

bounce - to reflect back or up after hitting a surface.

direction - the path along which something moves, lies, or points.

mirror - a smooth surface that reflects an image of whatever is in front of it.

reflected - when light from an object is reflected by a surface, it changes direction; it bounces off the surface at the same angle as it hits it.

shadow - a dark image that is formed when an object blocks light.

block - to stop something from passing through.

opaque - a material property; it describes materials which do not allow light to travel through it.

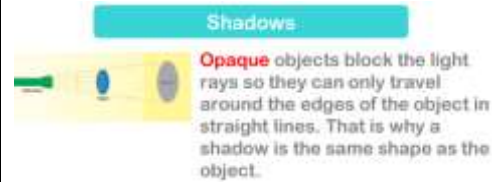
transparent - a material property; it describes materials which allow all light to travel through it.

translucent - a material property; it describes materials which allow some light to travel through it.

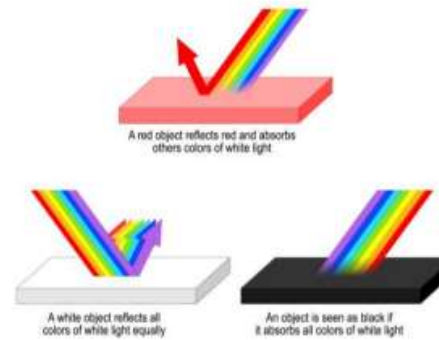
real-life problem - an issue related to real-life.

direction - the path along which something moves.

how to create a shadow.



where to position the sun shades to create the most shade.



the basics behind how light is refracted, how a rainbow is made and what happens when light hits a bubble.

draw a scientific diagram that helps support what you have found out.

collect data.

record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.

Conclude
draw conclusions based on findings.

display data to support findings.

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.

Evaluate
feedback information based on findings.

identify scientific evidence that has been used to support or refute ideas or arguments.

<p>rotate - to turn an object around a centre point.</p> <p>plan - a diagram or list of steps with details of timing and resources, used to achieve an objective.</p> <p>sun shade - a device giving protection from the sun.</p> <p>phenomena - a rare or important fact.</p> <p>optical - relating to the science of optics.</p> <p>disperse - the separating of a beam of white light into the individual colours that make it up.</p> <p>spectrum - a band of several colours.</p> <p>refraction - when light changes direction, or bends, when it moves from one material to another.</p>			
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St Anne's C of E Primary School Curriculum Plan

Subject: Science

Year: 6

Term: Autumn 2



Unit: Electricity



Vocabulary	Knowledge	Understanding	Skills
	Children will know (that)	Children will understand (that)	Children will be able to
<p>electricity - form of energy.</p> <p>current - the rate of electricity flowing through a circuit.</p> <p>circuit - a complete path which allows electricity to flow.</p> <p>circuit diagram - drawing of an electrical circuit.</p> <p>symbol - picture used to represent an electrical component.</p> <p>battery - source of energy in an electrical circuit.</p>	<p>components from their symbol and definition.</p> <p>problems in a circuit.</p> <p>possible variables for an investigation.</p> <p>electrical conductors and insulators.</p>	<p>how the brightness of a bulb is affected by the voltage/number of cells in the circuit.</p> <p>how to fix issues in a circuit.</p> <p>what affects the output of a circuit.</p>	<p>Question</p> <p>Plan design and conduct an investigation.</p> <p>plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.</p> <p>design and create a set of traffic lights.</p> <p>Set-up create a simple electrical circuit. create an accurate circuit diagram.</p>

<p>wires - a thin piece of metal which electric currents flow through, usually covered in plastic.</p> <p>voltage - force which pushes the electric current round the circuit; given the symbol V.</p> <p>voltmeter - a device used to measure voltage.</p> <p>brightness - the quality or state of giving out light.</p> <p>blown - bulb that no longer illuminates.</p> <p>variable resistor - a component which varies the amount of electric current flow.</p> <p>resistor - a component that reduces electric current flow.</p> <p>LED - a type of bulb (it stands for light emitting diode which shows that a current is flowing through the circuit).</p> <p>dimmer switch - a light control which allows you to change the brightness of a light.</p> <p>fair test - a test which only changes one variable.</p> <p>variable - something that is changed.</p>			<p>create more complex electrical circuits.</p> <p>use technology to create online circuits.</p> <p>create a switch.</p> <p>follow instructions to create a loop and wire game.</p> <p>Observe explain how the loop and wire game works.</p> <p>Record use a voltmeter to measure voltage.</p> <p>explain how their traffic lights work.</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>Conclude use test results to make predictions to set up further comparative and fair tests.</p>
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<p>output - the amount of something produced (e.g. brightness of a bulb).</p> <p>systematically - working in a methodical way.</p> <p>control test - test used to compare other results against.</p> <p>timer-based - quantity measured by a duration in time.</p> <p>sensor - a device which detects movement.</p> <p>synchronised - operating at the same time or rate.</p> <p>signal - an electrical impulse transmitted or received.</p> <p>traffic light - a set of automatically operated coloured lights.</p> <p>closed electric circuit - allows electricity to flow.</p> <p>conductor - materials which allow electricity to flow through them easily.</p> <p>insulator - materials that do not let electricity pass through them easily.</p> <p>indicating - to show.</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>Evaluate</p>
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resistor - a component that reduces current flow.			
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St Anne's C of E Primary School Curriculum Plan

Subject: Science

Year: 6

Term: Spring 1



Unit: Looking after our environment



Vocabulary	Knowledge	Understanding	Skills
	Children will know (that)	Children will understand (that)	Children will be able to
<p>global warming - the process that causes the Earth to become hotter.</p> <p>climate - average weather conditions over a long period of time.</p> <p>climate change - change in the Earth's usual weather conditions over many years.</p> <p>weather - the condition outside at a particular time and place (such as cold and cloudy).</p> <p>prevent - to keep something from happening.</p> <p>rubbish - useless waste.</p>	<p>the effects of climate change.</p> <p>the difference between climate and weather.</p> <p>what recycling is.</p> <p>where the energy that the UK uses comes from.</p> <p>what the industrial revolution was.</p>	<p>how planting trees can help to reduce climate change effects.</p> <p>what happens to waste that is sent to landfill.</p> <p>ways in which the school can reduce the amount of waste that is sent to landfill.</p> <p>the difference between renewable and non-renewable energy.</p> <p>ways to reduce the amount of energy used.</p> <p>how the industrial revolution played a part in climate change.</p>	<p>Question Plan Set-up Use test results to make predictions to set up further comparative and fair tests.</p> <p>Observe observe what happens when combustion takes place.</p> <p>Record record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.</p> <p>Conclude</p>

<p>landfill - big holes in the ground where rubbish is buried.</p> <p>council - a group of people who manage a city, county, or community.</p> <p>biodegrade - when an item naturally breaks down.</p> <p>recycle - the process of taking waste materials and turning them into something new as opposed to being thrown away.</p> <p>emissions - a pollutant that is sent out into the environment.</p> <p>renewable - a resource which can be used repeatedly because it is replaced naturally.</p> <p>non-renewable - a resource which cannot be used repeatedly.</p> <p>greenhouse gases - gases in the Earth's atmosphere that trap heat.</p> <p>net zero - the balance between how much greenhouse gas we add to the environment and what is taken away.</p> <p>combustion - another name for burning.</p> <p>fossil fuel - fuels that are formed from the remains of dead organisms.</p>	<p>what COP is and what they want to do.</p> <p>what was agreed at the last COP meeting.</p> <p>the effects of climate change on animals and habitats.</p>	<p>ways to make sure that COP targets are met.</p>	<p>analyse the data that has been collected.</p> <p>use data comparisons to predict future trends.</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>Evaluate identify scientific evidence that has been used to support or refute ideas or arguments.</p>
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<p>fuel - something that has stored energy.</p> <p>coal - a type of fossil fuel.</p> <p>industrial revolution - a period of major change in the way products are made.</p> <p>species - a group of living things categorised together because of similarities.</p> <p>natural disaster - a natural event, such as a flood, earthquake, hurricane or drought.</p> <p>sensitive - inability to survive under changing climate conditions.</p> <p>habitat - the home of an animal or plant.</p> <p>vulnerable - the possibility of being harmed.</p>			
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St Anne's C of E Primary School Curriculum Plan

Subject: Science

Year: 6

Term: Spring 2



Unit: Living Things and their Habitats



Vocabulary	Knowledge	Understanding	Skills
	Children will know (that)	Children will understand (that)	Children will be able to
<p>classify - to organise into categories, according to shared characteristics.</p> <p>microorganism - a microscopic organism, too small to see with the naked eye.</p> <p>living organism - something that can move, use energy and reproduce.</p> <p>fern - a type of plant which has no seeds or flowers.</p> <p>conifer - a type of tree which produces cones.</p> <p>MRS GREN - an acronym for Movement, Respiration, Sensitivity,</p>	<p>ways to differentiate living things.</p> <p>living organisms can be arranged into kingdoms.</p> <p>how different organisms can be classified using the Linnaean system.</p> <p>and explain that microorganisms are both helpful and harmful.</p> <p>fungi are a separate kingdom to plants.</p>	<p>how to classify a range of living animals and plants.</p> <p>MRS GREN and how a living organism follows these rules.</p> <p>how an animal can be classified depending on its characteristics.</p> <p>microorganisms are microscopic and cannot be seen with the naked eye.</p> <p>the differences between fungi and other organisms.</p> <p>the similarities between plants and fungi.</p>	<p>Question Plan plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.</p> <p>Set-up Observe Record explain a key feature or member of each animal kingdom.</p> <p>use research to help classify a living organism.</p> <p>describe, represent and present data about a living organism.</p>

<p>Growth, Reproduction, Excretion, Nutrition.</p> <p>cell - the smallest structural and functional unit of an organism.</p> <p>unicellular - an organism which consists of one cell.</p> <p>multicellular - an organism which consists of more than one cell.</p> <p>kingdom - the highest category of organisation which living things are classified into.</p> <p>species - the smallest class of organism.</p> <p>Carl Linnaeus - a scientist who classified living things.</p> <p>domain - determines whether an organism has a nucleus or not.</p> <p>Latin - an ancient language used in the Roman Empire.</p> <p>classification - the arrangement of animals and plants in groups according to their observed similarities.</p> <p>virus - an infectious microbe which cannot replicate; it infects cells and uses components of a host cell to reproduce.</p> <p>bacteria - single celled organisms invisible to the naked eye.</p>			<p>describe and represent data about a member of the animal kingdom.</p> <p>represent data about a member of the animal kingdom.</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>Conclude explain how living things are classified by designing their own chart and comparing their size.</p> <p>represent research and data in a creative way to summarise knowledge.</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>Evaluate</p>
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<p>fungi - a diverse kingdom of organisms, with members ranging from the familiar mushroom to brewer's yeast.</p> <p>protozoa - single celled organisms which live in a wide variety of moist habitats, including fresh water, marine environments and soil.</p> <p>plant - an organism found in the plant kingdom which has cells with a cell wall.</p> <p>microscopic - so small as to be visible only with a microscope.</p> <p>mycelium - a collection of fungal cells that look a bit like roots.</p> <p>ecosystem - a community or group of living organisms that live in and interact with each other in a specific environment.</p> <p>reproduction - to make offspring either sexually or asexually.</p> <p>habitat - a place where living organisms live.</p>			
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St Anne's C of E Primary School Curriculum Plan

Subject: Science

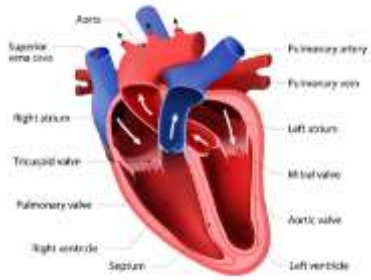
Year: 6

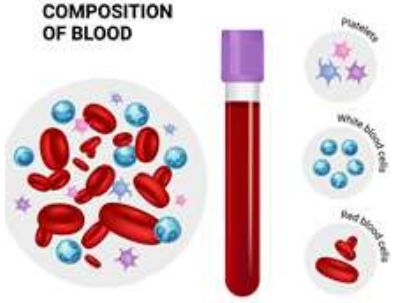
Term: Summer 1



Unit: Animals including humans



Vocabulary	Knowledge	Understanding	Skills
	Children will know (that)	Children will understand (that)	Children will be able to
<p>circulatory system - the system that controls the flow of blood around the body.</p> <p>ventricle - the lower chambers of the heart.</p> <p>atrium - the upper chambers of the heart.</p> <p>vessel - tube which circulates the blood through the body.</p> <p>valves - flaps which open and close to let blood flow.</p> <p>capillary - a microscopic blood vessel connecting arteries and veins.</p>	<p>oxygenated and deoxygenated blood.</p>  <p>the function of different blood vessels.</p> <p>the composition of the blood.</p>	<p>how the blood moves around the heart.</p> <p>the structure and function of the heart.</p> <p>the movement of blood through the heart.</p> <p>the function of cells within the blood.</p>	<p>Question</p> <p>Plan plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.</p> <p>Set-up design an investigation associated with heart rate, diet and exercise.</p> <p>Observe explore issues surrounding restricted arteries.</p> <p>Record</p>

<p>microscope - an instrument used for viewing very small objects.</p> <p>blood - liquid circulating through vessels.</p> <p>artery - a vessel in the circulatory system which transports blood away from the heart.</p> <p>vessel - tube which circulates the blood through the body.</p> <p>vein - a vessel in the circulatory system which transports blood back to the heart.</p> <p>plasma - the fluid part of blood that carries other substances.</p> <p>red blood cell - disc shaped cell that carries oxygen.</p> <p>white blood cell - cells in the blood involved with the immune system.</p> <p>platelet - cell fragments in the blood involved in clotting.</p> <p>concentration - how much of a substance is present.</p> <p>absorb - to take in or soak up.</p> <p>osmosis - the movement of water from high to low concentration.</p>	<p style="text-align: center;">COMPOSITION OF BLOOD</p>  <p>the meaning of 'osmosis' and 'diffusion'.</p> <p>how lifestyle choices can affect health.</p>	<p>the importance of diffusion and osmosis. how water and nutrients are transported.</p>	<p>create a pie chart to explain the composition of the blood. accurately measure pulse.</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>Conclude 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>Evaluate identify scientific evidence that has been used to support or refute ideas or arguments.</p>
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<p>diffusion - the movement of substances from high to low concentration.</p> <p>nutrient - a substance essential for life and growth.</p> <p>diet - the kind of food that an animal usually eats.</p> <p>pulse - the rhythmical throbbing of the arteries as blood is pumped through them.</p> <p>BPM (beats per minute) - the number of times the heart beats in one minute.</p> <p>exercise - activity requiring physical effort.</p> <p>heart rate - the speed at which the heart beats.</p>			
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St Anne's C of E Primary School Curriculum Plan

Subject: Science

Year: 6

Term: Summer 2



Unit: Evolution and Inheritance



Vocabulary	Knowledge	Understanding	Skills
	Children will know (that)	Children will understand (that)	Children will be able to
<p>characteristic - a feature or something that helps describe how it looks or what it can do.</p> <p>variation - the differences between living things of the same species.</p> <p>offspring - the young of a person, animal or plant.</p> <p>environmental - the surroundings and conditions for a living thing.</p> <p>inherit - when features are passed on from parents to offspring.</p> <p>nutrition - the food needed to survive and grow.</p>	<p>examples of characteristics in humans.</p> <p>how an animal is adapted to its environment.</p> <p>how a plant is adapted to its environment.</p> <p>how living things have changed over time.</p> <p>differences in human ancestors.</p>	<p>some characteristics are inherited.</p> <p>why offspring look similar but not identical to their parents.</p> <p>variations in species can be due to environmental factors.</p> <p>how an animal's adaptation helps it to survive in the habitat.</p> <p>how plants adaptation helps it to survive in the habitat.</p> <p>how natural selection causes living things to evolve over time.</p> <p>why the theory of evolution was not accepted at first.</p> <p>how humans have evolved.</p>	<p>Question</p> <p>Plan predict how an animal would have to adapt to suit a different habitat.</p> <p>create a new plant that is perfectly adapted to survive in a habitat.</p> <p>Set-up</p> <p>Observe compare and contrast neanderthals and homo sapiens.</p> <p>Record</p> <p>Conclude use evidence from fossils to suggest some conclusions about life in the past.</p>

<p>climate - the typical weather found in an area.</p> <p>adaptation - changes or special features of a living thing to help it live in a habitat.</p> <p>habitat - the home of a living thing; it provides everything the organism needs to survive (food, water, shelter).</p> <p>feature - a specific part of an animal or object.</p> <p>predator - an animal that eats other living things.</p> <p>pollinate - to move a plant's pollen so it can reproduce.</p> <p>epiphytes - plants that grow on the surface of other plants.</p> <p>nutrients - minerals found in food which are essential for growth.</p> <p>toxic - poisonous.</p> <p>Mary Anning - a famous palaeontologist who discovered fossils on the Jurassic Coast.</p> <p>ichthyosaurus - a large marine reptile that lived 201-194 million years ago.</p> <p>fossil - the remains or impression of a prehistoric plant or animal embedded in rock.</p>			<p>use evidence from fossils to compare extinct animals with those that are living and identify adaptations.</p> <p>use evidence from fossils to suggest some conclusions about life in the past.</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>Evaluate identify scientific evidence that has been used to support or refute ideas or arguments.</p>
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<p>Jurassic Coast - an area covering Dorset and Devon that is famous for fossil findings.</p> <p>palaeontologist - a scientist that studies the remains of plants and animals found as fossils.</p> <p>natural selection - survival and reproduction of the fittest.</p> <p>extinct - having no living members of an organism left in the wild.</p> <p>Charles Darwin - an English naturalist, best known for his theory of evolution.</p> <p>evolve - how living things gradually change over time.</p> <p>theory - an explanation for why something happens.</p> <p>tool - a piece of equipment used to make or repair something.</p> <p>neanderthal - extinct subspecies of human.</p> <p>ancestor - a person/living thing an organism is descended from.</p> <p>homo sapiens - the scientific name for the human species.</p> <p>primate - any mammal of the group that includes the lemurs,</p>			
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lorises, tarsiers, monkeys, apes and humans.			
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