# SCIENCE Progression Map

Vision

A high-quality science education provides the foundations for understanding the world through the specific disciplines of biology, chemistry and physics. Science has changed our lives and is vital to the world's future prosperity, and all pupils should be taught essential aspects of the knowledge, methods, processes and uses of science. Through building up a body of key foundational knowledge and concepts, pupils should be encouraged to recognise the power of rational explanation and develop a sense of excitement and curiosity about natural phenomena. They should be encouraged to understand how science can be used to explain what is occurring, predict how things will behave, and analyse causes

Our learning aims:

In ***Key Stage 1*** children will learn:

*Taken from National Curriculum*

The principal focus of science teaching in key stage 1 is to enable pupils to experience and observe phenomena, looking more closely at the natural and humanly constructed world around them. They should be encouraged to be curious and ask questions about what they notice. They should be helped to develop their understanding of scientific ideas by using different types of scientific enquiry to answer their own questions, including observing changes over a period of time, noticing patterns, grouping and classifying things, carrying out simple comparative tests, and finding things out using secondary sources of information. They should begin to use simple scientific language to talk about what they have found out and communicate their ideas to a range of audiences in a variety of ways. Most of the learning about science should be done through the use of first-hand practical experiences, but there should also be some use of appropriate secondary sources, such as books, photographs and videos.

'Working scientifically' is described separately in the programme of study, but must always be taught through and clearly related to the teaching of substantive science content in the programme of study. Throughout the notes and guidance, examples show how scientific methods and skills might be linked to specific elements of the content.

Pupils should read and spell scientific vocabulary at a level consistent with their increasing word-reading and spelling knowledge at key stage 1.

In ***Lower Key Stage 2*** children will learn:

*Taken from National Curriculum*

The principal focus of science teaching in lower key stage 2 is to enable pupils to broaden their scientific view of the world around them. They should do this through exploring, talking about, testing and developing ideas about everyday phenomena and the relationships between living things and familiar environments, and by beginning to develop their ideas about functions, relationships and interactions. They should ask their own questions about what they observe and make some decisions about which types of scientific enquiry are likely to be the best ways of answering them, including observing changes over time, noticing patterns, grouping and classifying things, carrying out simple comparative and fair tests and finding things out using secondary sources of information. They should draw simple conclusions and use some scientific language, first, to talk about and, later, to write about what they have found out.

‘Working scientifically’ is described separately at the beginning of the programme of study, but must always be taught through and clearly related to substantive science content in the programme of study. Throughout the notes and guidance, examples show how scientific methods and skills might be linked to specific elements of the content.

Pupils should read and spell scientific vocabulary correctly and with confidence, using their growing word-reading and spelling knowledge.

In ***Upper Key Stage 2*** children will learn:
*Taken from National Curriculum*

The principal focus of science teaching in upper key stage 2 is to enable pupils to develop a deeper understanding of a wide range of scientific ideas. They should do this through exploring and talking about their ideas; asking their own questions about scientific phenomena; and analysing functions, relationships and interactions more systematically. At upper key stage 2, they should encounter more abstract ideas and begin to recognise how these ideas help them to understand and predict how the world operates. They should also begin to recognise that scientific ideas change and develop over time. They should select the most appropriate ways to answer science questions using different types of scientific enquiry, including observing changes over different periods of time, noticing patterns, grouping and classifying things, carrying out comparative and fair tests and finding things out using a wide range of secondary sources of information. Pupils should draw conclusions based on their data and observations, use evidence to justify their ideas, and use their scientific knowledge and understanding to explain their findings.

‘Working and thinking scientifically’ is described separately at the beginning of the programme of study, but must always be taught through and clearly related to substantive science content in the programme of study. Throughout the notes and guidance, examples show how scientific methods and skills might be linked to specific elements of the content.

Pupils should read, spell and pronounce scientific vocabulary correctly.
Link to Progression document https://www.gov.uk/government/publications/national-curriculum-in-england-science-programmes-of-study

| Year Group | Term | Unit | Overarching question/Key objective | Knowledge and Understanding/ Skills | Outcome |
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| 1 | Autumn | Animals including humans | **Do all animals see, hear, smell and touch in the same way?** | Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals.<br>Identify and name a variety of common animals that are carnivores, herbivores and omnivores.<br>Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets).<br>Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.<br>Asking question and recognising that they can be answered in different ways. | Create a wanted poster for an escaped animal, describing it scientifically. |

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| | | | | Observing closely, using simple equipment.<br>Identifying and classifying.<br>Gathering and record data to help in answering questions.<br>Using their observations.<br>And ideas to suggest answers to questions. | |
| 1 | Spring | Everyday materials | **Would a house made out of plastic and metal be as good as a house made out of bricks, wood and glass?** | Distinguish between an object and the material from which it is made.<br>Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock.<br>Describe the simple physical properties of a variety of everyday materials.<br>Compare and group together a variety of everyday materials on the basis of their simple physical properties.<br>Asking question and recognising that they can be answered in different ways.<br>Observing closely, using simple equipment.<br>Identifying and classifying.<br>Gathering and record data to help in answering questions.<br>Using their observations and ideas to suggest answers to questions. | Create Mind maps. |
| 1 | Summer | Plants | **What makes up a flower?** | Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees.<br>Identify and describe the basic structure of a variety of common flowering plants, including trees.<br>Asking question and recognising that they can be answered in different ways.<br>Observing closely, using simple equipment.<br>Performing simple tests.<br>Identifying and classifying.<br>Gathering and record data to help in answering questions.<br>Using their observations and ideas to suggest answers to questions. | Label the parts of a flower (link to seasons) |
| 2 | Autumn | Animals including humans | **Are all animals' life cycles the same?** | Notice that animals, including humans, have offspring which grow in to adults<br>Find out about and describe the basic needs of animals, including humans, for survival (food, water, air).<br>Describe the importance of exercise to humans, eating the right amounts of different types of foods, and hygiene.<br>Asking questions; Observing; Measuring and | Life cycle investigation to be completed as a homework project. |

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| | | | | Recording.<br>Suggesting ways to find answers to questions.<br>Using their observations and ideas to suggest answers to questions. | |
| 2 | Spring 2 | Materials | **Would you use the same materials to make an outfit to wear in summer as you would for an outfit to wear in winter?** | 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>Asking question and recognising that they can be answered in different ways.<br>Observing and recording the uses of materials.<br>Setting up a test- to see which materials can change shape if they are twisted, bent, squashed, stretched.<br>Using their observations and ideas to suggest answers to questions | |
| 2 | Spring2/ Summer 1 | Plants | **What do plants need to grow well?** | Observe and describe how bulbs and seeds grow into mature plants.<br>Find out and describe how plants need water, light and a suitable temperature to grow.<br>Asking question and recognising that they can be answered in different ways.<br>Observing and recording the growth of plants as they change over time.<br>Setting up a test- to show the conditions that plants need in order to be able to grow.<br>Using their observations and ideas to suggest answers to questions. | Investigate how beans grow in different circumstances. |
| 2 | Summer | Living things and their habitats | **Could a frog live in the same place as a bird?** | Explore and compare the differences between living, dead and non-living things.<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>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>Asking question and recognising that they can be answered in different ways.<br>Sorting and classifying.<br>Observing closely, using simple equipment.<br>Performing simple tests. | Create an information leaflet. |

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| | | | | Using their observations and ideas to suggest answers to questions. | |
| 3 | Autumn 2 | Rocks | **Where do rocks come from?** | Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties<br>Describe in simple terms how fossils are formed when things that have lived are trapped within rock.<br>Recognise that soils are made from rocks and organic matter.<br>Asking relevant questions and using different types of scientific enquires to answer them.<br>Setting up simple practical enquiries, comparative and fair test.<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.<br>Recording findings using simple scientific language, drawings, labelling diagrams, keys, bar charts, and tables.<br>Using results to draw simple conclusions, make predictions for new values, suggest improvement and raise further questions.<br>Using straightforward scientific evidence to answer question or to support their findings. | Make chocolate rocks.<br>Long term erosion study (clay and stone 'rock' left outside and measured at the end of each term). |
| 3 | Autumn 2 | Animals including humans | **Do all animals have skeletons?** | Identify that animals need the right types and amount of nutrition and that they can't make their own food.<br>Identify that humans and some other animals have skeletons and muscles for support, protection and movement.<br>Know and use key vocabulary.<br>Asking relevant questions and using different types of scientific enquires to answer them.<br>Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions.<br>Recording findings using simple scientific language, drawings, labelling diagrams, keys, bar charts, and tables.<br>Identifying differences, similarities or changes related to simple scientific ideas and processes.<br>Using straightforward scientific evidence to answer question or to support their findings. | Create a PowerPoint presentation. |
| 3 | Spring 1 | Forces and magnets | **How do we know that forces exist if** | Compare how things move on different surfaces. | Children describe the impact of forces (oracy) |

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| | | | **we can't see them?** | Notice that some forces need contact between two objects but magnet forces can act at a distance.<br>Observe how magnets attract or repel each other and attract some materials and not others.<br>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.<br>Describe magnets as having two poles.<br>Predict whether two magnets will attract or repel each other, depending on which poles are facing.<br>Asking relevant questions and using different types of scientific enquires to answer them.<br>Setting up simple practical enquiries, comparative and fair test.<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.<br>Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions.<br>Recording findings using simple scientific language, drawings, labelling diagrams, keys, bar charts, and tables.<br>Using results to draw simple conclusions, make predictions for new values, suggest improvement and raise further questions.<br>Identifying differences, similarities or changes related to simple scientific ideas and processes.<br>Using straightforward scientific evidence to answer question or to support their findings. | |
| 3 | Spring 2 | Plants | **Why is sunlight so important for plants?** | Identify and describe functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers.<br>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>Investigate how water is transported within plants.<br>Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.<br>Asking relevant questions and using different types of scientific enquires to answer them | Write a guide on 'Care of Plants'. |

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| | | | | Setting up simple practical enquiries, comparative and fair test.<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.<br>Recording findings using simple scientific language, drawings, labelling diagrams, keys, bar charts, and tables.<br>Using results to draw simple conclusions, make predictions for new values, suggest improvement and raise further questions.<br>Using straightforward scientific evidence to answer question or to support their findings. | |
| 3 | Summer | Light | **Do all objects cast a shadow?** | Recognise that they need light in order to see things and darkness is the absence of light.<br>Notice that light is reflected from surfaces.<br>Recognise that light from the sun can be dangerous and that there are ways to protect their eyes.<br>Recognise that shadows are formed when light from a light source is blocked by a solid object.<br>Find patterns in the way the size of shadows change.<br>Asking relevant questions and using different types of scientific enquires to answer them.<br>Setting up simple practical enquiries, comparative and fair test.<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.<br>Recording findings using simple scientific language, drawings, labelling diagrams, keys, bar charts, and tables.<br>Using results to draw simple conclusions, make predictions for new values, suggest improvement and raise further questions.<br>Using straightforward scientific evidence to answer question or to support their findings. | Various experiment outcomes, including making and using a sundial. |
| 4 | Autumn | Living things and their habitats | **What would happen if there were no insects?** | 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.<br>Recognise that environments can change and that this can sometimes pose dangers to living things.<br>Asking relevant questions and using different types of scientific enquires to answer them. | Littering investigation (which minibeasts were found?) |

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| | | | | Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions.<br>Recording findings using simple scientific language, drawings, labelling diagrams, keys, bar charts, and tables.<br>Identifying differences, similarities or changes related to simple scientific ideas and processes<br>Using straightforward scientific evidence to answer questions or to support their findings. | |
| 4 | Spring 1 | States of matter | **Can you turn a solid into a liquid or a gas? How?** | 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 (°C).<br>Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.<br>Asking relevant questions and using different types of scientific enquires to answer them.<br>Setting up simple practical enquiries, comparative and fair test.<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.<br>Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions.<br>Recording findings using simple scientific language, drawings, labelling diagrams, keys, bar charts, and tables.<br>Using results to draw simple conclusions, make predictions for new values, suggest improvement and raise further questions.<br>Identifying differences, similarities or changes related to simple scientific ideas and processes.<br>Using straightforward scientific evidence to answer question or to support their findings. | Is it a liquid, solid or gas investigation. |
| 4 | Spring 2 | Sound | **Does sound travel better though a solid, a liquid or a gas?** | Identify how sounds are made, associating some of them with something vibrating.<br>Recognise that vibrations from sounds travel through a medium to the ear.<br>Find patterns between the pitch of a sound and features of the object that produce it. | |

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| | | | | Find patterns between the volume of a sound and the strength of the vibrations that produced it.<br>Recognise that sounds get fainter as the distance from the sound source increases.<br>Asking relevant questions and using different types of scientific enquires to answer them.<br>Setting up simple practical enquiries, comparative and fair test.<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.<br>Recording findings using simple scientific language, drawings, labelling diagrams, keys, bar charts, and tables.<br>Using results to draw simple conclusions, make predictions for new values, suggest improvement and raise further questions.<br>Using straightforward scientific evidence to answer question or to support their findings. | |
| 4 | Summer 1 | Animals including humans | **How can we tell what an animal eats from its teeth?** | 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.<br>Construct and interpret a variety of food chains, identifying producers, predators and prey.<br>Asking relevant questions and using different types of scientific enquires to answer them.<br>Setting up simple practical enquiries, comparative and fair test.<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.<br>Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions.<br>Recording findings using simple scientific language, drawings, labelling diagrams, keys, bar charts, and tables.<br>Using results to draw simple conclusions, make predictions for new values, suggest improvement and raise further questions.<br>Identifying differences, similarities or changes related to simple scientific ideas and processes.<br>Using straightforward scientific evidence to answer question or to support their findings. | Make plasticine models of teeth and digestive system |

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| 4 | Summer 2 | Electricity | **Do all materials conduct electricity?** | Identify common appliances that run on electricity.<br>Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzes.<br>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.<br>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 some common conductors and insulators and associate metals with being good conductors.<br>Asking relevant questions and using different types of scientific enquires to answer them<br>Setting up simple practical enquiries, comparative and fair test.<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.<br>Recording findings using simple scientific language, drawings, labelling diagrams, keys, bar charts, and tables.<br>Using results to draw simple conclusions, make predictions for new values, suggest improvement and raise further questions.<br>Using straightforward scientific evidence to answer question or to support their findings. | |
| 5 | Autumn 1 | Earth and Space | **Why does the sun appear to move across the sky?** | 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>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 key, tables, scatter graphs, bar and line graphs.<br>Identifying scientific evidence that has been used to support or refute ideas or arguments<br>Ptolemy, Alhazen and Copernicus. | Create model of Earth and Moon orbiting Sun. |

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| 5 | Autumn 2 | Animals including humans | **Does a baby human develop in the same way as a baby rabbit or a baby elephant?** | Describe the changes as humans develop to old age (including during gestation).<br>Planning different types of scientific enquires to answer questions including recognising and controlling variables 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 key, tables, scatter graphs, bar and line graphs.<br>Reporting and presenting finding from enquires, including conclusions, casual relationships and explanations of and degree of trust in results, in oral and written forms such as display and other presentations. | Long term study comparing the change in height of the boys in the class to that of the girls.<br>Graphs of differences in development of animals |
| 5 | Spring 1/ Spring 2 | Properties and changes of materials | **Can all mixtures be separated? How can separating materials be useful?** | 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.<br>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.<br>Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic.<br>Demonstrate that dissolving, mixing and changes of state are reversible changes.<br>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.<br>Planning different types of scientific enquires to answer questions including recognising and controlling variables 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 key, tables, scatter graphs, bar and line graphs.<br>Using test results to make predictions to set up further comparative and fair tests. | No final outcome but lots of practical experiments on separating materials, dissolving etc. |

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| | | | | Reporting and presenting finding from enquires, including conclusions, casual relationships and explanations of and degree of trust in results, in oral and written forms such as display and other presentations.<br>Identifying scientific evidence that has been used to support or refute ideas or arguments. | |
| 5 | Spring 2/ Summer 1 | Living things and their habitats | **Do plants and animals reproduce in the same way?** | 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>Planning different types of scientific enquires to answer questions including recognising and controlling variables 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 key, tables, scatter graphs, bar and line graphs.<br>Using test results to make predictions to set up further comparative and fair tests.<br>Reporting and presenting finding from enquires, including conclusions, casual relationships and explanations of and degree of trust in results, in oral and written forms such as display and other presentations.<br>Identifying scientific evidence that has been used to support or refute ideas or arguments. | Investigation into plant asexual reproduction. |
| 5 | Summer 1/ Summer 2 | Forces | **If I drop an object onto a slope, why does it roll down? What could I do to make it roll down more slowly?** | 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.<br>Recognise that some mechanisms, including levers, pulleys and gears, allow a<br>smaller force to have a greater effect.<br>Planning different types of scientific enquires to answer questions including recognising and controlling variables 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 key, tables, scatter graphs, bar and line graphs. | Children to independently plan and carry out the 'Malteser' experiment. |

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| | | | | Using test results to make predictions to set up further comparative and fair tests.<br>Reporting and presenting finding from enquires, including conclusions, casual relationships and explanations of and degree of trust in results, in oral and written forms such as display and other presentations.<br>Identifying scientific evidence that has been used to support or refute ideas or arguments. | |
| 6 | Autumn 1 | Electricity | **How do different factors affect circuits?** | Planning different types of scientific enquires to answer questions including recognising and controlling variables 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 key, tables, scatter graphs, bar and line graphs.<br>Using test results to make predictions to set up further comparative and fair tests.<br>Reporting and presenting finding from enquires, including conclusions, casual relationships and explanations of and degree of trust in results, in oral and written forms such as display and other presentations.<br>Identifying scientific evidence that has been used to support or refute ideas or arguments. | Create an electrical game. |
| 6 | Autumn 2 | Living things and their habitats | **Why is it useful to be able to classify living things?** | 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>Identification and classification.<br>Give reasons for classifying plants and animals based on specific characteristics.<br>Identification and classification-pattern seeking.<br>Planning different types of scientific enquires to answer questions including recognising and controlling variables where necessary<br>Recording data and results of increasing complexity using scientific diagrams and labels, classification key, tables, scatter graphs, bar and line graphs.<br>Reporting and presenting finding from enquires, including conclusions, casual relationships and explanations of and degree of trust in results, in oral and written forms such as display and other presentations. | Classification activities. |

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| | | | | Identifying scientific evidence that has been used to support or refute ideas or arguments. | |
| 6 | Spring 1 | Animals including humans | **How does the circulation system work?** | 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>Planning different types of scientific enquires to answer questions including recognising and controlling variables 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 key, tables, scatter graphs, bar and line graphs.<br>Reporting and presenting finding from enquires, including conclusions, casual relationships and explanations of and degree of trust in results, in oral and written forms such as display and other presentations.<br>Identifying scientific evidence that has been used to support or refute ideas or arguments. | Written explanation of circulatory system. |
| 6 | Summer 1 | Light | **What do we need in order to be able to see an object? Why can't we see in the dark?** | 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.<br>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 research.<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>Planning different types of scientific enquires to answer questions including recognising and controlling variables 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 key, tables, scatter graphs, bar and line graphs.<br>Using test results to make predictions to set up further comparative and fair tests. | Design glasses based on findings to aide sight. |

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| | | | | Reporting and presenting finding from enquires, including conclusions, casual relationships and explanations of and degree of trust in results, in oral and written forms such as display and other presentations.<br>Identifying scientific evidence that has been used to support or refute ideas or arguments. | |
| 6 | Summer 2 | Evolution and Inheritance | **Why do offspring look like their parents?** | Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago.<br>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<br>ways and that adaptation may lead to evolution.<br>Planning different types of scientific enquires to answer questions including recognising and controlling variables where necessary.<br>Recording data and results of increasing complexity using scientific diagrams and labels, classification key, tables, scatter graphs, bar and line graphs.<br>Reporting and presenting finding from enquires, including conclusions, casual relationships and explanations of and degree of trust in results, in oral and written forms such as display and other presentations.<br>Identifying scientific evidence that has been used to support or refute ideas or arguments. | Create a cross breed animal. |