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Science Curriculum Map

	Autumn	Spring	Summer
Year 1	<p>Seasonal Changes During this unit, learners will start to recognise different types of weather and how they happen. They will observe the changes that occur over the seasons. The unit encourages the study of local climates and weather, but also how it is different around Earth. During the unit, there is plenty of opportunity for observing weather types, recording and measuring temperatures and rainfall, as well as exploring how plants and animals may adapt to seasons.</p> <p> British Values Link: Tolerance  School Values Link: Inspire  Diversity Link: Difference</p> <p>Animals including humans – About Me In this unit, children will begin their journey of learning about themselves and their body. The unit begins with a focus on our senses and the basic parts of the human body. As we journey through the unit, learners will discover the changes our body makes as we grow and also how humans can mimic nature. This will build the foundations for other 'Animals Including Humans' units, and ensures that children are using correct terminology about their bodies.</p> <p> British Values Link: Individual Liberty  School Values Link: Genuine  Diversity Link: Accepting differences of others</p>	<p>Animals including humans – About Animals In this unit, learners will know more about animals, with a particular focus on how to care for pets and other animals in different ways. The unit will lead children from basic identification of animals, through to how animals and pets grow. They will discover the basics of genetics, by studying characteristics that animals gain from their parents. This gives learners a good understanding of different species and also encourages care and preservation of animals.</p> <p> British Values Link: Tolerance  School Values Link: Genuine  Diversity Link: Difference</p> <p>Uses of Everyday Materials In the unit 'Uses of Everyday Materials,' learners will categorise materials, working out those that are suitable for different purposes. There is a focus on magnets, and the beginning of understanding how magnets work. Also, learners will identify natural and man-made materials and the different tests we can use to see if a material is suitable for a task. To ensure learners are thinking about sensible use of materials, the unit also encourages the recycling and reusing of materials.</p> <p> British Values Link: Democracy and Tolerance  School Values Link: Never give up.  Diversity Link: Difference</p>	<p>Exploring Everyday Materials In this unit, learners will develop their understanding from the unit 'Uses of Everyday Materials' by delving deeper into the properties and qualities of different materials we use. By carrying out testing, examining different materials and describing what materials look and feel like, this unit ensures children understand why certain materials are used for the items we use everyday.</p> <p> British Values Link: Democracy and Tolerance  School Values Link: Never give up  Diversity Link: Difference</p> <p>Introduction to Plants During 'Introduction to Plants,' learners will begin to know the parts of a plant, understand the conditions a plant needs for healthy growth and see how they change over time. As part of the unit, learners will also be thinking about plants that are grown as crops, and how we use them as food. Learners will also have the opportunity to grow and observe the growth of their own plants.</p> <p> British Values Link: Tolerance  School Values Link: Genuine  Diversity Link: Accepting differences of others</p>
Year 2	<p>Animals Including Humans - Growth Not only will learners discover more about how humans grow from babies to adults, but they will get the chance to compare this life cycle with that of other animals, such as frogs and butterflies. By looking at a range of species, children will be able to consider the ways different</p>	<p>Living Things and Their Habitats Around the World This unit will help learners explore and understand the various habitats located around the world. Children get to explore habitats such as the ocean, the Arctic and Antarctic and rainforest. Further to this, children get the chance to think about how animals have adapted in order to thrive.</p>	<p>Living Things and Their Habitats During this unit, learners will discover more about natural habitats and the organisms that live within them. By studying various habitats, locally and globally, your learners will be able to consider how the habitat maintains itself through its food chain. The unit delves further, by exposing</p>

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Year 3	<p>organisms give birth, as well as fascinating over the metamorphosis experienced by other creatures. This unit gives learners the chance to present their ideas using diagrams and craft materials, as well as observing phenomena and taking measurements.</p> <div>  British Values Link: Tolerance  School Values Link: Genuine and Warm-hearted  Diversity Link: Accepting differences of others </div> <p>Animals Including Humans – Diet and Health This unit is focused on engaging learners in what it takes to maintain a healthy body and lifestyle, primarily through a balanced diet, exercise, and taking care of their bodies. This unit is complemented by two lessons on skills related to being able to monitor our health, namely that of understanding how to measure liquid and temperature. Complete with some fair tests and the opportunity for some taste tests, this unit is sure to help learners understand health better and come to positive conclusions on how to stay healthy.</p> <div>  British Values Link: Tolerance  School Values Link: Genuine and Warm-hearted  Diversity Link: Accepting differences of others </div>	<p>During this unit, there are chances aplenty for modelling a habitat. The children will gain experience from a zoologist regarding her adventures exploring habitats under the ocean.</p> <div>  British Values Link: Tolerance  School Values Link: Inspire  Diversity Link: Accepting differences of others </div> <p>Everyday Materials This unit is about exploring the development of materials over time, including researching some of the key material innovators. Learners have the opportunity to investigate different materials, and consider those which are best to use for certain tasks. With opportunities during the unit to observe and test materials, and to make choices of which materials to use for building models, this unit really helps learners to engage in materials science.</p> <div>  British Values Link: Democracy and Tolerance  School Values Link: Never give up.  Diversity Link: Difference </div>	<p>learners to some of the dangers that habitats, such as the ocean, face from human impacts. Opportunities arise within the unit to observe, draw and make miniature habitats, as well as the chance to be responsible by performing a litter picking exercise around our environment!</p> <div>  British Values Link: Rule of Law  School Values Link: Inspire  Diversity Link: Difference </div> <p>Plants – Growth and Care This unit is all about understanding plants in more depth. It builds upon Year 1 units by encouraging children to think more scientifically about how and why plants grow as they do, as well as recognising the journey from seed to flowering plant. Learners discover for themselves by observing plant growth, and setting fair tests with variables to understand best conditions for growth. Added to this, children are encouraged to appreciate the importance of plants and how they are vital in our lives.</p> <div>  British Values Link: Democracy and Tolerance  School Values Link: Never give up  Diversity Link: Acceptance </div>
	<p>Rocks The unit on rocks offers learners the opportunity not only to observe and classify rocks, but to consider what can be made from different types of rocks and how they can be weathered. Learners will discover how rocks were formed, as well as discovering more about fossils. Opportunities are given to observe rocks from afar and close-up, and to test different rocks for their permeability and suitability for different purposes.</p> <div>  British Values Link: Tolerance  School Values Link: Genuine </div>	<p>Light This unit provides an all-round approach to discovering what light is and how it acts. The unit takes learners on a journey - from describing how light travels, to considering how light reflects off different surfaces and how shadows are formed. Different sources of light are also explored, from the sun to torches. Children get the opportunity to build their own torches and periscopes, as well as observing and measuring the distance and angle that light travels.</p> <div>  British Values Link: Individual Liberty  School Values Link: Inspire </div>	<p>Plants - Life Cycles This unit gives a grounding in plant life cycles. The unit starts with plant organs and their roles, then moves into the life cycle of a plant. The life cycle focuses on the development of a seed to an adult plant. These lessons have been ordered for the children to follow a story of the plant and each lesson builds on previous knowledge.</p> <div>  British Values Link: Democracy and Tolerance  School Values Link: Never give up </div>

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	 Diversity Link: Accepting differences of others Forces and Magnets This unit builds on the programme of study for the National Curriculum, with a real focus on magnetism. There is plenty to discover here, including the chance for learners to understand how magnetic fields work and the impact of the Earth behaving like a magnet itself. This will also lead to children understanding the importance of magnetism when it comes to new inventions and innovation, such as the Maglev Train.  British Values Link: Tolerance  School Values Link: Inspire  Diversity Link: Accepting differences of others	 Diversity Link: Difference Animals Including Humans – What Makes Us The unit focuses on our skeletal and muscular systems, how our brain makes us act as we do and how we gain our characteristics. Learners will take a trip around the skeleton, identifying and labelling parts and their functions. From here, we take a look at voluntary and involuntary muscles. To concrete their learning about 'what makes us' what we are, children will then consider how the brain acts as our control centre and how inheritance of characteristics works.  British Values Link: Individual Liberty  School Values Link: Genuine and warm-hearted  Diversity Link: Difference and Equality.	 Diversity Link: Acceptance Exploring the World of Plants This unit explores some of the plants we find all over the world - including some extraordinary plants! The unit covers plant reproduction, as well as exploring the wide variety of plants in our world and looking at them in different contexts. The lessons have been ordered for the children to follow a story of the plant and each lesson builds on previous knowledge. The final four lessons explore the wide world of plants looking at them in different contexts.  British Values Link: Rule of Law  School Values Link: Inspire  Diversity Link: Acceptance
Year 4	Classifying Living Things and their Habitats Children know lots about animals from an early age, such as where they live, the sounds they make and whether they are wild or kept as pets. This unit consolidates this learning, and develops it to a more scientific level through classification. Learners are encouraged to group animals dependant on different factors, such as: Are they a vertebrate? Are they warm or cold-blooded? What is their diet like? From this point, learners will be able to distinguish between groups of animals and understand how they adapt to the habitats they reside in.  British Values Link: Rule of Law  School Values Link: Inspire  Diversity Link: Different Family Types Living Things and their Habitats – Nature and the Environment This unit focuses on the world around us and the impact that humans have had on nature and different habitats. Within the lesson sequence, learners will be exposed to various ecosystems and then consider the impact pollution	Animals Including Humans – Food and Digestion This unit builds on Year 2 and 3 National Curriculum units about our bodies, by focusing on the digestive system. Learners get the opportunity to explore the organs which make up our digestive system, enabling them to name them and explain their functions. By carrying out practical enquiries which model how it works, children will understand the concept of the journey food takes from mouth to waste product! To ensure children think about how to keep their digestion healthy, lessons are included on the food pyramid and about vitamins and minerals.  British Values Link: Individual Liberty.  School Values Link: Genuine  Diversity Link: Accepting difference of others. Electricity This unit offers the opportunity for children to identify how an electrical circuit works and then put their knowledge into practice by building their own circuits. Including information on how to draw circuit diagrams using symbols, this unit promotes hands-on, practical investigation and	States of Matter This unit will ensure learners understand the basics behind states of matter, including how a liquid can turn into a solid or a gas, and how the molecules change. The unit also puts this theory in to practice by looking at how evaporation and condensation work, and how it is presented through the water cycle. Furthermore, children will make observations and take part in practical enquiries to find out more on dissolving and diluting substances.  British Values Link: Rule of Law  School Values Link: Inspire  Diversity Link: Difference Sound As suggested in the title, this unit is all about 'sound'. Learners will look at sound vibrations and how sounds travel through different mediums. Children will then think about the sounds they hear which our pleasant and unpleasant, as well as being safe with sound by understanding how to insulate sounds. During the unit, learners will get the

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	<p>has had on them. From this point, children will be encouraged to think of solutions to help reduce pollution and conserve our vital resources, such as water.</p> <p> British Values Link: Democracy and Rule of Law</p> <p> School Values Link: Inspire</p> <p> Diversity Link: Difference</p>	<p>discovery. Of course, with electricity comes some dangers, so the unit also includes information on conductors and insulators, as well as an entire lesson dedicated to being safe when using electricity.</p> <p> British Values Link: Rule of Law</p> <p> School Values Link: Strive to Succeed</p> <p> Diversity Link: Difference and equality</p>	<p>chance to design and build their own sound-making devices and to test materials which are good at insulating sounds.</p> <p> British Values Link: Democracy and Individual Liberty.</p> <p> School Values Link: Genuine</p> <p> Diversity Link: Different Family Types</p>
Year 5	<p>Earth and Space This unit gives learners the opportunity to star-gaze by learning more about the earth and space. Starting on earth and understanding our position in the solar system, before expanding out to the moon, the solar system and exploring the Big Bang theory, our unit on Earth and Space covers all the requirements of the National Curriculum programme of study. Opportunities within this unit include building a solar system model, taking part in games and role-plays and measuring gravitational force.</p> <p> British Values Link: Rule of Law</p> <p> School Values Link: Inspire</p> <p> Diversity Link: Accepting others views.</p> <p>Forces Our Year 5 Forces unit explores many different types of forces, enabling learners to have a wider understanding of the different natural and applied forces in existence. This unit is best taught with practical examples, where children are given opportunity to test applied forces for themselves, but also study the theory behind natural forces. Once the children have understood these concepts, they can consider the impact that such forces have in industry and on our everyday lives.</p> <p> British Values Link: Rule of Law</p> <p> School Values Link: Inspire</p>	<p>Animals Including Humans - The Human Life Cycle Fitting within the 'Animals Including Humans' strand of the National Curriculum, this unit focuses specifically on life cycles and the processes from conception, through birth to death. By studying both humans and animals, learners will get a broad perspective of the different kinds of life cycles experienced by different living things. It will also present to children the interdependencies of different organisms. Learners will gain from practical modelling tasks, building life cycle diagrams and researching the life cycles of different animals.</p> <p> British Values Link: Democracy and Individual Liberty.</p> <p> School Values Link: Genuine and warm-hearted</p> <p> Diversity Link: Difference</p> <p>Studying Living Things and their Habitats This unit pays homage to two of the best modern-day science communicators - Sir David Attenborough and Dame Jane Goodall. Through such inspiring explorers, we can understand far more about the animal kingdoms we have on Earth. In 'Studying Living Things', learners are encouraged to think further about life cycles, as well as different forms of reproduction in animals and plants. Opportunities arise in this unit for learners to develop their research skills, as well as plenty of chance to build representative models and continue to practice drawing diagrams and graphs.</p>	<p>Properties of Materials Building on earlier programmes of study on 'Everyday Materials', this unit expands on learners' knowledge of different materials and their uses. There is a sharper focus on where natural resources come from, such as crude oil. Moving away from fossil fuels, children are asked to consider how useful substances can be extracted from natural resources, and how these can be re-used. Further to this, learners can study modern environmental technologies to consider how energy efficiency can be improved.</p> <p> British Values Link: Democracy and Individual Liberty.</p> <p> School Values Link: Inspire</p> <p> Diversity Link: Difference</p> <p>Changes of Material This unit builds upon exploring materials, to consider how materials can be changed and adapted. This is presented in various ways, such as chemical and physical changes. Learners will discover more about the molecular structure of materials, in simple terms, and gain an understanding of changes that are reversible and irreversible.</p> <p> British Values Link: Rule of Law</p> <p> School Values Link: Inspire</p>

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	 Diversity Link: Accepting others views.	 British Values Link: Democracy and Individual Liberty.  School Values Link: Inspire  Diversity Link: Difference of others and their views	 Diversity Link: Difference
Year 6	<p>Animals Including Humans – The Heart and Health This unit explores the circulatory system and health for children and adolescents. Take learners on a journey through the body, helping them understand how blood travels through our bodies and the effects of smoking, alcohol and drugs, but also thinking about how we can be pro-active and stay healthy by keeping a balanced diet. Within this unit, children will create an anti-smoking campaign, measure heart rates and create a model of the heart.</p> <p>  British Values Link: Democracy and Individual Liberty.  School Values Link: Genuine and warm-hearted  Diversity Link: Difference </p> <p>Animals Including Humans - Blood and Transportation This unit is all about blood! Learners will find out what components blood is made from, how the liver and the spleen cleanse our blood and what a blood transfusion is. Children will also think about how bacteria affect our health and may be amazed to find that most germs are, in fact, good for us! Within the unit, children will get the chance to create a model of the lungs and research different diseases that affect the composition of our blood.</p> <p>  British Values Link: Democracy and Individual Liberty.  School Values Link: Genuine and warm-hearted  Diversity Link: Difference and Equality </p>	<p>Classifying Living Things and their Habitats Building on previous 'Living Things...' units, this Year 6 National Curriculum course helps learners identify the kingdoms of life and to classify living things within those kingdoms. Learners will then look more closely at vertebrates, fungi and yeasts and soil habitats. Within this unit, there is opportunity to create their own woodlice habitat, grow some mould, and a beginner's guide to some scientific drawing - of some mushroom spores!</p> <p>  British Values Link: Democracy and Individual Liberty.  School Values Link: Genuine and warm-hearted  Diversity Link: Difference </p> <p>Evolution and Inheritance This unit looks at evolution and the theory of Charles Darwin, as well as exploring natural selection. We also focus on palaeontologist Mary Anning and what fossils can tell us about the past. We then look at modern genetics, giving learners the opportunity to consider the morality in genetic modification. From the history of evolution to modern-day scientific innovations, this unit ensures learners understand and challenge scientific theories and ideas.</p> <p>  British Values Link: Individual Liberty and Tolerance  School Values Link: Genuine  Diversity Link: Difference of opinions. </p>	<p>Light This unit explores key light phenomena, these are centred around transparencies, lenses and coloured light. Some of these concepts can be challenging due to their abstract nature, so we keep referring to ray diagrams that show how the light rays are travelling. This unit is structured so that a concept is taught, then followed by the emergent phenomenon. For example, learners firstly discuss materials of different transparencies; this is then followed by a lesson on shadows i.e. the emergent phenomenon of when light hits an opaque object.</p> <p>  British Values Link: Rule of Law  School Values Link: Strive to Succeed  Diversity Link: Difference </p> <p>Electricity Building upon Year 4 National Curriculum studies on electricity and circuits, this unit allows a greater depth of understanding of electricity as a whole. There is an opportunity to recall and expand on knowledge of circuits, and to understand how variable resistors work. Children will also learn about how to measure electric charge and then consider the impact of conductors and insulators on an electric circuit. During the unit, there are opportunities for further circuit building, and for children to understand the impact of adding or removing components from a circuit.</p> <p>  British Values Link: Rule of Law  School Values Link: Strive to Succeed  Diversity Link: Difference </p>

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