

Science

Curriculum



St Joseph's Catholic Primary School, a Voluntary Academy, Langwith Junction

Year Curriculum

Year 1

Science			
Advent Children will know how to:	Lent 1 Children will know how to:	Lent 2 Children will know how to:	Pentecost 1 Children will know how to:
<p>Biology - Seasonal Changes</p> <ul style="list-style-type: none"> Describe the four seasons. Observe changes across the four seasons. Observe and describe weather associated with the seasons and how day length varies. Know how the changing conditions of the seasons affects the lives of animals. Know how humans adapt their behaviour to survive during the changing seasons. 	<p>Chemistry - Materials</p> <ul style="list-style-type: none"> Distinguish between an object and the material from which it is made. Describe the properties of everyday materials. Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock. Identify the differences between opaque and transparent. 	<p>Biology - Animals Including Humans</p> <ul style="list-style-type: none"> Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals Classify animals into categories Identify and name a variety of common animals that are carnivores, herbivores and omnivores Recognise and describe the different diets and 	<p>Biology - Plants</p> <ul style="list-style-type: none"> Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees. Identify and describe the basic structure of a variety of common flowering plants, including trees, i.e. roots, trunk, stem, leaves, petal. Observe the changes in trees throughout the four seasons.

	<ul style="list-style-type: none"> • Compare and group together a variety of everyday materials on the basis of their simple physical properties. • Identify materials that are magnetic • Describe the simple physical properties of a variety of everyday materials. • Describe the difference between waterproof and absorbent. 	<p>characteristics of different animals</p> <ul style="list-style-type: none"> • Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets) • Identify, name, draw and label the basic parts of the human body • Identify which part of the body is associated with each of the five senses • Describe how to use the five senses. 	
Vocabulary			
Autumn; winter; spring; summer; seasons; weather; month; year.	Material; opaque; transparent; magnetic; non-magnetic;	Amphibian; reptile; bird; mammal; diet; teeth; carnivore; omnivore; herbivore;	Deciduous; evergreen; trunk; leaves; branches; roots; stem; petals; flower.

	waterproof; bendy; strong.	protection; camouflage; prey; predator; Touch; smell; taste; sight; hear; senses; human body.	
<p>Working Scientifically</p> <ul style="list-style-type: none"> • Ask simple questions and recognise that they can be answered in different ways • Observe closely, using simple equipment perform simple tests • Gather and record data to help in answering questions • Identify and classify Use their observations and ideas to suggest answers to questions 	<p>Working Scientifically</p> <ul style="list-style-type: none"> • Ask simple questions and recognise that they can be answered in different ways • Observe closely, using simple equipment perform simple tests • Gather and record data to help in answering questions • Identify and classify • Use their observations and ideas to suggest answers to questions 	<p>Working Scientifically</p> <ul style="list-style-type: none"> • Ask simple questions and recognise that they can be answered in different ways • Observe closely, using simple equipment perform simple tests • Gather and record data to help in answering questions • Identify and classify • Use their observations and ideas to suggest answers to questions 	<p>Working Scientifically</p> <ul style="list-style-type: none"> • Ask simple questions and recognise that they can be answered in different ways • Observe closely, using simple equipment perform simple tests • Gather and record data to help in answering questions • Identify and classify • Use their observations and ideas to suggest answers to questions

Year 2 Curriculum

Year 2

Science			
Advent Children will know:	Lent 1 Children will know:	Lent 2 Children will know:	Pentecost 1 Children will know:
<p>Chemistry - Uses of Everyday Materials</p> <ul style="list-style-type: none"> • A range of different materials. • How to identify the type of material which everyday objects are made from. • Why materials are used for specific purposes e.g. wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses • How the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. • The difference between manmade and natural materials. • That some materials melt when heated. • That some materials will harden when cooled. • That some objects and materials can be changed by squashing, bending, twisting, stretching, heating, cooling, mixing. 	<p>Biology - Animals Including Humans</p> <ul style="list-style-type: none"> • That animals, including humans, have offspring which grow into adults • That animals including humans have life cycle and change as they grow • The basic needs of animals, including humans, for survival (water, food and air) • The importance for humans of exercise, eating 	<p>Biology - Living Things and Their Habitats</p> <ul style="list-style-type: none"> • The difference between things that are living, dead, and things that have never been alive. • That most living things live in habitats to which they are suited. • That different habitats provide the basic needs of different kinds of animals and plants, and how they depend on each other 	<p>Biology - Plants</p> <ul style="list-style-type: none"> • The basic structure of a plant i.e. flower, petal, stem, leaf, fruit, root. • The role of each part of the plant. • How seeds and bulbs grow into mature plants. • That plants need water, light and a suitable temperature to grow and stay healthy. • Things that are living, dead and never lived. • The life cycle of a plant i.e. seed, young plant, mature plant, flower, fruit. • What germination means. • How to order the stages of germination.

<ul style="list-style-type: none"> How to plan an investigation which investigates the best material to make a bouncy ball from. 	<p>the right amounts of different types of food, and hygiene</p> <ul style="list-style-type: none"> The effects exercise has on the human body 	<ul style="list-style-type: none"> The names of a variety of plants and animals in their habitats. What a micro-habitat is. How to create a food chain to explain how animals obtain their food. 	
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Vocabulary

<p>Solid; rough; smooth; waterproof; transparent; strong; opaque; rigid; glue; natural; stickier; absorbent; consistency; flexible; squashing, bending, twisting, stretching, heating, suitable, purpose, man-made, Melt, heat, cool, solid, liquid, mixing, freeze, solidify, inventor, inventions, irreversible, reversible, squashing, twisting, stretching.</p>	<p>Lifecycle; exercise; diet; balanced; hygiene; food; offspring; survival; adult; hydrated; reproduce; healthy</p>	<p>Life cycle; minibeast; invertebrates; food chain; habitat; micro-habitat; prey; predator; source; consumer; energy; survival; diet; hygiene; camouflage; exercise</p>	<p>Leaf; stem; roots; petals; flowers; light; soil; water; seed; bulb; plant; temperature; healthy; germination; scattered; life cycle; photosynthesis; energy; mature.</p>
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<p>Working Scientifically Children will know how to</p> <ul style="list-style-type: none"> Ask simple questions, recognising that they can be answered in differently. Make observations using simple equipment. Perform a simple test. Know what a variable is. Perform a fair test. Identify and classify materials based on their properties. 	<p>Working Scientifically Children will know how to</p> <ul style="list-style-type: none"> Ask simple questions, recognising that they can be answered in differently. 	<p>Working Scientifically Children will know how to</p> <ul style="list-style-type: none"> Ask simple questions, recognising that they can be answered in differently. 	<p>Working Scientifically Children will know how to</p> <ul style="list-style-type: none"> Ask simple questions, recognising that they can be answered in differently. Make observations using simple equipment. Perform a simple test. Know what a variable is. Perform a fair test. Identify and classify animals, habitats and food.
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<ul style="list-style-type: none"> • Use observations and ideas to suggest answers to questions for suitability. <p>Gather and record data accurately.</p>	<ul style="list-style-type: none"> • Make observations using simple equipment. • Perform a simple test. • Know what a variable is. • Perform a fair test. • Identify and classify materials based on their properties. • Use observations and ideas to suggest answers to questions. • Gather and record data accurately. 	<ul style="list-style-type: none"> • Make observations using simple equipment. • Perform a simple test. • Know what a variable is. • Perform a fair test. • Identify and classify things. • Use observations and ideas to suggest answers to questions. • Gather and record data accurately. 	<ul style="list-style-type: none"> • Use observations and ideas to suggest answers to questions. <p>Gather and record data accurately.</p>
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Vocabulary

Scientifically, fair, predict, simple, perform, test, equipment, observe, accurate, results, method, variable, date, accurate, gather, record, classify, identify.

Year 3 Curriculum

Year 3

Science				
Advent 1 Children will know	Advent 2 Children will know	Lent 1 Children will know	Lent 2 Children will know	Pentecost Children will know
Biology - Plants <ul style="list-style-type: none"> • How to identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers • How to explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to 	Chemistry - Rocks and Soils <ul style="list-style-type: none"> • A different range or rock types • How to compare and group together different kinds of rocks on the basis of their appearance and simple physical properties • How to describe in simple terms how fossils are formed • How different types of natural rock are made • How to recognise that soils are made from 	Physics - Forces and Magnets <ul style="list-style-type: none"> • That there are different forces acting on objects • How to notice that some forces need contact between two objects, but magnetic forces can act at a distance • How to observe how magnets attract or repel each other and 	Physics - Light <ul style="list-style-type: none"> • How to recognise that they need light in order to see things and that the dark is the absence of light • How to notice that light is reflected from surfaces • How to recognise that light from the sun can be dangerous and that there are ways to protect their eyes 	Biology - Health and Movement <ul style="list-style-type: none"> • That animals and humans need the right types of nutrition • That animals get their nutrition from food • How to identify that humans and some other animals have skeletons and muscles for support, protection and movement • Know the difference between the two types of skeletons. • Know the purpose and function of muscles and joints.

<p>grow) and how they vary from plant to plant</p> <ul style="list-style-type: none"> • How to investigate the way in which water is transported within plants • How to explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal 	<p>rocks and organic matter</p>	<p>attract some materials and not others</p> <ul style="list-style-type: none"> • How to compare and group together a variety of everyday materials on the basis on whether they are attracted to a magnet, and identify some magnetic materials • How to describe magnets as having two poles • How to predict whether two magnets will attract or repel each other, depending on which poles are facing 	<ul style="list-style-type: none"> • How to recognise that shadows are formed when the light from a light source is blocked by a solid object • How to find patterns in the way that the size of shadows changes 	
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		<ul style="list-style-type: none"> How things move on different surfaces 		
Vocabulary				
<p>Germination; pollination; dispersal; life cycle; attract; fertilisation; reproduction</p>	<p>Compression; fossil; metamorphic; sedimentary; humus; topsoil; parent material; bedrock</p>	<p>Pole; force; magnetic; magnetism; attract; repel; force; force meter; gravity; natural</p>	<p>Shadow; source; opaque; transparent; reflector; natural</p>	<p>Skeleton; bones; invertebrate; vertebrate; support; protection; movement; starch; carbohydrates; fats; oils; dairy; protein; balanced; nutrition; energy; omnivore; carnivore; herbivore; consumer; predator; producer; prey</p>
<p>Working Scientifically</p> <ul style="list-style-type: none"> how to ask relevant questions and use different types of scientific enquiries to answer them how to set up simple practical enquiries, comparative and fair tests how to make systematic and careful observations and, 	<p>Working Scientifically</p> <ul style="list-style-type: none"> how to ask relevant questions and use different types of scientific enquiries to answer them how to set up simple practical enquiries, comparative and fair tests how to make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including 	<p>Working Scientifically</p> <ul style="list-style-type: none"> how to ask relevant questions and use different types of scientific enquiries to answer them how to set up simple practical enquiries, comparative and fair tests how to make systematic and careful 	<p>Working Scientifically</p> <ul style="list-style-type: none"> how to ask relevant questions and use different types of scientific enquiries to answer them how to set up simple practical enquiries, comparative and fair tests how to make systematic and careful observations and, where appropriate, take accurate measurements using standard units, 	<p>Working Scientifically</p> <ul style="list-style-type: none"> how to ask relevant questions and use different types of scientific enquiries to answer them how to set up simple practical enquiries, comparative and fair tests how to make systematic and careful observations and, where appropriate, take accurate measurements using standard units, including thermometers and data loggers how to record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables how to gather, record, classify and present data in a variety of ways to help in answering questions

<p>where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers</p> <ul style="list-style-type: none"> • how to record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables • how to gather, record, classify and present data in a variety of ways to help in answering questions • how to identify differences, similarities or 	<p>thermometers and data loggers</p> <ul style="list-style-type: none"> • how to record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables • how to gather, record, classify and present data in a variety of ways to help in answering questions • how to identify differences, similarities or changes related to simple scientific ideas and processes • how to report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions • how to use straightforward scientific evidence to answer questions or to support their findings 	<p>observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers</p> <ul style="list-style-type: none"> • how to record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables • how to gather, record, classify and present data in a variety of ways to help in answering questions 	<p>using a range of equipment, including thermometers and data loggers</p> <ul style="list-style-type: none"> • how to record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables • how to gather, record, classify and present data in a variety of ways to help in answering questions • how to identify differences, similarities or changes related to simple scientific ideas and processes • how to report on findings from enquiries, including oral and written explanations, displays or 	<ul style="list-style-type: none"> • how to identify differences, similarities or changes related to simple scientific ideas and processes • how to report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions • how to use straightforward scientific evidence to answer questions or to support their findings • how to use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions
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<p>changes related to simple scientific ideas and processes</p> <ul style="list-style-type: none"> • how to report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions • how to use straightforward scientific evidence to answer questions or to support their findings • how to use results to draw simple conclusions, make predictions for new values, suggest improvements 	<ul style="list-style-type: none"> • how to use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions 	<ul style="list-style-type: none"> • how to identify differences, similarities or changes related to simple scientific ideas and processes • how to report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions • how to use straightforward scientific evidence to answer questions or to support their findings • how to use results to draw simple conclusions, make predictions 	<p>presentations of results and conclusions</p> <ul style="list-style-type: none"> • how to use straightforward scientific evidence to answer questions or to support their findings • how to use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions 	
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and raise further questions		for new values, suggest improvements and raise further questions		
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Year 4 Curriculum

Year 4

Science				
Advent 1 Children will know how to:	Advent 2 Children will know how to:	Lent 1 Children will know how to:	Lent 2 Children will know how to:	Pentecost Children will know how to:
Physics -Electricity <ul style="list-style-type: none"> Identify the dangers of electricity Identify common appliances that run on electricity. 	Biology - Living in The Environment <ul style="list-style-type: none"> Describe the characteristics of living things Group living things in a variety of ways. 	Chemistry-States of matter <ul style="list-style-type: none"> Group materials based on their state of matter (solid, liquid, gas). 	Biology- Eating and Digestion. <ul style="list-style-type: none"> Identify the different types of teeth in humans. Describe the simple function of the teeth in humans. 	Physics-Sound <ul style="list-style-type: none"> Identify how sounds are made. Explain how sound travels from the source to ears. Explain the place of vibration in hearing. Explain the correlation between pitch and the object producing the sound.

<ul style="list-style-type: none"> • Construct a simple series electrical circuit. • Identifying and name the basic components 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 	<ul style="list-style-type: none"> • Use classification keys to help group, identify and name a variety of living things. • Create classification keys to group, identify and name a variety of living things. • Recognise habitats that contain smaller habitats within them. • Recognise that environments can change. • Describe how changes to an environment could endanger living things. 	<ul style="list-style-type: none"> • Describe how some materials change state. • Describe and observe that some materials change state when they are heated or cooled. • Measure the temperature at which changes occur in degrees Celsius ($^{\circ}\text{C}$). • Describe the water cycle. • Identify and explain the part played by evaporation and condensation in the water cycle. 	<ul style="list-style-type: none"> • Identify the different parts of the tooth • Recognise what plaque is and how this causes tooth decay. • Identify and name the parts of the human digestive system. • Describe the simple functions of the basic parts of the human digestive system. • Describe the functions of the organs in the human digestive system. 	<ul style="list-style-type: none"> • Describe what happens to a sound as it travels away from its source. • Find patterns between the volume of a sound and the strength of the vibrations that produced it. • Recognise that sounds get fainter as the distance from the sound source increases.
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<ul style="list-style-type: none"> Recognise some common conductors and insulators, and associate metals with being good conductors 					
Vocabulary children will know:	Vocabulary children will know:	Vocabulary children will know:	Vocabulary children will know:	Vocabulary children will know:	Vocabulary children will know:
Conductor, insulator, current, cell, battery, wire, bulb, motor, buzzer, circuit	Vertebrate; invertebrate; mammal; amphibian; fish; reptile; bird; environment	Solid; liquid; gas; particles; melting; freezing; heating; cooling; viscosity; water cycle; precipitation; condensation; evaporation; collection	Incisor; molar; premolar; canine; filling; tooth decay; plaque Mouth, saliva, Mouth, saliva, oesophagus, stomach, acid, digestive enzymes, small intestine, nutrients, large intestine, rectum	Vibration; sound waves; waves; pitch; soundproof; volume	
Working Scientifically	Working Scientifically	Working Scientifically		Working Scientifically	

<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, including thermometers and data loggers. • Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables. 	<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, including thermometers and data loggers. • Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables. 	<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, including thermometers and data loggers. • Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables. • Gather, record, classify and present data in a variety of ways to help in answering questions. • Identify differences, similarities or changes related to simple scientific ideas and processes. • Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. • Use straightforward scientific evidence to answer questions or to support their findings. 	<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, including thermometers and data loggers. • Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables. • Gather, record, classify and present data in a variety of ways to help in answering questions. • Identify differences, similarities or changes related to simple scientific ideas and processes. • Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. • Use straightforward scientific evidence to answer questions or to support their findings.
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<ul style="list-style-type: none"> • Gather, record, classify and present data in a variety of ways to help in answering questions. • Identify differences, similarities or changes related to simple scientific ideas and processes. • Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. • Use straightforward scientific evidence to answer questions or to support their findings. 	<ul style="list-style-type: none"> • Gather, record, classify and present data in a variety of ways to help in answering questions. • Identify differences, similarities or changes related to simple scientific ideas and processes. • Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. • Use straightforward scientific evidence to answer questions or to support their findings. • Use results to draw simple conclusions, make predictions for new values, suggest 	<ul style="list-style-type: none"> • Use results to draw simple conclusions, make predictions for new values, suggest improvements, and raise further questions. • Make a prediction and give a reason for this. Identify the differences, similarities and changes related to an enquiry 	<ul style="list-style-type: none"> • Use results to draw simple conclusions, make predictions for new values, suggest improvements, and raise further questions. • Make a prediction and give a reason for this. Identify the differences, similarities and changes related to an enquiry
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<ul style="list-style-type: none"> • Use results to draw simple conclusions, make predictions for new values, suggest improvements, and raise further questions. • Make a prediction and give a reason for this. • Identify the differences, similarities and changes related to an enquiry 	<p>improvements, and raise further questions.</p> <ul style="list-style-type: none"> • Make a prediction and give a reason for this. • Identify the differences, similarities and changes related to an enquiry 		
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Year 5 Curriculum

Year 5

Science					
<p>Advent 1 Children will know:</p>	<p>Advent 2 Children will know:</p>	<p>Lent 1 Children will know:</p>	<p>Lent 2 Children will know:</p>	<p>Pentecost 1 Children will know:</p>	<p>Pentecost 2 Children will know:</p>

Biology - Micro-organisms	Physics - Earth and Space	Chemistry - Properties of Materials	Physics - Forces and Magnets	Biology - Living Things	Biology - Animals Including Humans
<ul style="list-style-type: none"> • That bacteria, viruses and fungi are three different types of microbes. • That microbes are found everywhere • That some microbes can help keep us healthy. • That some microbes can be put to good use. • That infection can spread through sneezing and coughing 	<ul style="list-style-type: none"> • How to describe the movement of the Earth, and • Other planets, relative to the Sun • How to describe the movement of the Moon relative to the Earth • How to describe the Sun, Earth and Moon as approximately spherical bodies • How to use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky. • The key properties of the planets in the Milky way system • That the solar system includes 	<ul style="list-style-type: none"> • To compare and group together everyday materials on the basis of their properties • That some materials will dissolve in liquid to form a solution • To describe how to recover a substance from a solution • How to use knowledge of solids, liquids and gases to decide how mixtures might be separated • How to give reasons, based on evidence from comparative and fair tests. • How to demonstrate that dissolving, mixing and changes of state are reversible changes 	<ul style="list-style-type: none"> • How different forces work • To explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object • How to identify the effects of air resistance, water resistance and friction, that act between moving surfaces • To recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect. 	<ul style="list-style-type: none"> • How to describe the life process of reproduction in some plants • To know that plants produce flowers which have male and female organs. • To know that seeds are formed when pollen from the male organ fertilises the ovum (female). • To know that insects pollinate some flowers and how this is done • To know that seeds can be dispersed in a variety of ways. • To know the process of 	<ul style="list-style-type: none"> • How to describe the life process of reproduction in some animals • How to describe the changes as humans develop from birth to old age. • Know the differences in the life cycles of a mammal, an amphibian, an insect and a bird • How to describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird • Know the differences in gestation of some mammals

	meteors and asteroids	<ul style="list-style-type: none"> How to explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible 		<p>germination in a plant lifecycle</p> <ul style="list-style-type: none"> To know and explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal 	<ul style="list-style-type: none"> Know the differences in life expectancy of mammals.
Vocabulary children will know:	Vocabulary children will know:	Vocabulary children will know:	Vocabulary children will know:	Vocabulary children will know:	Vocabulary children will know:
micro-organisms; fungi; bacteria; viruses	Orbit; elliptical; crater; lunar; phase; satellite; axis; solar system; universe	Dissolve; soluble; solute; insoluble; solution; reversible; irreversible; suspension; state; material	Force; air resistance; water resistance; buoyancy; load; gravity; up thrust; exert	Pollination; pollinator; fertilisation; reproduction; germination; leaf; stem; roots; petals; light; soil; water; seed; bulb; temperature	Amphibian, mammal, human, young, old age pensioner, toddler, teenager
Working Scientifically	Working Scientifically	Working Scientifically	Working Scientifically	Working Scientifically	Working Scientifically
<ul style="list-style-type: none"> How to plan different types of scientific enquiries to 	<ul style="list-style-type: none"> How to plan different types of scientific enquiries to answer questions, 	<ul style="list-style-type: none"> How to plan different types of scientific enquiries to answer questions, 	<ul style="list-style-type: none"> How to different types of scientific enquiries to answer 	<ul style="list-style-type: none"> How to Plan different types of scientific enquiries to 	<ul style="list-style-type: none"> different types of scientific enquiries to answer

<p>answer questions, including recognising and</p> <ul style="list-style-type: none"> controlling variables where necessary How to take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate. How to record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs 	<p>including recognising and</p> <ul style="list-style-type: none"> controlling variables where necessary How to take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate. How to record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs How to identify scientific evidence that has been used to support or refute ideas or arguments How to report and present findings 	<p>including recognising and</p> <ul style="list-style-type: none"> controlling variables where necessary How to take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate. How to record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs How to identify scientific evidence that has been used to support or refute ideas or arguments How to report and present findings 	<p>questions, including recognising and</p> <ul style="list-style-type: none"> controlling variables where necessary How to take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate. How to record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs How to identify scientific evidence that has been used to support or refute ideas or arguments How to report and present findings from enquiries, including conclusions, causal 	<p>answer questions, including recognising and</p> <ul style="list-style-type: none"> controlling variables where necessary How to take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate. How to record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs 	<p>questions, including recognising and</p> <ul style="list-style-type: none"> controlling variables where necessary How to take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate. How to record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs How to identify scientific evidence that has been used to support or
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<ul style="list-style-type: none"> • How to identify scientific evidence that has been used to support or refute ideas or arguments • How to 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 • How to use test results to make predictions to set up further comparative and fair tests. 	<p>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> <ul style="list-style-type: none"> • How to use test results to make predictions to set up further comparative and fair tests. 	<p>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> <ul style="list-style-type: none"> • How to use test results to make predictions to set up further comparative and fair tests. 	<p>relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations</p> <ul style="list-style-type: none"> • How to use test results to make predictions to set up further comparative and fair tests 	<ul style="list-style-type: none"> • How to identify scientific evidence that has been used to support or refute ideas or arguments • How to 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 • How to use test results to make predictions to set up further comparative and fair tests 	<p>refute ideas or arguments</p> <ul style="list-style-type: none"> • How to 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 • How to use test results to make predictions to set up further comparative and fair tests
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Year 6 Curriculum

Year 6

Science					
Advent 1 Children will know:	Advent 2 Children will know:	Lent 1 Children will know:	Lent 2 Children will know:	Pentecost 1 Children will know:	Pentecost 2 Children will know:
Biology - Evolution <ul style="list-style-type: none"> How to recognise that living things have changed over time and that fossils provide information about 	Physics - Electricity <ul style="list-style-type: none"> How to associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit. 	Physics - Light <ul style="list-style-type: none"> How to recognise that light appears to travel in straight lines How to use the idea that light travels in straight lines to 	Biology - Circulatory System <ul style="list-style-type: none"> How to identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood 	Biology - Living Things and Inheritance <ul style="list-style-type: none"> How to describe how living things are classified into broad groups according to common 	Biology - Living Things <ul style="list-style-type: none"> How animals adapt to survive in their environments. How plants adapt to survive in their environments.

<p>living things that inhabited the Earth millions of years ago</p> <ul style="list-style-type: none"> • How to recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents. • How to identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution • How animals and plants are adapted to suit their environment in 	<ul style="list-style-type: none"> • How to 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 • How to use recognised symbols when representing a simple circuit in a diagram. 	<p>explain that objects are seen because they give out or reflect light into the eye</p> <ul style="list-style-type: none"> • How to 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 • How to use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them • Why shadows have the same shape as the objects that cast them 	<ul style="list-style-type: none"> • How to recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function. • How to describe the ways in which nutrients and water are transported within animals, including humans 	<p>observable characteristics and based on similarities and differences, including micro-organisms, plants and animals</p> <ul style="list-style-type: none"> • How to give reasons for classifying plants and animals based on specific characteristics • Know that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents 	<ul style="list-style-type: none"> • How things are classified into groups (Food chains) • How things are classified into groups (Food webs) • How earth has changed over time. • How adaptation can lead to evolution. • How animals can stay warm in different climates.
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<p>different ways and that adaptation may lead to evolution</p> <ul style="list-style-type: none"> • That living things produce offspring of the same kind, but normally offspring vary and are not identical to their parent 					
<p>Vocabulary Adaptation; artificial selection; DNA; evolution; extinct; fossil; selective</p>	<p>Vocabulary Optical; voltage; cladding; transmit; circuit; internal reflection; optical</p>	<p>Vocabulary Eye ball, cornea, pupil, iris, lens, focus, information,</p>	<p>Vocabulary Blood, red blood cells, white blood cells, plasma, platelets, defend, protect, transport, oxygen,</p>	<p>Vocabulary Adaptation; artificial selection; DNA; evolution; extinct; fossil; selective</p>	<p>Vocabulary Antarctic; Arctic; freeze; habitat; biodiversity;</p>

<p>breeding; inheritance; natural selection; species; trait;</p>	<p>fibres. Series circuit, current, cell, battery, wire, bulb, motor, buzzer, circuit, voltage</p>	<p>Protect, retina, optic nerve, reflect, dilate, contract, bigger, smaller, dim, bright Light, wave. Ray, beam, straight line, light source, reflect light, fibre optic, zig zag, bounce, Charles Kao</p>	<p>nutrients, water, Circulatory system, heart, lungs, blood, blood vessels, oxygenated, deoxygenated,</p>	<p>breeding; inheritance; natural selection; species; trait; dominant; recessive; classification; gene; inherit; arch; chromosome; characteristic; classify; genetic; molecule; fingerprint; loop;</p>	<p>ecosystem; dense; insulate; inhibit Insulate, warm, blubber, fat, fur, adaptation, Interdependent, rely, food source, consumer, predator, food chain, energy, sun</p>
<p>Working Scientifically</p> <ul style="list-style-type: none"> • How to plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary • How to take measurements, using a range of scientific 	<p>Working Scientifically</p> <ul style="list-style-type: none"> • How to plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary • How to take measurements, using a range of scientific equipment, with increasing accuracy 	<p>Working Scientifically</p> <ul style="list-style-type: none"> • How to plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary • How to take measurements, using a range of scientific equipment, with increasing accuracy 	<p>Working Scientifically</p> <ul style="list-style-type: none"> • How to different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary • How to take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking 	<p>Working Scientifically</p> <ul style="list-style-type: none"> • How to Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary • How to take measurements, using a range of scientific 	<p>Working Scientifically</p> <ul style="list-style-type: none"> • different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary • How to take measurements, using a range of scientific equipment, with increasing

<p>equipment, with increasing accuracy and precision, taking repeat readings when appropriate.</p> <ul style="list-style-type: none"> • How to record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs • How to identify scientific evidence that has been used to support or refute ideas or arguments • How to report and present findings from enquiries, 	<p>and precision, taking repeat readings when appropriate.</p> <ul style="list-style-type: none"> • How to record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs • How to identify scientific evidence that has been used to support or refute ideas or arguments • How to 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 	<p>and precision, taking repeat readings when appropriate.</p> <ul style="list-style-type: none"> • How to record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs • How to identify scientific evidence that has been used to support or refute ideas or arguments • How to 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 	<p>repeat readings when appropriate.</p> <ul style="list-style-type: none"> • How to record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs • How to identify scientific evidence that has been used to support or refute ideas or arguments • How to 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 • How to use test results to make predictions to set up 	<p>equipment, with increasing accuracy and precision, taking repeat readings when appropriate.</p> <ul style="list-style-type: none"> • How to record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs • How to identify scientific evidence that has been used to support or refute ideas or arguments • How to report and present findings from enquiries, 	<p>accuracy and precision, taking repeat readings when appropriate.</p> <ul style="list-style-type: none"> • How to record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs • How to identify scientific evidence that has been used to support or refute ideas or arguments • How to report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in
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