Wenlock CE Academy
Science Curriculum and Skills Progression

Year 3 & 4	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer
	Digestive systems - Construct and interpret a variety of food chains and webs to show interdependence and how energy is passed on over time. - Describe the purpose of the digestive system, its main parts and each of their functions. - Describe what damages teeth and how to look after them. - Explain how unfamiliar habitats, such as a mountain or ocean, can change over time and what influences these changes. - Identify the four different types of teeth in humans and other animals, and describe their functions.	**Sound** - Compare and find patterns in the pitch of a sound, using a range of equipment, such as musical instruments. - Compare and find patterns in the volume of a sound, using a range of equipment, such as musical instruments. - Compare how the volume of a sound changes at different distances from the source. - Explain how sounds are made and heard using diagrams, models, written methods or verbally.	**States of Matter** - Group and sort materials into solids, liquids or gases. - Observe and explain that some materials change state when they are heated or cooled and measure or research the temperature in degrees Celsius (°C) at which materials change state.	**Grouping and classifying** - Compare, sort and group living things from a range of environments, in a variety of ways, based on observable features and behaviour. - Gather, record, classify and present observations and measurements in a variety of ways (pictorial representations, timelines, diagrams, keys, tables, charts and graphs).	**Electrical circuits and conductors** - Compare common household equipment and appliances that are and are not powered by electricity. - Construct operational simple series circuits using a range of components and switches for control. - Describe materials as electrical conductors or insulators. - Explain the precautions needed for working safely with electrical circuits. - Predict and describe whether a circuit will work based on whether or not the circuit is a complete loop and has a battery or cell.
Working Scientifically	- Ask relevant questions and use different types of scientific enquiries to answer them - Set up simple practical enquiries, comparative and fair tests				

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– to be incorporated into each unit	- Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers - Gather, record, classify and present data in a variety of ways to help in answering questions - Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables - Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions - Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions - Identify differences, similarities or changes related to simple scientific ideas and processes (Year 3 focus) Use straightforward scientific evidence to answer questions or to support his/her findings

Year 5	Autumn 1	Autumn 2	Spring	Summer
	Forces and Mechanisms - Compare and describe, using a range of toys, models and natural objects, the effects of water resistance, air resistance and friction. - Describe and demonstrate how simple levers, gears and pulleys assist the movement of objects. - Explain that objects fall to Earth due to the force of gravity.	**Earth and Space** - Describe or model the movement of the Moon relative to Earth. - Describe or model the movement of the planets in our Solar System, including Earth, relative to the Sun. - Describe the Sun, Earth and Moon as approximately spherical bodies and use this knowledge to understand the	**Human reproduction and ageing** - Compare the life cycles of animals, including a mammal, an amphibian, an insect and a bird. - Describe the changes as humans develop from birth to old age. - Describe the life process of reproduction in some plants and animals. - Describe the process of human reproduction. - Explain why personal hygiene is important during puberty. **Life processes (Driver project – Sow, Grow and Farm)** - Compare the life cycles of animals, including a mammal, an amphibian, an insect and a bird. - Describe the life process of reproduction in some plants and animals.	**Properties and changes in materials** - Compare and group everyday materials by their properties, including hardness, solubility, transparency, conductivity (electrical and thermal) and magnetism. - Explain, following observation, that some substances (solutes) will dissolve in liquid (solvents) to form a solution and the solute can be recovered by evaporating off the solvent. - Describe, using evidence from comparative or fair tests, why a material has been chosen for a specific use, including metals, wood and glass. - Separate mixtures by filtering, sieving and evaporating. - Explain the precautions needed for working safely when heating, burning, cooling and mixing materials.

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		phases of the Moon and eclipses. - Use the idea of Earth's rotation to explain day and night, and the Sun's apparent movement across the sky.	- Describe, using their knowledge of food chains and webs, what could happen if a habitat had a living thing removed or introduced. - Group and sort plants by how they reproduce. - Label and draw the parts of a flower involved in sexual reproduction in plants (stamen, filament, anther, pollen, carpel, stigma, style, ovary, ovule and sepal). - Research and describe different farming practices in the UK and how these can have positive and negative effects on natural habitats.	- Identify, demonstrate and compare reversible and irreversible changes.
Working Scientifically – to be incorporated into each unit	- Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary - Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate - Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs - Use test results to make predictions to set up further comparative and fair tests - Report and present 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 - Identify scientific evidence that has been used to support or refute ideas or arguments			

Year 6	Autumn	Spring	Summer 1	Summer 2
	Circulatory system - Explain that the circulatory system in animals transports oxygen, water and nutrients around the body.	**Electrical circuits and components** - Compare and give reasons for variations in how components in electrical circuits function	**Light Theory** - Describe, using diagrams, how light behaves when	**Evolution and inheritance** - Classify living things, including

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	- Explain the impact of positive and negative lifestyle choices on the body. - Name and describe the purpose of the circulatory system and the functions of the heart, blood vessels and blood.	(brightness of lamps; volume of buzzers and function of on or off switches). - Create circuits using a range of components and record diagrammatically using the recognised symbols for electrical components. - Explain how the brightness of a lamp or volume of a buzzer is affected by the number and voltage of cells used in a circuit. **Classification (Driver project – Frozen Kingdom)** - Classify living things, including microorganisms, animals and plants, into groups according to common observable characteristics and based on similarities and differences. - Use and construct classification systems to identify animals and plants from a range of habitats - Identify how animals and plants are adapted to suit their environment, such as giraffes having long necks for feeding, and that adaptations may lead to evolution. - Research unfamiliar animals and plants from a range of habitats, deciding upon and explaining where they belong in the classification system.	reflected off a mirror (plane, convex or concave) and when passing through a lens (concave or convex). - Describe, using scientific language, phenomena associated with refraction of light. - Revise the understanding of light, reflection and daylight from previous years. - Explain that, due to how light travels, we can see things because they give out or reflect light into the eye. - Identify that light travels in straight lines. - Explain the dangers of using lasers and ways to use them safely.	microorganisms, animals and plants, into groups according to common observable characteristics and based on similarities and differences. - Describe how animals and plants can be bred to produce offspring with specific and desired characteristics (selective breeding). - Identify that living things produce offspring of the same kind, although the offspring are not identical to either parent. - Describe some significant changes that have happened on Earth and the evidence, such as fossils, that support this. - Explain that living things have changed over time, using specific examples and evidence.

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				- Identify how animals and plants are adapted to suit their environment, such as giraffes having long necks for feeding, and that adaptations may lead to evolution. - Research unfamiliar animals and plants from a range of habitats, deciding upon and explaining where they belong in the classification system.
Working Scientifically – to be incorporated into each unit	- Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary - Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate - Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs - Use test results to make predictions to set up further comparative and fair tests - Report and present 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 - Identify scientific evidence that has been used to support or refute ideas or arguments			