## Science Curriculum Overview

| Year Group   | Autumn 1                     | Autumn 2                   | Spring 1                 | Spring 2                 | Summer 1               | Summer 2               |
|--------------|------------------------------|----------------------------|--------------------------|--------------------------|------------------------|------------------------|
| N            | Ourselves                    | Colour & Light             | Once Upon a Time         | Mini-Beasts              | Transport/Journeys     | The Great Outdoor      |
| 3 & 4 Year   |                              |                            |                          |                          |                        | Explorers              |
| Olds         | Explore how things work.     | Explore how things work.   | Explore how things       | Explore how things       | Explore how things     |                        |
| D            |                              |                            | work.                    | work.                    | work.                  | Explore how things     |
| Development  | Begin to understand the      | Talk about the differences |                          |                          |                        | work.                  |
| Matters 2021 | need to respect and care for | between materials          | Begin to understand the  | Understand the key       | Begin to understand    |                        |
|              | the natural environment and  | and changes they notice.   | need to respect and care | features of the life     | the need to respect    | Talk about the         |
|              | all living things.           |                            | for the natural          | cycle of a plant and an  | and care for the       | differences between    |
|              |                              | Begin to understand the    | environment and all      | animal.                  | natural environment    | materials              |
|              |                              | need to respect and care   | living things.           |                          | and all living things. | and changes they       |
|              |                              | for the natural            |                          | Begin to understand      |                        | notice.                |
|              |                              | environment and all living |                          | the need to respect      | Explore and talk about |                        |
|              |                              | things.                    |                          | and care for the natural | different forces they  | Plant seeds and care   |
|              |                              |                            |                          | environment and all      | can feel.              | for growing plants.    |
|              |                              |                            |                          | living things.           |                        |                        |
|              |                              |                            |                          |                          |                        | Begin to understand    |
|              |                              |                            |                          |                          |                        | the need to respect    |
|              |                              |                            |                          |                          |                        | and care for the       |
|              |                              |                            |                          |                          |                        | natural environment    |
|              |                              |                            |                          |                          |                        | and all living things. |
|              |                              |                            |                          |                          |                        |                        |
| R            | Ourselves                    | Space                      | People Who Help Us       | Animals                  | Water                  | The Great Outdoor      |
|              |                              | •                          | ,                        |                          |                        | Explorers              |
| ELGs         | Explore the natural world    | Explore the natural world  | Explore the natural      | Explore the natural      | Explore the natural    | •                      |
| Development  | around them.                 | around them.               | world around them.       | world around them.       | world around them.     | Explore the natural    |
| Matters 2021 |                              | Describe what they see,    | Describe what they see,  | Describe what they see,  | Describe what they     | world around them.     |
|              | Describe what they see, hear | hear and feel              | hear and feel            | hear and feel            | see, hear and feel     |                        |
|              | and feel whilst outside.     | whilst outside.            | whilst outside.          | whilst outside.          | whilst outside.        |                        |

| 1 | Animals including Humans  | Everyday Materials      | Animals including  | Plants                   | Materials  | Plants              |
|---|---|-------------------------|--|--------------------------|--|---------------------|
|   | 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 everyday materials.  Describe the simple physical properties of a variety of everyday materials. |                         | Humans   |                          | Distinguish between  |                     |
|   |   |                         | Describe and compare   | Identify and name a      | an object and the  | Identify and name a |
|   |   |                         | the structure of a variety   | variety of common wild   | material from which it   | variety of common   |
|   |   |                         | of common animals  | and garden plants,       | is made.   | wild and garden     |
|   |   |                         | (fish, amphibians,   | including deciduous      |  | plants, including   |
|   |   |                         | reptiles, birds and  | and evergreen trees.     | Identify and name a  | deciduous and       |
|   |   |                         | mammals including  |                          | variety of everyday  | evergreen trees.    |
|   |   |                         | pets).   | Identify and describe    | materials, including   |                     |
|   |   |                         |  | the basic structure of a | wood, plastic, glass,  | Identify and        |
|   |   |                         | Identify, name, draw and   | variety of common        | metal, water, and  | describe the basic  |
|   |   |                         | label the basic parts of   | flowering plants,        | rock.  | structure of a      |
|   |   |                         | the human body and say   | including trees.         |  | variety of common   |
|   |   |                         | which part of the body is  |                          | Describe the simple  | flowering plants,   |
|   |   |                         | associated with each   |                          | physical properties of   | including trees.    |
|   |   |                         | sense.   |                          | a variety of everyday  |                     |
|   |   |                         |  |                          | materials.   |                     |
|   |   |                         |  |                          |  |                     |
|   |   |                         |  |                          | Compare and group  |                     |
|   |   |                         |  |                          | together a variety of  |                     |
|   |   |                         |  |                          | everyday materials on  |                     |
|   |   |                         |  |                          | the basis of their   |                     |
|   |   |                         |  |                          | simple physical  |                     |
|   |   |                         |  |                          | properties.  |                     |
|   |   |                         | Seasonal changes   |                          | Seasonal changes   |                     |
|   |   |                         | <ul> <li>observe changes across the 4 seasons</li> </ul>   |                          | <ul> <li>observe changes across the 4 seasons</li> </ul>                                 |                     |
|   |   |                         | <ul> <li>observe and describe weather associated<br/>with the seasons and how day length<br/>varies</li> </ul> |                          | <ul> <li>observe and describe weather<br/>associated with the seasons and how</li> </ul> |                     |
|   |   |                         |  |                          |  |                     |
|   |   |                         |  |                          | day length varies  |                     |
| 2 | Materials   | Living things and their | Animals including  | Living things and their  | Use of everyday  | Plants              |
|   | Identify and compare the  | habitats                | humans   | habitats                 | materials  | Observe and         |
|   | suitability of a variety of   | Explore and compare the | Notice that animals,   | Explore and compare      | Identify and compare   | describe how seeds  |
|   | everyday materials, including differences between   |                         | including humans, have   | the differences          | the suitability of a   |                     |

wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses.

Find out how the shapes of

Find out how the shapes or solid objects made from some materials can be changed by squashing, bending, twisting and stretching.

things that are living, dead, and things that have never been alive.

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.

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.

offspring which grow into adults.

Find out about and describe the basic needs of animals, including humans, for survival (water, food and air).

Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene. between things that are living, dead, and things that have never been alive.

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.

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.

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.

and bulbs grow into mature plants.

Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.

•

| 3 | Light                          | Plants                      | Forces and Magnets                    | Rocks                    | Animals including      | Plants                          |
|---|--------------------------------|-----------------------------|---------------------------------------|--------------------------|------------------------|---------------------------------|
|   | Recognise that they need       | Identify and describe the   | Compare how things                    | Compare and group        | humans                 | Identify and                    |
|   | light in order to see things   | functions of different      | move on different                     | together different kinds | Identify that animals, | describe the                    |
|   | and that dark is the absence   | parts of flowering plants:  | surfaces.                             | of rocks on the basis of | including humans,      | functions of                    |
|   | of light.                      | roots, stem/trunk, leaves   |                                       | their appearance and     | need the right types   | different parts of              |
|   |                                | and flowers.                | Notice that some forces               | simple physical          | and amount of          | flowering plants:               |
|   | Notice that light is reflected |                             | need contact between                  | properties.              | nutrition, and that    | roots, stem/trunk,              |
|   | from surfaces.                 | Explore the requirements    | two objects, but                      |                          | they cannot make       | leaves and flowers              |
|   | Recognise that light from the  | of plants for life and      | magnetic forces can act               | Describe in simple       | their own food; they   |                                 |
|   | sun can be dangerous and       | growth (air, light, water,  | at a distance.                        | terms how fossils are    | get nutrition from     | Explore the                     |
|   | that there are ways to         | nutrients from soil, and    |                                       | formed when things       | what they eat.         | requirements of                 |
|   | protect their eyes.            | room to grow) and how       | Observe how magnets                   | that have lived are      | Identify that humans   | plants for life and             |
|   |                                | they vary from plant to     | attract or repel each                 | trapped within rock.     | and some other         | growth (air, light,             |
|   | Recognise that shadows are     | plant.                      | other and attract some                |                          | animals have           | water, nutrients                |
|   | formed when the light from     |                             | materials and not                     | Recognise that soils are | skeletons and muscles  | from soil, and room             |
|   | a light source is blocked by   | Investigate the way in      | others.                               | made from rocks and      | for support,           | to grow) and how                |
|   | an opaque object.              | which water is              |                                       | organic matter.          | protection and         | they vary from plant            |
|   |                                | transported within plants.  | Compare and group                     |                          | movement.              | to plant.                       |
|   | Find patterns in the way that  |                             | together a variety of                 |                          |                        |                                 |
|   | the size of shadows change.    | Explore the part that       | everyday materials on                 |                          |                        | Investigate the way             |
|   |                                | flowers play in the life    | the basis of whether                  |                          |                        | in which water is               |
|   |                                | cycle of flowering plants,  | they are attracted to a               |                          |                        | transported within              |
|   |                                | including pollination, seed | magnet, and identify                  |                          |                        | plants.                         |
|   |                                | formation and seed          | some magnetic                         |                          |                        | C                               |
|   |                                | dispersal.                  | materials.                            |                          |                        | Explore the part that           |
|   |                                |                             | Describe magnets as                   |                          |                        | flowers play in the             |
|   |                                |                             | Describe magnets as having two poles. |                          |                        | life cycle of flowering plants, |
|   |                                |                             | maving two poles.                     |                          |                        | including pollination,          |
|   |                                |                             | Predict whether two                   |                          |                        | seed formation and              |
|   |                                |                             | magnets will attract or               |                          |                        | seed dispersal.                 |
|   |                                |                             | repel each other,                     |                          |                        | seed dispersal.                 |
|   |                                |                             | repereacii otilei,                    |                          |                        |                                 |

| All living things Describe the simple functions of the basic parts of the digestive system in humans  Explore and use classification keys to help group, identify and name simple functions Construct and interpret a variety of food chains, identifying producers, predators and prey.  All living things Recognise that living things can be grouped in a variety of ways.  States of Matter Compare and group materials together, according to whether they are solids, liquids or gases.  Observe that some when they are heated or cooled, and measure or research the temperature at which ithis happens in degrees of the digestive system in humans  Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environments.  Recognise that living materials together, according to whether they are solids, liquids or gases.  Observe that some when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C).  Recognise that living things can be grouped in a variety of ways.  Construct a sim sometime by associating some of them with something vibrating  Explore and use classification keys to help group, identify and name a variety of in a variety of ways.  Construct a sim series electrical vibrations from sounds they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C).  Recognise that living things can be grouped in a variety of ways.  Construct as im series electricity lidentify how sounds are made, associating some of them with something vibrating  Explore and use classification keys to help group, identify and name a variety of local and vider environment.  Sound things can be grouped in a variety of ways.  Construct a sim series electrical vibrations from sounds the revel through a medium to the ear local and wider environment.  Sound Identify how sounds are made, associating some of them with vibrations feet median, as variety of ways.  Sexplore and use classificati |   |  |   | depending on which  |  |  |  |
|--|---|--|---|---|--|--|--|
| Recognise some common conductors and insulators, and associate metals with being good conductors.  Recognise some common conductors and insulators, and associate metals with being good conductors.  Recognise that sounds get fainter as the distance from the sound source increases.  Recognise some complete loop was a battery.  Recognise that sounds get fainter as the distance from the sound source increases.  Recognise some common conductors and insulators, and distance from the sound source increases.  Recognise some common conductors and insulators, and distance from the sound source increases.  Recognise that sounds associate metals with switch opens and conductors.  | 4 | 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  Construct and interpret a variety of food chains, identifying producers, | 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.  Recognise some common conductors and insulators, and associate metals with | 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 | 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 | 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.  Recognise some common conductors and insulators, and associate metals with being good | 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 |

| 5 | Forth and Space                        | Living things and their          | Animals including       | Droportios and Changes              | Droportios and           | Forth and Space              |
|---|--|----------------------------------|-------------------------|-------------------------------------|--------------------------|------------------------------|
| 5 | Earth and Space                        | Living things and their habitats | Animals, including      | Properties and Changes of Materials | Properties and           | Earth and Space Describe the |
|   | Describe the movement of               | Describe the differences in      | humans                  |                                     | Changes of Materials     |                              |
|   | the Earth, and other planets,          |                                  | Describe the changes as | Compare and group                   | Compare and group        | movement of the              |
|   | relative to the Sun in the             | the life cycles of a             | humans develop to old   | together everyday                   | together everyday        | Earth, and other             |
|   | solar system.                          | mammal, an amphibian,            | age.                    | materials on the basis              | materials on the basis   | planets, relative to         |
|   |  | an insect and a bird.            |                         | of their properties,                | of their properties,     | the Sun in the solar         |
|   | Describe the movement of               | _ ,, ,, ,,,                      |                         | including their                     | including their          | system.                      |
|   | the Moon relative to the               | Describe the life process        |                         | hardness, solubility,               | hardness, solubility,    |                              |
|   | Earth.                                 | of reproduction in some          |                         | transparency,                       | transparency,            | Describe the                 |
|   |  | plants and animals.              |                         | conductivity (electrical            | conductivity (electrical | movement of the              |
|   | Describe the Sun, Earth and            |                                  |                         | and thermal), and                   | and thermal), and        | Moon relative to the         |
|   | Moon as approximately spherical bodies |                                  |                         | response to magnets.                | response to magnets.     | Earth.                       |
|   | Spriemour Source                       |                                  |                         | Know that some                      | Know that some           | Describe the Sun,            |
|   | Use the idea of the Earth's            |                                  |                         | materials will dissolve             | materials will dissolve  | Earth and Moon as            |
|   | rotation to explain day and            |                                  |                         | in liquid to form a                 | in liquid to form a      | approximately                |
|   | night and the apparent                 |                                  |                         | solution, and describe              | solution, and describe   | spherical bodies             |
|   | movement of the sun across             |                                  |                         | how to recover a                    | how to recover a         |                              |
|   | the sky.                               |                                  |                         | substance from a                    | substance from a         | Use the idea of the          |
|   |  |                                  |                         | solution.                           | solution.                | Earth's rotation to          |
|   |  |                                  |                         |                                     |                          | explain day and              |
|   |  |                                  |                         | Use knowledge of                    | Use knowledge of         | night and the                |
|   |  |                                  |                         | solids, liquids and gases           | solids, liquids and      | apparent movement            |
|   |  |                                  |                         | to decide how mixtures              | gases to decide how      | of the sun across the        |
|   |  |                                  |                         | might be separated,                 | mixtures might be        | sky.                         |
|   |  |                                  |                         | including through                   | separated, including     |                              |
|   |  |                                  |                         | filtering, sieving and              | through filtering,       |                              |
|   |  |                                  |                         | evaporating.                        | sieving and              |                              |
|   |  |                                  |                         |                                     | evaporating.             |                              |
|   |  |                                  |                         | Give reasons, based on              |                          |                              |
|   |  |                                  |                         | evidence from                       | Give reasons, based      |                              |
|   |  |                                  |                         | comparative and fair                | on evidence from         |                              |
|   |  |                                  |                         | tests, for the particular           | comparative and fair     |                              |

|   |                               |                             |  | uses of everyday         | tests, for the            |            |
|---|-------------------------------|-----------------------------|--|--------------------------|---------------------------|------------|
|   |                               |                             |  | materials, including     | particular uses of        |            |
|   |                               |                             |  | metals, wood and         | everyday materials,       |            |
|   |                               |                             |  | ,                        |                           |            |
|   |                               |                             |  | plastic.                 | including metals,         |            |
|   |                               |                             |  | Dama a saturata that     | wood and plastic.         |            |
|   |                               |                             |  | Demonstrate that         |                           |            |
|   |                               |                             |  | dissolving, mixing and   | Demonstrate that          |            |
|   |                               |                             |  | changes of state are     | dissolving, mixing and    |            |
|   |                               |                             |  | reversible changes.      | changes of state are      |            |
|   |                               |                             |  |                          | reversible changes.       |            |
|   |                               |                             |  | Explain that some        |                           |            |
|   |                               |                             |  | changes result in the    | Explain that some         |            |
|   |                               |                             |  | formation of new         | changes result in the     |            |
|   |                               |                             |  | materials, and that this | formation of new          |            |
|   |                               |                             |  | kind of change is not    | materials, and that       |            |
|   |                               |                             |  | usually reversible,      | this kind of change is    |            |
|   |                               |                             |  | including changes        | not usually reversible,   |            |
|   |                               |                             |  | associated with burning  | including changes         |            |
|   |                               |                             |  | and the action of acid   | associated with           |            |
|   |                               |                             |  | on bicarbonate of soda.  | burning and the           |            |
|   |                               |                             |  |                          | action of acid on         |            |
|   |                               |                             |  |                          | bicarbonate of soda.      |            |
| 6 | Living things and their       | Animals, including humans   | Electricity  | Evolution and            | Light                     | Revision & |
|   | habitats                      | Identify and name the       | Associate the brightness   | inheritance              | Recognise that light      | Completion |
|   | Describe how living things    | main parts of the human     | of a lamp or the volume  | Recognise that living    | appears to travel in      | •          |
|   | are classified into broad     | circulatory system, and     | of a buzzer with the   | things have changed      | straight lines            |            |
|   | groups according to common    | describe the functions of   | number and voltage of  | over time and that       | <b>3</b>                  |            |
|   | observable characteristics    | the heart, blood vessels    | cells used in the circuit.   | fossils provide          | Use the idea that light   |            |
|   | and based on similarities and | and blood.                  | The discussion of the control of the | information about        | travels in straight lines |            |
|   | differences, including micro- | aa 2.700a.                  | Compare and give   | living things that       | to explain that objects   |            |
|   | organisms, plants and         | Recognise the impact of     | reasons for variations in  | inhabited the Earth      | are seen because they     |            |
|   | animals                       | diet, exercise, drugs and   | how components   | millions of years ago.   | give out or reflect       |            |
|   | aiiiiiais                     | diet, exciteise, di ugs and | function, including the  | Timions of years ago.    | light into the eye.       |            |
|   |                               |                             | runction, including the  |                          | light linto the eye.      |            |

| Give reasons for classifying | lifestyle on the way their | brightness of bulbs, the | Recognise that living   |                           |  |
|------------------------------|----------------------------|--------------------------|-------------------------|---------------------------|--|
| plants and animals based on  | bodies function.           | loudness of buzzers and  | things produce          | Explain that we see       |  |
| specific characteristics     |                            | the on/off position of   | offspring of the same   | things because light      |  |
|                              | Describe the ways in       | switches.                | kind, but normally      | travels from light        |  |
|                              | which nutrients and water  |                          | offspring vary and are  | sources to our eyes or    |  |
|                              | are transported within     | Use recognised symbols   | not identical to their  | from light sources to     |  |
|                              | animals, including         | when representing a      | parents.                | objects and then to       |  |
|                              | humans.                    | simple circuit in a      |                         | our eyes.                 |  |
|                              |                            | diagram.                 | Identify how animals    |                           |  |
|                              |                            |                          | and plants are adapted  | Use the idea that light   |  |
|                              |                            |                          | to suit their           | travels in straight lines |  |
|                              |                            |                          | environment in          | to explain why            |  |
|                              |                            |                          | different ways and that | shadows have the          |  |
|                              |                            |                          | adaptation may lead to  | same shape as the         |  |
|                              |                            |                          | evolution.              | objects that cast         |  |
|                              |                            |                          |                         | them.                     |  |