# Tatsfield Primary School
# Science Curriculum Map

| | Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
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| **Reception** | **Seasons**<br>Look closely at similarities, differences, patterns and change<br><br>**OUTDOOR LEARNING**<br><br>Observation over time<br>**Senses** Likes and dislikes – sorting<br>Observation<br>Identifying, Grouping, Classifying | **Earth and Space**<br>Caroline Hershel – famous astronomer. Edmond Halley - Comets!<br><br>**OUTDOOR LEARNING**<br><br>Research | **Everyday Materials**<br>"Goldilocks and the three bears"<br>Investigating soft and hard objects.<br><br>**OUTDOOR LEARNING**<br><br>Observation<br>Identifying, Grouping, Classifying<br><br>**Animals**<br>Lifecycle of a butterfly<br>Observation<br>Identifying | **Plants**<br>When will it be spring?<br>The Tiny Seed<br>Grow vegetables<br><br>**OUTDOOR LEARNING**<br><br>Comparative/ Fair testing<br>Observation over time<br>Pattern seeking<br><br>**Forces**<br>Push and pull<br>Problem Solving<br>**Animals including humans** -Healthy and unhealthy food<br>Identifying, Grouping, Classifying | **Animals**<br>Life Cycle of a Frog<br>Minibeasts and their Microhabitats<br><br>**OUTDOOR LEARNING**<br><br>Observation<br>Identifying<br>**Mini-beasts and their Microhabitats**<br>Observation<br>Identifying<br>**Wolves and their habitat**<br>Observation<br>Identifying<br>**Plants**<br>Bean Plant life Cycle<br>Comparative/ Fair testing<br>Observation over time<br>Pattern seeking | **Space**<br>Hot and Cold<br><br>Research |
| **Year 1** | **Seasonal changes (P) -** the four seasons<br>**OUTDOOR LEARNING**<br>Observe changes across the four seasons.<br>Observe and describe weather associated with the seasons and how day length varies.<br>WS2 observing closely, using simple equipment<br>WS6 gathering and recording data to help in answering questions. | **Everyday materials (C)**<br>**OUTDOOR LEARNING**<br>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 | **Seasonal change cont.**<br>**Animals including humans (B)** identify, name, describe and compare animals, parts of human body<br>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>WS4 identifying and classifying<br>Identifying, classifying and grouping | | **Seasonal change cont.**<br>**Plants (B)** common plants and basic structure<br>**OUTDOOR LEARNING**<br>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>WS1 asking simple questions and recognising that they can be answered in different ways<br>WS3 performing simple tests<br>WS4 identifying and classifying<br>WS6 gathering and recording data to help in answering questions.<br>Identifying, classifying and grouping<br>Observation over time<br>Comparative and fair testing | |

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| | Observing over time | together a variety of everyday materials on the basis of their simple physical properties.<br>WS1 asking simple questions and recognising that they can be answered in different ways<br>WS2 observing closely, using simple equipment<br>WS3 performing simple tests<br>WS5 using their observations and ideas to suggest answers to questions<br>Comparative and fair testing<br>Identifying, classifying and grouping | | | Pattern seeking<br>Research | |
| **Year 2** | **Uses of everyday materials (C)**<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><br>WS1 asking simple questions and recognising that they can be answered in different ways<br>WS2 observing closely, using simple equipment<br>WS3 performing simple tests<br>WS4 identifying and classifying<br>WS5 using their observations and ideas to suggest answers to questions | **Uses of everyday materials cont.**<br>Find out how the shapes of solid objects made from some materials can be changed by 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. squashing, bending, twisting and stretching.<br>WS1 asking simple questions and recognising that they can be answered in different ways | **Living things and their habitats (B)**<br>**OUTDOOR LEARNING**<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>Describe how animals obtain their food from plants and other animals, | **Animals including humans (B)**<br>**OUTDOOR LEARNING**<br>offspring, needs for survival, exercise, 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>Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.<br>WS1 asking simple questions and recognising that they can be answered | **Plants cont.**<br>**OUTDOOR LEARNING**<br>seeds and bulbs, how plants need water and light to grow<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>WS1 asking simple questions and recognising that they can be answered in different ways<br>WS2 observing closely, using simple equipment<br>WS3 performing simple tests<br>WS4 identifying and classifying<br>WS5 using their | **Scientists**<br>WS1 asking simple questions and recognising that they can be answered in different ways<br>WS4 identifying and classifying<br>WS5 using their observations and ideas to suggest answers to questions<br>WS6 gathering and recording data to help in answering questions.<br>Research<br>Observing over time<br>Pattern-seeking<br>Identifying, grouping and classifying<br>Problem-solving |

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| | Comparative/fair-testing<br>Observing over time<br>Identifying, grouping and classifying<br>Problem-solving | WS2 observing closely, using simple equipment<br>WS3 performing simple tests<br>WS4 identifying and classifying<br>WS5 using their observations and ideas to suggest answers to questions<br>Comparative/fair-testing<br>Observing over time<br>Identifying, grouping and classifying | using the idea of a simple food chain, and identify and name different sources of food.<br>WS1 asking simple questions and recognising that they can be answered in different ways<br>WS2 observing closely, using simple equipment<br>WS3 performing simple tests<br>WS4 identifying and classifying<br>WS5 using their observations and ideas to suggest answers to questions<br>WS6 gathering and recording data to help in answering questions.<br>Comparative/fair-testing<br>Research<br>Observing over time<br>Pattern-seeking<br>Identifying, grouping and classifying<br>Problem-solving | in different ways<br>WS2 observing closely, using simple equipment<br>WS4 identifying and classifying<br>WS5 using their observations and ideas to suggest answers to questions<br>WS6 gathering and recording data to help in answering questions.<br>Comparative/fair-testing<br>Research<br>Observing over time<br>Pattern-seeking<br>Identifying, grouping and classifying<br>Problem-solving | observations and ideas to suggest answers to questions<br>WS6 gathering and recording data to help in answering questions.<br>Research<br>Observing over time<br>Identifying, grouping and classifying | |
| **Year 3** | **Rocks (C)** fossils and soil<br>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><br>WS2 Setting up simple practical enquiries, comparative and fair tests. | **Forces and magnets (P)**<br>Compare how things move on different surfaces.<br>Notice that some forces need contact between two objects, but magnetic 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 | **Animals including humans (B)** nutrition<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.<br>Identifying and Classifying<br>Observation<br>Research | **Animals including humans cont.** skeletons and muscles<br><br>Identify that humans and some other animals have skeletons and muscles for support, protection and movement. | **Plants (B)** life cycle of flowers, how water is transported in plants<br>Identify and describe the 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 the way in which water is transported within plants. | **Light (P)** reflection and shadows<br>Recognise that they need light in order to see things and that dark 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 the light from a light source is blocked by a solid object.<br>Find patterns in the way |

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| | WS3 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>WS4 Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions.<br>WS7 Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.<br>WS9 Using straightforward scientific evidence to answer questions or to support their findings.<br>Identifying and Classifying,<br>Observation | 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>WS2 Setting up simple practical enquiries, comparative and fair tests.<br>WS3 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>WS4 Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions.<br>WS6 Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.<br>WS7 Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.<br>Comparative and fair testing<br>Problem solving | | | Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.<br>WS2 Setting up simple practical enquiries, comparative and fair tests.<br>WS3 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>WS4 Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions.<br>WS5 Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.<br>WS6 Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.<br>WS7 Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.<br>WS9 Using straightforward scientific evidence to answer questions or to support their findings.<br>Observation over time<br>Pattern seeking<br>Comparative and fair testing. | that the size of shadows change.<br>WS2 Setting up simple practical enquiries, comparative and fair tests.<br>WS3 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>WS4 Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions.<br>WS5 Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.<br>WS6 Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.<br>WS7 Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.<br>WS9 Using straightforward scientific evidence to answer questions or to support their findings.<br><br>Pattern seeking<br>Observation over time |

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| **Year 4** | **Electricity (P)** appliances, simple circuits, series, switches, conductors, insulators<br>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 buzzers.<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>WS1 Asking relevant questions and using different types of scientific enquiries to answer them.<br>WS2 Setting up simple practical enquiries, comparative and fair tests.<br>WS3 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>WS5 Recording findings using simple scientific language, drawings, labelled | | **States of matter (C)** solids, liquids, gases, evaporation and condensation<br>Compare and group materials together, according to whether they are solids, liquids or gases.<br>WS1 Asking relevant questions and using different types of scientific enquiries to answer them.<br>WS2 Setting up simple practical enquiries, comparative and fair tests.<br>WS3 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>WS4 Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions.<br>WS6 Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions<br><br>WS7 Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.<br>WS9 Using straightforward scientific evidence to answer questions or to support their findings.<br>Comparative/fair testing, research, observation over | **Sound (P)** vibration, pitch, volume<br>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 produced it.<br>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>OUTDOOR LEARNING<br>WS1 Asking relevant questions and using different types of scientific enquiries to answer them.<br>WS2 Setting up simple practical enquiries, comparative and fair tests.<br>WS4 Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions.<br>WS5 Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.<br>WS6 Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions | **Living things and their habitats (B)** classification keys, human impact on environments<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.<br>Recognise that environments can change and that this can sometimes pose dangers to living things.<br>OUTDOOR LEARNING<br>WS3 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>WS5 Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.<br>WS6 Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions<br>WS8 Identifying differences, similarities or changes related to simple scientific ideas and processes.<br>Research, identifying, grouping and classifying and problem-solving | **Animals including humans (B)** digestive system, teeth and food chains<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.<br>Construct and interpret a variety of food chains, identifying producers, predators and prey.<br>WS3 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>WS5 Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.<br>WS6 Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions<br>WS8 Identifying differences, similarities or changes related to simple scientific ideas and processes.<br>Research and identifying, grouping and classifying |

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| | diagrams, keys, bar charts, and tables.<br>WS6 Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions<br>WS7 Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.<br>Pattern-seeking and problem-solving | | time and identifying, grouping and classifying | Comparative/fair testing and pattern-seeking | | |
| **Year 5** | **Properties and changes of materials (C)**hardness, solubility, transparency, conductivity, response to magnets<br>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>OUTDOOR LEARNING<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 | **Properties and changes of materials cont.**<br>WS1 Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.<br>WS2 Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.<br>Comparative/fair testing<br>Identifying, grouping and classifying<br>Problem-solving | **Forces (P)** gravity, air/water resistance, friction, force and motion<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.<br>Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.<br>WS3 Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.<br>WS5 Reporting and presenting findings from enquiries, including conclusions, causal | **Earth and space (P)**<br>The solar system<br>Describe the movement of the Earth, and other planets, relative to the Sun in the solar system.<br>OUTDOOR LEARNING<br>Describe the movement of the Moon relative to the Earth.<br>Describe the Sun, Earth and Moon as approximately spherical bodies.<br>OUTDOOR LEARNING<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>WS6 Identifying scientific evidence that has been used to support or refute ideas or arguments.<br>WS5 Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree | **Living things and their habitats (B)** life cycles and reproduction<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>WS?<br>Research<br>Observation over time<br>**Animals including humans (B)** human development from birth to old age<br>Describe the changes as humans develop to old age.<br><br>WS6 Identifying scientific evidence that has been used to support or refute ideas or arguments.<br>WS5 Reporting and presenting findings from enquiries, including conclusions, causal relationships and | **Sex and Relationship Education (B)**<br>Developing a healthy, safer lifestyle<br>To know how the body changes as they approach puberty<br><br>To understand that the life processes common to humans and other animals include nutrition, movement, growth and reproduction;<br>To understand the main stages of the human life cycle<br><br>To understand that the life processes common to humans and other animals include nutrition, movement, growth and reproduction<br><br>To know the different risks in social situations and then decide how to behave responsibly, including |

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| | 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. | | relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations.<br>Comparative/fair testing<br>Pattern-seeking<br>Problem-solving | of trust in results, in oral and written forms such as displays and other presentations.<br>Research<br>Observation over time<br>Pattern-seeking | explanations of and degree of trust in results, in oral and written forms such as displays and other presentations.<br>Research<br>Observation over time | judging what kind of contact is acceptable and unacceptable;<br>Be able to develop good relationships and respecting the differences between people;<br>Understand the nature and consequences of racism, teasing, bullying and aggressive behaviours and how to respond to them and ask for help<br><br>WS5 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>WS6 Identifying scientific evidence that has been used to support or refute ideas or arguments. |
| **Year 6** | **Animals including humans** (B) circulatory system, diet, exercise, lifestyle<br>**OUTDOOR LEARNING**<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. | **Electricity** (P) voltage, simple circuit diagrams<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.<br>Use recognised symbols when representing a simple | **Evolution and inheritance (B)**<br>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 | **Evolution and inheritance cont.** | **Living things and their habitats (B)** classification, characteristics and why we classify plants and animals<br>**OUTDOOR LEARNING**<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 | **Light (P)** how light behaves<br>**OUTDOOR LEARNING**<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.<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 |

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| | Describe the ways in which nutrients and water are transported within animals, including humans.<br>WS1 Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.<br>WS2 Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.<br>WS3 Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.<br>WS4 Using test results to make predictions to set up further comparative and fair tests.<br>WS5 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>Observation over time<br>Pattern-seeking<br>Comparative/Fair testing<br>Research<br>Problem-solving | circuit in a diagram.<br>WS1 Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.<br>WS2 Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.<br>WS3 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 further comparative and fair tests.<br>WS5 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>Comparative/Fair testing<br>Research<br>Pattern-seeking<br>Problem Solving | different ways and that adaptation may lead to evolution.<br>WS5 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>WS6 Identifying scientific evidence that has been used to support or refute ideas or arguments.<br>Research<br>Observation over time<br>Identifying, grouping and classifying | | plants and animals based on specific characteristics.<br>WS1 Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.<br>WS3 Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.<br>WS5 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>WS6 Identifying scientific evidence that has been used to support or refute ideas or arguments.<br>Comparative/Fair testing<br>Identifying, grouping and classifying<br>Problem solving<br>Research | 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>WS1 Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.<br>WS2 Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.<br>WS3 Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.<br>WS4 Using test results to make predictions to set up further comparative and fair tests.<br>WS5 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>Comparative/Fair testing<br>Research<br>Problem-solving |

# Tatsfield Primary School
# Science Curriculum Progression Map

| | Reception | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
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| **Animals, including humans** | | 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 | 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>Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene | 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<br>Identify that humans and some other animals have skeletons and muscles for support, protection and movement | 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 | Describe the changes as humans develop to old age | 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 |
| **Living things and their habitats** | | | 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 | | 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 | 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 | 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 |

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| | | | 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 microhabitats<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 | | dangers to living things | | specific characteristics |
| **Plants** | | 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 | 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 | Identify and describe the 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 the way in which 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 | | | |
| **Materials** | | 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, | Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, | | | Compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), | |

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| | | 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 | 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 | | | 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 | |
| **Rocks** | | | | 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 | | | |

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| | | | | matter | | | |
| **States of Matter** | | | | | 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 | | |
| **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 buzzers<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 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<br>Use recognised symbols when representing a simple circuit in a diagram |

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| | | | | | 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 | | |
| **Earth and Space** | | | | | | 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 | |
| **Seasonal Changes** | | Observe changes across the 4 seasons<br>Observe and describe weather associated with the seasons and how day length varies | | | | | |
| **Sound** | | | | | 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 produced 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 | | |
| **Light** | | | | Recognise that they need light in order to see things and that dark 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 the light from a light source is blocked by an opaque object<br>Find patterns in the way that the size of shadows change | | | Recognise that light travels 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<br>Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them |
| **Forces and Magnets** | | | | Compare how things move on different surfaces<br>Notice that some forces need contact between 2 objects, but magnetic 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 | | 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 | |

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| | | | | basis of whether they are attracted to a magnet, and identify some magnetic materials<br>Describe magnets as having 2 poles<br>predict whether 2 magnets will attract or repel each other, depending on which poles are facing | | levers, pulleys and gears allow a smaller force to have a greater effect | |
| **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<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 ways and that adaptation may lead to evolution |