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| **Year Group** | **Working Scientifically** | **Biology** | **Chemistry** | **Physics** |
| **Year 1** | • asking simple questions and recognising that they can be answered in different ways  • observing closely, using simple equipment  • performing simple tests  • identifying and classifying  • using their observations and ideas to suggest answers to questions  • gathering and recording data to help in answering questions | **Plants**  • identify and name a variety of common wild and garden plants, including deciduous and evergreen trees  • identify and describe the basic structure of a variety of common flowering plants, including trees.  **Animals, including humans**  • identify and name a variety of common animals that are carnivores, herbivores and omnivores  • describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets)  • Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense. | **Everyday materials**  • distinguish between an  object and the material from  which it is made  • identify and name a variety  of everyday materials,  including wood, plastic,  glass, metal, water, and rock  • describe the simple physical  properties of a variety of  everyday materials  • Compare and group together  a variety of everyday materials on the basis of their simple physical properties. | **Seasonal changes**  • observe changes across the four  seasons  • observe and describe weather  associated with the seasons and how  day length varies |

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| **Year**  **Group** | **Working Scientifically** | **Biology** | **Chemistry** | **Physics** |
| Nursery | Know similarities between objects, materials and living things. • Know differences between objects, materials and living things. • Observe animals and plants. • Explain why some things happen. • I must talk about change. | Plants  Animals including humans  Living things and their habitat | Everyday materials  Rocks  States of Matter | Seasonal changes  Light  Forces  Sound  Electricity |

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| **Year**  **Group** | **Working Scientifically** | **Biology** | **Chemistry** | **Physics** |
| Reception | Know similarities between objects, materials and living things. • Know differences between objects, materials and living things. • Observe animals and plants. • Explain why some things happen. • I must talk about change. | Plants  Animals including humans  Living things and their habitat | Everyday materials  Rocks  States of Matter | Seasonal changes  Light  Forces  Sound  Electricity |

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| **Year Group** | **Working Scientifically** | **Biology** | **Chemistry** | **Physics** |
| **Year 2** | • asking simple questions and recognising that they can be answered in different ways  • observing closely, using simple  equipment  • performing simple tests  • identifying and classifying  • using their observations and ideas to suggest answers to questions  • gathering and recording data to help in answering questions | **Plants**  • observe and describe how seeds and bulbs grow into mature plants.  • Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.  **Animals, including humans**  • Find out about and describe the basic needs of animals, including humans, for  survival (water, food and air)  • Describe the importance of humans of exercise, eating the right amounts of different types of food and hygiene.  **Living things and their habitats.**  • Explore and compare the differences between things that are living, dead and things  that have never been alive,  • Identify that most 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.  • Identify and name a variety of plants and animals in their habitats, including microorganisms.  • Describe , how animals obtain their food from plants and animals, using the idea of a simple food chain and identify and name different sources of food | **Everyday materials**  • Identify and compare the  suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses.  • Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. |  |

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| **Year Group** | **Working Scientifically** | **Biology** | **Chemistry** | **Physics** |
| **Year 3** | • asking relevant questions and using  different types of scientific enquiries to  answer them  • setting up simple practical enquiries,  comparative and fair tests  • making systematic and careful  observations and, where appropriate,  taking accurate measurements using  standard units, using a range of  equipment, including thermometers and  data loggers  • gathering, recording, classifying and  presenting data in a variety of ways to  help in answering questions  • recording findings using simple scientific  language, drawings, labelled diagrams,  keys, bar charts, and tables  • reporting on findings from enquiries,  including oral and written explanations,  displays or presentations of results and  conclusions  • using results to draw simple conclusions,  make predictions for new values, suggest  improvements and raise further questions  • identifying differences, similarities or  changes related to simple scientific ideas  and processes and use straightforward scientific evidence to answer questions or to support their findings. | **Plants**  • identify and describe the functions of  different parts of flowering plants: roots,  stem/trunk, leaves and flowers  • 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  • investigate the way in which water is  transported within plants  • explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.  **Animals, including humans**  • identify that animals, including humans,  need the right types and amount of  nutrition, and that they cannot make their  own food; they get nutrition from what they  eat  • identify that humans and some other animals have skeletons and muscles for support, protection and movement. | **Rocks**  • compare and group together  different kinds of rocks on  the basis of their appearance  and simple physical  properties  • describe in simple terms  how fossils are formed when  things that have lived are  trapped within rock  • recognise that soils are made from rocks and organic matter. | **Light**  • recognise that they need light in order to see things and that dark is the absence of light  • notice that light is reflected from surfaces  • recognise that light from the sun can be dangerous and that there are ways to protect their eyes  • recognise that shadows are formed when the light from a light source is blocked by an opaque object  • find patterns in the way that the size of shadows change.  **Forces**  • describe magnets as having two poles  • predict whether two magnets will attract or repel each other, depending on which poles are facing.  • notice that some forces need contact between two objects, but magnetic forces can act at a distance  • observe how magnets attract or repel each other and attract some materials and not others  • compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials |

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| **Year Group** | **Working Scientifically** | **Biology** | **Chemistry** | **Physics** |
| **Year 4** | asking relevant questions and using  different types of scientific enquiries to  answer them  • setting up simple practical enquiries,  comparative and fair tests  • making systematic and careful  observations and, where appropriate,  taking accurate measurements using  standard units, using a range of  equipment, including thermometers and  data loggers  • gathering, recording, classifying and  presenting data in a variety of ways to  help in answering questions  • recording findings using simple scientific  language, drawings, labelled diagrams,  keys, bar charts, and tables  • §reporting on findings from enquiries,  including oral and written explanations,  displays or presentations of results and  conclusions  • using results to draw simple conclusions,  make predictions for new values, suggest  improvements and raise further questions  • identifying differences, similarities or  changes related to simple scientific ideas and processes and use straightforward scientific evidence to answer questions or to support their findings. | **Animals, including humans**  • describe the simple functions of the basic parts of the digestive system in humans  • identify the different types of teeth in humans and their simple functions  **Living things and habitats**  • construct and interpret a variety of food chains, identifying producers, predators and prey.  • recognise that living things can be grouped in a variety of ways  • explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment  • recognise that environments can change and that this can sometimes pose dangers to living things. | **States of matter**  • compare and group materials  together, according to whether they are solids, liquids or gases  • 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)  • identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature. | **Sound**  • identify how sounds are made, associating some of them with something vibrating  • recognise 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  • find patterns between the volume of a sound and the strength of the vibrations that produced it  • recognise that sounds get fainter as the distance from the sound source increases.  **Electricity**  • identify common appliances that run on electricity  • construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers  • 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  • recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit  • recognise some common conductors and insulators, and associate metals with being good conductors. |

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| **Year Group** | **Working Scientifically** | **Biology** | **Chemistry** | **Physics** |
| **Year 5** | • planning different types of scientific  enquiries to answer questions, including  recognising and controlling variables where  necessary  • taking measurements, using a range of  scientific equipment, with increasing  accuracy and precision, taking repeat  readings when appropriate  • recording data and results of increasing  complexity using scientific diagrams and  labels, classification keys, tables, scatter  graphs, bar and line graphs  • using test results to make predictions to set  up further comparative and fair tests  • reporting and presenting findings from  enquiries, including conclusions, causal  relationships and explanations of and  degree of trust in results, in oral and written  forms such as displays and other  presentations  • identifying scientific evidence that has been  used to support or refute ideas or  arguments | **Living things and their habitats**  • describe the changes as humans  develop to old age  • 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 | **Properties and changes of materials**  • 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  • know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution  • use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating  • give reasons, based on evidence from  comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic  • demonstrate that dissolving, mixing and changes of state are reversible changes  • 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 | **Forces**  • explain that unsupported objects fall  towards the Earth because of the force of gravity acting between the Earth and the falling object  • identify the effects of air resistance, water resistance and friction, that act between moving surfaces  • recognise that some mechanisms including levers, pulleys and gears allow a smaller force to have a greater effect  **Earth and Space**  • describe the movement of the Earth and other planets relative to the sun in the solar system  • describe the movement of the moon  relative to the Earth  • 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 |

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| **Year Group** | **Working Scientifically** | **Biology** | **Chemistry** | **Physics** |
| **Year 6** | • planning different types of scientific enquiries to answer questions, including  recognising and controlling variables where necessary  • taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat  readings when appropriate  • recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs  • using test results to make predictions to set up further comparative and fair tests  • reporting and presenting findings from enquiries, including conclusions, causal  relationships and explanations of and degree of trust in results, in oral and  written forms such as displays  and other presentations  • identifying scientific evidence that has been used to support or refute ideas or arguments. | **Animals, including humans**  • identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood  • recognise the impact of diet, exercise, drugs and lifestyle on the way their  bodies function  • describe the ways in which nutrients and water are transported within animals, including humans.  **Living things and their habitat**  • describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro  organisms, plants and animals  • give reasons for classifying plants and animals based on specific characteristics.  **Evolution and inheritance**  • recognise that living things have changed over time and 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  • identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution |  | Light  • recognise that light appears to travel  in straight lines  • 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  • 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  • use the idea that light travels in  straight lines to explain why shadows  have the same shape as the objects  that cast the shadow  **Electricity**  • associate the brightness of a lamp or  the volume of a buzzer with the  number and voltage of cells used in  the circuit  • 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  • use recognised symbols when representing a simple circuit in diagram. |