size of a planet and the time it takes to travel around the sun? <sup>(2)</sup></div>	<div>Do all objects fall through water in the same way? <sup>(2)</sup></div>		<div>Are the oldest children in our school the tallest? <sup>(2)</sup></div>		
Research	<div>What unusual objects did Jocelyn Bell Burnell discover? <sup>(3)</sup></div>				<div>Can you explain the work of David Attenborough? <sup>(3)</sup></div>	
Identifying & classifying	<div>Can you observe and identify all the phases in the cycle of the moon? <sup>(4)</sup></div>	<div>Can you label and name all the forces acting on the objects in each of these situations? <sup>(4)</sup></div>		<div>Can you identify all the stages in the human life cycle? <sup>(4)</sup></div>	<div>What are the differences between the life cycle of an insect and a mammal? <sup>(4)</sup></div>	
Comparative tests		<div>Which shape parachute takes the longest to fall? <sup>(5)</sup></div>	<div>Which type of sugar dissolves the fastest? <sup>(5)</sup></div>	<div>Who grows the fastest, girls or boys? <sup>(5)</sup></div>		
Fair Tests		<div>How does the surface area of a container affect the time it takes to sink? <sup>(6)</sup></div>	<div>How does the temperature of tea affect how long it takes for a sugar cube to dissolve? <sup>(6)</sup></div>	<div>How does age affect a human's reaction time? <sup>(6)</sup></div>	<div>How does the level of salt affect how quickly brine shrimp hatch? <sup>(6)</sup></div>	

# Year 6

	Autumn Term		Spring Term		Summer Term	
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
<b>Overview</b>	<b>Evolution and Inheritance</b> 	<b>Cells</b> 	<b>Animals, including humans</b> 	<b>Electricity</b> 	<b>Light</b> 	
<b>Suggested Content</b>	<p>Understand how animals are adapted to their environment <sup>(4b)</sup></p> <p>Explain the discoveries of Charles Darwin <sup>(3)</sup> <sup>(4a)</sup></p> <p>Describe how variations become adaptations <sup>(2)</sup></p> <p>Describe types of fossils</p> <p>Understand the evidence for evolution</p> <p>Detail the process of fossilisation</p> <p>Explain how selective breeding in animals is utilised</p>	<p>Understand what a cell is</p> <p>Examine animal and plant tissue under a microscope</p> <p>Describe the structure of an animal cell</p> <p>Describe the structure of a plant cell</p> <p>Discuss the benefits and dangers of bacterial cells <sup>(3)</sup></p> <p>Experiment with the growth of bacteria <sup>(1)</sup> <sup>(5)</sup></p>	<p>Describe the respiratory system <sup>(6)</sup></p> <p>Understand the impact of smoking on the lungs</p> <p>Describe the circulatory system <sup>(4)</sup></p> <p>Describe how the heart pumps blood around the body <sup>(1)</sup></p> <p>Examine the effects of exercise on the pulse <sup>(5)</sup></p> <p>Explain the impact of a poor diet on the circulatory system</p>	<p>Understand how static electricity is created</p> <p>Investigate the creation of static electricity</p> <p>Understand how the understanding of electricity developed <sup>(3)</sup></p> <p>Investigate resistance in bulbs <sup>(5a)</sup> <sup>(6)</sup></p> <p>Measure amplitude from different energy sources <sup>(5b)</sup></p> <p>Create an electromagnet</p>	<p>Examine brightness over the day in different locations <sup>(2)</sup></p> <p>Explore the reflectiveness of materials <sup>(4)</sup></p> <p>Understand that light travels in straight lines</p> <p>Predict light direction using mirrors <sup>(6)</sup></p> <p>Investigate shadow length and understand how shadow size can be altered</p> <p>Explore the shapes of shadows of different objects</p> <p>Experiment with light refraction <sup>(4)</sup></p>	
<b>Key Vocabulary</b>	variation offspring, ancestor natural selection fossilisation decompose sediment dissolve inherit	magnification nucleus cell membrane cytoplasm cellulose chloroplast photosynthesis reproduce contamination sample	respiration displace trachea cilia circulation blood vessels pulse BPM oxygen debt heart attack	static electricity charge electron insulator conductor short circuit fuse electromagnet detector synchronise	light rays haze distort primary colour secondary colour variance obstruct alteration refraction fluorescent	
<b>Observing over time</b>		What happens to a piece of bread if you leave it on the windowsill for two weeks? <sup>(1)</sup>	How does my heart rate change over the day? <sup>(1)</sup>			
<b>Pattern seeking</b>	Is there a pattern between the size and shape of a bird's beak and the food it will eat? <sup>(2)</sup>				Is there a pattern to how bright it is in school over the day? Is it the same in every classroom? <sup>(2)</sup>	
<b>Research</b>	What happened when Charles Darwin visited the Galapagos islands? <sup>(3)</sup>	What do different microorganisms do? Are they always harmful? <sup>(3)</sup>		How has our understanding of electricity changed over time? <sup>(3)</sup>		



<b>Identifying &amp; classifying</b>	Compare the skeletons of apes, humans and Neanderthals <sup>(4a)</sup>  How are certain animals adapted to their environments? <sup>(4b)</sup>		Which organs of the body make up the circulatory system? <sup>(4)</sup>		Can you identify all the colours of light that make white light when mixed together? What colours do you get if you mix different colours of light together? <sup>(4)</sup>
<b>Comparative tests</b>		Where in the school are the most microorganisms found? <sup>(5)</sup>	Which types of exercise has the greatest effect on our heart rate? <sup>(5)</sup>	Which make of battery lasts the longest? <sup>(5a)</sup>  Which type of fruit makes the best fruity battery? <sup>(5b)</sup>	Which material is most reflective? <sup>(5)</sup>
<b>Fair Tests</b>			Can exercising regularly affect your lung capacity? <sup>(6)</sup>	How does the voltage of the batteries in a circuit affect the brightness of the lamp? <sup>(6)</sup>	How does the angle that a light ray hits a plane mirror affect the angle at which it reflects off the surface? <sup>(6)</sup>