



Progression of Learning Objectives

Science: Year 3

| Biology   |   | Chemistry   | Physics   |  |
|---|---|---|---|--|
| <i>Animals, including humans</i>  | <i>Plants</i>   | <i>Rocks</i>  | <i>Forces</i>   | <i>Light</i>   |
| <ul style="list-style-type: none"> <li>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</li> <li>identify that humans and some other animals have skeletons and muscles for support, protection and movement</li> </ul> | <ul style="list-style-type: none"> <li>identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers</li> <li>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</li> <li>investigate the way in which water is transported within plants</li> <li>explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal</li> </ul> | <ul style="list-style-type: none"> <li>compare and group together different kinds of rocks on the basis of their appearance and simple physical properties</li> <li>describe in simple terms how fossils are formed when things that have lived are trapped within rock</li> <li>recognise that soils are made from rocks and organic matter</li> </ul> | <ul style="list-style-type: none"> <li>compare how things move on different surfaces</li> <li>notice that some forces need contact between 2 objects, but magnetic forces can act at a distance</li> <li>observe how magnets attract or repel each other and attract some materials and not others</li> <li>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</li> <li>describe magnets as having 2 poles</li> <li>predict whether 2 magnets will attract or repel each other, depending on which poles are facing</li> </ul> | <ul style="list-style-type: none"> <li>recognise that they need light in order to see things and that dark is the absence of light</li> <li>notice that light is reflected from surfaces</li> <li>recognise that light from the sun can be dangerous and that there are ways to protect their eyes</li> <li>recognise that shadows are formed when the light from a light source is blocked by an opaque object</li> <li>find patterns in the way that the size of shadows change</li> </ul> |

|  |   |  |   |  |
|--|---|--|---|--|
| <p>I know that there are different types of skeletons (endoskeleton, exoskeleton and hydrostatic skeleton)</p> <p>I can sort animals by their skeleton type.</p> <p>I know that babies are born with more bones than adults.</p> <p>I can arrange the bones on a human skeleton.</p> <p>I know that bones have common names and scientific names.</p> <p>I know some of the names of the bones on a human skeleton.</p> <p>I know what nutrients people need for a balanced diet.</p> <p>I know some of the different food groups and what each group is needed for.</p> <p>I can investigate joints and when they are used.</p> <p>I know why joints are important and can name and identify some (ball and socket joint, hinge joint, glider joint)</p> <p>I understand what muscles are and how they work together.</p> | <p>I can identify the different parts of flowering plants. I can predict what will happen in an investigation.</p> <p>I can identify the main stages of the life cycle of flowering plants.</p> <p>I can explain the functions of the different parts of plants. I can set up an investigation and make predictions. I can make observations and conclusions.</p> <p>I can identify and describe the stages of the life cycle of flowering plants.</p> <p>I can explain the functions of the different parts of a flower.</p> | <p>I know the difference between natural and man-made rocks.</p> <p>I know about the difference between igneous, sedimentary and metamorphic rocks.</p> <p>I know about the different layers of soil.</p> <p>I know that magma and lava create certain types of rocks.</p> <p>I can name a range of types of rocks.</p> <p>I know that some rocks allow water to pass through and others do not.</p> <p>I know what fossils are.</p> <p>I know how fossils are formed.</p> <p>I know about the first discovery of fossils.</p> <p>I can investigate the properties of rocks and can use words to describe these.</p> | <p>I know what materials are magnetic.</p> <p>I know that a magnet has two sides called north pole and south pole.</p> <p>I know about push and pull forces.</p> <p>I can give examples of push and pull forces.</p> <p>I know about friction and how friction is created.</p> <p>I know that the Earth is a giant magnet.</p> <p>I know about the magnetic field and that this is invisible.</p> <p>I know that North to South attract and that North to North and South to South repel each other.</p> <p>I know about different types of magnets.</p> <p>I can investigate friction between different materials.</p> <p>I know how magnets are used in everyday life and inventions.</p> | <p>I can explain the danger of direct sunlight and explain how to keep protected.</p> <p>I know that light is reflected from a surface.</p> <p>I know about a range of light sources.</p> <p>I can explain that dark is the absence of light.</p> <p>I can explain why we need light.</p> <p>I can name some reflective materials.</p> <p>I know the purposes of some reflective materials and how they are used in everyday life.</p> |
|--|---|--|---|--|

|  |   |  |  |   |
|--|---|--|--|---|
| <p><b><u>Vocabulary</u></b><br/> Nutrition<br/> Skeletons(endoskeleton, exoskeleton and hydrostatic skeleton)<br/> Joints (ball and socket joint, hinge joint, glider joint)</p> | <p><b><u>Vocabulary</u></b><br/> life cycle of flowering plants<br/> pollination<br/> seed formation<br/> seed dispersal<br/> fertilisation</p> | <p><b><u>Vocabulary</u></b><br/> Properties<br/> Rock formation<br/> Organic matter<br/> Igneous<br/> Sedimentary<br/> Metamorphic<br/> Magma<br/> Fossils</p> | <p><b><u>Vocabulary</u></b><br/> Magnetic pull<br/> Attraction<br/> Repel<br/> North and south poles<br/> Invisible magnetic field<br/> Friction</p> | <p><b><u>Vocabulary</u></b><br/> Direct sunlight<br/> Reflected<br/> Shadow<br/> Light source<br/> Opaque<br/> Absence of light</p> |
|--|---|--|--|---|

Science: Year 4

| Biology   |  | Chemistry  | Physics   |   |
|---|--|--|---|---|
| <i>Animals, including humans</i>  | <i>All living things and their habitats</i>  | <i>States of Matter</i>  | <i>Electricity</i>  | <i>Sound</i>  |
| <ul style="list-style-type: none"> <li>describe the simple functions of the basic parts of the digestive system in humans</li> <li>identify the different types of teeth in humans and their simple functions</li> <li>construct and interpret a variety of food chains, identifying producers, predators and prey</li> </ul> | <ul style="list-style-type: none"> <li>recognise that living things can be grouped in a variety of ways</li> <li>explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment</li> <li>recognise that environments can change and that this can sometimes pose dangers to living things</li> </ul> | <ul style="list-style-type: none"> <li>compare and group materials together, according to whether they are solids, liquids or gases</li> <li>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)</li> <li>identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature</li> </ul> | <ul style="list-style-type: none"> <li>identify common appliances that run on electricity</li> <li>construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers</li> <li>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</li> <li>recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit</li> <li>recognise some common conductors and insulators, and associate metals with being good conductors</li> </ul> | <ul style="list-style-type: none"> <li>identify how sounds are made, associating some of them with something vibrating</li> <li>recognise that vibrations from sounds travel through a medium to the ear</li> <li>find patterns between the pitch of a sound and features of the object that produced it</li> <li>find patterns between the volume of a sound and the strength of the vibrations that produced it</li> <li>recognise that sounds get fainter as the distance from the sound source increases</li> </ul> |

|   |   |  |  |   |
|---|---|--|--|---|
| <p><b>Animals including humans - <i>To learn about aspects of the human body and food chains</i></b><br/> <b>Keyacs:</b><br/> Identify and name the parts of the human digestive system<br/> Describe the functions of the organs in the human digestive system<br/> Identify and describe the different types of teeth in humans<br/> Describe the functions of different human teeth<br/> Use food chains to identify producers, predators and prey<br/> Construct food chains to identify producers, predators and prey<br/> <u><b>Learning Objectives</b></u><br/> To identify and name the parts of the human digestive system – stomach, small intestine, large intestine, rectum, duodenum, oesophagus, pancreas, anus.<br/> To explain the functions of the organs in the human digestive system.<br/> To identify and describe the different types of teeth in humans – incisors, canines, pre-molars and molars.<br/> To describe the functions of different human teeth – canines for ripping and tearing, incisors for cutting and biting, molars for grinding and pre-molars for holding and crushing.</p> | <p><b>Living things and their habitats – <i>To classify and identify living things and learn that the environment has an impact upon living things</i></b><br/> <b>Keyacs</b><br/> Group living things in different ways<br/> Use classification keys to group, identify and name living things<br/> Create classification keys to group, identify and name living things (for others to use)<br/> Describe how changes to an environment could endanger living things<br/> <u><b>Learning Objectives</b></u></p> | <p><b>States of Matter - <i>To understand that there are 3 states of matter</i></b><br/> <b>Keyacs:</b><br/> Group materials based on their state of matter (solid, liquid, gas)<br/> Describe how some materials can change state<br/> Explore how materials change<br/> Measure the temperature at which materials change state<br/> Describe the water cycle<br/> Explain the part played by evaporation and condensation in the water cycle<br/> Ask relevant scientific questions<br/> Use observations and knowledge to answer scientific questions<br/> Use observations and knowledge to answer scientific questions<br/> Use diagrams, keys, bar charts and tables using scientific language<br/> Use findings to report in different ways inc. oral and written explanations, presentation<br/> Draw conclusions and suggest improvements<br/> Make a prediction with a reason<br/> Gather, record, classify and present data in different ways to answer scientific questions</p> | <p><b>Electricity – <i>To Identify electricity at work and create circuits</i></b><br/> <b>Keyacs:</b><br/> Identify and name appliances that require electricity to function<br/> Construct a series circuit<br/> Identify and name the components in a series circuit (inc cells, wires, bulbs, switches and buzzers)<br/> Draw a circuit diagram<br/> Predict and test whether a lamp will light within a circuit<br/> Describe the function of a switch in a circuit<br/> Describe the difference between a conductor and insulators; giving examples of each<br/> Ask relevant scientific questions<br/> Use observations and knowledge to answer scientific questions<br/> Set up a simple enquiry to explore a scientific question<br/> Set up a test to compare 2 things<br/> Use observations and knowledge to answer scientific questions<br/> Gather, record, classify and present data in different ways to answer scientific questions<br/> Use findings to report in different ways inc. oral and written explanations, presentation<br/> Draw conclusions and suggest improvements<br/> Make a prediction with a reason<br/> <u><b>Lesson Objectives</b></u><br/> To recall prior knowledge about electricity through their own personal experience<br/> To identify and name common appliances that run on electricity</p> | <p><b>Sound – <i>To understand how we hear sound and how vibrations work</i></b><br/> Describe how sound is made<br/> Explain how sound travels from a source to our ears<br/> Explain the place of vibration in hearing<br/> Explore the correlation between the volume of a sound and the strength of the vibrations that produced it<br/> Describe what happens to a sound as it travels away from its source<br/> <u><b>Lesson Objectives</b></u><br/> To recall prior knowledge of sound<br/> To describe how sound is made.<br/> To explore the correlation between the volume of a sound and the strength of the vibrations that produced it<br/> To explain how pitch varies in sound.<br/> To explain how sound travels through each part of the inner ear<br/> To describe what happens to a sound as it travels away from its source</p> |
|---|---|--|--|---|

|  |  |   |   |  |
|--|--|---|---|--|
| <p>To make comparisons between human and animal teeth identifying similarities and differences.</p> <p>To interpret food chains to identify producers, predators and prey.</p> <p>To construct food chains to identify producers, predators and prey.</p> <p>To ask relevant scientific questions.</p> <p>To use observations and knowledge to answer scientific questions.</p> <p>To set up a simple enquiry to explore a scientific question.</p> <p>To draw conclusions and suggest improvements.</p> <p>To make a prediction with a reason</p> |  | <p>Set up a test to compare 2 things</p> <p><b>Lesson Objectives:</b></p> <p>To explain the particle structure of solids, liquids and gases</p> <p>To name a range of solids, liquids and gases</p> <p>To identify and group materials based upon their state – solids, liquids and gases</p> <p>To describe how some materials can change state – solid to liquid, liquid to solid and vice versa</p> <p>To explore how materials change – heating and cooling</p> <p>To explain and measure the temperature at which materials change state</p> <p>To explain the process of the water cycle and can explain the part played by evaporation and condensation</p> <p>To ask relevant scientific questions about the states of matter – solids, liquids and gases</p> <p>To use observations of scientific investigations – dancing raisins, freezing superheroes</p> <p>To set up a simple enquiry to explore scientific questions related to states of matter</p> <p>To careful and accurate observations using standard units of measurements – ml</p> | <p>To construct a simple series electrical circuit</p> <p>To predict and test complete and incomplete series circuits</p> <p>To identify and name the basic parts of the circuit, including cells, wires, bulbs, switches and buzzers</p> <p>To learn that a switch opens and closes a circuit</p> <p>To know some common conductors and insulators and explain the difference between these</p> <p>To know that metals are good conductors.</p> <p>To set up a simple enquiry to explore a simple question – How does a circuit work?</p> <p>To use observations and knowledge to answer scientific questions relating to electricity</p> <p>To use scientific diagrams to illustrate a series circuit</p> <p>To draw conclusions and suggest improvements to a series circuit.</p> <p>To make a prediction based upon scientific reason and own knowledge</p> |  |
|--|--|---|---|--|

|   |   |  |   |   |
|---|---|--|---|---|
|   |   | for freezing and melting investigation<br>To use thermometers to make measurements related to a scientific states of matter investigation<br>To make a prediction with a reason<br>To use diagrams, bar chats and tables using scientific language |   |   |
| <u>Vocabulary</u><br>digestive system<br>stomach,<br>small intestine,<br>large intestine,<br>rectum,<br>duodenum,<br>oesophagus,<br>pancreas,<br>anus.<br>incisors,<br>canines,<br>pre-molars,<br>molars.<br>producers,<br>predators<br>prey. | <u>Vocabulary</u><br>seven life processes<br>living organisms<br>characteristics<br>classification keys<br>environment<br>endanger<br>living things | <u>Vocabulary</u><br>particle structure<br>solids,<br>liquids<br>gases<br>change state<br>heating cooling<br>temperature<br>change state<br>water cycle<br>evaporation condensation  | <u>Vocabulary</u><br>electrical<br>circuit,<br>cells,<br>wires,<br>bulbs,<br>buzzers<br>switch<br>common conductors<br>insulators<br>metal<br>conductors.<br>series circuit<br>improvements | <u>Vocabulary</u><br>Sound<br>correlation<br>volume<br>strength of the vibrations<br>pitch varies in sound<br>Travel<br>inner ear<br>source |

**Science: Year 5**

|   |                                  |  |  |                |                        |
|---|----------------------------------|--|--|----------------|------------------------|
| <b>Biology</b>                          |                                  | <b>Chemistry</b>                           |  | <b>Physics</b> |                        |
| <i>Living things and their habitats</i> | <i>Animals, including humans</i> | <i>Properties and changes in materials</i> |  | <i>Forces</i>  | <i>Earth and Space</i> |

|   |   |  |   |  |
|---|---|--|---|--|
| <ul style="list-style-type: none"> <li>• describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird</li> <li>• describe the life process of reproduction in some plants and animals</li> </ul> | <ul style="list-style-type: none"> <li>• describe the changes as humans develop to old age</li> </ul> | <ul style="list-style-type: none"> <li>• 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</li> <li>• know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution</li> <li>• use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating</li> <li>• give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic</li> <li>• demonstrate that dissolving, mixing and changes of state are reversible changes</li> <li>• 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</li> </ul> | <ul style="list-style-type: none"> <li>• explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object</li> <li>• identify the effects of air resistance, water resistance and friction, that act between moving surfaces</li> <li>• recognise that some mechanisms including levers, pulleys and gears allow a smaller force to have a greater effect</li> </ul> | <ul style="list-style-type: none"> <li>• describe the movement of the Earth and other planets relative to the sun in the solar system</li> <li>• describe the movement of the moon relative to the Earth</li> <li>• describe the sun, Earth and moon as approximately spherical bodies</li> <li>• use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky</li> </ul> |
|---|---|--|---|--|

|  |  |  |   |   |
|--|--|--|---|---|
| <p>I can observe and describe a life process through an enquiry.</p> <p>I can explain a way in which a plant reproduces.</p> <p>I can understand and can explain the different processes that take place.</p> <p>I can understand and explain a way in which a plant reproduces without pollination.</p> <p>I can plan an enquiry.</p> <p>I can record data and make predictions for a further test.</p> <p>I can understand what a lifecycle is.</p> <p>I can describe the life cycle of a living thing.</p> <p>I can describe differences between different life cycles.</p> <p>I can record data.</p> <p>I can read, spell and pronounce scientific vocabulary accurately.</p> <p>I can relate scientific knowledge to an argument or theory.</p> | <p>To be able to recognise the stages of growth and development in humans.</p> <p>To know the gestation periods in humans and compare them to animals.</p> <p>To recognise the stages of development during childhood and understand the needs of children.</p> <p>To be able to understand the initial changes inside and outside the body during puberty.</p> <p>To understand how boys and girls can stay fit, healthy and happy through puberty.</p> <p>To understand how the body changes during adulthood and old age.</p> | <p>I can compare everyday materials.</p> <p>I can group these materials on the basis of their properties and do this in a mathematical way.</p> <p>I can explain my choices using scientific language.</p> <p>I understand what conductivity is.</p> <p>I can investigate thermal conductivity.</p> <p>I can draw conclusions from my findings.</p> <p>I can understand that some materials dissolve in a liquid to form a solution.</p> <p>I can describe how a material dissolves to form a solution and the process.</p> <p>I can describe how to recover a material from a solution.</p> <p>I can mix materials to create a solution.</p> <p>I can filter, sieve and evaporate to separate materials.</p> <p>I can understand how some changes are reversible.</p> <p>I can discuss reversible and irreversible changes.</p> <p>I can understand that some changes are reversible and some are not.</p> <p>I can explain how some changes form a new material and that this is usually irreversible.</p> <p>I can explain the outcome of a scientific test.</p> <p>I can report my findings.</p> <p>I can explain a conclusion from an experiment.</p> <p>I can control the experiment.</p> <p>I can record data and results.</p> <p>I can explain a conclusion.</p> | <p>I can understand how unsupported objects fall.</p> <p>I can explain how gravity works.</p> <p>I can understand and explain how gravity acts between the Earth and a falling object.</p> <p>I can explain friction through my understanding that it works between two opposing surfaces.</p> <p>I can plan and conduct an experiment exploring the effects of friction.</p> <p>I can explain my findings through exploring friction.</p> <p>I can identify air resistance and experiment with it.</p> <p>I can identify it and understand it is a force that slows objects moving through air.</p> <p>I can draw conclusions about air resistance through experimentation.</p> <p>I can explain what water resistance is and the effect it has on an object.</p> <p>I can identify water resistance through scientific enquiry.</p> <p>I can draw conclusions about water resistance from an experiment.</p> <p>I can recognise how levers and pulleys work.</p> <p>I can understand and explain how they use a small force to have a greater effect.</p> | <p>I can find out about the sun, planets and solar system.</p> <p>I can find out about the relationship between the Earth and sun and why we have day, night and seasons.</p> <p>I understand the moon and the lunar phases.</p> <p>I know about the planets in the solar system.</p> <p>I can find out about the relationship between the Earth and Sun and WHY we have the different seasons.</p> <p>Relate this scientifically to the tilt of the Earth and its axis.</p> <p>I can experiment with this and also learn about the lunar calendar.</p> <p>I know about the planets within our solar system and how they relate to Earth in a number of ways such as size, habitability, distance from the Sun etc.</p> |
|--|--|--|---|---|

|  |  |  |   |   |
|--|--|--|---|---|
|  |  |  | <p>I can understand how gears transmit force.</p> <p>I can understand that the transfer of force is called transmission and that gears allow a smaller force to have a greater effect.</p> <p>I can understand how gear ratios work with force.</p> |   |
| <p><b><u>Vocabulary</u></b></p> <p>life process<br/>reproduce<br/>pollination<br/>lifecycle<br/>data<br/>amphibian<br/>insect<br/>mammal<br/>bird<br/>Jane Goodall</p> | <p><b><u>Vocabulary</u></b></p> <p>growth<br/>humans<br/>gestation periods<br/>infancy<br/>childhood<br/>adolescence<br/>puberty<br/>pregnancy<br/>sexual intercourse<br/>hygiene<br/>genitals<br/>breasts<br/>adulthood<br/>old age</p> | <p><b><u>Vocabulary</u></b></p> <p>Properties<br/>Solubility<br/>transparency<br/>conductivity (electrical and thermal)<br/>magnets<br/>liquid<br/>solution<br/>mixture<br/>soluble<br/>solute<br/>mix<br/>sive<br/>filter<br/>evaporate<br/>dissolve<br/>burn<br/>reversible<br/>irreversible</p> | <p><b><u>Vocabulary</u></b></p> <p>unsupported objects<br/>Earth<br/>force<br/>gravity<br/>air resistance<br/>water resistance<br/>friction<br/>mechanisms<br/>levers,<br/>pulleys<br/>gears</p>  | <p><b><u>Vocabulary</u></b></p> <p>Movement<br/>Planets<br/>Earth<br/>Solar system<br/>Sun<br/>Rotation<br/>Spherical bodies<br/>Moon<br/>Axis<br/>Seasonal changes<br/>Habitability<br/>Waxing gibbous<br/>Waning<br/>Phases of the Moon</p> |

**Science: Year 6**

**Biology**

**Physics**

*Animals, including humans*

*Living things and their habitats*

*Evolution and Inheritance*

*Electricity*

*Light*

|   |  |  |   |   |
|---|--|--|---|---|
| <ul style="list-style-type: none"> <li>• identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood</li> <li>• recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function</li> <li>• describe the ways in which nutrients and water are transported within animals, including humans</li> </ul> | <ul style="list-style-type: none"> <li>• describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals</li> <li>• give reasons for classifying plants and animals based on specific characteristics</li> </ul> | <ul style="list-style-type: none"> <li>• recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago</li> <li>• recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents</li> <li>• identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution</li> </ul>    | <ul style="list-style-type: none"> <li>• associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit</li> <li>• 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</li> <li>• use recognised symbols when representing a simple circuit in a diagram</li> </ul> | <ul style="list-style-type: none"> <li>• recognise that light appears to travel in straight lines</li> <li>• 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</li> <li>• 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</li> <li>• use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them</li> </ul> |
| <p>Identify and name the main parts of the human circulatory system<br/>         Know the function of the heart, blood vessels and blood<br/>         Know the impact of diet, exercise, drugs and lifestyle on the way their bodies function<br/>         Know the ways in which nutrients and water are transported in animals, including humans</p>  | <p>Classify living things into broad groups according to observable characteristics<br/>         Identify similarities and differences between different living things<br/>         Know how living things have been classified<br/>         Give reasons for classifying plants and animals in a specific way</p>                                   | <p>Know that living things have changed over time<br/>         Know how fossils can be used to find out about living things that lived on Earth millions of years ago<br/>         Know about reproduction and offspring (recognising that offspring normally vary and are not identical to their parents)<br/>         Know how animals and plants are adapted to suit their environment<br/>         Link adaptation over time to evolution<br/>         Know about evolution and can explain what it is</p> | <p>Draw circuit diagrams using the correct symbols<br/>         Know how the number and voltage of cells in a circuit links to the brightness of a lamp or the volume of a buzzer<br/>         Compare and give reasons for variations in how components function including the brightness of bulbs, loudness of buzzers and the on/off position of switches</p>  | <p>Know that light travels in straight lines<br/>         Explain that objects are seen because they give out or reflect light into the eye<br/>         Know that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes<br/>         Know why shadows have the same shape as the object that casts them (because light travels in straight lines)</p>   |

|  |   |   |  |   |
|--|---|---|--|---|
| <p><b><u>Vocabulary</u></b><br/>Circulatory system,<br/>arteries,<br/>veins,<br/>air sacs,<br/>capillaries,<br/>ventricles,<br/>pulse, oxygenated/deoxygenated<br/>blood,<br/>healthy lifestyle,<br/>drugs,<br/>legal,<br/>illegal</p> | <p><b><u>Vocabulary</u></b><br/>Microorganism,<br/>vertebrates,<br/>invertebrates,<br/>species,<br/>bacteria,<br/>algae,<br/>classification,<br/>characteristics.</p> | <p><b><u>Vocabulary</u></b><br/>DNA,<br/>genes,<br/>inheritance,<br/>offspring,<br/>cells,<br/>evolution,<br/>Charles Darwin,<br/>adaptation,<br/>ancestors,<br/>descendants.</p> | <p><b><u>Vocabulary</u></b><br/>Symbols,<br/>volts,<br/>cells,<br/>socket,<br/>current,<br/>voltage.</p> | <p><b><u>Vocabulary</u></b><br/>Light wave,<br/>light source,<br/>lens,<br/>retina,<br/>cornea,<br/>iris,<br/>pupil,<br/>reflect,<br/>beam.</p> |
|--|---|---|--|---|

## Working Scientifically

### LKS2

- Ask relevant scientific questions linked to the topic
- Use observations, experiments and knowledge to answer scientific questions
- Set up a simple enquiry to explore a scientific question
- Set up a test to compare 2 things
- Make careful and accurate observations inc the use of standard units e.g., millilitres/centimetres
- Use equipment inc thermometers and data loggers to make measurements
- Gather, record, classify and present data in different ways to answer scientific questions
- Use diagrams, keys, bar charts, tables and scientific language to record findings
- Use findings to report in different ways inc. oral and written explanations, presentation
- Draw conclusions and suggest improvements to experiments
- Make a prediction with a reason
- Identify differences, similarities and changes relating to an enquiry

### UKS2

- Plan different types of scientific enquiry to answer questions
- Recognise and control variables in an enquiry
- Measure accurately and precisely using a range of equipment
- Record data and results using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs
- Use the outcome of test results to make predictions and set up a further comparative fair test

- Report and present findings from enquiries in a range of ways (oral and written)
- Use scientific evidence to support or contradict ideas
- Read, spell and pronounce scientific vocabulary accurately