



**ST CHARLES' CATHOLIC PRIMARY
SCHOOL**



SCIENCE MEDIUM TERM PLANNING

	AUTUMN	SPRING	SUMMER
RECEPTION	<p>To use all my senses to explore and describe how the weather and seasons change over time, from Autumn to Winter.</p> <p>To talk about shadows, and identify the light source and the object making the shadow.</p> <p>To observe changes in the sky at different times of day.</p> <p>To identify the sun, moon and stars, and how they are different from Earth.</p> <p>To describe the different habitats of animals (woodland creatures).</p>	<p>To use all my senses to explore and describe how the weather and seasons change over time, from Winter to Spring.</p> <p>To use my senses to explore a range of natural materials and comment on how they change over time in different conditions e.g. when heat is applied.</p> <p>To describe the different habitats of animals (polar regions).</p> <p>To understand the need to respect and care for the natural environment and all living things.</p> <p>I can make observational pictures of the world around me.</p>	<p>To use all my senses to explore and describe how the weather and seasons change over time, from Spring to Summer.</p> <p>To identify and describe some plants in my surroundings and talk about their similarities and differences.</p> <p>To describe the key elements of a life cycle of an animal (minibeast).</p> <p>To make observational pictures of plants and talk about how plants grow and change.</p> <p>To describe the different habitats of animals (jungle/grassland regions).</p>
YEAR 1	<p align="center">Who am I?</p> <p>In this topic, children will learn about the basic parts of the human body and explore their five senses using a wide range of activities.</p> <p>This topic covers the following learning objectives: Identify, name, draw and label the basic parts of the human body.</p> <p>Say which part of the body is associated with each sense.</p> <p>This topic develops the following working scientifically skills: Observe closely, using simple equipment. Identify and classify. Gather and record data to help in answering questions.</p>	<p align="center">Polar Places</p> <p>In this topic, children plan an expedition to the polar regions, learning about properties of different materials, and a range of living things in the polar regions.</p> <p>This topic covers the following learning objectives: Identify and name a variety of animals including fish, amphibians, reptiles, birds and mammals. Identify and name common animals that are carnivores, herbivores and omnivores. Describe and compare the structure of a variety of common animals. Describe the simple properties of a variety of everyday materials. Compare and group together a variety of everyday materials on the basis of their simple properties.</p> <p>This topic develops the following working scientifically skills: Ask simple questions and recognise that they can be answered in different ways. Perform simple tests. Identify and classify. Use their observations and ideas to suggest</p>	<p align="center">Holiday</p> <p>In this topic, children will plan what they need to pack for a holiday, and explore the different animals they might encounter at the seaside and the human impact on the environment.</p> <p>This topic covers the following learning objectives: Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. Identify and name a variety of common animals that are carnivores, herbivores or omnivores. Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets). Distinguish between an object and the material from which it is made. Identify and name a variety of everyday materials including wood, plastic, glass, metal, water and rock. Describe the simple physical properties of a variety of everyday materials. Compare and group together a variety of everyday materials on the basis of their simple physical properties.</p>

		<p>answers to questions.</p>	<p>This topic develops the following working scientifically skills:</p> <p>Ask simple questions and recognise that they can be answered in different ways. Observe closely, using simple equipment.</p> <p>Perform simple tests. Identify and classify. Use observations and ideas to suggest answers to questions. Gather and record data to help in answering questions.</p>
	<p>Celebrations</p> <p>This topic uses the theme of celebrations to explore a number of curriculum areas, including everyday materials, plants and light.</p> <p>This topic covers the following learning objectives:</p> <p>Say which part of the body is associated with each sense.</p> <p>Distinguish between an object and the material from which it is made.</p> <p>Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water and rock.</p> <p>Describe the simple physical properties of a variety of everyday materials.</p> <p>Identify and describe the basic structure of a variety of common plants, including trees.</p> <p>This topic develops the following working scientifically skills:</p> <p>Observe things using simple equipment. Identify and classify.</p> <p>Perform simple tests.</p> <p>Use observations and ideas to suggest answers to questions.</p> <p>Gather and record data to help in answering questions.</p>	<p>Plants and Animals where we live</p> <p>In this topic, children explore their local environment (school grounds or local park) to find out about the plants and animals that live in their locality. Many of the activities could also be carried out in a local botanic garden or arboretum, which has a section on local plants.</p> <p>Children will learn to name and identify common wild and garden plants, including trees, so they are familiar with common names and able to use these in Year 2 and beyond.</p> <p>This topic covers the following learning objectives:</p> <p>Plants</p> <p>Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees.</p> <p>Identify and describe the basic structure of a variety of common flowering plants, including trees.</p> <p>Animals (including humans)</p> <p>Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals.</p> <p>Identify and name a variety of common animals that are carnivores, herbivores and omnivores.</p> <p>Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets).</p> <p>This topic develops the following working scientifically skills:</p> <p>Ask simple questions and recognise that they can be answered in different ways.</p>	<p>On Safari</p> <p>Children go on safari to explore invertebrates and other plants and animals in the local area. This topic could be completed in half a term, choosing activities relating to children’s experience and interests.</p> <p>This topic covers the following learning objectives:</p> <p>Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees.</p> <p>Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals.</p> <p>Identify and name a variety of common animals that are carnivores, herbivores and omnivores.</p> <p>Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets).</p> <p>This topic develops the following working scientifically skills:</p> <p>Ask simple questions and recognise that they can be answered in different ways. Observe closely, using simple equipment.</p> <p>Perform simple tests.</p> <p>Identify and classify.</p> <p>Gather and record data to help in answering questions.</p>

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YEAR 2	<p>Materials Monster</p> <p>. This topic explores the properties and uses of everyday materials, set in the context of meeting, talking to and feeding the Materials Monster.</p> <p>This topic covers the following learning objectives:</p> <p>Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses.</p> <p>Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.</p> <p>This topic develops the following working scientifically skills:</p> <p>Observe closely. Perform simple tests. Identify and classify.</p> <p>Use observations and ideas to suggest answers to questions.</p> <p>Gather and record data to help in answering questions.</p>	<p>Our local environment</p> <p>This topic brings together study of living things, habitats and growing plants and is strongly focussed on outdoor learning and investigations.</p> <p>This topic covers the following learning objectives:</p> <p>Explore and compare the differences between things that are living, dead, and things that have never been alive</p> <p>Identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other</p> <p>Identify and name a variety of plants and animals in their habitats, including micro-habitats</p> <p>Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food.</p> <p>This topic develops the following working scientifically skills:</p> <p>Ask simple questions and recognise that they can be answered in different ways.</p> <p>Observe closely, using simple equipment. Perform simple tests. Identify and classify.</p> <p>Use observations and ideas to suggest answers to questions.</p> <p>Gather and record data to help in answering questions.</p>	<p>Young gardeners</p> <p>This topic brings together study of living things and habitats and is strongly focussed on outdoor learning and investigations.</p> <p>This topic covers the following learning objectives:</p> <p>Observe and describe how seeds and bulbs grow into mature plants.</p> <p>Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.</p> <p>This topic develops the following working scientifically skills:</p> <p>Ask simple questions and recognise that they can be answered in different ways.</p> <p>Observe closely, using simple equipment. Perform simple tests. Identify and classify.</p> <p>Use observations and ideas to suggest answers to questions.</p> <p>Gather and record data to help in answering questions.</p>
	<p>Squash, Bend, Twist and Stretch</p> <p>In this unit, children explore how the shapes of objects can be changed by squashing, bending, twisting and stretching. In doing this they raise questions, perform simple tests, and gather and record data.</p>	<p>Healthy Me</p> <p>In this topic, children explore the importance of exercise, diet and good hygiene, building on the Who am I? topic in Year 1.</p> <p>This topic covers the following learning objectives:</p>	<p>Little Masterchefs</p> <p>This topic explores food, including making healthy food choices, and cooking various different foods.</p> <p>This topic covers the following learning objectives:</p> <p>Find out about and describe the basic needs of</p>

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<p>YEAR 3</p>	<p>Forces and Magnets</p> <p>This topic looks at magnets and their uses, and what makes magnetic poles special, along with the idea that some forces such as magnetic force can act without contact – unlike pushes and pulls, which require direct contact.</p> <p>This topic covers the following learning objectives:</p> <p>Compare how things move on different surfaces. Notice that some forces need contact between two objects, but magnetic forces can act at a distance. 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. Describe magnets as having two poles. Predict whether two magnets will attract or repel each other, depending on which poles are facing.</p> <p>This topic develops the following working scientifically skills:</p> <p>Ask relevant questions and use different types of scientific enquiries to answer them. Set up simple practical enquiries, comparative and fair tests.</p>	<p>Rocks, Soils and Fossils</p> <p>In this topic children work scientifically on a variety of quick investigations and longer tasks to learn about rocks. This topic covers the properties and uses of rocks, the rock family, soils and finally fossils.</p> <p>This topic covers the following learning objectives:</p> <p>Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties. Describe in simple terms how fossils are formed when things that have lived are trapped within rock. Recognise that soils are made from rocks and organic matter.</p> <p>This topic develops the following working scientifically skills:</p> <p>Ask relevant questions and use different types of scientific enquiries to answer them. Set up simple practical enquiries, comparative and fair tests. Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment.</p>	<p>Light and Shadows</p> <p>Children work scientifically on a variety of quick challenges and longer tasks to learn about the wonders of light, including reflections and shadows.</p> <p>This topic covers the following learning objectives:</p> <p>Recognise that we need light in order to see things and that dark is the absence of light. Notice that light is reflected from surfaces. Recognise that light from the Sun can be dangerous and that there are ways to protect the eyes. Recognise that shadows are formed when the light from a light source is blocked by a solid object. Find patterns in the way that the sizes of shadows change.</p> <p>This topic develops the following working scientifically skills:</p> <p>Set up simple practical enquiries, comparative and fair tests. Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment including thermometers and data loggers.</p>

	<p>Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment including thermometers and data loggers.</p> <p>Gather, record, classify and present data in a variety of ways to help in answering questions. Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables.</p> <p>Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.</p>	<p>Gather, record, classify and present data in a variety of ways to help in answering questions. Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.</p>	<p>Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.</p> <p>Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions</p>
	<p>Food and Our Bodies</p> <p>Children work scientifically on a variety of quick challenges and longer tasks to learn about food and their bodies. This topic looks at where animals get food from and why it is important, and skeletons, muscles and joints.</p> <p>This topic covers the following learning objectives:</p> <p>Identify that animals, including humans, need the right types and amount of nutrition and that they cannot make their own food: they get nutrition from what they eat.</p> <p>Identify that humans and some other animals have skeletons and muscles for support, protection and movement.</p> <p>This topic develops the following working scientifically skills:</p> <p>Gather, record, classify and present data in a variety of ways to help in answering questions.</p> <p>Record findings using simple scientific language, drawings, labelled diagrams, keys, bar graphs and tables.</p> <p>Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.</p>	<p>How does your garden grow?</p> <p>Children work scientifically on a variety of quick challenges and longer tasks to learn about plants. They learn about the different parts of plants, what plants need to live, water transportation in plants and pollination.</p> <p>This topic covers the following learning objectives:</p> <p>Identify and describe the functions of different parts of flowering plants: roots, stem / trunk, leaves and flowers.</p> <p>Explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant.</p> <p>Investigate the way in which water is transported within plants.</p> <p>Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.</p> <p>This topic develops the following working scientifically skills:</p> <p>Ask relevant questions and use different types of scientific enquiries to answer them.</p> <p>Set up simple practical enquiries, comparative and fair tests.</p> <p>Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment including thermometers and data loggers.</p> <p>Gather, record, classify and present data in a</p>	<p>Nappy Challenge</p> <p>This topic looks at disposable nappies and provides opportunities for children to ask their own questions and make decisions on how to answer their questions using different scientific enquiry activities.</p> <p>This topic develops the following working scientifically skills:</p> <p>Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment including thermometers and data loggers.</p> <p>Gather, record, classify and present data in a variety of ways to help in answering questions. Ask relevant questions and use different types of scientific enquiries to answer them.</p> <p>Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.</p> <p>Set up simple practical enquiries, comparative and fair tests.</p> <p>Use straightforward scientific evidence to answer questions or to support their findings.</p>

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<p>YEAR 4</p>	<p>Living Things</p> <p>This topic teaches the children to recognise that living things can be grouped in a variety of ways. They explore and use keys to identify and name a variety of living things. Finally, they look at how changes to habitats can pose dangers to living things.</p> <p>This topic covers the following learning objectives:</p> <p>Recognise that living things can be grouped in a variety of ways.</p> <p>Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment.</p> <p>Recognise that environments can change and that this can sometimes pose dangers to living things.</p> <p>This topic develops the following working scientifically skills:</p> <p>Ask relevant questions and use different types of scientific enquiries to answer them.</p> <p>Set up simple practical enquiries, comparative and fair tests.</p> <p>Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.</p> <p>Gather, record, classify and present data in a variety of ways to help in answering questions.</p> <p>Record findings using simple scientific language,</p>	<p>Looking at States</p> <p>Children will learn about states of matter. They will compare and group materials together, according to whether they are solids, liquids or gases. They will observe that some materials change state when heated or cooled, and they will identify the part played by evaporation and condensation in the water cycle.</p> <p>This topic covers the following learning objectives:</p> <p>Compare and group materials together, according to whether they are solids, liquids or gases.</p> <p>Observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C).</p> <p>Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.</p> <p>This topic develops the following working scientifically skills:</p> <p>Ask relevant questions and use different types of scientific enquiries to answer them.</p> <p>Set up simple practical enquiries, comparative and fair tests.</p> <p>Make systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.</p>	<p>What's That Sound?</p> <p>Children will already know many things about sound, even without any formal teaching of it. They will encounter how sounds are made on a variety of instruments and how they can be changed in volume, pitch and over distance. They will explore making sounds on a range of objects that aren't instruments, in order to investigate how sounds are created to make music.</p> <p>This topic covers the following learning objectives:</p> <p>Identify how sounds are made, associating some of them with something vibrating.</p> <p>Recognise that vibrations from sounds travel through a medium to the ear.</p> <p>Find patterns between the pitch of a sound and features of the object that produced it.</p> <p>Find patterns between the volume of a sound and the strength of the vibrations that produced it.</p> <p>Recognise that sounds get fainter as the distance from the sound source increases.</p> <p>This topic develops the following working scientifically skills:</p> <p>Ask relevant questions and use different types of scientific enquiries to answer them.</p> <p>Set up simple practical enquiries, comparative and fair tests.</p> <p>Make systematic and careful observations and,</p>

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	<p style="text-align: center;">Teeth and Eating</p> <p>Children learn about digestion and different types of teeth, before moving on to explore deadly predators and their prey, in their exploration of food chains. They work scientifically throughout the topic, using enquiry, practical experiments and hands-on research to answer questions and investigate how we eat, why we eat and what we eat.</p> <p>This topic covers the following learning objectives:</p> <ul style="list-style-type: none"> Describe the simple functions of the basic parts of the digestive system in humans. Identify the different types of teeth in humans and their simple functions. Construct and interpret a variety of food chains, identifying producers, predators and prey. <p>This topic develops the following working scientifically skills:</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. Make systematic and careful observations and, 	<p style="text-align: center;">Power It Up</p> <p>Children revisit some uses of electricity and the importance of safety before constructing simple circuits. Understanding how to change a circuit by changing its components makes up the third part of this topic, leading in a final application of knowledge and skills when the children design and make an alarm using their knowledge of circuits.</p> <p>This topic covers the following learning objectives:</p> <ul style="list-style-type: none"> Identify common appliances that run on electricity. Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers. 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. Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit. Recognise some common conductors and insulators and associate metals with being good conductors. 	<p style="text-align: center;">Big Build</p> <p>In this topic, children learn about building towers and bridges, starting with constructing tall towers, then exploring bridges, next they look at animals as builders and finally engage in researching famous engineers and architects and the structures they built. Children will already know many things about the materials they will encounter, how different materials stretch and their uses. They will use and develop working scientifically skills and understanding through comparative and fair tests, measuring, repeat readings and drawing and reading bar and line graphs.</p> <p>This topic covers the following learning objectives:</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. Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment,

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<p>YEAR 5</p>	<p>Circle of Life</p> <p>In this topic children look at the life cycles of various species including mammals, amphibians, fish and birds. They also look at and describe the life process of reproduction in plants and animals.</p> <p>This topic covers the following learning objectives:</p> <p>Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird.</p> <p>Describe the life process of reproduction in some plants and animals.</p> <p>This topic develops the following working scientifically skills:</p> <p>Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.</p> <p>Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.</p> <p>Use test results to make predictions to set up further comparative and fair tests.</p>	<p>Out of This World</p> <p>In this topic, children learn about space. Starting with the Solar System, they look next at how ideas about space have changed over time before they explore what causes us to experience night and day on Earth.</p> <p>This topic covers the following learning objectives:</p> <p>Describe the movement of the Earth and other planets relative to the Sun in the Solar System.</p> <p>Describe the movement of the Moon relative to the Earth.</p> <p>Describe the Sun, Earth and Moon as approximately spherical bodies.</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.</p> <p>This topic develops the following working scientifically skills:</p> <p>Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.</p> <p>Take measurements, using a range of scientific</p>	<p>Material World</p> <p>In this topic, the children learn about materials and how they change. First they test properties of materials before looking at how materials dissolve, what a solution is and evaporation. Finally, children compare reversible and irreversible changes.</p> <p>This topic covers the following learning objectives:</p> <p>Compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal) and response to magnets.</p> <p>Know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution.</p> <p>Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating.</p> <p>Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic.</p>

	<p>Report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations.</p> <p>Identify scientific evidence that has been used to support or refute ideas or arguments.</p>	<p>equipment, with increasing accuracy and precision, taking repeat readings when appropriate.</p> <p>Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.</p> <p>Use test results to make predictions to set up further comparative and fair tests.</p> <p>Report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations.</p> <p>Identify scientific evidence that has been used to support or refute ideas or arguments.</p>	<p>Demonstrate that dissolving, mixing and changes of state are reversible changes.</p> <p>This topic develops the following working scientifically skills:</p> <p>Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.</p> <p>Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.</p> <p>Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.</p> <p>Use test results to make predictions to set up further comparative and fair tests.</p> <p>Report and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations.</p> <p>Identify scientific evidence that has been used to support or refute ideas or arguments.</p>
	<p>Let's Get Moving</p> <p>In this topic children learn about forces and machines. They start with the force of gravity then study friction forces, including air and water resistance, before investigating how simple machines work.</p> <p>This topic covers the following learning objectives:</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 Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.</p> <p>This topic develops the following working scientifically skills:</p> <p>Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.</p> <p>Take measurements, using a range of scientific</p>	<p>Growing up and Growing old</p> <p>In this topic, children look at and describe the changes as humans develop to old age. Pupils draw a timeline to indicate stages in the growth and development of humans and learn about the changes experienced in puberty.</p> <p>This topic covers the following learning objectives:</p> <p>Describe the changes as humans develop to old age.</p> <p>This topic develops the following working scientifically skills:</p> <p>Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations.</p> <p>Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.</p>	<p>Amazing Changes</p> <p>In this topic, the children learn about materials, how they change and which changes are reversible and irreversible. The topic concludes by looking at how these properties are applied in the real world.</p> <p>This topic covers the following learning objectives:</p> <p>Demonstrate that dissolving, mixing and changes of state are reversible changes.</p> <p>Explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda.</p> <p>This topic develops the following working scientifically skills:</p> <p>Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.</p> <p>Take measurements, using a range of scientific</p>

	<p>equipment, with increasing accuracy and precision, taking repeat readings when appropriate.</p> <p>Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.</p> <p>Use test results to make predictions to set up further comparative and fair tests.</p> <p>Report, and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations.</p> <p>Identify scientific evidence that has been used to support or refute ideas or arguments.</p>	<p>Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.</p>	<p>equipment, with increasing accuracy and precision, taking repeat readings when appropriate.</p> <p>Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.</p> <p>Use test results to make predictions to set up further comparative and fair tests.</p> <p>Report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations.</p> <p>Identify scientific evidence that has been used to support or refute ideas or arguments.</p>
<p>YEAR 6</p>	<p style="text-align: center;">Light</p> <p>The topic introduces the concept of light travelling in straight lines. It starts by looking at beams of light and how light travels to enable children to understand how we see things. This understanding is then applied to the production of shadows and starts to look at how light is reflected. The topic then takes the learning into the realm of coloured light and rainbows, using scientific skills to raise and answer questions. It builds on the work carried out in Year 3 on light, shadows and reflection.</p> <p>This topic covers the following learning objectives:</p> <p>Recognise that light appears to travel in straight lines.</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.</p> <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.</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.</p> <p>This topic develops the following working scientifically skills:</p> <p>Plan different types of scientific enquiries to</p>	<p style="text-align: center;">Evolution and Inheritance</p> <p>Building on what they learned about fossils in Year 3, children find out more about how living things have changed over time. They are introduced to the idea that characteristics are passed from parent to their offspring, but that they are not exactly the same. They should also appreciate that variation over time can make animals more or less likely to survive in particular environments (adaptation). Children look at evolution and Charles’ Darwin’s theory of natural selection, as well as palaeontologist Mary Anning’s work with fossils.</p> <p>This topic covers the following learning objectives:</p> <p>Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago.</p> <p>Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents.</p> <p>Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.</p> <p>This topic develops the following working scientifically skills:</p> <p>Identify scientific evidence that has been used to support or refute ideas or arguments.</p>	<p style="text-align: center;">Healthy Bodies</p> <p>In this topic children build on learning from Years 3 and 4 about the main body parts and internal organs (skeletal, muscular and digestive system). It considers life processes that are internal to the body, such as the circulatory system. The impact of lifestyle on bodies, particularly of humans, is also considered. Scientists are continually finding out what is good and bad for us, and their ideas do change as more research is carried out.</p> <p>This topic covers the following learning objectives:</p> <p>Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood.</p> <p>Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function.</p> <p>Describe the ways in which nutrients and water are transported within animals, including humans.</p> <p>This topic develops the following working scientifically skills:</p> <p>Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.</p> <p>Take measurements, using a range of scientific equipment, with increasing accuracy and</p>

	<p>answer questions, including recognising and controlling variables where necessary. Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.</p> <p>Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs. Use test results to make predictions to set up further comparative and fair tests.</p> <p>Report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations.</p> <p>Identify scientific evidence that has been used to support or refute ideas or arguments. Gather and record data to help in answering questions.</p>		<p>precision, taking repeat readings when appropriate.</p> <p>Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs. Use test results to make predictions to set up further comparative and fair tests.</p> <p>Report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations.</p> <p>Identifying scientific evidence that has been used to support or refute ideas or arguments.</p>
	<p style="text-align: center;">Electricity</p> <p>This topic builds on the Year 4 work on electricity, taking it into the scientific use of symbols for components in a circuit, as well as considering the effect in more detail of changing components in a circuit. The children have the opportunity to apply their learning by creating an electronic game.</p> <p>This topic covers the following learning objectives: Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit.</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.</p> <p>Use recognised symbols when representing a simple circuit in a diagram.</p> <p>This topic develops the following working scientifically skills: Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.</p>	<p style="text-align: center;">Classifying Living Things</p> <p>Children build on their learning about grouping living things in Year 4 by looking at the classification system in more detail. The topic is divided into two units, Children first revisit their knowledge of classification and creating keys, before developing their knowledge by looking at fungi and bacteria. Children also look at the work of Carl Linnaeus, the scientist who first made important the function of naming and classifying to 'identify' organisms.</p> <p>This topic covers the following learning objectives: Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including microorganisms, plants and animals Give reasons for classifying plants and animals based on specific characteristics.</p> <p>This topic develops the following working scientifically skills: Plan different types of scientific enquiries to answer questions, including recognising and</p>	<p style="text-align: center;">The Titanic</p> <p>Children engage in a different approach to their science in this topic. They use their science and link it to an historical event in context; the sinking of the Titanic. This topic is based around applying the working scientifically skills that they have learned so far in their science lessons, to explore some of the scientific concepts behind the Titanic, e.g. floating and sinking. It can be used as a good opportunity to embed, assess and observe working scientifically skills, as well as laying foundations for transition to KS3 science.</p> <p>This topic develops the following working scientifically skills: Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary. Take measurements, use a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate. Record data and results of increasing complexity using scientific diagrams and labels,</p>

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