

	A1	A2	SPI	SP2	SUI	SU2
FS	<p>We will be learning about how our bodies have changed since being a baby and how we grow.</p> <p>-We are curious about how things change.</p> <p>-We ask questions about how things change.</p> <p><b>Key concepts:</b></p> <ul style="list-style-type: none"> <li>Asking questions</li> </ul>		<p>We will be learning about life under water for a range of sea life. We will classify familiar sea creatures and sort them into groups identified by the children. We will explore what is happening to our seas and why, focussing on seasonal changes and global warming. We will also be exploring how ice is formed and how/why it changes form and how this links to global warming.</p> <p><b>Key concepts:</b></p> <ul style="list-style-type: none"> <li>Predicting</li> <li>Testing</li> <li>Asking questions</li> </ul>		<p>We will be learning about how plants grow and what they need to grow. We will be exploring sequence through plant and minibeast life cycles.</p> <p><b>Key concepts:</b></p> <ul style="list-style-type: none"> <li>Predicting</li> <li>Testing</li> <li>Asking questions</li> <li>Classifying</li> </ul>	
Y1	<p style="text-align: center;"><b>Working Scientifically</b></p> <p>During Years 1 and 2, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:</p> <ul style="list-style-type: none"> <li>asking simple questions and recognising that they can be answered in different ways</li> <li>observing closely, using simple equipment</li> <li>performing simple tests</li> <li>identifying and classifying</li> <li>using their observations and ideas to suggest answers to questions</li> <li>gathering and recording data to help in answering questions</li> </ul>					

### Seasonal Changes

We will investigate the four seasons of the year across the year, focussing on how each season transitions into the next and comparing and contrasting the seasons as we continue with our learning. We will investigate day and night and how the length of the day changes throughout the year as well record the differences in weather at different times of the year.

#### Everyday Materials

We will investigate objects and distinguish the materials that these are made from. During this learning, we will identify and name a variety of everyday materials including wood, plastic, glass, metal, water and rock as well as describe the simple physical properties of these. We will then compare, classify and group together these materials on the basis of their properties.

##### Concepts:

- Asking questions
- Identifying
- Classifying
- Testing
- Predicting
- Data

#### Animals including humans

We will identify the features of each type of animal and classify them into birds, reptiles, amphibians, mammals and fish. We will also identify and name a variety of animals that are carnivores, herbivores and omnivores. We will describe and compare the structure of a variety of common animals whilst also identifying, naming, drawing and labelling basic parts of the human body. We will say which part of the body is associated with each sense.

##### Concepts:

- Asking questions
- Identifying
- Classifying
- Testing
- Predicting
- Data

#### Plants

We will look at a variety of common wild and garden plants, including deciduous and evergreen trees.

We will identify and describe the basic structure of a variety of common flowering plants, including trees.

Children become detectives when we go on a leaf hunt in the school grounds.

##### Concepts:

- Asking questions
- Testing
- Predicting
- Data
- Identifying
- Classifying

### Working Scientifically

During Years 1 and 2, pupils should be taught to use the following practical scientific methods, processes and skills through

the teaching of the programme of study content:

- asking simple questions and recognising that they can be answered in different ways
- observing closely, using simple equipment
- performing simple tests
- identifying and classifying
- using their observations and ideas to suggest answers to questions
- gathering and recording data to help in answering questions

### Materials

As a class, we will be investigating the properties of materials and determining how suitable these materials are for a particular use? We will explore how the shape of materials are changed when they are squashed, bent,

### Animals including humans

These are two questions we will be looking into:  
How do animals grow?  
What does an animal need to survive?  
We will be looking at patterns over time and discussing changes between offspring and adult animals

### Living things in their habitat

We will learn to identify living organisms, things that have once been alive and things that have never been alive.  
We will identify a range of habitats as where living organisms live and determine how they are suited to living in these environments. We will also learn about how each habitat provides for the basic needs of living organisms so that they can survive. Within these habitats, we will identify and name a variety of plants and animals, as well as including examples of microhabitats. We will also be using the ideas of simple food chains to understand how different animals source their food

### Plants

We will research how a seed develops into a plant. We will investigate what a seed needs to grow and carry out fair tests to determine this.

#### Concepts:

- Working Scientifically
- Asking Questions
- Predicting
- Data Collection

### Humans, health & hygiene

We will investigate how humans grow and learn about the importance of a healthy diet. We will also explore different methods of exercise and the impact that exercise has on our bodies. We will learn about different hygiene techniques including

	<p>twisted and stretched.</p> <p><b>Concepts:</b></p> <ul style="list-style-type: none"> <li>• Asking questions</li> <li>• Identifying</li> <li>• Classifying</li> <li>• Testing</li> <li>• Predicting</li> </ul>	<p>as well as determining what living organisms need in order to stay alive and healthy such as water, food and air.</p> <p><b>Concepts:</b></p> <ul style="list-style-type: none"> <li>• Asking Questions</li> <li>• Predicting</li> <li>• Data Collection</li> <li>• Using scientific evidence to support findings</li> <li>• Evaluation</li> </ul>	<p>and how this contributes to the habitat in which a living thing can survive in.</p> <p><b>Concepts:</b></p> <ul style="list-style-type: none"> <li>• Testing</li> <li>• Identifying and Classifying</li> <li>• Evaluation</li> </ul>	<ul style="list-style-type: none"> <li>• Using scientific evidence to support findings</li> <li>• Evaluation</li> </ul>	<p>handwashing and teeth brushing.</p> <p><b>Concepts:</b></p> <ul style="list-style-type: none"> <li>• Asking questions</li> <li>• Predicting</li> <li>• Data collection</li> <li>•</li> </ul>
<p>Y3</p>	<p style="text-align: center;"><b>Working Scientifically</b></p> <p>During Years 3 and 4, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:</p> <ul style="list-style-type: none"> <li>• asking relevant questions and using different types of scientific enquiries to answer them</li> <li>• setting up simple practical enquiries, comparative and fair tests</li> <li>• making systematic and careful observations and , where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers</li> </ul>				

- gathering, recording, classifying and presenting data in a variety of ways to help in answering questions
- recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables
- reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions
- using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions
- identifying differences, similarities or changes related to simple scientific ideas and processes
- using straightforward scientific evidence to answer questions or to support their findings.

### Rocks and Soils

**Famous Scientist: Mary Anning**

In science, we will be learning about the different types of rocks and how these are formed. We will then identify and classify a range of rocks using a variety of tests and their properties,

### Light

We will be recognising dark as the absence of light and then identifying a range of light sources in today's world. We will also learn about the dangers of light from the sun and discuss ways to protect ourselves from these light rays. We will also learn about how light travels and is reflected off

### Forces and Magnets

**Famous Scientist: Archimedes**

We will begin our science learning by building on our knowledge of push and pull forces using a range of investigations, focussing on movements across surfaces. We will then focus on magnetic forces, how they act at a distance, how we can compare magnet strength and use magnets to sort materials. We will also learn in more detail about a magnet, identifying the poles and predicting outcomes using repel and attract forces.

#### Concepts:

- Classifying
- Data Collection
- Testing

### Plants

We will build on our knowledge of plants to label and then identify the function of each part of a flowering plant. We will look in more detail at the flowering part of a plant and how they help with the process of fertilisation, seed formation, seed dispersal and pollination. We will also discover how water is transported

### Animals including humans

In science, we will start by identifying vertebrates and invertebrates and sub categorising the animals within these groups. We will then identify the skeletons on humans and compare and contrast these to other vertebrates before moving onto labelling the bones of the human body. We will finish our

	<p>linking this to their everyday uses. We will describe the formation of fossils when living organisms that have once lived are trapped between layers of rock. We will then investigate soil as a combination of rock, organic matter and sand.</p> <p><b>Concepts:</b></p> <ul style="list-style-type: none"> <li>• Identifying</li> <li>• Classifying</li> <li>• Testing</li> </ul>	<p>surfaces and investigate how shadows are formed, before then tracking the sun's light in shadow formation across a day to identify patterns.</p> <p><b>Concepts:</b></p> <ul style="list-style-type: none"> <li>• Identifying</li> <li>• Classifying</li> <li>• Testing</li> <li>• Using evidence to support findings</li> </ul>	<ul style="list-style-type: none"> <li>• Evaluation</li> </ul>	<p>in plants through observing over time. We will then collate our knowledge of a plants requirements for life and growth to identify plants that are adapted to living in extreme climates, linking back to the rainforest and deserts.</p> <p><b>Concepts:</b></p> <ul style="list-style-type: none"> <li>• Testing</li> <li>• Data Collection</li> <li>• Predicting</li> </ul>	<p>learning by focussing on muscles and how they help us move and how nutrition contributes to the health of animals and correlates with their adaptations to their habitat.</p> <p><b>Concepts:</b></p> <ul style="list-style-type: none"> <li>• Identifying</li> <li>• Classifying</li> <li>• Data Collection</li> <li>• Using evidence to support findings</li> </ul>
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Y4

**Working Scientifically**

During Years 3 and 4, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:

- asking relevant questions and using different types of scientific enquiries to answer them
- setting up simple practical enquiries, comparative and fair tests
- making systematic and careful observations and , where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers
- gathering, recording, classifying and presenting data in a variety of ways to help in answering questions
- recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables
- reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions
- using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions
- identifying differences, similarities or changes related to simple scientific ideas and processes
- using straightforward scientific evidence to answer questions or to support their findings.

**Animals including humans**

We will be focussing our learning on the digestive system, describing the simple functions of the different basic parts and organs. We will identify the

**Electricity****Famous Scientist: Thomas Edison**

We will start by identifying the use of electricity in everyday life, identifying common appliances and their functions. We will construct a simple series

**Living things and their habitats**

We will recognise that animals can be grouped and classified in a variety of ways and explore classification keys in order to help us group, identify and name a variety of living things in their local

**States of Matter**

We will first start by identifying and grouping materials according to their state and whether they are solids, liquids or gases. We will observe that some materials can change state when they are cooled and heated and we will

**Sound****Famous Scientist: Alexander Graham Bell**

We will identify how sound is made by vibration and how we can hear these due to them travelling through a medium to the ear. We will find and identify patterns between the pitch and the object that produced the sound as well as patterns between volume and the strength of the vibrations. We will also recognise that sound gets fainter as the distance from the sound source increases.

	<p>different types of teeth in humans and outline their functions when we eat. We will then construct our own and interpret already made food chains, identifying the producers, predators and prey and identifying patterns shown using these food chains.</p> <p><b>Concepts:</b></p> <ul style="list-style-type: none"> <li>• Asking questions</li> <li>• Identifying</li> <li>• Classifying</li> </ul>	<p>electrical circuit, identifying and naming its basic parts including cells, wires, bulbs, switches and buzzes. We will use our knowledge to predict whether given circuits will work resulting in a lamp being lit, spotting errors and adjusting these. We will also learn about the role of a switch within a circuit and how these contribute to whether a lamp lights up or not. Finally, we will identify and investigate materials that are conductors and insulators.</p> <p><b>Concepts:</b> Testing, Predicting, Data collection Presentation</p>	<p>and wilder environment. We will discover how environments change and what threat this poses to the living things.</p> <p><b>Concepts:</b></p> <ul style="list-style-type: none"> <li>• Asking questions</li> <li>• Identifying</li> <li>• Classifying</li> </ul>	<p>describe these changes as well as measure and research the temperature at which this happens. We will then identify and understand how evaporation and condensation are vital processes in the water cycle and make links between the rate of evaporation with changes in temperature.</p> <p><b>Concepts:</b></p> <ul style="list-style-type: none"> <li>• Identifying</li> <li>• Classifying</li> <li>• Testing</li> <li>• Predicting</li> <li>• Data presentation</li> <li>• Data evaluation</li> </ul>	<p><b>Concepts</b></p> <ul style="list-style-type: none"> <li>• Asking questions</li> <li>• Identifying</li> <li>• Data collection and presentation</li> </ul>
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Y5

**Working Scientifically**

During Years 5 and 6, pupils will be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:

- planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary
- taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate
- recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs,
- using test results to make predictions to set up further comparative and fair tests
- reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations results, explanations of and degree of trust in results, in oral and written forms such as displays and other presentations
- identifying scientific evidence that has been used to support or refute ideas or arguments.

**Living things and their habitats**

We will learn about the process of reproduction and the life cycles of plants, mammals, amphibians,

**Animals including humans**

We will focus on the changes that human beings experience as they develop to old age. We will tackle some sensitive subjects including

**Properties/changes of materials**

As a class, we will investigate different materials, their uses and their properties and learn how to classify and group materials based on these properties. We will use our knowledge gained from comparative and fair tests to give evidence for the particular uses of everyday materials including metals, wood and plastic. We will investigate dissolving, separating mixtures and irreversible changes and

**Forces**

**Famous Scientist:  
Isaac Newton**

We will learn about balanced and unbalanced forces, gravity, friction and the use of mechanisms such as levers, gears and pulleys. We will

**Earth and Space**

**Famous Scientist:  
Nicolaus Copernicus**

We will be exploring the movement of the Earth and other planets in our solar system relative to the sun as well as the movement of the

	<p>insects and birds. The children will explore reproduction in different plants, including different methods of pollination and asexual reproduction.</p> <p><b>Concepts:</b></p> <ul style="list-style-type: none"> <li>• Testing</li> <li>• Predicting</li> </ul>	<p>puberty and death. Children will learn about the life cycle of a human being. We will investigate the development of babies and compare the gestation period of humans and other animals. We will learn about the changes experienced during puberty and why these occur.</p> <p><b>Concepts:</b></p> <ul style="list-style-type: none"> <li>• Working scientifically</li> <li>• Classifying</li> <li>• Data-collection</li> </ul>	<p>recognise how some materials can be separated across different states of matter (liquid, solid and gas). We will use a range of techniques in order to separate a range of materials such as sieving, filtering and evaporating. We will also learn about dissolving, mixing and changes of state in reference to reversible change. The children will then learn about irreversible changes, and participate in two exciting investigations to create new materials, including casein plastic and carbon dioxide.</p> <p><b>Concepts:</b></p> <ul style="list-style-type: none"> <li>• Data-collection</li> <li>• Presentation</li> </ul>	<p>investigate Isaac Newton and his discoveries about gravity. The children will look for patterns and links between the mass and weight of objects, using newton metres to measure the force of gravity. We will collaboratively investigate air and water resistance, participating in challenges to design the best parachute and boat.</p> <p><b>Concepts:</b></p> <ul style="list-style-type: none"> <li>• Testing</li> <li>• Evaluation</li> </ul>	<p>moon around the Earth.</p> <p>We will discover how, because of their spherical nature, rotation and orbit, the Sun appears to move across the Earth's sky creating day and night.</p> <p><b>Concepts:</b></p> <ul style="list-style-type: none"> <li>• Asking questions</li> <li>• Presentation</li> </ul>
Y6	<p style="text-align: center;"><b>Working Scientifically</b></p> <p>During Years 5 and 6, pupils will be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:</p> <ul style="list-style-type: none"> <li>• planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary</li> </ul>				

- taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate
- recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs,
- using test results to make predictions to set up further comparative and fair tests
- reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations results, explanations of and degree of trust in results, in oral and written forms such as displays and other presentations

identifying scientific evidence that has been used to support or refute ideas or arguments.

**Animals including humans**

We will be learning about the circulatory system in the human body, identifying and describing the functions of the heart, blood vessels, blood and the lungs and how these collectively contribute to the same function. We will then learn about the importance of maintaining a healthy lifestyle and the impact diet, exercise, drugs and other lifestyle choices have on the way our body functions. We will also learn about water and nutrient transport in animals, including humans.

**Concepts:**

- Asking questions

**Electricity**

We will build upon learning in Year 4 on how symbols can be used to represent electrical components in a simple circuit diagram. We will then compare and give variations in how these components function, including brightness of bulbs, loudness of buzzers and the on/off position of switches. We will then use our knowledge to

**Light**

We will be recognising and investigating how light travels and use these ideas to explain that objects are seen because they give out or reflect light into the eye. We will also use our knowledge to explain how we see things by light entering our eyes and how shadows have the same shape as the object that casts them.

**Living Things**

**Famous Scientist:  
Carl Linnaeus**

We will describe how living things are classified into broad groups according to similar observable characteristics, including micro-organisms, plants and animals. We will compare animals in these groups, identifying similarities and

**Evolution and Inheritance**

**Famous Scientist:  
Charles Darwin**

We will recognise that living things produce offspring of the same kind but offspring can vary in characteristics and are therefore not identical to parents. We will discuss the term inheritance and what this means in direct reference to

		<p>make connections between the rightness of a lamp or the volume of a buzzer with the number and voltage of cells.</p> <p><b>Concepts:</b></p> <ul style="list-style-type: none"> <li>• Asking questions</li> <li>• Predicting</li> <li>• Testing</li> <li>• Data-collection</li> </ul>	<ul style="list-style-type: none"> <li>• How light travels</li> <li>• How we see things</li> <li>• How light reflects off surfaces</li> </ul> <p><b>Concepts:</b></p> <ul style="list-style-type: none"> <li>• Asking questions</li> <li>• Predicting</li> <li>• Testing</li> <li>• Data-collection</li> </ul>	<p>differences. We will classify plants and animals based on characteristics and give reasons for our choices.</p> <p><b>Concepts:</b></p> <ul style="list-style-type: none"> <li>• Asking questions</li> <li>• Identifying</li> <li>• Classifying</li> </ul>	<p>characteristics. We will learn about how fossils are formed and then used as an information source for how living things have changed over time and the animals and organisms that inhabited the Earth millions of years ago. We will then collate this information to determine how animals are adapted to suit their environment in different ways and how this contributes to the scientific concept of evolution.</p> <p><b>Concepts:</b></p> <ul style="list-style-type: none"> <li>• Asking questions</li> <li>• Identifying</li> <li>• Classifying</li> </ul>
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*Subject Overview*

*Subject: **Science***

2020 - 2021