

AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2	AREs
<p>Big Question: What can I celebrate about me?</p> <p>Overview of knowledge, understanding and skills (key concepts):</p> <ul style="list-style-type: none"> Encourage interactions with the outdoors to foster curiosity and give children freedom to touch, smell and hear the natural world around them during hands-on experiences. 	<p>Big Question: Twinkle, twinkle, little star, how I wonder what you are?</p> <p>Overview of knowledge, understanding and skills (key concepts):</p> <ul style="list-style-type: none"> Know that the earth is a planet. Understand what the moon is and discuss how it orbits the earth. Discuss the sun and solar system, what are the different planets. What are the different planets made of? 	<p>Big Question: Can you run as fast as you can? (The gingerbread man)</p> <p>Overview of knowledge, understanding and skills (key concepts):</p> <ul style="list-style-type: none"> Know the name of the materials an object is made from. Know about the properties of everyday materials. 	<p>Big Question: What happened to Jack's beans?</p> <p>Overview of knowledge, understanding and skills (key concepts):</p> <ul style="list-style-type: none"> Create opportunities to discuss how we care for the natural world around us. Observe and interact with natural processes, such as ice melting, a sound causing a vibration, light travelling through transparent material, an object casting a shadow, a magnet attracting an object and a boat floating on water. After close observation, draw pictures of the natural world, including animals and plants. 	<p>Big Question: What would you find on a farm?</p> <p>Overview of knowledge, understanding and skills (key concepts):</p> <ul style="list-style-type: none"> Teach children about a range of contrasting environments within both their local and national region. Name and describe some plants and animals children are likely to see, encouraging children to recognise familiar plants and animals whilst outside. Throughout the year, take children outside to observe the natural world and encourage children to observe how animals behave differently as the seasons change. 	<p>Big Question: Can I huff and puff and blow your house down?</p> <p>Overview of knowledge, understanding and skills (key concepts):</p> <p>Draw children's attention to forces.</p> <ul style="list-style-type: none"> how the water pushes up when they try to push a plastic boat under it. how they can stretch elastic, snap a twig, but cannot bend a metal rod. magnetic attraction and repulsion. 	<p>Scientific Attitudes: In EYFS, some children will have shown good levels of curiosity about day-to-day issues related to science. For example, movement of the sun in the sky.</p> <p>Observe and Measure:</p> <ul style="list-style-type: none"> Pupils in EYFS will have been introduced to magnifiers and other simple scientific instruments. They also will have started the process of identifying, sorting and classifying. <p>Analysis: Some will be able to explain why things are as they are, e.g. it is hot because the sky is blue and no clouds are seen.</p> <p>Planning: From EYFS, pupils are encouraged to ask questions and to find out information.</p>



CURRICULUM DEVELOPMENT

SCIENCE YEAR 1

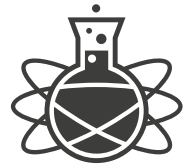


AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2	AREs
<p>Big Question: What can my brilliant body do?</p> <p>Overview of knowledge, understanding and skills (key concepts):</p> <ul style="list-style-type: none"> • Know how to classify a range of animals by amphibian, reptile, mammal, fish and birds. • Know and classify animals by what they eat (carnivore, herbivore and omnivore). • Know how to sort by living and non living things. 	<p>Big Question: Why are humans not like tigers?</p> <p>Overview of knowledge, understanding and skills (key concepts):</p> <ul style="list-style-type: none"> • Know how to classify a range of animals by amphibian, reptile, mammal, fish and birds. • Know and classify animals by what they eat (carnivore, herbivore and omnivore). • Know how to sort by living and non living things. 	<p>Big Question: Which materials should the Three Little Pigs have used to build their house?</p> <p>Overview of knowledge, understanding and skills (key concepts):</p> <ul style="list-style-type: none"> • Know the name of the materials an object is made from. • Know about the properties of everyday materials. 	<p>DT - SLIDERS AND LEVERS</p>	<p>Big Question: How do the seasons impact on what we do? Which birds and plants would Little Red Riding Hood find in our park?</p> <p>Overview of knowledge, understanding and skills (key concepts):</p> <ul style="list-style-type: none"> • Name the seasons and know about the type of weather in each season. • Know and name a variety of common wild and garden plants. • Know and name the petals, stem, leaves and root of a plant. • Know and name the roots, trunk, branches and leaves of a tree. 	<p>Big Question: What does Beegu think of life on planet Earth?</p> <p>Overview of knowledge, understanding and skills (key concepts):</p> <ul style="list-style-type: none"> • Know the name of the materials an object is made from. • Know about the properties of everyday materials. 	<p>Scientific Attitudes:</p> <ul style="list-style-type: none"> • Encourage to be curious and ask questions about what they notice. • Begin to use simple scientific language to talk about what they have found out and communicate their ideas. • Read and spell scientific vocabulary at a level consistent with their increasing word reading and spelling knowledge at key stage1. <p>Observe and Measure:</p> <ul style="list-style-type: none"> • Observe closely, using simple equipment safely • Perform simple tests • Gather and record data to help in answering questions • Identify and classify findings. <p>Analysis:</p> <ul style="list-style-type: none"> • Use their observations and ideas to suggest answers to questions. <p>Planning:</p> <ul style="list-style-type: none"> • Ask simple questions and recognise that they can be answered in different ways.



CURRICULUM DEVELOPMENT

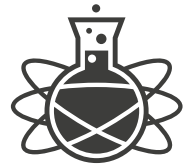
SCIENCE YEAR 2



AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2	AREs
<p>Big Question: How could you be the next Matty Lee or Sky Brown? How will 5 a day help me to be healthy?</p> <p>Overview of knowledge, understanding and skills (key concepts):</p> <ul style="list-style-type: none"> • Know the basic stages in a life cycle for animals, (including humans). • Know why exercise, a balanced diet and good hygiene are important for humans. 	<p>Big Question: How can we build a boat that floats?</p> <p>Overview of knowledge, understanding and skills (key concepts):</p> <ul style="list-style-type: none"> • Know how materials can be changed by squashing, bending, twisting and stretching • Know why a material might or might not be used for a specific job. 	<p>DT - TEMPLATES AND JOINING TECHNIQUES</p>	<p>Big Question: How can we grow our own salad?</p> <p>Overview of knowledge, understanding and skills (key concepts):</p> <ul style="list-style-type: none"> • Know and explain how seeds and bulbs grow into plants. • Know what plants need in order to grow and stay healthy (water, light and suitable temperature). 	<p>Big Question: What is our school made of?</p> <p>Overview of knowledge, understanding and skills (key concepts):</p> <ul style="list-style-type: none"> • Know how materials can be changed by squashing, bending, twisting and stretching. • Know why a material might or might not be used for a specific job. 	<p>Big Question: Why would a dinosaur not make a good pet?</p> <p>Overview of knowledge, understanding and skills (key concepts):</p> <ul style="list-style-type: none"> • Know the basic stages in a life cycle for animals, (including humans). • Know why exercise, a balanced diet and good hygiene are important for humans. 	<p>Scientific Attitudes:</p> <ul style="list-style-type: none"> • Encourage to be curious and ask questions about what they notice. • Begin to use simple scientific language to talk about what they have found out and communicate their ideas. • Read and spell scientific vocabulary at a level consistent with their increasing word reading and spelling knowledge at key stage1. <p>Observe and Measure:</p> <ul style="list-style-type: none"> • Observe closely, using simple equipment safely • Perform simple tests • Gather and record data to help in answering questions • Identify and classify findings. <p>Analysis:</p> <ul style="list-style-type: none"> • Use their observations and ideas to suggest answers to questions. <p>Planning:</p> <ul style="list-style-type: none"> • Ask simple questions and recognise that they can be answered in different ways.



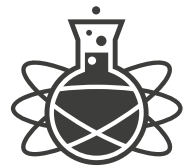
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<p>Big Question: How can Usain Bolt move so quickly?</p> <p>Overview of knowledge, understanding and skills (key concepts): Know about the importance of a nutritious, balanced diet.</p> <ul style="list-style-type: none"> • Know how nutrients, water and oxygen are transported within animals and humans. • Know about the skeletal and muscular system of a human. 	<p>Big Question: What do rocks tell us about the way the Earth was formed?</p> <p>Overview of knowledge, understanding and skills (key concepts): Compare and group rocks based on their appearance and physical properties, giving reasons.</p> <ul style="list-style-type: none"> • Know how soil is made and how fossils are formed. • Know about and explain the difference between sedimentary, metamorphic and igneous rock. • Know about and describe how objects move on different surfaces. • Know how a simple pulley works and use to on to lift an object. • Know how some forces require contact and some do not, giving examples. • Know about and explain how magnets attract and repel Predict whether magnets will attract or repel and give a reason. 	<p>Big Question: How did that blossom become an apple?</p> <p>Overview of knowledge, understanding and skills (key concepts):</p> <ul style="list-style-type: none"> • Know the function of different parts of flowing plants and trees. • Know how water is transported within plants . • Know the plant life cycle, especially the importance of flowers. 	<p>Big Question: How far can you throw your shadow?</p> <p>Overview of knowledge, understanding and skills (key concepts):</p> <ul style="list-style-type: none"> • Know that dark is the absence of light . • Know that light is needed in order to see and is reflected from a surface. • Know and demonstrate how a shadow is formed and explain how a shadow changes shape. • Know about the danger of direct sunlight and describe how to keep protected. 	<p>DT - TEXTILES 2D TO 3D PRODUCTS</p>	<p>Big Question: Are you attractive enough?</p> <p>Overview of knowledge, understanding and skills (key concepts):</p> <ul style="list-style-type: none"> • Know about the importance of a nutritious, balanced diet. • Know how nutrients, water and oxygen are transported within animals and humans. • Know about the skeletal and muscular system of a human. 	<p>Scientific Attitudes:</p> <ul style="list-style-type: none"> • Ask their own questions about what they observe and make some decisions about which types of scientific enquiry are likely to be the best ways of answering them. • Draw simple conclusions and use some scientific language, first, to talk about and, later, to write about what they have found out. • Read and spell scientific vocabulary correctly and with confidence, using their growing word reading and spelling knowledge. <p>Planning:</p> <ul style="list-style-type: none"> • Ask relevant questions and use different types of scientific enquiries to answer them. • Set up simple practical enquiries, comparative and fair tests. <p>Observing and Measuring:</p> <ul style="list-style-type: none"> • Make systematic and careful observations and, where appropriate, take accurate measurements, using a range of equipment safely, including thermometers and data loggers. • Gather, record, classify and present data in a variety of ways to help in answering questions. <p>Measurement:</p> <ul style="list-style-type: none"> • Use standard units. <p>Analysis:</p> <ul style="list-style-type: none"> • Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables. • Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. • Use results to draw simple conclusions and make predictions for new values. • Identify differences, similarities or changes related to simple scientific ideas and processes. • Use straightforward scientific evidence to answer questions or to support findings. <p>Evaluating:</p> <ul style="list-style-type: none"> • Use results to suggest improvements and raise further questions.



AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2	AREs
<p>Big Question: What happens to the food we eat?</p> <p>Overview of knowledge, understanding and skills (key concepts):</p> <ul style="list-style-type: none"> Identify and name the parts of the human digestive system. Know the functions of the organs in the human digestive system. Identify and know the different types of human teeth. 	<p>Big Question: What was that sound the Romans were making?</p> <p>Overview of knowledge, understanding and skills (key concepts):</p> <ul style="list-style-type: none"> Know how sound is made, associating some of them with vibrating. Know how sound travels from a source to our ears. Know the correlation between pitch and the object producing a sound. Know the correlation between the volume of a sound and the strength of the vibrations that produced it. Know what happens to a sound as it travels away from its source. 	<p>Big Question: How could we cope without electricity for one day?</p> <p>Overview of knowledge, understanding and skills (key concepts):</p> <ul style="list-style-type: none"> Identify and name appliances that require electricity to function. Construct a series circuit. Identify and name the components in a series circuit (including cells, wires, bulbs, switches and buzzers). Predict and test whether a lamp will light within a circuit. Know the function of a switch. Know the difference between a conductor and an insulator; giving examples of each. 	<p>DT - ELECTRICAL SYSTEMS - CIRCUITS AND SWITCHES/ SIMPLE PROGRAMME AND CONTROL</p>	<p>Big Question: How would we survive without water?</p> <p>Overview of knowledge, understanding and skills (key concepts):</p> <ul style="list-style-type: none"> Know the temperature at which materials change state. Know about and explore how some materials can change state. Know the part played by evaporation and condensation in the water cycle. Group materials based on their state of matter (solid, liquid, gas). 	<p>Big Question: Which animals and plants thrive in your locality?</p> <p>Overview of knowledge, understanding and skills (key concepts):</p> <ul style="list-style-type: none"> Use classification keys to group, identify and name living things. Know how changes to an environment could endanger living things. 	<p>Scientific Attitudes:</p> <ul style="list-style-type: none"> Ask their own questions about what they observe and make some decisions about which types of scientific enquiry are likely to be the best ways of answering them. Draw simple conclusions and use some scientific language, first, to talk about and, later, to write about what they have found out. Read and spell scientific vocabulary correctly and with confidence, using their growing word reading and spelling knowledge. <p>Planning:</p> <ul style="list-style-type: none"> Ask relevant questions and use different types of scientific enquiries to answer them. Set up simple practical enquiries, comparative and fair tests. <p>Observing and Measuring:</p> <ul style="list-style-type: none"> Make systematic and careful observations and, where appropriate, take accurate measurements, using a range of equipment safely, including thermometers and data loggers. Gather, record, classify and present data in a variety of ways to help in answering questions. <p>Measurement:</p> <ul style="list-style-type: none"> Use standard units. <p>Analysis:</p> <ul style="list-style-type: none"> Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables. Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. Use results to draw simple conclusions and make predictions for new values. Identify differences, similarities or changes related to simple scientific ideas and processes. Use straightforward scientific evidence to answer questions or to support findings. <p>Evaluating:</p> <ul style="list-style-type: none"> Use results to suggest improvements and raise further questions.



AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2	AREs
<p>Big Question: What materials can and cannot be changed back to their original form?</p> <p>Overview of knowledge, understanding and skills (key concepts):</p> <ul style="list-style-type: none"> Compare and group materials based on their properties (e.g. hardness, solubility, transparency, conductivity, [electrical and thermal], and response to magnets). Know and explain how a material dissolves to form a solution. Know and show how to recover a substance from a solution. Know and demonstrate how some materials can be separated (e.g. through filtering, sieving and evaporating). Know and demonstrate that some changes are reversible and some are not. Know how some changes result in the formation of a new material and that this is usually irreversible. 	<p>Big Question: What materials can and cannot be changed back to their original form?</p> <p>Overview of knowledge, understanding and skills (key concepts):</p> <ul style="list-style-type: none"> Compare and group materials based on their properties (e.g. hardness, solubility, transparency, conductivity, (electrical and thermal), and response to magnets). Know and explain how a material dissolves to form a solution. Know and show how to recover a substance from a solution. Know and demonstrate how some materials can be separated (e.g. through filtering, sieving and evaporating). Know and demonstrate that some changes are reversible and some are not. Know how some changes result in the formation of a new material and that this is usually irreversible. 	<p>Big Question: What do we know about the Sun, Earth, Moon and the planets?</p> <p>Overview of knowledge, understanding and skills (key concepts):</p> <ul style="list-style-type: none"> Know about and explain the movement of the Earth and other planets relative to the Sun. Know about and explain the movement of the Moon relative to the Earth. Know and demonstrate how night and day are created. Describe the Sun, Earth and Moon (using the term spherical). 	<p>Big Question: What is a force and how does it impact on the way things move?</p> <p>Overview of knowledge, understanding and skills (key concepts):</p> <ul style="list-style-type: none"> Know what gravity is and its impact on our lives. Identify and know the effect of air resistance. Identify and know the effect of water resistance. Identify and know the effect of friction. Explain how levers, pulleys and gears allow a smaller force to have a greater effect. 	<p>Big Question: What do we know about the life-cycles of humans and various animals?</p> <p>Overview of knowledge, understanding and skills (key concepts):</p> <ul style="list-style-type: none"> Know the life cycle of different living creatures, e.g. mammal, amphibian, insect, bird. Know the differences between different life cycles. Know the process of reproduction in plants. Know the process of reproduction in animals. Create a timeline to indicate stages of growth in humans. 	<p>Big Question: What do we know about the life-cycles of humans and various animals?</p> <p>Overview of knowledge, understanding and skills (key concepts):</p> <ul style="list-style-type: none"> Know the life cycle of different living creatures, e.g. mammal, amphibian, insect, bird. Know the differences between different life cycles. Know the process of reproduction in plants. Know the process of reproduction in animals. Create a timeline to indicate stages of growth in humans. 	<p>Scientific Attitudes:</p> <ul style="list-style-type: none"> Know and use the terms: accuracy, precision, repeatability and reproducibility. Know how scientific theories change over time. <p>Planning:</p> <ul style="list-style-type: none"> Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary. <p>Observe and Measuring:</p> <ul style="list-style-type: none"> Take measurements, using a range of scientific equipment safely, with increasing accuracy and precision, taking repeat readings. Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables when appropriate. <p>Measurement:</p> <ul style="list-style-type: none"> Use standard units. <p>Analysis:</p> <ul style="list-style-type: none"> Present data using a variety of scatter graphs, bar and line graphs. Report and present findings from enquiries, including conclusions, causal relationships and explanations in oral and written forms such as displays and other presentations <p>Evaluating:</p> <ul style="list-style-type: none"> Use test results to make predictions to set up further comparative and fair tests. Discuss the degree of trust in results.



AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2	AREs
<p>Big Question: Have we always looked like this?</p> <p>Overview of knowledge, understanding and skills (key concepts):</p> <ul style="list-style-type: none"> • Know how the Earth and living things have changed over time. • Know how fossils can be used to find out about the past. • Know about reproduction and offspring (recognising that offspring normally vary and are not identical to their parents). • Know how animals and plants are adapted to suit their environment. • Link adaptation over time to evolution. • Know about evolution and can explain what it is. 	<p>Big Question: Could Spiderman really exist?</p> <p>Overview of knowledge, understanding and skills (key concepts):</p> <p>Classify living things into broad groups according to observable characteristics and based on similarities and differences.</p> <ul style="list-style-type: none"> • Know how living things have been classified. • Give reasons for classifying plants and animals in a specific way. 	<p>DT - FRAME STRUCTURE</p>	<p>Big Question: What would a journey through your body be like?</p> <p>Overview of knowledge, understanding and skills (key concepts):</p> <ul style="list-style-type: none"> • Identify and name the main parts of the human circulatory system. • Know the function of the heart, blood vessels and blood. • Know the impact of diet, exercise, drugs and lifestyle on health. • Know the ways in which nutrients and water are transported in animals, including humans. 	<p>Big Question: How can you light up your life?</p> <p>Overview of knowledge, understanding and skills (key concepts):</p> <ul style="list-style-type: none"> • Know how light travels. • Know and demonstrate how we see objects. • Know why shadows have the same shape as the object that casts them. • Know how simple optical instruments work e.g. periscope, telescope, binoculars, mirror, magnifying glass etc. 	<p>Big Question: Could you be the next Nintendo apprentice?</p> <p>Overview of knowledge, understanding and skills (key concepts):</p> <p>Compare and give reasons for why components work and do not work in a circuit.</p> <ul style="list-style-type: none"> • Draw circuit diagrams using correct symbols. • Know how the number and voltage of cells in a circuit links to the brightness of a lamp or the volume of a buzzer. 	<p>Scientific Attitudes:</p> <ul style="list-style-type: none"> • Know and use the terms: accuracy, precision, repeatability and reproducibility. • Know how scientific theories change over time. <p>Planning:</p> <ul style="list-style-type: none"> • Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary. <p>Observe and Measuring:</p> <ul style="list-style-type: none"> • Take measurements, using a range of scientific equipment safely, with increasing accuracy and precision, taking repeat readings. • Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables when appropriate. <p>Measurement:</p> <ul style="list-style-type: none"> • Use standard units. <p>Analysis:</p> <ul style="list-style-type: none"> • Present data using a variety of scatter graphs, bar and line graphs. • Report and present findings from enquiries, including conclusions, causal relationships and explanations in oral and written forms such as displays and other presentations <p>Evaluating:</p> <ul style="list-style-type: none"> • Use test results to make predictions to set up further comparative and fair tests. • Discuss the degree of trust in results.