|  | Reception | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
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| Plants | Observe and name wildflowers (daisy, dandelion, snowdrop, buttercup, daffodil and forget-menot) <br> Observe and describe trees and their leaves, including through the seasonal changes -Draw wild flowers and trees and find ways to sort and categorise them <br> -Identify the parts of a plant (stem, roots, leaf, flower, petal) -Know what plants need to help them grow and carry out simple fair tests to check hypothesis | Name/identify a variety of common wild plants (dandelion, daisy, buttercup). <br> Name/identify and name a variety of garden plants (sunflower, tulip, rose). Identify and describe some deciduous trees (oak, birch, sycamore). Identify and describe some evergreen trees (pine, holly, fir). <br> Identify the petals, stem, leaf and root of a plant. Identify the root, trunk, branches and leaves of a tree. | Explain how seeds grow into mature plants. <br> Explain how bulbs grow into mature plants. <br> Describe what plants need to grow and stay healthy (water, light, room to grow). | Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers. Understand the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow). Understand that requirements for life and growth in plants may differ from plant to plant (cacti; less water, houseplants (Aloe Vera); heat). <br> Explain how water is transported within plants. <br> Explain the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal. |  |  |  |
| Key vocabulary: |  | Dandelion, daisy, buttercup, sunflower tulip, rose, oak, birch, sycamore, pine, holly, fir, petal, stem, leaf, root, trunk, branch, leaves, seed <br> Deciduous, Evergreen trees <br> Leaves | Seeds, bulbs water, room, growth, leaf, stem, root, flower, tree, plant. Water, ight, temperature, growth | Roots, stem/trunk, leaves, flowers, air, light, water, , ,utrient, , cacti, 1 loee Vera, lransportation, pollination, seed formation, seed dispersal! |  |  |  |
| Animals including humans | Observe common animals, (including farm, zoo, woodland and insects) draw them and find ways to sort and categorise them <br> Know the names of baby animals (sheep-lamb, cow-calf, horse-foal, hen-chick, pig-piglet, rabbit-kitten, dog-puppy, cat-kitten, duck-duckling, owl-owlet, deer-fawn, frog-tadpole, butterfly-caterpillar) <br> Understand the key features of the life cycle of an animal. | Identify and name a variety of common animals (gull, elephant, lizard, frog, snake, human, penguin, shark, toad, fish, eagle) <br> Sort animals (as above) into the relevant categories: fish, amphibian, reptile, bird, mammal. <br> Sort animals (as above) into the relevant categories: carnivores, herbivores and omnivores. <br> Describe and compare the structure of <br> a variety of common animals (as above). <br> Identify, name, draw and label the basic parts of the human body (head, shoulder, hand, fingers, chest, arm, knee, foot). <br> Identify which part of the body is <br> associated with each sense. | Identify the names of animals and their offspring (cat-kitten, horse-foal, cowcalf, goat-kid). Identify how different animals (mammals, birds, reptiles, fish, amphibians) produce offspring. Describe the basic needs of animals, including humans, for survival (water, food and air). <br> Describe the importance of exercise for humans. <br> Describe the importance of hygiene for humans. <br> Describe the importance of eating the right amounts and types of food for humans. | Name different food groups (dairy, protein, carbohydrates, fruit and veg, fats and sugars), including food that feature in these groups. <br> Explain the importance of a balanced diet. <br> Explain the importance of skeletons to humans (support and protection). Explain the importance of muscles to humans (movement). <br> Name key parts of the skeleton and what they protect (skull-brain, ribcageheart/lungs, spine). <br> Explain the meaning of vertebrate (with backbone) and invertebrate (without backbone). <br> Name an animal that has no skeleton (slug, worm, jellyfish). | Explain the purpose of the digestive system. <br> Name the basic parts of the digestive system (mouth, oesophagus, stomach, small intestine, large intestine). Describe the functions of the basic parts (as above) of the digestive system. Identify the different types of teeth in humans (incisors, canines, premolars, molars, wisdom) and their simple functions. <br> Explain how to keep teeth healthy. Explain the meaning of: predator, prey, producer. <br> Construct and interpret a variety of food chains, identifying producers, predators and prey. | Identify the six stages of the human life cycle (baby, toddler, child, teenager, adult, elderly/senior). Explain the meaning of: foetus, puberty, fertilisation, umbilical cord. Describe some changes that may occur during puberty (growing body hair, sweat, acne, menstruation, body growth). | Explain the meaning of pulse and how to measure a pulse. <br> Understand that physical activity makes the heart beat faster, and in turn blood flow faster. <br> Explain what the heart is made from (muscle). <br> Describe the difference between a vein and an artery. <br> Explain the role of the blood in the circulatory system. <br> Explain how to lead a healthy lifestyle (discussing balanced diet, exercise, personal hygiene, abstaining from smoking and drinking alcohol). Describe how water and nutrients are transported around the body. |
| Key vocabulary: | Animal, people, farm, zoo, woodland, insect, mother, baby, sheep-lamb, cow-calf, horse-foal, hen-chick, pigpiglet, rabbit-kitten, dog-puppy, catkitten, duck-duckling, owl-owlet, deer-fawn, frog-tadpole, butterfly-caterpillar | Fish, Reptiles, Mammals, <br> Birds, Amphibians <br> Herbivore, Omnivore, <br> Carnivore, <br> Body (and all its parts-Leg, Arm, Elbow, Head, Ear, Nose, Back, head, shoulder, hand, fingers, chest, arm, knee, foot) <br> Wings, Beak, gull, elephant, lizard, frog, snake, human, penguin, shark, toad, fish, eagle, | $\square$ |  | $\begin{aligned} & \hline \text { Digestive system, (including Oesophagus, } \\ & \text { Stomach, Small Intestine, Large } \\ & \text { Intestine) } \\ & \text { Mouth, Tongue, Teeth, incisors, canines, } \\ & \text { premolars, molars, wisdom } \\ & \text { Herbivore, } \\ & \text { Carnivore, Predator, prey, producer, } \\ & \text { food chain } \end{aligned}$ | Foetus, Embryo, Womb, <br> Gestation, Baby, Toddler <br> Teenager, Elderly, Growth, <br> Development, Puberty, fertilisation <br> umbilical cord, menstruation, acne |  |
| Living things and their habitats | Recognise some environments are different to the one in which they live. Describe what they can see, hear and feel whilst outside. Explore the habitats of different animals and make comparisons |  | Name common items that are living, dead or have never been alive (laptop, giraffe, sausages, cat, roast chicken, paintbrush). <br> Name the 7 life processes (movement, respiration, sensitivity growth, reproduction, excretion, nutrition). Describe how some animals (polar bears, camels) are suited to their habitats <br> Explain the term microhabitat. Identify and name a variety of plants and animals in their habitats (giraffesavannah, polar bear-polar regions, camel-desert, shark-sea). Use simple food chains to explain how living things obtain food. |  | Recognise that living things can be grouped in a variety of ways (animal type/number of legs/diet/vertebrate or invertebrate). <br> Use classification keys to help group, identify and name a variety of living things in their local environment. Use classification keys to help group, identify and name a variety of living things in the wider environment. Recognise that environments can change and that this can sometimes pose dangers to living things (littering, pollution, deforestation). | Define 'life cycle'. <br> Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird. Describe the life process of reproduction in some plants and animals (bird, reptile, fish, amphibians, mammal, seed dispersal). | Explain the meaning of classify. Describe how living things are classified into groups according to common observable characteristics and based on similarities and differences. Name types of micro-organism (algae, bacteria, virus, protozoa, fungi). Classify minibeasts based on specific characteristics (legs/wings/antennae). Give reasons for classifying plants and animals based on specific characteristics. |




| Sound |  |  |  |  | Identify how sounds are made, associating some of them with something vibrating Understand that vibrations from sounds travel through a medium to the ear Find patterns between the pitch of a sound and features of the object that produced it. <br> Find patterns between the volume of a sound and the strength of the vibrations that produced it. <br> Understand that sounds get fainter as the distance from the sound source increases. |  |  |
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|  |  |  |  |  | Volume, Vibration, Wave, Pitch, Tone, Speaker |  |  |
| Electricity <br> Key vocabulary |  |  |  |  | Identify common appliances that run on electricity. <br> Construct a simple series electrical circuit, identifying and naming its basic parts (cells, wires, bulbs, switches and buzzers). <br> Identify whether or not a lamp will light in a simple eseries circuit, based on whether or not the lamp is part of a complete loop with a battery. Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit. <br> Recognise common conductors (copper, aluminium, iron, steel) and insulators (glass, plastic, wood, rubber). Understand that metals are good conductors of electricity. Cells, Wires, Bulbs, <br> Switches, Buzzers, Battery, <br> Circuit, Series, Conductors, Insulators |  | Understand that brightness of a lamp or the volume of a buzzer is affected by voltage of cells used in the circuit. Compare how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches. <br> Give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches. <br> Use recognised symbols when representing a simple circuit in a diagram. <br> Wires, Bulbs, <br> Switches, Buzzers, <br> Battery, Circuit, Series, <br> Conductors, Insulators, <br> Amps, Voltage, Cell, current |
| Earth and space |  |  |  |  |  | Describe the movement of the Earth relative to the sun in the solar system. Describe the movement of other plants relative to the sun in the solar system. Describe the movement of the moon relative to the Earth. <br> Describe the sun, Earth and moon as approximately spherical bodies. Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky. |  |
| Key vocabulary: |  |  |  |  |  | Solar system, planet, orbit, Earth, Sun, Moon, Axis, <br> Rotation, Day, Night, <br> Phases of the Moon, star, <br> constellation |  |
| Evolution and inheritanc |  |  |  |  |  |  | Explain the meaning of evolution, inheritance and adaptation. <br> Recognise that living things have changed over time. <br> Understand that fossils provide information about living things that inhabited the Earth millions of years ago. Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents. <br> Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution. |
| Key vocabulary: |  |  |  |  |  |  | Evolution IInheritance Species Adaptation |


| EYFS: |  | KS1 | LKS2 | UKS2 |
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| - Show curiosity and answer questions. <br> - Make observations using their senses and simple equipment. <br> - Make direct comparisons. <br> - Use equipmentto measure. <br> - Record their observations by drawing, taking photographs, using sorting rings or boxes and, in Reception, on simple tick sheets. <br> - Use their observations to help them answer questions. <br> - Talk about what they are doing and have found out. <br> - Identify, sortand group. | Asking questions and recognising that they can be answered in different ways. | While exploring the world, the children develop their ability to ask questions (such as what something is, how things are similar and different, the ways things work, which alternative is better, how things change and how they happen). Where appropriate, they answer these questions. <br> The children answer questions developed with the teacher often through a scenario. <br> The children are involved in planning how to use resources provided to answer the questions using different types of enquiry, helping them to recognise that there are different ways in which questions can be answered. | While exploring the world, the children develop their ability to ask questions (such as what something is, how things are similar and different, the ways things work, which alternative is better, how things change and how they happen). Where appropriate, they answer these questions. <br> The children answer questions developed with the teacher often through a scenario. <br> The children are involved in planning how to use resources provided to answer the questions using different types of enquiry, helping them to recognise that there are different ways in which questions can be answered. | Children independently ask scientific questions. This may be stimulated by a scientific experience or involve asking further questions based on their developed understanding following an enquiry. <br> Given a wide range of resources the children decide for themselves how to gather evidence to answer a scientific question. They choose a type of enquiry to carry out and justify their choice. They recognise howsecondary sources can be used to answer questions that cannot be answered through practical work. |
|  | Making observations and taking measurements. | Children explore the world around them. They make careful observations to support identification, comparison and noticing change. They use appropriate senses, aided by equipment such as magnifying glasses or digital microscopes, to make their observations. <br> They begin to take measurements, initially by comparisons, then using non-standard units. | The children make systematic and careful observations. <br> They use a range of equipment for measuring length, time, temperature and capacity. They use standard units for their measurements. | The children select measuring equipment to give the most precise results e.g. ruler, tape measure or trundle wheel, force meter with a suitable scale. <br> During an enquiry, they make decisions e.g. whether they need to: take repeat readings (fair testing); increase the sample size (pattern seeking); adjust the observation period and frequency (observing over time); orcheck further secondary sources (researching); in order to get accurate data (closer to the true value). |
|  | Engaging in practical enquiry to answer questions. | The children use practical resources provided to gather evidence to answer questions generated by themselves or the teacher. They carry out: tests to classify; comparative tests; pattern seeking enquiries; and make observations over time. <br> Children use their observations and testing to compare objects, materials and living things. They sort and group these things, identifying their own criteria for sorting. <br> They use simple secondary sources (such as identification sheets) to name living things. They describe the characteristics they used to identify a living thing. | The children select from a range of practical resources to gather evidence to answer questions generated by themselves or the teacher. <br> They follow their plan to carry out: observations and tests to classify; comparative and simple fair tests; observations over time; and pattern seeking | The children select from a range of practical resources to gather evidence to answer their questions. They carry out fair tests, recognisisg and controlling variables. They decide what observations or measurements to make over time and for how long. They look for patterns and relationships using a suitable sample |
|  | Recording and presenting evidence. | The children record their observations e.g. using photographs, videos, drawings, labelled diagrams or in writing. <br> They record their measurements e.g. using prepared tables, pictograms, tally charts and block graphs. <br> They classify using simple prepared tables and sorting rings. | The children sometimes decide how to record and present evidence. They record their observation e.g. using photographs, videos, pictures, labelled diagrams or writing. They record their measurements e.g. using tables, tally charts and bar charts (given templates, if required, to which they can add headings). They record classifications e.g. using tables, Venn diagrams, Carroll diagrams. <br> Children are supported to present the same data in different ways in order to help with answering the question. | The children decide how to record and present evidence. They record observations e.g. using annotated photographs, videos, labelled diagrams, observational drawings, labelled scientific diagrams or writing. They record measurements e.g. using tables, tally charts, bar charts, line graphs and scatter graphs. They record classifications e.g. using tables, Venn diagrams, Carroll diagrams and classification keys. <br> Children present the same data in different ways in order to help with answering the question. |
|  | Answering questions and conduding. | Children use their experiences of the world around them to suggest appropriate answers to questions. They are supported to relate these to their evidence e.g. observations they have made, measurements they have taken or information they have gained from secondary sources. <br> The children recognise 'biggest and smallest', 'best and worst' etc. from their data. | Children answer their own and others' questions based on observations they have made, measurements they have taken or information they have gained from secondary sources. The answers are consistent with the evidence. <br> Children interpret their data to generate simple comparative statements based on their evidence. They begin to identify naturally occurring patterns and causal relationships. <br> They draw conclusions based on their evidence and current subject knowledge. | Children answer their own and others' questions based on observations they have made, measurements they have taken or information they have gained from secondary sources. When doing this, they discuss whether other evidence e.g. from other groups, secondary sources and their scientific understanding, supports or refutes their answer. <br> They talk about how their scientific ideas change due to new evidence that they have gathered. <br> They talk about how new discoveries change scientific understanding. <br> In their conclusions, children: identify causal relationships and patterns in the natural world from their evidence; identify results that do not fit the overall pattern; and explain their findings using their subject knowledge. |
|  | Evaluating and raising further questions and predictions. |  | They identify ways in which they adapted their method as they progressed or how they would do it differently if they repeated the enquiry. <br> Children use their evidence to suggest values for different items tested using the same method e.g. the distance travelled by a car on an additional surface. <br> Following a scientific experience, the children ask further questions which can be answered by extending the same enquiry. | They evaluate, for example, the choice of method used, the control of variables, the precision and accuracy of measurements and the credibility of secondary sources used. <br> They identify any limitations that reduce the trust they have in their data. <br> Children use the scientific knowledge gained from enquiry work to make predictions they can investigate using comparative and fair tests. |
|  | Communicating their findings. |  | They communicate their findings to an audience both orally and in writing, using appropriate scientific vocabulary. | They communicate their findings to an audience using relevant scientific language and illustrations. |

