



## **As scientists we strive to develop:**

- . The ability to think independently and raise questions about working scientifically and the knowledge and skills that it brings.
- . Confidence and competence in the full range of practical skills, taking the initiative in, for example planning and carrying out scientific investigations.
- . Excellent scientific knowledge and understanding which is demonstrated in written and verbal explanations, solving challenging problems and reporting scientific findings.
  - . High levels of originality, imagination or innovation in the application of skills.
  - . The ability to undertake practical work in a variety of contexts, including fieldwork.
  - . A passion for science and its application in past, present and future technologies

Due to the changing structure of the classes and the fact that three of our classes bridge Key Stages, our long term planning is designed to ensure every child receives complete coverage of our broad and challenging curriculum throughout their learning journey.

<u>Seagulls (R/1)</u>		<u>Choughs (2/3)</u>		<u>Razorbills (4/5)</u>		<u>Kittiwakes(6)</u>
<p><b><u>A</u></b> <b><u>HEALTHY ME</u></b></p> <ul style="list-style-type: none"> <li>Hygiene – washing our hands, covering our noses when we sneeze and our covering our mouths when we cough.</li> <li>Healthy Eating – why it is important to eat healthily and what foods are healthy/unhealthy.</li> <li>Cooking – fruit salad or a smoothie.</li> <li>Exercise – what is exercise, why it is good for us to exercise and how our bodies feel when we exercise.</li> </ul>	<p><b><u>A</u></b> <b><u>ANIMALS INCLUDING HUMANS</u></b></p> <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals</li> <li>identify and name a variety of common animals that are carnivores, herbivores and omnivores</li> <li>describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets)</li> <li>identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.</li> </ul>	<p><b><u>A</u></b> <b><u>USES OF EVERYDAY MATERIALS</u></b></p> <p>Y2 pupils should be taught to:</p> <ul style="list-style-type: none"> <li>identify and compare the suitability of a variety of everyday materials, including</li> <li>wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses</li> <li>find out how the shapes of solid objects made from some materials can be changed</li> <li>by squashing, bending, twisting and stretching.</li> </ul> <p>Y3 pupils will be taught about:</p> <ul style="list-style-type: none"> <li>recycling</li> <li>renewable/non-renewable energy.</li> </ul>	<p><b><u>A</u></b> <b><u>USES OF EVERYDAY MATERIALS</u></b></p> <p>Y2 pupils should be taught to:</p> <ul style="list-style-type: none"> <li>identify and compare the suitability of a variety of everyday materials, including</li> <li>wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses</li> <li>find out how the shapes of solid objects made from some materials can be changed</li> <li>by squashing, bending, twisting and stretching.</li> </ul> <p>Y3 pupils will be taught about:</p> <ul style="list-style-type: none"> <li>recycling</li> <li>renewable/non-renewable energy.</li> </ul>	<p><b><u>A</u></b> <b><u>FORCES</u></b></p> <p>Pupils should be taught to:</p> <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>	<p><b><u>A</u></b> <b><u>STATES OF MATTER</u></b></p> <p>Pupils should be taught to:</p> <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>	<p><b><u>A</u></b> <b><u>LIGHT</u></b></p> <p>Pupils should be taught to:</p> <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><b><u>B</u></b> <b><u>SEASONS AND WEATHER</u></b></p> <ul style="list-style-type: none"> <li>Outdoor Learning – blowing bubbles, collecting rain, streamers, windmills, leaf collecting</li> <li>Stories, Poems and Songs – about different types of weather and the seasons.</li> </ul>	<p><b><u>B</u></b> <b><u>SEASONAL CHANGES: AUTUMN AND WINTER</u></b></p> <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>observe changes across the four seasons</li> <li>observe and describe weather associated with the seasons and how day length varies.</li> </ul>	<p><b><u>B</u></b> <b><u>FORCES AND MAGNETS</u></b></p> <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>compare how things move on different surfaces</li> <li>notice that some forces need contact between two objects, but magnetic forces can</li> <li>act at a distance</li> <li>observe how magnets attract or repel each other and attract some materials and not</li> <li>others</li> <li>compare and group together a variety of everyday materials on the basis of whether</li> <li>they are attracted to a magnet, and identify some magnetic materials</li> <li>describe magnets as having two poles</li> <li>predict whether two magnets will attract or repel each other, depending on which</li> <li>poles are facing.</li> </ul>	<p><b><u>B</u></b> <b><u>THE ENVIRONMENT</u></b></p> <p>Pupils will be taught about:</p> <ul style="list-style-type: none"> <li>climate change</li> <li>saving water.</li> </ul>	<p><b><u>B</u></b> <b><u>PROPERTIES AND CHANGES OF MATERIALS</u></b></p> <p>Pupils should be taught to:</p> <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>	<p><b><u>B</u></b> <b><u>SOUND</u></b></p> <p>Pupils should be taught to:</p> <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><u>B</u></b> <b><u>ANIMALS INCLUDING HUMANS</u></b></p> <p>Pupils should be taught to:</p> <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>

<p><b><u>C</u></b> <b><u>MATERIALS</u></b></p> <ul style="list-style-type: none"> <li>Outdoor Learning – creating rubbings of different materials such as grates, covers, bricks, bark, leaves.</li> <li>Sand – wet and dry sand.</li> <li>Cooking – melting chocolate, weighing and measuring.</li> <li>Magnets – what can/can't they pick up?</li> </ul>	<p><b><u>C</u></b> <b><u>EVERYDAY MATERIALS</u></b></p> <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>distinguish between an object and the material from which it is made</li> <li>identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock</li> <li>describe the simple physical properties of a variety of everyday materials</li> <li>compare and group together a variety of everyday materials on the basis of their simple physical properties.</li> </ul>	<p><b><u>C</u></b> <b><u>LIGHT</u></b></p> <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>recognise that they need light in order to see things and that dark is the absence of</li> <li>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</li> <li>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><b><u>C</u></b> <b><u>ROCKS</u></b></p> <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>compare and group together different kinds of rocks on the basis of their appearance</li> <li>and simple physical properties</li> <li>describe in simple terms how fossils are formed when things that have lived are</li> <li>trapped within rock</li> <li>recognise that soils are made from rocks and organic matter.</li> </ul>	<p><b><u>C</u></b> <b><u>EARTH AND SPACE</u></b></p> <p>Pupils should be taught to:</p> <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><b><u>C</u></b> <b><u>ELECTRICITY</u></b></p> <p>Pupils should be taught to:</p> <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>	<p><b><u>C</u></b> <b><u>EVOLUTION AND INHERITANCE</u></b></p> <p>Pupils should be taught to:</p> <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>
<p><b><u>D</u></b> <b><u>SEASONS AND ANIMALS</u></b></p> <ul style="list-style-type: none"> <li>Stories, Poems and Songs – about different animals and the seasons.</li> <li>Trip – to the Seal Sanctuary or the beach.</li> <li>Small World Play – animals in different environments, such as polar animals in home-made snow.</li> <li>Sun Safety – wearing a hat, putting on sun cream, not looking at the sun.</li> </ul>	<p><b><u>D</u></b> <b><u>SEASONAL CHANGES: SPRING AND SUMMER</u></b></p> <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>observe changes across the four seasons</li> <li>observe and describe weather associated with the seasons and how day length varies.</li> </ul>	<p><b><u>D</u></b> <b><u>PLANTS</u></b></p> <p>Y2 pupils should be taught to:</p> <ul style="list-style-type: none"> <li>observe and describe how seeds and bulbs grow into mature plants</li> <li>find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.</li> </ul> <p>Y3 pupils should be taught to:</p> <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</li> <li>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>	<p><b><u>D</u></b> <b><u>PLANTS</u></b></p> <p>Y2 pupils should be taught to:</p> <ul style="list-style-type: none"> <li>observe and describe how seeds and bulbs grow into mature plants</li> <li>find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.</li> </ul> <p>Y3 pupils should be taught to:</p> <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</li> <li>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>	<p><b><u>D</u></b> <b><u>ANIMALS INCLUDING HUMANS</u></b></p> <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>describe the changes as humans develop to old age.</li> </ul>	<p><b><u>D</u></b> <b><u>ANIMALS INCLUDING HUMANS</u></b></p> <p>Pupils should be taught to:</p> <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>	<p><b><u>D</u></b> <b><u>ELECTRICITY</u></b></p> <p>Pupils should be taught to:</p> <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>
<p><b><u>E</u></b> <b><u>PLANTS</u></b></p> <ul style="list-style-type: none"> <li>Outdoor Learning – growing plants. Movement and Drama – dancing/acting out how a seed grows into a plant.</li> <li>Trip – to a garden centre.</li> </ul>	<p><b><u>E</u></b> <b><u>PLANTS</u></b></p> <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>identify and name a variety of common wild and garden plants, including deciduous and evergreen trees</li> <li>identify and describe the basic structure of a variety of common flowering plants, including trees.</li> </ul>	<p><b><u>E</u></b> <b><u>ANIMALS INCLUDING HUMANS</u></b></p> <p>Y2 pupils should be taught to:</p> <ul style="list-style-type: none"> <li>notice that animals, including humans, have offspring which grow into adults</li> <li>find out about and describe the basic needs of animals, including humans, for</li> <li>survival (water, food and air)</li> <li>describe the importance for</li> </ul>	<p><b><u>E</u></b> <b><u>ANIMALS INCLUDING HUMANS</u></b></p> <p>Y2 pupils should be taught to:</p> <ul style="list-style-type: none"> <li>notice that animals, including humans, have offspring which grow into adults</li> <li>find out about and describe the basic needs of animals, including humans, for</li> <li>survival (water, food and air)</li> <li>describe the importance for</li> </ul>	<p><b><u>E</u></b> <b><u>LIVING THINGS AND THEIR HABITATS</u></b></p> <p>Pupils should be taught to:</p> <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> </ul>	<p><b><u>E</u></b> <b><u>LIVING THINGS AND THEIR HABITATS</u></b></p> <p>Pupils should be taught to:</p> <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>	<p><b><u>E</u></b> <b><u>LIVING THINGS AND THEIR HABITATS</u></b></p> <p>Pupils should be taught to:</p> <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 microorganisms, plants and animals</li> </ul>

		<p>humans of exercise, eating the right amounts of different</p> <ul style="list-style-type: none"> <li>types of food, and hygiene.</li> </ul> <p>Y3 pupils should be taught to:</p> <ul style="list-style-type: none"> <li>identify that animals, including humans, need the right types and amount of nutrition,</li> <li>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</li> <li>support, protection and movement.</li> </ul>	<p>humans of exercise, eating the right amounts of different</p> <ul style="list-style-type: none"> <li>types of food, and hygiene.</li> </ul> <p>Y3 pupils should be taught to:</p> <ul style="list-style-type: none"> <li>identify that animals, including humans, need the right types and amount of nutrition,</li> <li>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</li> <li>support, protection and movement.</li> </ul>	<ul style="list-style-type: none"> <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>give reasons for classifying plants and animals based on specific characteristics.</li> </ul>
<p><b><u>F</u></b> <b><u>INVESTIGATIONS</u></b></p> <ul style="list-style-type: none"> <li>Water play - floating and sinking.</li> <li>Listening - to different sounds indoors and outdoors.</li> <li>Sand - sieving wet and dry sand.</li> <li>Bubbles – how can you blow big/small bubbles?</li> </ul>	<p><b><u>F</u></b> <b><u>EXPERIMENTS AND SCIENTISTS</u></b></p> <p>Pupils will learn about famous scientists such as Charles Macintosh, Steve Backshall or Joseph Banks.</p> <p>They will practise working scientifically by conducting meteorology experiments and investigating the senses.</p>	<p><b><u>F</u></b> <b><u>LIVING THINGS AND THEIR HABITATS</u></b></p> <p>Y2 pupils should be taught to:</p> <ul style="list-style-type: none"> <li>explore and compare the differences between things that are living, dead, and things</li> <li>that have never been alive</li> <li>identify that most living things live in habitats to which they are suited and describe</li> <li>how different habitats provide for the basic needs of different kinds of animals and</li> <li>plants, and how they depend on each other</li> <li>identify and name a variety of plants and animals in their habitats, including microhabitats</li> <li>describe how animals obtain their food from plants and other animals, using the idea</li> <li>of a simple food chain, and identify and name different sources of food.</li> </ul> <p>Y3 pupils will be taught about:</p> <ul style="list-style-type: none"> <li>the rainforests</li> <li>endangered animals.</li> </ul>	<p><b><u>F</u></b> <b><u>LIVING THINGS AND THEIR HABITATS</u></b></p> <p>Y2 pupils should be taught to:</p> <ul style="list-style-type: none"> <li>explore and compare the differences between things that are living, dead, and things</li> <li>that have never been alive</li> <li>identify that most living things live in habitats to which they are suited and describe</li> <li>how different habitats provide for the basic needs of different kinds of animals and</li> <li>plants, and how they depend on each other</li> <li>identify and name a variety of plants and animals in their habitats, including microhabitats</li> <li>describe how animals obtain their food from plants and other animals, using the idea</li> <li>of a simple food chain, and identify and name different sources of food.</li> </ul> <p>Y3 pupils will be taught about:</p> <ul style="list-style-type: none"> <li>the rainforests</li> <li>endangered animals.</li> </ul>	<p><b><u>F</u></b> <b><u>EXPERIMENTS AND SCIENTISTS</u></b></p> <p>Pupils will learn about famous scientists such as Steven Hawkin, Eva Crane or Jane Goodall.</p> <p>They will practise working scientifically by investigating chemical reactions and space experiments.</p>	<p><b><u>F</u></b> <b><u>EXPERIMENTS AND SCIENTISTS</u></b></p> <p>Pupils will learn about famous scientists such as David Attenborough, Alexander Graham Bell or Joseph Priestly.</p> <p>They will practise working scientifically by investigating states of matter and sound or electricity experiments.</p>	<p><b><u>F</u></b> <b><u>EXPERIMENTS AND SCIENTISTS</u></b></p> <p>Pupils will learn about famous scientists such as Charles Darwin, Libbie Hyman, Daniel Hale Williams or Marie Maynard.</p> <p>They will practise working scientifically by investigating light or electricity.</p>
<p><b><u>WORKING SCIENTIFICALLY</u></b></p> <p>KS1 children should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:</p> <ul style="list-style-type: none"> <li>asking simple questions and recognising that they can be answered in different ways</li> <li>observing closely, using simple equipment</li> <li>performing simple tests</li> <li>identifying and classifying</li> <li>using their observations and ideas to suggest answers to questions</li> <li>gathering and recording data to help in answering questions.</li> </ul>				<p><b><u>WORKING SCIENTIFICALLY</u></b></p> <p>LKS2 children should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:</p> <ul style="list-style-type: none"> <li>asking relevant questions and using different types of scientific enquiries to answer them</li> <li>setting up simple practical enquiries, comparative and fair tests</li> <li>making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers</li> <li>gathering, recording, classifying and presenting data in a variety of ways to help in answering questions</li> <li>recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables</li> <li>reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions</li> <li>using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions</li> <li>identifying differences, similarities or changes related to simple scientific ideas and processes</li> </ul>		<p><b><u>WORKING SCIENTIFICALLY</u></b></p> <p>UKS2 children should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:</p> <ul style="list-style-type: none"> <li>planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary</li> <li>taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate</li> <li>recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs</li> <li>using test results to make predictions to set up further comparative and fair tests</li> <li>reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms such as displays and other presentations</li> <li>identifying scientific evidence that has been used to support or refute ideas or arguments</li> </ul>

	<ul style="list-style-type: none"> <li>• using straightforward scientific evidence to answer questions or to support their findings.</li> </ul>	
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### LANDEWEDNACK SCIENCE SKILLS PROGRESSION MAP

EYFS	Year 1 and 2	Year 3 and 4	Year 5 and 6
<p><b><u>Physical Development: Health and self-care</u></b> Children know the importance for good health of physical exercise, and a healthy diet, and talk about ways to keep healthy and safe. They manage their own basic hygiene and personal needs successfully, including dressing and going to the toilet independently.</p> <p><b><u>Understanding the world: The world</u></b> Children know about similarities and differences in relation to places, objects, materials and living things. They talk about the features of their own immediate environment and how environments might vary from one another. They make observations of animals and plants and explain why some things occur, and talk about changes.</p> <p><b><u>Communication and Language: Understanding</u></b> Children follow instructions involving several ideas or actions. They answer 'how' and 'why' questions about their experiences and in response to stories or events.</p> <p><b><u>Communication and Language: Speaking</u></b> Children express themselves effectively, showing awareness of listeners' needs. They use past, present and future forms accurately when talking about events that have happened or are to happen in the future. They develop their own narratives and explanations by connecting ideas or events.</p>	<ul style="list-style-type: none"> <li>• Ask simple questions.</li> <li>• Observe closely, using simple equipment.</li> <li>• Perform simple tests.</li> <li>• Identify and classify.</li> <li>• Use observations and ideas to suggest answers to questions.</li> <li>• Gather and record data to help in answering questions.</li> <li>• Identify and name a variety of common plants, including garden plants, wild plants and trees and those classified as deciduous and evergreen.</li> <li>• Identify and describe the basic structure of a variety of common flowering plants, including roots, stem/trunk, leaves and flowers.</li> <li>• Observe and describe how seeds and bulbs grow into mature plants.</li> <li>• Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.</li> <li>• Identify and name a variety of common animals that are birds, fish, amphibians, reptiles, mammals and invertebrates.</li> <li>• Identify and name a variety of common animals that are carnivores, herbivores and omnivores.</li> <li>• Describe and compare the structure of a variety of common animals (birds, fish, amphibians, reptiles, mammals and invertebrates, including pets).</li> <li>• Identify name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.</li> <li>• Notice that animals, including humans, have offspring which grow into adults.</li> <li>• Investigate and describe the basic needs of animals, including humans, for survival (water, food and air).</li> <li>• Describe the importance for humans of exercise, eating the right amounts of different types of food and hygiene.</li> <li>• Explore and compare the differences between things that are living, that are dead and that have never been alive.</li> <li>• Identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants and how they depend on each other.</li> <li>• Identify and name a variety of plants and animals in their habitats, including micro-habitats.</li> <li>• Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food.</li> <li>• Identify how humans resemble their parents in many features.</li> <li>• Distinguish between an object and the material from which it is made.</li> <li>• Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water and rock.</li> <li>• Describe the simple physical properties of a variety of everyday materials.</li> </ul>	<ul style="list-style-type: none"> <li>• Ask relevant questions.</li> <li>• Set up simple, practical enquiries and comparative and fair tests.</li> <li>• Make accurate measurements using standard units, using a range of equipment, e.g. thermometers and data loggers.</li> <li>• Gather, record, classify and present data in a variety of ways to help in answering questions.</li> <li>• Record findings using simple scientific language, drawings, labelled diagrams, bar charts and tables.</li> <li>• Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.</li> <li>• Use results to draw simple conclusions and suggest improvements, new questions and predictions for setting up further tests.</li> <li>• Identify differences, similarities or changes related to simple, scientific ideas and processes.</li> <li>• Use straightforward, scientific evidence to answer questions or to support their findings.</li> <li>• Identify and describe the functions of different parts of flowering plants: roots, stem, 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 role of flowers in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.</li> <li>• Identify that animals, including humans, need the right types and amounts of nutrition, that they cannot make their own food and they get nutrition from what they eat.</li> <li>• Construct and interpret a variety of food chains, identifying producers, predators and prey.</li> <li>• Identify that humans and some animals have skeletons and muscles for support, protection and movement.</li> <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>• Recognise that living things can be grouped in a variety of ways.</li> <li>• Explore and use classification keys.</li> <li>• Recognise that environments can change and that this can sometimes pose dangers to specific habitats.</li> <li>• Identify how plants and animals, including humans, resemble their parents in many features.</li> <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>• Identify how animals and plants are suited to and adapt to their environment indifferent ways.</li> </ul>	<ul style="list-style-type: none"> <li>• Plan enquiries, including recognising and controlling variables where necessary.</li> <li>• Use appropriate techniques, apparatus, and materials during fieldwork and laboratory work.</li> <li>• Take measurements, using a range of scientific equipment, with increasing accuracy and precision.</li> <li>• Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, bar and line graphs, and models.</li> <li>• Report findings from enquiries, including oral and written explanations of results, explanations involving causal relationships, and conclusions.</li> <li>• Present findings in written form, displays and other presentations.</li> <li>• Use test results to make predictions to set up further comparative and fair tests.</li> <li>• Use simple models to describe scientific ideas, identifying scientific evidence that has been used to support or refute ideas or arguments.</li> <li>• Relate knowledge of plants to studies of evolution and inheritance.</li> <li>• Relate knowledge of plants to studies of all living things.</li> <li>• Describe the changes as humans develop to old age.</li> <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 importance of diet, exercise, drugs and lifestyle on the way the human body functions.</li> <li>• Describe the ways in which nutrients and water are transported within animals, including humans.</li> <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> <li>• Describe how living things are classified into broad groups according to common observable characteristics.</li> <li>• Give reasons for classifying plants and animals based on specific characteristics.</li> <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> <li>• Compare and group together everyday materials based on evidence from comparative and fair tests, including their hardness, solubility, conductivity (electrical and thermal), and response to magnets.</li> <li>• Understand how some materials will dissolve in liquid to form a solution and describe how to recover a substance from a solution.</li> </ul>

	<ul style="list-style-type: none"><li>• Compare and group together a variety of everyday materials on the basis of their simple physical properties.</li><li>• Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.</li><li>• Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick/rock, and paper/cardboard for particular uses.</li><li>• Notice and describe how things move, using simple comparisons such as faster and slower.</li><li>• Compare how different things move.</li><li>• Observe and name a variety of sources of light, including electric lights, flames and the Sun, explaining that we see things because light travels from them to our eyes.</li><li>• Observe and name a variety of sources of sound, noticing that we hear with our ears.</li><li>• Identify common appliances that run on electricity.</li><li>• Construct a simple series electrical circuit.</li><li>• Observe the apparent movement of the Sun during the day.</li><li>• Observe changes across the four seasons.</li><li>• Observe and describe weather associated with the seasons and how day length varies.</li></ul>		<ul style="list-style-type: none"><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, oxidation and the action of acid on bicarbonate of soda.</li><li>• Describe magnets as having two poles.</li><li>• Predict whether two magnets will attract or repel each other, depending on which poles are facing.</li><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 effect of drag forces, such as air resistance, water resistance and friction that act between moving surfaces.</li><li>• Describe, in terms of drag forces, why moving objects that are not driven tend to slow down.</li><li>• Understand that force and motion can be transferred through mechanical devices such as gears, pulleys, levers and springs.</li><li>• Understand that some mechanisms including levers, pulleys and gears, allow a smaller force to have a greater effect.</li><li>• Understand 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 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, and to predict the size of shadows when the position of the light source changes.</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>• 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><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><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>
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