**Stoke Hill Federation Science Curriculum by Terms 2019 -**

**Year 3 Autumn Term**

*Rocks*

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| **Vocabulary** | **Skills** |
| **Sedimentary** - [Sedimentary rocks](http://www.theschoolrun.com/what-are-igneous-sedimentary-and-metamorphic-rocks) like sandstone or chalk are formed over millions of years when sediments (tiny pieces of rocks and organic matter) are pressed together.  **Metamorphic** - [Metamorphic rocks](http://www.theschoolrun.com/what-are-igneous-sedimentary-and-metamorphic-rocks) like slate or marble are formed when other kinds of rock ([igneous](http://www.theschoolrun.com/what-are-igneous-sedimentary-and-metamorphic-rocks) or [sedimentary](http://www.theschoolrun.com/what-are-igneous-sedimentary-and-metamorphic-rocks)) are changed due to heat or pressure.  **Igneous** - [Igneous rock](http://www.theschoolrun.com/what-are-igneous-sedimentary-and-metamorphic-rocks) is one of the three kinds of rock present on Earth. It is formed when magma or lava from volcanoes cools; basalt and granite are both igneous rocks.  **Fossil –** the hard remains of a prehistoric animal or plant found inside a rock  **Soil –** the substance on the surface of the earth in which plants grow  **Magma** – molten rock that is formed in very hot conditions inside the earth  **Lava –** a very hot liquid rock that comes out of a volcano | 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. |

*Animals including humans*

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| **Vocabulary** | **Skills** |
| **Nutrition** – the process of taking food into the body and absorbing its nutrients  **Skeleton** – the framework of the bones in your body  **Muscle** – a piece of tissue in the body which connects two bones  **balanced diet** – a diet consisting of the proper quantities and proportions of food needed to maintain health | Reporting on findings from enquiries, using relevant scientific language, including oral and written explanations, displays or presentations of results and conclusions. |

**Year 3 Spring Term**

*Light*

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| **Vocabulary** | **Skills** |
| **Shadow** - A [shadow](http://www.theschoolrun.com/what-is-light) is the darkness formed when light rays cannot pass through something.  **Opaque** - Things are [opaque](http://www.theschoolrun.com/what-is-light) if light cannot pass through them.  **Light** - [Light](http://www.theschoolrun.com/what-is-light) is the energy that allows us to see the world.  **Reflection** - [Reflection](http://www.theschoolrun.com/what-is-light) is when light hits the surface of an object and then that light travels to our eyes so we can see. Mirrors catch light rays in front of them and throw it back in the direction it came from.  **Transparent** - Things are [transparent](http://www.theschoolrun.com/what-is-light) if most light can pass through them. | Identifying differences, patterns, similarities or changes related to simple scientific ideas and processes.  Begin to look for naturally occurring patterns and relationships.  Recognise when and how secondary sources might help them to answer questions that cannot be answered through practical investigations. |

**Year 3 Spring Term**

*Plants*

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| **Vocabulary** | **Skills** |
| **Roots** – the parts of a plant that grow under ground  **Flowers –** the part of the plant that is often brightly coloured and only survives for a short time  **Stem/trunk** -the thin upright part of which flowers and leaves grow  **Pollination –** fertilized with pollen, usually done by insects  **seed dispersa**l – the spreading of seeds away from the parent plant | Using straightforward scientific evidence to answer questions or to support their findings. |

**Year 3 Summer Term**

*Forces and Magnets*

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| **Vocabulary** | **Skills** |
| **Magnetism** - [Magnetism](http://www.theschoolrun.com/what-are-magnets) is a [force](http://www.theschoolrun.com/what-is-a-force) caused by the electrons in the atoms that make up everything around us.  **Force** - [Forces](http://www.theschoolrun.com/what-is-a-force) are the pushes and pulls which act on our bodies and the things around us to make things move and stop moving.  **Magnet** - A [magnet](http://www.theschoolrun.com/what-are-magnets) is an object that has a magnetic field (an invisible pattern of magnetism). A magnet attracts or repels other items.  **Pole** - A [magnet's north pole](http://www.theschoolrun.com/what-are-magnets) is the end of the magnet attracted to the Earth's North magnetic pole; a [magnet's south pole](http://www.theschoolrun.com/what-are-magnets) is the end of the magnet attracted to the Earth's South magnetic pole.  **magnetic force** - [Magnetic force](http://www.theschoolrun.com/what-is-a-force) is an invisible [force](http://www.theschoolrun.com/what-is-a-force) created by electrons. Magnetic force controls magnetism and [electricity](http://www.theschoolrun.com/what-is-electricity).  **Attract** - poles that come together eg. North and South  **Repel** – poles that push away from each other eg. North and North | Making decisions, 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 using notes and simple tables.  Taking accurate measurements using standard units, using a range of equipment, including data loggers and Newton meters |

**Year 4 Autumn Term**

Electricity

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| **Vocabulary** | **Skills** |
| **Switch -** A [switch](http://www.theschoolrun.com/what-is-electricity) turns an electrical circuit on or off by starting or stopping a current flowing.  **Insulator -** An [insulator](http://www.theschoolrun.com/what-is-electricity) is an object that does not allow electricity to flow through it easily.  **Conductor** - A [conductor](http://www.theschoolrun.com/what-is-electricity) is an object that allows electricity to flow through it easily.  **Battery -** In an electrical circuit, the [battery](http://www.theschoolrun.com/what-is-electricity) is the cell that makes electricity.  **Electricity** - [Electricity](http://www.theschoolrun.com/what-is-electricity) is a form of energy caused by electrons moving about.  **Circuit** - A [circuit](https://www.theschoolrun.com/what-is-electricity) is a closed loop for electricity to travel around.  **Appliance -** a device or machine that is used to do a job  **Cell -** a battery used in an electrical circuit | 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.  Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions |

**Year 4 Autumn Term**

*States of Matter*

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| **Vocabulary** | **Skills** |
| **States of matter** - Matter makes up our planet and the whole universe. On Earth, [all matter exists in one of three different states: solid, liquid or gas](http://www.theschoolrun.com/what-are-states-of-matter).  **Matter** - [Matter](http://www.theschoolrun.com/what-are-states-of-matter) makes up our planet and the whole universe. On Earth, all matter exists in one of three different states: solid, liquid or gas.  **Freezing** - [Freezing](http://www.theschoolrun.com/what-are-states-of-matter) is the process of changing a liquid into a solid.  **Solid** - [Solid](http://www.theschoolrun.com/what-are-states-of-matter) is one of the three states of matter on Earth. A solid can hold its shape.  **Liquid** - [Liquid](http://www.theschoolrun.com/what-are-states-of-matter) is one of the three states of matter on Earth. A liquid forms a pool, flows or runs but it can't be stretched or squeezed.  **Gas** - [Gas](http://www.theschoolrun.com/what-are-states-of-matter) is one of the three states of matter on Earth. A gas can flow, expand and be squeezed.  **Precipitation** - [Precipitation](http://www.theschoolrun.com/what-is-the-water-cycle) is rain, sleet, hail and snow, the water droplets which fall from the sky.  **Materials** - [Materials](http://www.theschoolrun.com/what-are-materials) are the matter or substance that objects are made from.  **water cycle** - The [water cycle](http://www.theschoolrun.com/what-is-the-water-cycle) is the continuous journey water takes from the sea, to the sky, to the land and back to the sea. | Making decisions, 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 using notes and simple tables.  Taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers. |

**Year 4 Spring Term**

*Sound*

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| **Vocabulary** | **Skills** |
| **Sound** - [Sound](http://www.theschoolrun.com/what-is-sound) is created when something vibrates and sends waves of energy into our ears.  **Pitch** - [Pitch](http://www.theschoolrun.com/what-is-sound) is the quality of a sound. Depending on how fast or slowly something vibrates a sound's pitch with be high or low.  **Vibration** - waves of sound  **Medium** - it is something that sound can travel through such as gas, liquid or a solid | Use 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, using relevant scientific language, 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. |

**Year 4 Spring Term**

*Animals including humans*

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| **Vocabulary** | **Skills** |
| **Senses** – the body’s five [senses](http://www.theschoolrun.com/learning-about-the-body-in-primary-school) are hearing, sight, smell, touch and taste.  **Molars** - [Molars](http://www.theschoolrun.com/learning-about-the-body-in-primary-school) (and pre-molars) are teeth used for grinding and crushing food.  **Canines** - [Canines](http://www.theschoolrun.com/learning-about-the-body-in-primary-school) are teeth used for tearing and ripping food.  **digestive system** - The [digestive system](http://www.theschoolrun.com/learning-about-the-body-in-primary-school) is made up of all the organs that help the body break down and process the food we eat.  **Incisors** - [Incisors](http://www.theschoolrun.com/learning-about-the-body-in-primary-school) are teeth used for biting and cutting food.  food web - A [food web](http://www.theschoolrun.com/what-are-food-chains-and-food-webs) is a set of linked food chains  **Consumer** - Within a food chain, a [consumer](http://www.theschoolrun.com/what-are-food-chains-and-food-webs) consumes a producer (usually a plant) or another consumer by eating it.  **Producer** - Within a food chain, a [producer](http://www.theschoolrun.com/what-are-food-chains-and-food-webs) is usually a green plant. It passes energy on to a consumer.  **food chain** - A [food chain](http://www.theschoolrun.com/what-are-food-chains-and-food-webs) is a diagram that shows us how animals are linked by what they eat. | Identifying differences, patterns, similarities or changes related to simple scientific ideas and processes.  Using straightforward scientific evidence to answer questions or to support their findings.  Begin to look for naturally occurring patterns and relationships.  Recognise when and how secondary sources might help them to answer questions that cannot be answered through practical investigations. |

**Year 4 Summer Term**

*Living things and their habitats*

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| **Vocabulary** | **Skills** |
| Vertebrates – a creature which has a spine  Invertebrates – a creature that does not have a spine  Herbivores – an animal that only eats plants  Carnivores – an animal that only eats meat  Habitat – the area a living thing lives and survives in  Amphibians - an animal that can live on land and water  Fish – a creature that lives in water and has a tail and fins  Mammals – animal such as humans, dogs, lions and whales  Reptiles – a group of cold-blooded animals which have skins covered with small hard plates called scales and lay eggs  Environment – the circumstances around them that inflence their life | Identifying differences, patterns, similarities or changes related to simple scientific ideas and processes.  Recognise when and how secondary sources might help them to answer questions that cannot be answered through practical investigations. |

**Year 5 Autumn Term**

*Properties and changes of materials*

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| **Vocabulary** | **Skills** |
| **Irreversible change** - An [irreversible change](http://www.theschoolrun.com/what-are-states-of-matter) is a change that cannot be changed back again. Burning or mixing a liquid with bicarbonate of soda are examples of irreversible changes.  **reversible change** - A [reversible change](http://www.theschoolrun.com/what-are-states-of-matter) is a change that can be changed back again. Melting and heating are examples of reversible changes.  **Melting** - [Melting](http://www.theschoolrun.com/what-are-states-of-matter) is the process of changing a solid into a liquid.  **Filtering** - [Filtering](http://www.theschoolrun.com/what-are-states-of-matter) is a method of separating mixtures of solids and liquids.  **Condensation** - [Condensation](http://www.theschoolrun.com/what-is-the-water-cycle) is to turn [from a gas into a liquid](http://www.theschoolrun.com/what-are-states-of-matter). In the water cycle, the evaporated water in the air cools and turns back into a liquid.  **Evaporation** - [Evaporation](http://www.theschoolrun.com/what-is-the-water-cycle) is the process by which [a liquid, when heated, changes into a gas](http://www.theschoolrun.com/what-are-states-of-matter) and rises into the air.  **Dissolving** - [Dissolving](http://www.theschoolrun.com/what-are-states-of-matter) is a way of mixing a solid and a liquid.  **Soluble** - Something that can dissolve  **Solution** - When a solid dissolves in a liquid, it creates a solution.  **Sieving** - [Sieving](http://www.theschoolrun.com/what-are-states-of-matter) is a method of separating mixtures of solids and liquids  **change of state** - the process whereby solids change to liquids or liquids change to gases and vice versa | Reporting and presenting findings from enquiries, including conclusions, casual relationships and explanations of and degree of trust in results, 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*

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| **Vocabulary** | **Skills** |
| Infant – a baby or a very young child  Puberty – the stage in someone’s life when the body starts to become physically mature  Gestation – the process where babies grow inside their mother’s body | Explore and talk about their ideas; asking their own questions about scientific phenomena; and analysing functions, relationships and interactions more systematically.  Recognise that scientific ideas change and develop over time.  that has been used to support or refute ideas or arguments |

**Year 5 Spring Term**

*Forces*

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| **Vocabulary** | **Skills** |
| **Friction** - [Friction](http://www.theschoolrun.com/what-is-a-force) is a 'sticking' [force](http://www.theschoolrun.com/what-is-a-force) – the resistance that a surface or object encounters when moving over another surface or object.  **surface resistance**  **Gravity** - [Gravity](http://www.theschoolrun.com/what-is-a-force) is the pulling [force](http://www.theschoolrun.com/what-is-a-force) acting between the Earth and a falling object. Gravity pulls objects to the ground.  **air resistance** - [Air resistance](http://www.theschoolrun.com/what-is-a-force) is the force on an object moving through air. Air resistance affects how fast or slowly objects move through the air.  **water resistance** - [Water resistance](http://www.theschoolrun.com/what-is-a-force) is the [force](http://www.theschoolrun.com/what-is-a-force) on objects floating on or moving in water.  **simple machines** - [Simple machines](http://www.theschoolrun.com/what-is-a-force) work by turning small [forces](http://www.theschoolrun.com/what-is-a-force) into larger ones, allowing us to perform tasks with more strength or speed. Examples of simple machines are levers, gears, pulleys, wheels and screws. | 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. |

**Year 5 Summer Term**

*Earth and Space*

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| **Vocabulary** | **Skills** |
| Moon – an object in the sky, it goes around the Earth once every four weeks  Season – the main periods in which a year can be divided which each have their own typical weather conditions  Planet – a large round object in space that moves around a star.  Sun – a ball of fire that the Earth goes around that gives us heat and light  solar system – the sun and all of the planets that go around it  Satellite – an object sent into space to collect information | Explore and talk about their ideas; asking their own questions about scientific phenomena; and analysing functions, relationships and interactions more systematically.  Recognise that scientific ideas change and develop over time.  Draw conclusions based on their data and observations, use evidence to justify their ideas, and use their scientific knowledge and understanding to explain their findings.  Pupils should read, spell and pronounce specific vocabulary correctly. |

*Living Things and their Habitats*

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| **Vocabulary** | **Skills** |
| Photosynthesis – the process by which green plants use sunlight to get nutrients from carbon dioxide and water  Evergreen – a tree which has leaves all year round  Deciduous – a tree that loses its leaves in autumn every year  Germination – when a seeds begins to grow  life cycle – a series of changes that an animal or plant passes through during its life  Reproduction – the process by which an animal or plant produces one or more individuals similar to itself | Reporting and presenting findings from enquiries, including conclusions, casual relationships and explanations of and degree of trust in results, oral and written forms such as displays and other presentations.  Identifying scientific evidence that has been used to support or refute ideas or arguments. |

**Year 6 Autumn Term**

*Light*

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| **Vocabulary** | **Skills** |
| Translucent – some light can pass through it  Transparent – you can see through it  Opaque – you cannot see through it  light source – something you get light from eg. sun  Artificial – they do not occur naturally, they are made by human beings  Natural – things that occur by themselves depending on their environment | Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary  Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.  Using test results to make predictions to set up further comparative and fair tests. |

**Year 6 Autumn Term**

Electricity

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| **Vocabulary** | **Skills** |
| Current – a flow of electricity through a wire or circuit  Voltage – an electrical current is measured by its voltage | 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. |

**Year 6 Spring Term**

Evolution and Inheritance

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| **Vocabulary** | **Skills** |
| Adaptation – changing behaviour to make it suitable for its environment  Evolution – a gradual change over generations that sees animals, plants and insects change some of their characteristics  Offspring – a person or animals young | Reporting and presenting findings from enquiries, including conclusions, casual relationships and explanations of and degree  of trust in results, oral and written forms such as displays and other presentations  Identifying scientific evidence that has been used to support or refute ideas or arguments.  Explore and talk about their ideas; asking their own questions about scientific phenomena; and analysing functions, relationships and interactions more systematically |

**Year 6 Summer Term**

*Living things and their habitats*

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| **Vocabulary** | **Skills** |
| Habitat – the natural environment which an animal or plant grows  micro-habitat – a small environemnt  Classification – dividing a system into groups or types  micro-organism – a small living thing which can only be seen by a microscope | Recognise that scientific ideas change and develop over time.  Draw conclusions based on their data and observations, use evidence to justify their ideas, and use their scientific knowledge and understanding to explain their findings  Pupils should read, spell and pronounce specific vocabulary correctly |

**Year 6 Summer Term**

*Animals including humans*

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| **Vocabulary** | **Skills** |
| Circulatory system – the system that transports blood around the body  blood vessel – the narrow tubes through which your blood flows  Nutrients – substances that help plants and animals to grow  Veins – thin tubes which transport blood to the heart  Arteries – thin tubes which transport blood away from your heart  Plasma – a clear liquid part of blood which contains blood cells | Recognise that scientific ideas change and develop over time.  Draw conclusions based on their data and observations, use evidence to justify their ideas, and use their scientific knowledge and understanding to explain their findings  Pupils should read, spell and pronounce specific vocabulary correctly |