

Science Overview- 2022/2023

Year Group	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 1	<p><u>Animal incl humans</u></p> <p><u>Scientific enquiry and question :</u></p> <p><b>IDENTIFYING, CLASSIFYING &amp; GROUPING :</b></p> <p>What are the names for all the parts of our bodies?</p> <p>How can we organise all the zoo animals?</p> <p><u>Objectives:</u></p> <ul style="list-style-type: none"> <li>- To know parts of the human body.</li> <li>- To know which part of the body is associated with each sense.</li> <li>- To be able to investigate the human senses.</li> <li>- To know a range of animals which includes animals from each of the vertebrate groups</li> <li>- To be able to sort and group animals using similarities and differences.</li> <li>- To know what animals, eat and use the words carnivore, herbivore and omnivore.</li> </ul>	<p><u>Seasonal changes (Autumn to winter)</u></p> <p><u>Scientific enquiry and question :</u></p> <p><u>Scientific enquiry:</u> Observing over time</p> <p><u>Question:</u> How does the oak tree change over the year?</p> <p><u>Objectives:</u></p> <p>(Focus on Summer to Autumn to winter)</p> <ul style="list-style-type: none"> <li>- To know the four seasons and identify when in the year they occur.</li> <li>- To be able to describe weather in different seasons over a year.</li> <li>- To be able to describe the features that change over the year.</li> <li>- To know how animals are affected by each season. (Link to autumn 1)</li> <li>- To know how humans are affected by each season. (Link to Autumn 1)</li> <li>- To know how day length changes.</li> </ul> <p><u>Key Vocabulary:</u> Weather (sunny, rainy, windy,</p>	<p><u>Everyday Materials</u></p> <p><u>Scientific enquiry and question :</u></p> <p><u>Scientific enquiry:</u> Pattern seeking</p> <p><u>Question:</u> Is there a pattern in the types of materials that are used to make objects in a school?</p> <p><u>Objectives:</u></p> <ul style="list-style-type: none"> <li>- To know the following common materials: wood, paper, plastic, metal, water, glass, rock.</li> <li>- To be able to distinguish between an object and the material from which it is made.</li> <li>- To be able to sort objects and materials using a range of properties</li> <li>- To be able to describe the properties of different materials.</li> <li>- To be able to choose an appropriate method for testing an object for a particular property.</li> <li>- To know why certain materials are suited to particular needs.</li> </ul> <p><u>Key Vocabulary:</u> Object, material, wood, plastic, glass, metal, water, rock, brick, paper, fabric, elastic, foil, card/cardboard, rubber, wool, clay, hard, soft, stretchy, stiff, bendy, floppy, waterproof, absorbent,</p>	<p><u>Seasonal changes (Spring to summer) And start Plants (summer 1)</u></p> <p><u>Scientific enquiry and question :</u></p> <p><u>Scientific enquiry:</u> Observing over time</p> <p><u>Question:</u> How does the oak tree change over the year?</p> <p><u>Objectives:</u></p> <p>(Focus on winter to Spring to Summer) Recap previous learning in Autumn 2</p> <ul style="list-style-type: none"> <li>- To know the four seasons and identify when in the year they occur.</li> <li>- To be able to describe weather in different seasons over a year.</li> <li>- To know how animals are affected by each season.</li> <li>- To know how humans are affected by each season.</li> <li>- To know how day length changes.</li> <li>- To be able to describe the features that change over the year. (Link to plants and trees)</li> </ul> <p><u>Key Vocabulary:</u> Weather (sunny, rainy, windy,</p>	<p><u>Plants</u></p> <p><u>Scientific enquiry and question :</u></p> <p><u>Scientific enquiry:</u> Observation over time</p> <p>Identifying, classifying and grouping</p> <p><u>Question:</u> How can we sort the leaves that we collected on our walk?</p> <p>How does my sunflower change each week?</p> <p><u>Objectives:</u></p> <ul style="list-style-type: none"> <li>- To know the names of trees and other plants you see regularly.</li> <li>- To be able to use simple charts to identify plants.</li> <li>- To be able to make observations of plants over time. (Keep a diary)</li> <li>- To be able to describe some of the key features of trees and plants.</li> <li>- To be able to sort and group parts of plants and trees using similarities and differences.</li> <li>- To know the difference between deciduous and evergreen trees.</li> </ul>	Local/ National issue

Science Overview- 2022/2023

	<p><b>Key Vocabulary:</b> Head, body, eyes, ears, mouth, teeth, leg, tail, wing, claw, fin, scales, feathers, fur, beak, paws, hooves, carnivore, omnivore, mammal, reptiles, fish, amphibians, birds, smell, taste, touch, see, hear</p> <p><a href="https://drive.google.com/drive/u/1/folders/1xZ71VJoIJ6oLB_YW_FvwVkDUDnV0ydsm">https://drive.google.com/drive/u/1/folders/1xZ71VJoIJ6oLB_YW_FvwVkDUDnV0ydsm</a></p> <p><b>Scientists to research:</b></p>	<p>snowy etc.) Seasons (winter, summer, spring, autumn) Sun, sunrise, sunset, day length</p> <p><a href="https://drive.google.com/drive/u/1/folders/1xZ71VJoIJ6oLB_YW_FvwVkDUDnV0ydsm">https://drive.google.com/drive/u/1/folders/1xZ71VJoIJ6oLB_YW_FvwVkDUDnV0ydsm</a></p> <p><b>Scientists to research:</b></p>	<p>breaks/tears, rough, smooth, shiny, dull, see-through, not see-through</p> <p><a href="https://drive.google.com/drive/u/1/folders/1xZ71VJoIJ6oLB_YW_FvwVkDUDnV0ydsm">https://drive.google.com/drive/u/1/folders/1xZ71VJoIJ6oLB_YW_FvwVkDUDnV0ydsm</a></p> <p><b>Scientists to research:</b></p>	<p>snowy etc.) Seasons (winter, summer, spring, autumn) Sun, sunrise, sunset, day length</p> <p><a href="https://drive.google.com/drive/u/1/folders/1xZ71VJoIJ6oLB_YW_FvwVkDUDnV0ydsm">https://drive.google.com/drive/u/1/folders/1xZ71VJoIJ6oLB_YW_FvwVkDUDnV0ydsm</a></p> <p><b>Scientists to research:</b></p>	<p><b>Key Vocabulary:</b> Leaf, flower, blossom, petal, fruit, berry, root, seed, trunk, branch, stem, bark, stalk, bud</p> <ul style="list-style-type: none"> <li>- Names of trees in the local area</li> <li>- Names of garden and wild flowering plants in the local area</li> </ul> <p><a href="https://drive.google.com/drive/u/1/folders/1xZ71VJoIJ6oLB_YW_FvwVkDUDnV0ydsm">https://drive.google.com/drive/u/1/folders/1xZ71VJoIJ6oLB_YW_FvwVkDUDnV0ydsm</a></p> <p><b>Scientists to research:</b></p>	
Year 2	<p><b>Animals incl humans</b></p> <p><b>Scientific enquiry and question :</b></p> <p><b>IDENTIFYING, CLASSIFYING &amp; GROUPING :</b></p> <p><b>Which offspring belongs to which animal?</b></p> <p><b>Objectives:</b></p> <p>To be able to identify animals and their offspring</p> <p>To know the basic needs of animals and humans for survival</p>	<p><b>Uses of everyday materials</b></p> <p><b>Scientific enquiry and question :</b></p> <p><b>Scientific enquiry:</b> Research</p> <p><b>Question:</b> Why do we use certain materials for different objects?</p> <p>How has John McAdam’s invention impacted life today?</p> <p><b>Objectives:</b></p> <p>To know the uses of everyday materials</p> <p>To be able to record observations</p> <p>To know the suitability of different everyday materials</p> <p>To be able to explain how the shape of objects made from some materials can be changed</p>	<p><b>Living things and their habitats</b></p> <p><b>Scientific enquiry and question :</b></p> <p><b>Scientific enquiry:</b> Identifying and Classifying</p> <p><b>Question:</b> Where do animals live?</p> <p><b>Objectives:</b></p> <p>To be able to compare the differences between things that are living, dead and have never been alive.</p> <p>To be able to identify a variety of plants and animals in their natural habitats.</p> <p>To be able to identify minibeasts in their microhabitats.To be able to</p>	<p><b>Plants</b></p> <p><b>Scientific enquiry and question :</b></p> <p><b>Scientific enquiry:</b> Observing over time</p> <p><b>Question:</b> How do plants grow?</p> <p><b>Objectives:</b></p> <p>To be able to identify a variety of wild and garden plants and deciduous and evergreen trees</p> <p>To know the parts of a plant</p> <p>To know how to plant seeds and bulbs in different conditions</p> <p>To be able to make a careful observation of a seed</p>	<p><b>SATS</b></p>	<p><b>Local/ National issue</b></p>

Science Overview- 2022/2023

	<p>To know about the importance of hygiene for humans</p> <p>To know about the importance of exercise for humans</p> <p>To know how eating the right types of food impacts humans</p> <p><b>Key Vocabulary:</b> survival, water, air, food, baby, offspring, calf, kitten, puppy, exercise, hygiene, adult</p> <p><a href="https://drive.google.com/drive/u/1/folders/1Yvb33q_9rLHiZxoLSx1bQG-9rqF9bqiH">https://drive.google.com/drive/u/1/folders/1Yvb33q_9rLHiZxoLSx1bQG-9rqF9bqiH</a></p> <p><b>Scientists to research:</b></p>	<p>To know the process of recycling plastic</p> <p>To know how John McAdam's invention has impacted life today</p> <p><b>Key Vocabulary:</b> recycle, materials, uses, shape, wood, metal, plastic, glass, change, sort, compare, invent</p> <p><a href="https://drive.google.com/drive/u/1/folders/1Yvb33q_9rLHiZxoLSx1bQG-9rqF9bqiH">https://drive.google.com/drive/u/1/folders/1Yvb33q_9rLHiZxoLSx1bQG-9rqF9bqiH</a></p> <p><b>Scientists to research:</b></p>	<p>explore how living things are adapted to different habitats.</p> <p>To be able to identify how a living thing is adapted to its habitat.</p> <p>To know how animals, obtain food using food chains.</p> <p><b>Key Vocabulary:</b> Living, dead, never living, food source, habitat, microhabitat, depend, survive, food chain, movement, reproduction, sensitivity, growth, respiration, excretion, nutrition</p> <p><a href="https://drive.google.com/drive/u/1/folders/1Yvb33q_9rLHiZxoLSx1bQG-9rqF9bqiH">https://drive.google.com/drive/u/1/folders/1Yvb33q_9rLHiZxoLSx1bQG-9rqF9bqiH</a></p> <p><b>Scientists to research:</b></p>	<p>To know what seeds need to germinate</p> <p><b>Key Vocabulary:</b> seedling, bulb, tunic, scales, evaluate, growth, root, bud, basal stem, observe</p> <p><a href="https://drive.google.com/drive/u/1/folders/1Yvb33q_9rLHiZxoLSx1bQG-9rqF9bqiH">https://drive.google.com/drive/u/1/folders/1Yvb33q_9rLHiZxoLSx1bQG-9rqF9bqiH</a></p> <p><b>Scientists to research:</b></p>		
Year 3	<p><b>Rocks and Fossils</b></p> <p><b>Scientific enquiry and question :</b></p> <p><b>IDENTIFYING, CLASSIFYING &amp; GROUPING :</b></p> <p>Can you use the identification key to find out the name of each of the rocks in your collection?</p> <p><b>OBSERVATION OVER TIME:</b></p>	<p><b>Forces and magnets</b></p> <p><b>Scientific enquiry and question :</b></p> <p><b>Scientific enquiry-</b> comparative and fair testing</p> <p><b>Question:</b> How does the mass of an object affect how much force is needed to make it move?</p> <p>Which surface is best to stop you slipping?</p> <p><b>Objectives:</b></p>	<p><b>Light</b></p> <p><b>Scientific enquiry and question :</b></p> <p><b>Scientific enquiry-</b> comparative and fair testing</p> <p><b>Question:</b> How does the number of layers of transparent plastic affect how much light can pass through?</p> <p>How does the distance between the shadow and the screen affect the size of the shadow?</p>	<p><b>Animals including humans</b></p> <p><b>Scientific enquiry and question :</b></p> <p><b>Scientific enquiry:</b> Pattern seeking</p> <p>Research</p> <p><b>Question:</b> How do the skeletons of different animals compare? How can we group the food that we eat?</p>	<p><b>Plants</b></p> <p><b>Scientific enquiry and question :</b></p> <p><b>Scientific enquiry:</b> Observing over time/ research</p> <p><b>Question:</b> How do flowers in a vase change over time? Which conditions help seeds germinate faster?</p> <p>What are all the different ways that seeds disperse?</p> <p><b>Objectives:</b></p>	Local/National issue

	<p><b>What happens when water keeps dripping on a sandcastle?</b></p> <p><b>OR</b></p> <p><b>How does tumbling change a rock over time?</b></p> <p><b>Objectives:</b></p> <ul style="list-style-type: none"> <li>- To know some types of rock and give physical features of each</li> <li>- To know how a fossil is formed</li> <li>- To know that soils are made from rocks and also contain living/dead matter</li> <li>- To be able to classify rocks in a range of different ways, using appropriate vocabulary</li> <li>- To know how rocks, change over time with their properties e.g. soft rocks get worn away more easily</li> <li>- To be able to devise a test to explore the water retention of soils</li> </ul> <p><b>Key Vocabulary:</b></p> <p>Rock, stone, pebble, boulder, grain, crystals, layers, hard, soft, texture, absorb water, soil, fossil, marble, chalk, granite, sandstone, slate, soil, peat, sandy/chalk/clay soil</p>	<ul style="list-style-type: none"> <li>- To know some forces in everyday life</li> <li>- To be able to move objects differently on different surfaces</li> <li>- To know a range of magnets and show how the poles attract and repel</li> <li>- To be able to show the attraction and repulsion between the poles of magnets</li> <li>- To be able identify that some metals, but not all, are magnetic</li> <li>- To be able to show how like poles repel and unlike poles attract, and name unmarked poles</li> <li>- To be able to use their results to make predictions for further tests e.g. it will spin for longer on this surface than that, but not as long as it spun on that surface</li> </ul> <p><b>Key Vocabulary:</b></p> <p>Force, push, pull, twist, contact force, non-contact force, magnetic force, magnet, strength, bar magnet, ring magnet, button magnet, horseshoe magnet, attract, repel, magnetic material, metal, iron, steel, poles, north pole, south pole</p> <p><a href="https://drive.google.com/drive/u/1/folders/1q4iFz3Fa4nSfVhq_nTxetc4FKhRL34Qr">https://drive.google.com/drive/u/1/folders/1q4iFz3Fa4nSfVhq_nTxetc4FKhRL34Qr</a></p>	<p><b>Objectives:</b></p> <ul style="list-style-type: none"> <li>- To know how we see objects in light and can describe dark as the absence of light</li> <li>- To know that it is dangerous to view the sun directly and state precautions used to view the sun, for example in eclipses</li> <li>- To know the objects that are transparent, translucent and opaque</li> <li>- To know how shadows are formed</li> <li>- To be able to describe patterns in visibility of different objects in different lighting conditions and predict which will be more or less visible as conditions change</li> <li>- To know that objects are not visible in complete darkness</li> <li>- To be able to describe, demonstrate and make predictions about patterns in how shadows vary</li> </ul> <p><b>Key Vocabulary:</b></p> <p>Light, light source, dark, absence of light, transparent, translucent, opaque, shiny, matt, surface, shadow, reflect, mirror, sunlight, dangerous</p> <p><a href="https://drive.google.com/drive/u/1/folders/1q4iFz3Fa4nSfVhq_nTxetc4FKhRL34Qr">https://drive.google.com/drive/u/1/folders/1q4iFz3Fa4nSfVhq_nTxetc4FKhRL34Qr</a></p> <p><b>Scientists to research:</b></p>	<p>Why do different types of vitamins keep us healthy? Which foods can we find them in?</p> <p><b>Objectives:</b></p> <ul style="list-style-type: none"> <li>- To know the nutrients found in food</li> <li>- To know that to be healthy we need to eat the right types of food to give us the correct amount of these nutrients</li> <li>- To be able to classify food into those that are high or low in particular nutrients</li> <li>- To be able to answer their questions about nutrients in food, based on their gathered evidence</li> <li>- To be able to use their data to look for patterns (or lack of them) when answering their enquiry question</li> <li>- To know similarities and differences between skeletons e.g. they all have joints to help the animal move,</li> </ul> <p><b>Key Vocabulary:</b></p> <p>Nutrition, nutrients, carbohydrates, sugars, protein, vitamins, minerals, fibre, fat, water, skeleton, bones, muscles, joints, support, protect, move, skull, ribs, spine</p> <p><a href="https://drive.google.com/drive/u/1/folders/1q4iFz3Fa4nSfVhq_nTxetc4FKhRL34Qr">https://drive.google.com/drive/u/1/folders/1q4iFz3Fa4nSfVhq_nTxetc4FKhRL34Qr</a></p> <p><b>Scientists to research:</b></p>	<ul style="list-style-type: none"> <li>- To know the function of the parts of a flowering plant</li> <li>- To know the life cycle of flowering plants, including pollination, seed formation, seed dispersal, and germination.</li> <li>- To know the different methods of pollination and seed dispersal, including examples.</li> <li>- To be able to observe the changes of plants over time.</li> <li>- To know the features of seeds to decide on their method of dispersal</li> <li>- To be able to draw and label a diagram of their created flowering plant to show its parts, their role and the method of pollination and seed dispersal</li> </ul> <p><b>Key Vocabulary:</b></p> <p>Photosynthesis, pollen, insect/wind pollination, seed formation, seed dispersal (wind dispersal, animal dispersal, water dispersal)</p> <p><a href="https://drive.google.com/drive/u/1/folders/1q4iFz3Fa4nSfVhq_nTxetc4FKhRL34Qr">https://drive.google.com/drive/u/1/folders/1q4iFz3Fa4nSfVhq_nTxetc4FKhRL34Qr</a></p> <p><b>Scientists to research:</b></p>	
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Year 4	<p><b>Electricity</b></p> <p><b>Scientific enquiry and question :</b></p> <p><b>COMPARATIVE / FAIR TESTING:</b> Which metal is the best conductor of electricity?</p> <p><b>IDENTIFYING AND CLASSIFYING:</b> How would you group these electrical devices / switches based on where the electricity comes from?</p> <p><b>PATTERN SEEKING:</b> Which room has the most electrical sockets in a school? Why is this?</p> <p>Why are the switches different for different rooms - does this apply to all buildings?</p> <p><b>Research:</b> <b>Benjamin Franklin (1706-90)</b> <b>Charles Augustine Coulomb (1736-1806).</b> <b>Alessandro Volta (1745-</b></p>	<p><b>States of matter</b></p> <p><b>Scientific enquiry and question :</b></p> <p><b>COMPARATIVE / FAIR TESTING:</b> Does seawater evaporate quicker than fresh water?</p> <p>How does the mass of a block of ice affect how long it takes to melt?</p> <p><b>IDENTIFYING AND CLASSIFYING:</b> Can you group these materials and objects into solids, liquids, and gases?</p> <p><b>OBSERVATION OVER TIME:</b> How does the level of water in a glass change when left on the windowsill?</p> <p><b>PATTERN SEEKING:</b> Is there a pattern in how long it takes different sized ***** to melt?</p> <p><b>Research:</b> <b>Alfred Barnhard Nobel (1833-1896)</b> <b>Neil deGrasse Tyson</b></p> <p><b>Objectives:</b></p>	<p><b>Animals inc humans</b></p> <p><b>Scientific enquiry and question :</b></p> <p><b>IDENTIFYING, CLASSIFYING &amp; GROUPING :</b> Name the parts of the digestive system and their functions</p> <p><b>OBSERVATION OVER TIME:</b> How does various liquids affect the shell of an egg?</p> <p><b>PATTERN SEEKING:</b> How do animals' teeth differ from ours?</p> <p><b>Research:</b> Life cycles of various animals</p> <p><b>Dr Elizabeth Delany</b></p> <p><b>Objectives:</b> -To be able to describe the simple functions of the basic parts of the digestive system in humans. -To know the different types of teeth in humans and their simple functions. -To be able to construct and interpret a variety of food chains,</p>	<p><b>Sound</b></p> <p><b>Scientific enquiry and question:</b></p> <p><b>COMPARATIVE / FAIR TESTING:</b> Which material is best to use for muffling sound? How does the volume of a ***** change as you move further away from it? How does the length of a guitar string/tuning fork affect the pitch of the sound?</p> <p><b>PATTERN SEEKING:</b> Is there a link between how loud it is in school and the time of day?</p> <p>If there is a pattern, is it the same in every area of the school? If not, why not?</p> <p><b>Research:</b> Do all animals have the same hearing range?</p> <p><b>Robert Boyle (1627- 1691)</b> <b>Ernst Mach (1838-1916).</b> <b>Described how shock waves are formed.</b> <b>Heinrich Hertz (1857-94).</b> <b>Tony Masertai</b></p>	<p><b>Living things and their habitats</b></p> <p><b>Scientific enquiry and question :</b></p> <p><b>COMPARATIVE / FAIR TESTING:</b> Does the amount of light affect how many woodlice move around?</p> <p><b>IDENTIFYING AND CLASSIFYING :</b></p> <p>Can we use the classification keys to identify all the animals that we caught pond dipping?</p> <p><b>Research:</b> Why are people cutting down the rainforests and what effect does that have?</p> <p><b>Dr Carl Linnaeus</b></p> <p><b>Objectives:</b> -To know that living things can be described in a variety of ways. -To be able to use classification keys to group, -To know a variety of living things.</p>	<p><b>Local/ National issue</b></p>

	<p><b>1827). Andre-Marie Ampere (1775-1836)</b>  <b>Granville Woods 1856-1910</b></p> <p><b>Objectives:</b>          -To know some common appliances that run on electricity          -To be able construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers.          -To know 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.          -To know some common conductors and insulators, and associate metals with being good conductors.          -To be able to recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit.</p> <p><b>Key Vocabulary:</b></p> <p>Electricity Appliances:Series circuit          Switches – open, close          Components: battery, bulb (lamp), bulb (lamp) holder, buzzer, crocodile clip, wires, switch          Conductor, insulator</p>	<p>-To be able to compare and group materials together, according to whether they are solids, liquids or gases.          -To know 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).          -To be able to identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature</p> <p><b>Key Vocabulary:</b></p> <p>Steam, Heating Cooling          Water, milk, juice, petrol, oil          Wood, rocks, metal, plastic, glass, wool, leather, etc          Solid, liquid and gas          thermometer          Water cycle          Water vapour          Oxygen, hydrogen, helium, carbon dioxide, Evaporation, condensation</p> <p><a href="https://drive.google.com/drive/u/1/folders/1Zq6sQLr8YryLeAg9cwYrEnwpsMGiyML0">https://drive.google.com/drive/u/1/folders/1Zq6sQLr8YryLeAg9cwYrEnwpsMGiyML0</a></p>	<p>identifying producers, predators and prey.</p> <p><b>Key Vocabulary:</b></p> <p>Animal, Human, digestion, teeth, food chain, function          oesophagus, stomach, acid, small intestine          Protein, vitamin, mineral, carbohydrate, fats, energy, growth, repair. Saliva          Incisors, canines, premolars, molars          producer, consumer, predator, prey</p> <p><a href="https://drive.google.com/drive/u/1/folders/1Zq6sQLr8YryLeAg9cwYrEnwpsMGiyML0">https://drive.google.com/drive/u/1/folders/1Zq6sQLr8YryLeAg9cwYrEnwpsMGiyML0</a></p>	<p><b>Objectives:</b>          -to know how to identify how sounds are made, associating some of them with something vibrating.          - to know how to recognise that vibrations from a sound travel through a medium to the ear.          -to be able to find patterns between the pitch of a sound and features of the object that produced it.          -to be able to find patterns between the volume of a sound and the strength of the vibrations that produced it.          to be able to recognise that sounds get fainter as the distance from the sound source increases.</p> <p><b>Key Vocabulary:</b></p> <p>bang, blow, shake, and pluck  <b>Loudness</b> – silence quiet, quieter, quietest, loud, louder and loudest, volume  <b>Pitch</b> - low, lower, lowest, high, higher, and highest          Source, tone, vibrations, Volume</p> <p><a href="https://drive.google.com/drive/u/1/folders/1Zq6sQLr8YryLeAg9cwYrEnwpsMGiyML0">https://drive.google.com/drive/u/1/folders/1Zq6sQLr8YryLeAg9cwYrEnwpsMGiyML0</a></p>	<p>-To know that environments change and how this can affect some living things.</p> <p><b>Key Vocabulary:</b></p> <p>Kingdom, species          Deciduous, evergreen, ash, birch, beech          Crocus, daffodil, bluebell etc          Roots, branch, tree, stalk, leaf, petal          Snail, slug, woodlouse, spider, beetle etc          Pond skate, water slate, ramshorn snail etc</p> <p><a href="https://drive.google.com/drive/u/1/folders/1Zq6sQLr8YryLeAg9cwYrEnwpsMGiyML0">https://drive.google.com/drive/u/1/folders/1Zq6sQLr8YryLeAg9cwYrEnwpsMGiyML0</a></p> <p><a href="https://drive.google.com/drive/u/1/folders/1Zq6sQLr8YryLeAg9cwYrEnwpsMGiyML0">https://drive.google.com/drive/u/1/folders/1Zq6sQLr8YryLeAg9cwYrEnwpsMGiyML0</a></p>	
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Year 5	<p><b><u>Living things and their habitats</u></b></p> <p><b><u>Scientific enquiry and Question</u></b></p> <p><b>OBSERVATION OVER TIME:</b> How does a bean change as it germinates?</p> <p><b>IDENTIFYING AND CLASSIFYING :</b></p> <p>Compare a collection of animals based on similarities and differences in their lifecycle.</p> <p><b>Objectives:</b></p> <ul style="list-style-type: none"> <li>- To be able to name, locate and describe the reproductive functions of a plant.</li> <li>- To know the life cycle of different living things.</li> <li>- To be able to describe life cycles which show both complete and incomplete metamorphosis.</li> </ul>	<p><b><u>Animals inc humans</u></b></p> <p><b><u>Scientific enquiry and Question</u></b></p> <p><b>Scientific enquiry:</b> identifying, classifying and grouping</p> <p><b>Question:</b> Can you identify all the stages in the human life cycle?</p> <p><b>Objectives:</b></p> <ul style="list-style-type: none"> <li>- To know the main stages of the life cycle of a human.</li> <li>- To know how the proportions of a human body change.</li> <li>- To know the physical and mental changes that happen from adulthood to old age.</li> <li>- To be able to order the key stages of the human gestation</li> <li>- To know the physical and emotional changes that occur during puberty.</li> <li>- To be able to order and explain the main stages in human life.</li> </ul>	<p><b><u>Forces</u></b></p> <p><b><u>Scientific enquiry and Question</u></b></p> <p><b>Scientific enquiry:</b> comparative and fair testing</p> <p><b>Question:</b> How does the surface area of a container affect the time it takes to sink? Which shape parachute takes the longest to fall?</p> <p><b>Objectives:</b></p> <ul style="list-style-type: none"> <li>- To know how **** helped to develop the theory of gravitation. (See below for a scientist to choose)</li> <li>- To know the effect of gravity acting on an unsupported object.</li> <li>- To be able to investigate the effect of friction in a range of contexts.</li> <li>- To be able to investigate the effects of water resistance in a range of contexts.</li> </ul>	<p><b><u>Earth and Space</u></b></p> <p><b><u>Scientific enquiry and Question</u></b></p> <p><b>Scientific enquiry:</b> research</p> <p><b>Question:</b> How have our ideas about the solar system changed over time?</p> <p><b>Objectives:</b></p> <ul style="list-style-type: none"> <li>- To know how the Earth moves in relation to the Sun and the Moon moves in relation to the Earth.</li> <li>- To know how all planets within the Solar System orbit the sun.</li> <li>- To know what causes day and night</li> <li>- To be able to show using diagrams the rotation of the Earth and how this causes day and night.</li> <li>- To be able to observe how shadows caused by the Sun change through the day.</li> <li>- To know why we have time zones.</li> </ul>	<p><b><u>Properties/changes of materials</u></b></p> <p><b><u>Scientific enquiry and Question</u></b></p> <p><b>Scientific enquiry:</b> comparative and fair testing</p> <p><b>Question:</b> Which type of sugar dissolves the fastest? How does the temperature of tea affect how long it takes for a sugar cube to dissolve?</p> <p><b>Objectives:</b></p> <ul style="list-style-type: none"> <li>- To know the properties and uses of everyday materials.</li> <li>- To know what dissolving means.</li> <li>- To know that some materials will dissolve in liquid to form a solution.</li> <li>- To know the processes involved in separating a mixture.</li> <li>- To be able to compare the processes of dissolving, mixing and changes of state.</li> <li>- To know the reversible and</li> </ul>	Local/ National issue

Science Overview- 2022/2023

	<p>- To know that some plants reproduce asexually.                  - To be able to compare different animal life cycles.                  - To know the importance of work carried out by naturalists and animal behaviourists.</p> <p><b>Key Vocabulary:</b>                  Life cycle, reproduce, sexual, sperm, fertilises, egg, live young, metamorphosis, asexual, plantlets, runners, bulbs, cuttings</p> <p><a href="https://drive.google.com/drive/u/1/folders/16fAMLvaimVLRFSfmcByXzEVz7EBfmyw">https://drive.google.com/drive/u/1/folders/16fAMLvaimVLRFSfmcByXzEVz7EBfmyw</a></p> <p><b>Scientists to research:</b></p>	<p><b>Key Vocabulary:</b>                  Puberty – the vocabulary to describe sexual characteristics</p> <p><a href="https://drive.google.com/drive/u/1/folders/16fAMLvaimVLRFSfmcByXzEVz7EBfmyw">https://drive.google.com/drive/u/1/folders/16fAMLvaimVLRFSfmcByXzEVz7EBfmyw</a></p> <p><b>Scientists to research:</b></p>	<p>- To be able to investigate the effects of air resistance in a range of contexts.                  - To know how levers, pulleys and gears work.</p> <p><b>Key Vocabulary:</b>                  Force, gravity, Earth, air resistance, water resistance, friction, mechanisms, simple machines, levers, pulleys, gears</p> <p><a href="https://drive.google.com/drive/u/1/folders/16fAMLvaimVLRFSfmcByXzEVz7EBfmyw">https://drive.google.com/drive/u/1/folders/16fAMLvaimVLRFSfmcByXzEVz7EBfmyw</a></p> <p><b>Scientists to research:</b>                  Galileo Galilei                  Isaac Newton</p>	<p><b>Key Vocabulary:</b>                  Earth, Sun, Moon, (Mercury, Jupiter, Saturn, Venus, Mars, Uranus, Neptune), spherical, solar system, rotates, star, orbit, planets</p> <p><a href="https://drive.google.com/drive/u/1/folders/16fAMLvaimVLRFSfmcByXzEVz7EBfmyw">https://drive.google.com/drive/u/1/folders/16fAMLvaimVLRFSfmcByXzEVz7EBfmyw</a></p> <p><b>Scientists to research:</b></p>	<p>non-reversible changes to materials.</p> <p><b>Key Vocabulary:</b>                  Thermal/electrical insulator/conductor, change of state, mixture, dissolve, solution, soluble, insoluble, filter, sieve, reversible/non-reversible change, burning, rusting, new material</p> <p><a href="https://drive.google.com/drive/u/1/folders/16fAMLvaimVLRFSfmcByXzEVz7EBfmyw">https://drive.google.com/drive/u/1/folders/16fAMLvaimVLRFSfmcByXzEVz7EBfmyw</a></p> <p><b>Scientists to research:</b></p>	
Year 6	<p><b>Electricity</b></p> <p><b>Scientific enquiry and Question:</b></p> <p><b>COMPARATIVE / FAIR TESTING:</b></p> <p><b>How does the voltage of the batteries in a circuit affect the brightness of the lamp?</b></p> <p><b>OBSERVATION OVER TIME:</b></p> <p><b>Does the temperature of a light bulb go up the longer it is on?</b></p> <p><b>Objectives:</b></p>	<p><b>Light</b></p> <p><b>Scientific enquiry and Question:</b></p> <p>Comparative and fair testing</p> <p><b>Question:</b></p> <p>How does the angle that a light ray hits a plane mirror affect the angle at which it reflects off the surface?</p> <p><b>Objectives:</b></p> <ul style="list-style-type: none"> <li>- To know that light travels in a straight line</li> <li>- To know how we see</li> <li>- To know shadows, have the same shape as the objects that cast them</li> </ul>	<p><b>Evolution and inheritance</b></p> <p><b>Scientific enquiry and Question:</b></p> <p>Identifying and classifying</p> <p><b>Question:</b></p> <p>Compare the skeletons of apes, humans, and Neanderthals – how are they similar, and how are they different?</p> <p><b>Objectives:</b></p> <ul style="list-style-type: none"> <li>- To know that living things have changed over time</li> <li>- To know that fossils provide information about living things from millions of years ago</li> </ul>	<p><b>Living things and their habitats</b></p> <p><b>Scientific enquiry and Question:</b></p> <p>Identifying and classifying</p> <p><b>Question:</b></p> <p>How would you make a classification key for vertebrates/invertebrates or microorganisms?</p> <p><b>Objectives:</b></p> <ul style="list-style-type: none"> <li>- To be able to give examples of animals in the five vertebrate groups and some of the invertebrate groups</li> <li>- To be able to give the key characteristics of the five</li> </ul>	<p><b>Animals inc humans</b></p> <p><b>Scientific enquiry and Question:</b></p> <p><b>Question:</b></p> <p><b>Objectives:</b></p> <ul style="list-style-type: none"> <li>- To be able to draw a diagram of the circulatory system and label the parts and annotate it to show what the parts do</li> <li>- To be able to use the role play model to explain the main parts of the circulatory system and their role</li> <li>- To be able to use subject knowledge about the heart whilst writing conclusions for investigations</li> </ul>	Local/ National issue



	<p>- To be able to construct simple series circuits with a range of different components</p> <p>- To know how to represent a simple circuit in a diagram using recognised symbols</p> <p>- To be able to identify the effect of changing one component at a time in a circuit</p> <p>- To be able to plan an enquiry to answer questions I have raised</p> <p>- To be able to draw conclusions from results I have obtained from an investigation</p> <p>- To be able to use test results to make predictions to set up further comparative and fair tests</p> <p><b>Key Vocabulary:</b></p> <p>Electricity, switch, bell, cell, battery, bulb, buzzer, wire, brighter, dimmer, circuit, wire, broken, conductor, insulator, component</p> <p><a href="https://drive.google.com/drive/u/1/folders/1j8xv8F1Fo1Z3qs8x6cDNblq85oBRCUCa">https://drive.google.com/drive/u/1/folders/1j8xv8F1Fo1Z3qs8x6cDNblq85oBRCUCa</a></p> <p><b>Scientists to research:</b></p> <p>Benjamin Franklin</p> <p>Thomas Edison</p>	<p><b>Key Vocabulary:</b></p> <p>Dark, dull, bright, very bright, brighter, duller, and darker, brightest, dimmest, and darkest</p> <p>Opaque, translucent, transparent, shadow, block, absence of light, reflect, bounce, mirror, reflection, light source, sunset, sunrise, position</p> <p><a href="https://drive.google.com/drive/u/1/folders/1j8xv8F1Fo1Z3qs8x6cDNblq85oBRCUCa">https://drive.google.com/drive/u/1/folders/1j8xv8F1Fo1Z3qs8x6cDNblq85oBRCUCa</a></p> <p><b>Scientists to research:</b></p> <p>Isaac Newton</p>	<p>- To know that characteristics are passed from parents to their offspring</p> <p>- To know that offspring vary from their parents</p> <p>- To know that animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution</p> <p>- To be able to identify how human beings have evolved</p> <p><b>Key Vocabulary:</b></p> <p>Evolution, evolve, natural selection, survival, reproduction, offspring, parents, siblings environment, variation, fossils</p> <p><a href="https://drive.google.com/drive/u/1/folders/1j8xv8F1Fo1Z3qs8x6cDNblq85oBRCUCa">https://drive.google.com/drive/u/1/folders/1j8xv8F1Fo1Z3qs8x6cDNblq85oBRCUCa</a></p> <p><b>Scientists to research:</b></p> <p>Mary Anning, Charles Darwin and Alfred Wallace</p>	<p>vertebrate groups and some invertebrate groups</p> <p>- To be able to compare the characteristics of animals in different groups</p> <p>- To be able to give examples of flowering and non-flowering plants</p> <p>- To be able to use classification materials to identify unknown plants and animals</p> <p>- To be able to create classification keys for plants and animals</p> <p>- To know the characteristics that explain why an animal belongs to a particular group</p> <p><b>Key Vocabulary:</b></p> <p>Vertebrates, fish, amphibians, reptiles, birds, mammals, invertebrates, insects, spiders, snails, worms, flowering, non-flowering</p> <p><a href="https://drive.google.com/drive/u/1/folders/1j8xv8F1Fo1Z3qs8x6cDNblq85oBRCUCa">https://drive.google.com/drive/u/1/folders/1j8xv8F1Fo1Z3qs8x6cDNblq85oBRCUCa</a></p> <p><b>Scientists to research:</b></p> <p>Carl Linnaeus</p>	<p>- To know the positive and negative effects of diet, exercise, drugs and lifestyle on the body</p> <p>- To be able to present information describing the impact of drugs and lifestyle on the body</p> <p><b>Key Vocabulary:</b></p> <p>Heart, pulse, rate, pumps, blood, blood vessels, transported, lungs, oxygen, carbon dioxide, nutrients, water, muscles, cycle, circulatory system, diet, exercise, drugs, lifestyle</p> <p><a href="https://drive.google.com/drive/u/1/folders/1j8xv8F1Fo1Z3qs8x6cDNblq85oBRCUCa">https://drive.google.com/drive/u/1/folders/1j8xv8F1Fo1Z3qs8x6cDNblq85oBRCUCa</a></p> <p><b>Scientists to research:</b></p>	
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