# Subject Map for National Curriculum Objectives-Science

| National Curriculum Subject: Science | | | | | | |
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| | | National Curriculum Objective | | | | |
| | | Block 1 | Block 2 | Block 3 | Block 4 | Block 5 | Block 6 |

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| KS1 | Y1 | **Animals**<br>-Identify, name, draw and label basic parts of the human body and say which part of the body is associated with each sense.<br>**Working Scientifically** - Observing closely, using simple equipment -Using their observations and ideas to suggest answers to questions -Performing simple tests -Gathering and recording data to help in answering questions. | **Seasonal Changes** - Observe changes across the four seasons. - Observe and describe weather associated with the seasons and how day length changes.<br>**Working Scientifically** - Observing closely, using simple equipment -Identifying and classifying -Performing simple tests - Using their observations and ideas to suggest answers to questions - Gathering and recording data to help in answering questions | **Everyday materials** - Distinguish between the object and the material from which it is made. - Identify and name of variety of everyday materials, including; wood, metal, 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 properties.<br>**Working Scientifically** - Observing closely, using simple equipment -Using their observations and ideas to suggest answers to questions -Performing simple tests -Gathering and recording data to help in answering questions. - Asking simple questions and recognizing they can be answered in different ways | **Everyday materials** - Compare and group together a variety of everyday materials on the basis of their simple properties<br>**Working Scientifically** - Observing closely, using simple equipment - Using their observations and ideas to suggest answers to questions - Performing simple tests - Gathering and recording data to help in answering questions. - Asking simple questions and recognizing they can be answered in different ways - Identifying and Classifying | **Animals**<br>-Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. -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).<br>**Working Scientifically** - Using their observations and ideas to suggest answers to questions - Identifying and Classifying | **Plants**<br>-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.<br>**Working Scientifically** - Observing closely, using simple equipment - Using their observations and ideas to suggest answers to questions -Asking simple questions and recognizing they can be answered in different ways -Identifying and Classifying |

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| | Y2 | **Animals**<br>-Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene<br>-Notice that animals, including humans, have offspring which grow into adults<br>-Find out about and describe the basic needs of animals, including humans, for survival (water, food and air)<br>**Working Scientifically** - Using their observations and ideas to suggest answers to questions. -Asking simple questions and recognize they can be answered in different ways.<br>-Perform simple tests Observe closely, using simple equipment<br>-Identifying and classifying - Gathering and recording data to help in answering questions | **Everyday materials**<br>-Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses.<br>**Working Scientifically** - Asking simple questions and recognising that they can be answered in different ways<br>-Identifying and classifying -Gathering and recording data to help in answering questions. - Using their observations and ideas to suggest answers to questions. | **Everyday materials**<br>-Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses.<br>-Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.<br>**Working Scientifically** - Using their observations and ideas to suggest answers to questions. - Asking simple questions and recognize they can be answered in different ways.<br>-Perform simple tests - Observe closely, using simple equipment<br>-Identifying and classifying - Gathering and recording data to help in answering questions | **Plants**<br>-Observe and describe how seeds and bulbs grow into mature plants.<br>-Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.<br>**Working Scientifically**<br>-Perform simple tests - Observe closely, using simple equipment<br>-Identifying and classifying - Gathering and recording data to help in answering questions | **Living things and their habitats**<br>-Explore and compare the differences between things that are living, dead, and things that have never been alive.<br>-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.<br>Identify and name a variety of plants and animals in their habitats, including micro-habitats.<br>**Working Scientifically**<br>-Asking simple questions and recognising that they can be answered in different ways<br>Identifying and classifying | **Living things and their habitats**<br>-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.<br>-Identify and name a variety of plants and animals in their habitats, including micro-habitats. - 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.<br>**Working Scientifically**<br>-Asking simple questions and recognising that they can be answered in different ways<br>- Identifying and classifying - Using their observations and ideas to suggest answers to questions. - Perform simple tests - Observe closely, using simple equipment - Gathering and recording data to help in answering questions |

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| Lower KS2 | Y3 | **Animals**<br>-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.<br>**Working Scientifically** - Beginning to gather, record, classify and present data in a variety of ways to help in answering questions. -Beginning to ask relevant questions and using different types of scientific enquiries to answer them | **Rocks**<br>-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.<br>**Working Scientifically** - 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. -Beginning to gather, record, classify and present 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. | **Plants**<br>-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.<br>**Working Scientifically** - Beginning to set up simple practical enquiries, comparative and fair tests. -Beginning to use straightforward scientific evidence to answer questions or to support their findings. -Beginning to use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions. -Beginning to report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. -Beginning to record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables. | **Plants**<br>-Investigate the way in which water is transported in plants. -Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.<br>**Working Scientifically** - Beginning to identify differences, similarities or changes related to simple scientific ideas and processes. -Beginning to use straightforward scientific evidence to answer questions or to support their findings. -Beginning to report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. -Beginning to make systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers. | **Forces**<br>-Notice that some forces need contact between two objects, but magnetic forces can act at a distance. -Describe magnets as having two poles. -Predict whether two magnets will attract or repel each other, depending on which poles are facing. -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. -Compare how things move on different surfaces.<br>**Working Scientifically** - 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, | **Light**<br>-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 a solid object. -Find patterns in the way that the size of shadows change.<br>**Working Scientifically** - Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables. -Asking relevant questions and using different types of scientific enquiries to answer them. -Beginning to report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. -Beginning to gather, record, classify and present data in a variety of ways to help in answering questions. |

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| | | | -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. -Using straightforward scientific evidence to answer questions or to support their findings. | | | including thermometers and data loggers. -Beginning to gather, record, classify and present 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. | -Identifying differences, similarities or changes related to simple scientific ideas and processes. |
| | Y4 | **Animals**<br>-Describe the simple functions of the basic parts of the digestive system in humans.<br>-Identify the different types of teeth in humans and their simple functions. -Construct and interpret a variety of food chains, identifying producers, predators and prey.<br>**Working Scientifically**<br>-Use straightforward scientific evidence to answer questions or to support their findings. Identifying differences, similarities or changes | **Electricity**<br>-Identify common appliances that run on electricity.<br>-Construct a simple series circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers. -Identify whether a lamp will light in a simple series circuit, based on whether the lamp is part of a complete loop with a battery.<br>-Recognise that a switch opens and closes a circuit and associate this with whether a lamp lights in a simple series circuit. | **Sound**<br>-Identify how sounds are made, associating some of them with something vibrating.<br>-Recognize that vibrations from sound 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>- Recognize that sounds get fainter as the distance from the sound source increases.<br>**Working Scientifically** | **States of Matter**<br>Compare and group materials together, according to whether they are solids, liquids or gases.<br>- 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.<br>**Working Scientifically** - Asking relevant questions and using different types of scientific enquiries to answer them.<br>-Setting up simple practical enquiries, comparative and fair tests. | **States of Matter**<br>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.<br>-Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.<br>**Working Scientifically** - Using straightforward scientific evidence to answer questions or to support their findings. -Reporting on findings from | **Living Things and their Habitats**<br>-Recognise that living things can be grouped in a variety of ways.<br>-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.<br>**Working Scientifically** - Recording data and results of increasing complexity using scientific diagrams and labels, classification |

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| | | related to simple scientific ideas and processes.<br>-Asking relevant questions and using different types of scientific enquiries to answer them.<br>-Setting up simple practical enquiries, comparative and fair tests.<br>-Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers. | -Recognise some common conductors and insulators, and associate metals with being good conductors.<br>**Working Scientifically** -<br>Setting up simple practical enquiries, comparative and fair tests.<br>-Using straightforward scientific evidence to answer questions or to support their findings. | Setting up simple practical enquiries, comparative and fair tests.<br>-Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions.<br>-Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions | -Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers. -Beginning to gather, record, classify and present data in a variety of ways to help in answering questions.<br>-Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.<br>-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. -Using straightforward scientific evidence to answer questions or to support their findings. | enquiries, including oral and written explanations, displays or presentations of results and conclusions. -Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions.<br>-Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables.<br>-Setting up simple practical enquiries, comparative and fair tests. | keys, tables, scatter graphs, bar and line graphs. |

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| Upper KS2 | Y5 | **Animals including Humans**<br>-Describe the changes as humans develop to old age.<br>**Working Scientifically** - Beginning to take measurements, using a range of scientific equipment, with increasing accuracy and precision, take repeat readings when appropriate.<br>-Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs. -Beginning to identify scientific evidence that has been used to support or refute ideas or arguments. | **Forces**<br>-Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object.<br>-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.<br>**Working Scientifically** - Beginning to identify scientific evidence that has been used to support or refute ideas or arguments. -Beginning to plan different types of scientific enquiries to answer questions, including recognizing and controlling variables where necessary. -Beginning to take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate. - Beginning to record data and results of using scientific diagrams and labels, classification keys, | **Living Things and their Habitats**<br>-Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird.<br>-Describe the life process of reproduction in some plants and animals.<br>**Working Scientifically** - Beginning to report and represent findings from enquiries, including conclusions, causal relationships and explanations of and degrees of trust in results, in oral and written forms such as displays and other presentations.<br>-Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs. | **Earth and Space**<br>-Describe the movement of the Earth, and other planets, relative to the Sun in the solar system.<br>-Describe the movement of the Moon relative to the Earth.<br>-Describe the Sun, Earth and Moon as approximately spherical bodies.<br>- Use the idea of the Earth's rotation to explain day and night and the apparent movement of the Sun across the sky.<br>**Working Scientifically** - Beginning to identify scientific evidence that has been used to support or refute ideas or arguments. - Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs. | **Properties 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.<br>-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.<br>**Working Scientifically** - Beginning to identify scientific evidence that has been used to support or refute ideas or arguments. -Beginning to plan different types of scientific enquiries to answer questions, | **Light**<br>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.<br>Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.<br>**Working Scientifically** – Identifying scientific evidence that has been used to support or refute ideas or arguments. 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.<br>-Beginning to report and represent findings from enquiries, including conclusions, causal |

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| | | | tables, scatter graphs, bar and line graphs. -Beginning to use test results to make predictions to set up further comparative and fair tests. -Beginning to report and represent findings from enquiries, including conclusions, causal relationships and explanations of and degrees of trust in results, in oral and written forms such as displays and other presentations. | | | including recognizing and controlling variables where necessary. -Beginning to take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate. -Beginning to record data and results of using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs. -Beginning to use test results to make predictions to set up further comparative and fair tests. -Beginning to report and represent findings from enquiries, including conclusions, causal relationships and explanations of and degrees of trust in results, in oral and written forms such as displays and other presentations. | relationships and explanations of and degrees of trust in results, in oral and written forms such as displays and other presentations |

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| | Y6 | **Animals**<br>-Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood.<br>-Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function.<br>-Describe the ways in which nutrients and water are transported within animals, including humans.<br>**Working Scientifically** - Identifying scientific evidence that has been used to support or refute ideas or arguments.<br>-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<br>-Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs<br>-Using test results to make predictions to set up | **Living things and their habitats**<br>-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.<br>-Give reasons for classifying plants and animals based on specific characteristics.<br>**Working Scientifically** -Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs .<br>-Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary. | **Evolution and Inheritance** - 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 adaption leads to evolution.<br>**Working Scientifically** - Planning different types of scientific enquiries to answer questions, including recognizing and controlling variable where necessary.<br>-Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.<br>-Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs. | **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. - Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.<br>-Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents.<br>**Working Scientifically** - Planning different types of scientific enquiries to answer questions, including recognizing and controlling variable where necessary. - Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.<br>-Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs. | **Electricity**<br>-Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit.<br>-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 recognized symbols when representing a simple circuit in a diagram.<br>**Working Scientifically**<br>-Identifying scientific evidence that has been used to support or refute ideas or arguments. -Planning different types of scientific enquiries to answer questions, including recognizing and controlling variables where necessary. - Recording data and results of increasing complexity using scientific diagrams and labels classification keys, tables, scatter graphs, bar and line graphs -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 | **Light**<br>-Recognise that light appears to travel in straight lines.<br>-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.<br>-Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.<br>**Working Scientifically** - Identifying scientific evidence that has been used to support or refute ideas or arguments. -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. |

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| | | further comparative and fair tests<br>-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 | | | | displays and other presentations.<br>-Using test results to make predictions to set up further comparative and fair tests. | |