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Science Long Term Plan

The units of work are based on 'Andrew Berry Kent Scheme of Work' unless otherwise stated. Science is planned to ensure that the key objectives for: working scientifically, biology chemistry and physics are covered and revisited. To enable accurate assessment, all aspects of the science curriculum need to be taught and evidenced. Science is not only taught in set science lessons as other opportunities will arise in other areas of the curriculum. Teachers have planned the units using the progression of skills documents to support them.

Topics covered are: working scientifically runs through every unit taught, biology, chemistry, physics

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Year 1	**Everyday Materials** To know the difference between an object and the material from which it is made. To know a variety of everyday materials including wood, plastic, glass, metal, water and rock. To know the physical properties of a variety of everyday materials. To know how to group and compare everyday materials.		**Seasonal Changes** To know how to observe changes across the four seasons. To know weather patterns associated with the seasons.	**Seasonal Changes & Animals Including Humans** To know the structure of a variety of living creatures including herbivores, carnivores and omnivores.	**Animals Including Humans** To know the names of parts of the body and the senses associated with them.	**Plants** To know the names of everyday garden plants and wildflowers including deciduous and evergreen plants. To know the structure of common flowering plants.
Year 2	**Materials** To know the suitability of a range of everyday materials To know how different materials move on surfaces.	**Materials** To know how the shape of materials can be changed by bending, squashing, twisting	**Animals including humans** To know that animals including humans have offspring that grow into animals. To know the basic needs of animals for survival. To know the importance of exercise,	**Plants** To know how bulbs and seeds turn into mature plants. To know and describe how plants need water, light and a suitable temperature to grow healthily.	**Living things and their habitats** To know the differences between things that are alive, have never been alive and dead. To know different habitats provide for the needs of different animals.	**Living things and their habitats** To know and name a variety of habitats including microhabitats. To know how animals obtain food from plants and other animals.

			hygiene and different types of food for humans.			
Year 3	**Animals Including Humans – skeleton** To know that humans and some other animals have skeletons for protection, support and movement.	**Animals including Humans – nutrition** To know that animals including humans need the right amount and type of food for nutrition.	Rocks To know how to group different rocks based on their physical properties. To know how fossils are formed. To know rocks are made from soil and organic matter.	Forces and magnets To know and compare how things move on different surfaces. To know forces need contact between two objects but magnets can act from a distance. To know and describe how magnets attract and repel each other. To know how to group materials based on their magnetism. To know magnets have 2 poles. To know how to correctly predict if magnets will attract or repel.	Plants To know the function of different flowering plants. To know the requirements for plant life and growth. To know how water is transported within plants. To know the parts flowers play in the life cycles of flowering plants.	LIght To know light is needed to see objects and that darkness is the absence of light. To know that light is reflected from surfaces. To know light from the sun can be dangerous and that there are ways to protect our eyes. To know how shadows are formed. To know there are patterns when the size of shadows change
Year 4	**All Living Things** To know that living things can be grouped in different ways.	**Electricity** To know common appliances that run on electricity.	**Sound** To know how sounds are made.	**States of Matter** To know how to group different materials.	**Animals Including Humans** To know the simple functions of the digestive system. To know the different types of teeth in humans.	

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	To know how to use classification keys. To know environments can change.	To know the basic parts of an electric circuit. To know whether a bulb will light in a series circuit. To know a switch opens and closes a circuit. To know common conductors and insulators.	To know vibrations travel through a medium to the ear. To know there are patterns asosciated with the pitch and volume of a sound. To know sounds get fainter as distance increases.	To know materials change when they are heated or cooled. To know how condensation and evaporation play a part in the water cycle.	To know how to interpret food chains.	
Year 5	**Properties & Changes of Materials** To know how to group materials based on their properties. To know some materials dissolve to form a solution. To know how mixtures might be separated. To know that dissolving, mixing and changes of state are reversible. To know that some changes are not reversible.	**Animals Including Humans** To know the changes as humans develop into old age.	**Earth & Space** To know the movement of the Earth within the solar system. To know the movement of the Moon relative to the Earth. To know how the Earth's rotation explains day and night.	All living things – Life Cycles To know the differences in life cycles of amphibians, mammals, birds and insects. To know and describe the life process of reproduction in some plants and animals.	Forces To know how gravity moves objects towards the Earth. To know the effects of air resistance, water resistance and friction. .	Forces To know how mechanisms allow a smaller force to have a greater effect

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Year 6	**Evolution & Inheritance** To know that living things have changed over time. To know that offspring produced by parents vary and are not identical to parents. To know plants and animals are adapted to suit their environment.	**Light** To know light appears to travel in straight lines. To know objects give out or reflect light. To know light travels from light sources to our eyes. To know shadows have the same shape as the objects that cast them.	**Animals Including Humans** To know the main parts of the circulatory system. To know the impact of diet, exercise and lifestyle choices. To know the ways in which nutrients are transported within animals including humans.	**Electricity** To know the brightness of the lamp can change. To know there are variations in the components of a circuit. To know the symbols used when representing a circuit diagram.	**Investigations** To know different scientific enquiries can be used to answer questions. To know how to measure, record data and diagrams. To know that test results can be used to make predictions. To know how models can be used to show scientific ideas. To know how to report findings. To know scientific evidence can be used to support arguments.	**All Living Things** To know how living things are classified into broad groups. To know and give reasons for classification.