

Pilgrim Primary Academy
Science - Whole School Mapping 2025 - 2026

Essential knowledge highlighted **pink** is the minimum key learning for every child within each unit of work.
Essential vocabulary highlighted **pink** is the minimum key learning for every child within each unit of work.

EYFS	<p><u>Understanding the World</u></p> <p><u>3-4</u> Use all their senses in hands-on exploration of natural materials. Explore collections of materials with similar and/or different properties. Talk about what they see, using a wide vocabulary. Explore how things work. Plant seeds and care for growing plants. Understand the key features of the life cycle of a plant and an animal. Begin to understand the need to respect and care for the natural environment and all living things. Explore and talk about different forces they can feel. Talk about the differences between materials and changes they notice.</p> <p><u>Reception</u></p> <p>Explore the natural world around them. Describe what they see, hear and feel whilst outside. Recognise some environments that are different from the one in which they live. Understand the effect of changing seasons on the natural world around them.</p> <p>ELG The Natural World ELG Children at the expected level of development will: Explore the natural world around them, making observations and drawing pictures of animals and plants; Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class; Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.</p> <p><u>Communication, language and literacy</u></p> <p><u>3-4</u> Develop their pronunciation Use longer sentences of four to six words. Be able to express a point of view and to debate when they disagree with an adult or a friend, using words as well as actions. Start a conversation with an adult or a friend and continue it for many turns. Use talk to organise themselves and their play: "Let's go on a bus... you sit there... I'll be the driver."</p> <p><u>Reception</u> Articulate their ideas and thoughts in well-formed sentences. Connect one idea or action to another using a range of connectives. Describe events in some detail. Use talk to help work out problems and organise thinking and activities, and to explain how things work and why they might happen. Use new vocabulary in different contexts.</p>
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Class	Rationale for Unit	NC Content	Skills/Processes	Essential Knowledge	Vocabulary
YEAR 1					
<p>Autumn 1 Who am I and what can I do?</p> <p>Animals (Sensitive bodies)</p>	<p>This unit encourages children to explore their personal history. They explore their physical development and compare physical appearance, abilities and experiences with peers. They will learn to name various parts of the human body and investigate how they use their senses. REAL LIFE LINK: Explore how they and their lives are different to their parent/carer.</p>	<p>identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense</p>	<p>Using their senses to describe, in simple terms, what they notice or what has changed</p> <p>Using non-standard units to measure and compare</p> <p>Drawing and labelling simple diagrams</p> <p>Using a prepared table to record results including numbers and simple observations</p> <p>Grouping based on visible characteristics</p> <p>Using their results to answer simple questions</p>	<p>Know the key parts of the human body (head, neck, arms, elbows, legs, knees, face, ears, eyes, hair, mouth and teeth)</p> <p>Know that we have five senses</p> <p>Know the skin is used for touch, the tongue is used for taste, the nose is used for smell, the eyes are used for sight and the ears are used for hearing</p> <p>Know a range of jobs and careers that use scientific knowledge and methods</p> <p>Know there are spiritual, moral, social and cultural links with science</p> <p>Match sensory organs (eyes, ears, nose, tongue, skin) with their corresponding senses (sight, hearing, smell, taste, touch).</p> <p>Shows an awareness that different body parts work together in systems to perform functions, such as the skeletal system for support and movement, and the respiratory system for breathing.</p> <p>Understands the importance of taking care of their body, including basic hygiene practices</p>	<p>action blind compare direction feeling bitter body data distance group hearing loud pattern research sense investigation obstacle quiet salty sensitive smell sweet touch sight sour taste volume</p>

				<p>like washing hands and brushing teeth, and knows how to keep their body safe from harm.</p> <p>All humans have a skeleton</p> <p>The bones in your skeleton help you to stay standing up, let you move around and protect the important organs inside you</p> <p>Skin protects the skeleton and organs</p> <p>We have five senses: sight, hearing, touch, taste and smell</p>	
<p>Autumn 2 Home sweet home</p> <p>Making Connections</p>	<p>This unit builds on from the children looking at different types of homes in the local areas and around the UK. Children use this time to consolidate science learning from year 1 and before and make connections to their everyday life and the world around them.</p>	<p>Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees.</p> <p>Identify and describe the basic structure of a variety of common flowering plants.</p>	<p>Carry out online research to find answers to questions.</p> <p>Measure length in centimetres.</p> <p>Suggest how to carry out a waterproof test.</p> <p>Begin to recognise if a test is fair.</p> <p>Use data to answer questions.</p> <p>Recognise patterns in data.</p> <p>Group birds according to their diet.</p>	<p>Identify the typical weather associated with each season.</p> <p>Describe animal features.</p> <p>Recognise similarities and differences between animals in the same animal group.</p> <p>Build an animal home with natural materials.</p> <p>Explain the difference between carnivores, herbivores and omnivores.</p> <p>To spot similarities and differences of each season</p> <p>To describe and compare some features of woodland animals.</p> <p>To choose the best materials for making an animal home.</p> <p>To know what the difference is between a herbivore,</p>	<p>amphibian</p> <p>bird</p> <p>carnivore</p> <p>compare data</p> <p>diet</p> <p>difference</p> <p>fish</p> <p>group</p> <p>herbivore</p> <p>mammal</p> <p>material</p> <p>object</p> <p>omnivore</p> <p>pattern</p> <p>reptile</p> <p>season</p> <p>similarity</p> <p>trunk</p> <p>waterproof</p>

		<p>Observe changes across the four seasons.</p> <p>Observe and describe weather associated with seasons and how day length varies.</p>		carnivore and omnivore.	weather
<p>Spring 1 What is it like to live in the UK?</p> <p>Seasonal Changes</p>	<p>This unit focuses on investigating what everyday life is like in the UK. Alongside investigating cultures and traditions that reflect each nation's traditions, the children also study weather changes across the UK and throughout the seasons.</p>	<p>observe changes across the 4 seasons</p> <p>observe and describe weather associated with the seasons and how day length varies</p>	<p>To raise questions about observations</p> <p>To predict an outcome using their own experiences</p> <p>To observe and gather data and to make comparisons between seasons</p> <p>To begin to understand how measurements can be taken</p> <p>To begin to draw pictograms</p> <p>To begin to analyse data in a pictogram by comparing the seasons</p> <p>To use a pictogram to answer questions</p> <p>To consider the role of a weather reporter and how information about</p>	<p>To know there are four seasons</p> <p>To know the name and order of the four seasons (spring, summer, autumn, winter)</p> <p>To know that it is unsafe to look directly at the Sun</p> <p>To know weather associated with the four seasons and how it changes (UK based)</p> <p>To understand that day length varies across the four seasons, with fewer daylight hours in winter and more in the summer</p> <p>Describe basic characteristics of each season, such as weather patterns, temperature changes, and changes in nature (e.g., blooming flowers in spring, falling leaves in autumn).</p> <p>Demonstrates the ability to observe and</p>	<p>conclusion</p> <p>data</p> <p>deciduous tree</p> <p>evergreen tree</p> <p>pictogram</p> <p>predict</p> <p>record</p> <p>season</p> <p>sunrise</p> <p>sunset</p> <p>symbol</p> <p>temperature</p> <p>thermometer</p> <p>weather</p> <p>Autumn</p> <p>Spring</p> <p>Summer</p> <p>Winter</p>

			<p>weather is useful in everyday life</p>	<p>describe changes in the environment associated with different seasons, such as changes in daylight hours, clothing worn, and activities engaged in.</p> <p>Understands that seasons occur in a cyclical pattern and can sequence the order of seasons throughout the year.</p> <p>Recognises that seasonal changes can affect living things, including plants, animals, and humans, and can describe some of these effects (e.g., hibernation, migration, growth cycles).</p> <p>The seasons are autumn, winter, spring and summer</p> <p>In autumn, it gets colder and the weather can be sunny, cloudy, windy or rainy Animals begin to act differently in the autumn</p> <p>The temperature gets colder from autumn to winter</p> <p>Some trees lose their leaves and become bare in winter</p> <p>The days get shorter as we get fewer hours of daylight in winter</p> <p>In winter, the weather gets colder</p> <p>In winter, animals change the way they behave</p>	
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<p>Spring 2 Life in the capital</p> <p>Everyday Materials</p>	<p>This unit focuses on London. It builds on the previous term (What is life like in the UK?). The unit starts with science where children investigate materials, learning to name and sort them by properties. They will investigate everyday materials and suggest why products have been made in that material. REAL LIFE LINK: Identifying materials used to build a modern house.</p>	<p>distinguish between an object and the material from which it is made</p> <p>identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock</p> <p>describe the simple physical properties of a variety of everyday materials</p> <p>compare and</p>	<p>Sort objects based on the materials they are made from</p> <p>Group objects based on their properties</p> <p>Suggest ways to test materials for their properties</p> <p>Make predictions and recognise whether they were accurate</p> <p>Use their observations to answer questions</p> <p>Begin to recognise if a test is fair</p>	<p>Know that objects are items or things</p> <p>Know that a material is what an object is made from</p> <p>Know a variety of everyday materials, including wood, plastic, glass, metal, water and rock</p> <p>To know that materials can be grouped based on their physical appearance</p> <p>Identify the materials they are made from</p> <p>Recognise that objects are made from materials that suit their purpose</p> <p>Recall that a property is how a material can be described</p> <p>Describe basic properties of materials using simple language, such as hard, soft, rough, smooth, shiny, dull, heavy, light, transparent, and opaque</p> <p>Demonstrates the ability to sort and classify objects based on their material composition, using observable properties like colour, texture, and flexibility.</p> <p>Participate in simple experiments to explore the properties of materials, such as testing which materials sink or float in water, or identifying materials that are magnetic.</p>	<p>absorbent data fabric group metal opaque glass material object plastic property tough waterproof rock transparent wood</p>
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		group together a variety of everyday materials on the basis of their simple physical properties		Shows an understanding of basic safety rules when handling materials, including not putting objects in their mouth, using materials in the intended manner, and reporting any hazards to an adult. A material is something we can use to make different objects Some objects are made from one material We can find out some of those properties by investigating how materials look and feel We can investigate materials to discover other properties Objects are made from different materials We can sort and group objects using the properties of the materials they are made from	
Summer 1 What a wonderful world Plants	This unit looks at the many wonders of our world. It begins by investigating plants, including common wild plants and deciduous and evergreen trees. The children then move on to	Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees Identify and describe the	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	Plants can be found in homes, gardens, parks and the countryside. Plants can be different sizes, shapes and colours. Weeds, grass, moss, ferns, shrubs flowers and trees are all plants. Plants can grow in soil (like sunflowers) or water (like waterlilies).	bark data deciduous diagram edible evergreen feature fruit flower garden plants grouping growth

	<p>describing the basic structure of common flowering plants and trees.</p>	<p>basic structure of a variety of common flowering plants, including trees</p>	<p>suggest answers to questions.</p>	<p>Roots keep the plants in the ground and take in water from the soil.</p> <p>The stem holds up the plant and carries water to the leaves.</p> <p>Leaves take in the sunshine and turn it into food for the plant.</p> <p>Common summer garden plants include: roses, sunflowers, lavender, primula, sweet pea, marigolds, honeysuckle, magnolia trees and hydrangeas.</p> <p>A wild plant doesn't need to be looked after as it grows.</p> <p>Common summer wild plants include: daisies, buttercups, nettles, ivy, thistles, dandelions, clover, brambles and poppies.</p> <p>Different trees can be identified by their leaves.</p> <p>A deciduous tree is a tree that sheds its leaves in autumn.</p> <p>An evergreen tree is a tree that has leaves on it all year.</p> <p>Plants are very important.</p> <p>Different parts of plants are eaten: their roots, stems, leaves, flowers, seeds, fruit and bulbs.</p>	<p>investigation leaf measure root stem tree trunk weed wild plants</p>
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				<p>Plants create the air we breathe.</p> <p>Plants can be used to make medicine and materials. Farmers grow fruit and vegetables. These plants give us food.</p> <p>The stem of a tree is known as a trunk and is covered in bark.</p> <p>Wild plants grow from seeds wherever they fall.</p> <p>Garden plants are plants that people choose to grow in their gardens.</p> <p>Plants have three important parts: the roots, the stem and the leaves.</p> <p>Plants are living things that grow.</p>	
<p>Summer 2 Exploration</p> <p>Animals (Comparing Animals)</p>	<p>This unit focuses on great stories of exploration, including Robert Falcon Scott who was born in Plymouth and was the first British person to reach the South Pole. Children then learn about different types</p>	<p>Identify and name a variety of common animals, including fish, amphibians, reptiles, birds and mammals</p> <p>Identify and name a variety of</p>	<p>Recognising there are different types of enquiry (ways to answer a question)</p> <p>Responding to suggestions on how to answer questions</p> <p>Deciding if observations are suitable</p> <p>Using their senses to describe what they notice</p> <p>Reading simple numbered scales</p>	<p>Know a variety of common animals (including fish, amphibians, reptiles, birds and mammals)</p> <p>Know the main parts of common animals (arms, legs, wings, tails, fins, head, horns, tusks and shell)</p> <p>A carnivore is an animal that eats other animals and to give some examples</p> <p>A herbivore is an animal that eats only plants and to give some examples</p>	<p>amphibian</p> <p>block chart</p> <p>carnivore</p> <p>data</p> <p>differences</p> <p>bird</p> <p>body</p> <p>compare</p> <p>diet</p> <p>feature</p> <p>fish</p> <p>herbivore</p> <p>mammal</p>

	<p>of animals that can be found all around the world alongside learning of the naturalist Jane Goodall.</p>	<p>common animals that are carnivores, herbivores and omnivores</p> <p>Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets)</p>	<p>Gathering specific information from one simplified, specific source</p> <p>Drawing and labelling simple diagram</p> <p>Grouping based on visible characteristics</p> <p>Representing data using pictograms and block charts</p> <p>Using their results to answer simple questions</p>	<p>An omnivore is an animal that eats both animals and plants and to give some examples</p> <p>Know about famous scientists throughout history</p> <p>Observe and describe similarities and differences between animals (size, shape, colour, fur, feather, scale, number of legs)</p> <p>Can classify animals into basic groups based on observable characteristics (fur, feathers, scales, shells, lays eggs/gives birth to live young)</p> <p>Understands that all animals have basic needs for survival (food, water, shelter, air)</p> <p>Animals are living things that eat, grow, breathe, reproduce and move.</p> <p>The five vertebrate animal categories are: mammals, birds, fish, amphibians and reptiles.</p> <p>Mammals are warm blooded</p> <p>Mammals are vertebrates, which means they have a backbone</p> <p>Mammals have fur or hair.</p> <p>Mammals give birth to live young</p> <p>Mammals feed their young with their milk</p>	<p>omnivore</p> <p>hunt</p> <p>observe</p> <p>pet</p> <p>record</p> <p>reptile</p> <p>research</p> <p>similarities</p> <p>scientist</p> <p>tally</p>
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				<p>Amphibians have gills when they are born to breathe underwater (they develop lungs to breathe air as they grow)</p> <p>Reptiles cannot breathe underwater but have lungs to breathe air when they are born</p> <p>Animals from different categories can share similar characteristics</p> <p>Animals that eat other animals are called carnivores</p> <p>Animals that eat plants are called herbivores</p> <p>Animals that eat both plants and other animals are called omnivores</p>	
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YEAR 2

<p>Autumn 1 Castles</p> <p>Everyday Materials</p>	<p>This unit builds upon their knowledge of the UK. It investigates materials used to build castles and the properties that made them suitable. REAL LIFE LINK: Allows children</p>	<p>identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass,</p>	<p>Recognising there are different types of enquiry</p> <p>Using non-standard units to measure and compare</p> <p>Recording results using numbers</p> <p>Representing data using block graphs</p> <p>Using results to answer simple questions</p>	<p>Know objects are made from materials that suit their purposes</p> <p>One material can be used for a range of purposes</p> <p>Know that different materials can be used for the same purpose</p> <p>Know that a push or pull must be applied to change the shape of a solid object</p> <p>Know that solid objects can be stretched ,</p>	<p>bend</p> <p>block graph</p> <p>elastic</p> <p>fabric</p> <p>flexible</p> <p>glass</p> <p>material</p> <p>metal</p> <p>object</p> <p>plastic</p> <p>property</p> <p>push</p> <p>rock</p>
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	<p>to make their own castles thinking about material choice.</p>	<p>brick, rock, paper and cardboard for particular uses</p> <p>find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching</p> <p>Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, brick,</p>		<p>twisted, bent or stretched</p> <p>Know that different solid objects may take different amounts of force to change shape</p> <p>Know a range of jobs and careers that use scientific knowledge and methods</p> <p>Recognise science in the news and some recent discoveries</p> <p>Recognise the spiritual, moral, social and cultural links with science</p> <p>Identify a variety of everyday materials (wood, metal, plastic, glass, fabric and paper) and classify them based on observable properties such as colour, texture, and flexibility.</p> <p>Describe the basic properties of materials, including but not limited to hardness, flexibility, transparency, conductivity, and magnetism, and can provide examples of materials exhibiting each property.</p> <p>Demonstrates an understanding of the uses of different materials in everyday life, such as wood for building, metal for making tools, plastic for packaging, and fabric for clothing.</p> <p>Understands that materials can undergo changes through processes such as heating, cooling, bending, stretching, and cutting, and</p>	<p>stretch pull record squash suitable twist Wood recycle</p>
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		<p>rock, paper and cardboard for particular uses</p> <p>Find out how the shapes of solid objects made from some materials can be changes by squashing, bending, twisting and stretching</p>		<p>can describe some of the resulting changes in properties.</p> <p>Shows awareness of the importance of using materials responsibly and recycling whenever possible, and can explain the environmental impact of different materials and their disposal methods.</p> <p>Materials are used to make objects.</p> <p>Objects that can be squashed, bent, twisted or stretched are all made from flexible materials.</p> <p>Objects that cannot be squashed, bent, twisted or stretched are all made from rigid materials.</p> <p>Recycling is when materials can be reused and made into new items</p>	
<p>Autumn 2 Celebrations around the world</p> <p>Making Connections</p>	<p>This unit explores how people around the world celebrate events that are important to them and their families. Children use this</p>	<p>Identify and compare the suitability for a variety of everyday materials, including wood, metal, plastic, glass, brick, rock,</p>	<p>Use an online source to find answers to questions.</p> <p>Identify and classify different types of material.</p> <p>Classify natural and human-made materials.</p> <p>Carry out tests to assess the properties of different materials.</p>	<p>Explain the terms reduce, reuse and recycle. Describe how paper is made.</p> <p>Select suitable materials for a plant pot.</p> <p>Describe good growth conditions for seeds.</p> <p>Make a plant pot from eco-friendly materials.</p> <p>Identify non-living materials to decorate a plant pot.</p>	<p>alive</p> <p>dead</p> <p>fabric</p> <p>flexible</p> <p>germinate</p> <p>growth</p> <p>invention</p> <p>life processes</p> <p>material</p> <p>plastic</p> <p>property</p>

	time to consolidate science learning from year 2 and before and make connections to their everyday life and the world around them.	paper and cardboard for particular uses. Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.	Use observations to answer questions. Draw conclusions about the suitability of materials.	Describe how some materials can be reused. To identify human-made and natural materials. Suggest suitable materials for a plant pot.	results seed suitable test waterproof wood
Spring 1 Changes Animals (Life Cycles and health)	This unit focuses on changes that the children may experience or have experienced. Children learn that change is not just limited to human but all animals. They learn about the basic survival needs of animals and how these animals change throughout their life. Children will also learn the	notice that animals, including humans, have offspring which grow into adults find out about and describe the basic needs of animals, including humans, for	Recognising there are different types of enquiry Using simple measuring equipment Recording results using numbers Using results to answer simple questions Gathering information from a secondary source	Know that a baby, toddler, child, teenager and adult are human life cycle stages Know that humans change throughout their life cycle Know there are differences in the life cycle of different animals Know that humans grow as they age Know the basic survival needs of animals are air, water and food Know personal hygiene prevents the spread of germs Know washing our hands and changing our clothes are ways to keep clean	adult baby butterfly carbohydrates dairy air basic needs child caterpillar egg exercise fitness food froglet germs health frog fruit growth height

	<p>importance of personal hygiene.</p>	<p>survival (water, food and air)</p> <p>describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene</p>		<p>Know exercise can improve performance and well-being</p> <p>Know the five groups are carbohydrates, fruits and vegetables, dairy, protein and oils and spreads</p> <p>Know humans require a balanced diet to stay healthy</p> <p>Demonstrates the ability to observe and sequence the stages of a life cycle using illustrations or models, showing an understanding of the progression from one stage to the next.</p> <p>Understands some factors that contribute to good health, such as eating a balanced diet, getting regular exercise, getting enough sleep, practising good hygiene, and avoiding harmful substances.</p> <p>Shows awareness of basic human body systems and their functions, such as the digestive system for processing food, the respiratory system for breathing, and the circulatory system for transporting nutrients and oxygen.</p> <p>All animals have 3 basic needs for survival: water, food and air.</p> <p>Animals have offspring which grow into adults.</p>	<p>hygiene</p> <p>life cycle</p> <p>measure</p> <p>oils</p> <p>lamb</p> <p>live young</p> <p>offspring</p> <p>proteins</p> <p>pupa</p> <p>spawn</p> <p>stage</p> <p>tadpole</p> <p>sheep</p> <p>spreads</p> <p>survive</p> <p>teenager</p> <p>toddler</p> <p>water</p> <p>vegetables</p>
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				<p>Exercise makes your muscles (including your heart) and your bones stronger.</p> <p>We need the right amount of different types of food to be healthy.</p> <p>Hygiene is the practice of keeping yourself and your environment clean in order to maintain health.</p>	
<p>Spring 2 How does your garden grow?</p> <p>Plants</p>	<p>In this unit children will learn about how seeds and bulbs grow into mature plant and what plants need to grow and stay healthy. They will look at plants in the whole school and local environment, observe changes and explore why people grow plants and why plants are important. It will allow children to</p>	<p>observe and describe how seeds and bulbs grow into mature plants</p> <p>find out and describe how plants need water, light and a suitable temperature to grow and stay healthy</p>	<p>Asking simple questions and recognising that they can be answered in different ways.</p> <p>Observing closely, using simple equipment.</p> <p>Performing simple tests.</p> <p>Using their observations and ideas to suggest answers to questions.</p> <p>Gathering and recording data to help in answering questions.</p>	<p>Most plants come from seeds or bulbs.</p> <p>Seeds come in all shapes, sizes and colours.</p> <p>A seed is a living thing.</p> <p>Before a seed starts to grow, it is dormant.</p> <p>When a seed germinates, it starts to grow.</p> <p>Germination is the baby plant (embryo) inside a seed waking up and growing.</p> <p>After germination, a plant needs certain conditions to grow and survive.</p> <p>As plants are living things, they grow and reproduce like any other living thing.</p> <p>This process is called a plant life cycle.</p> <p>Seed packets tell us what seeds need to germinate and grow and how to care for a</p>	<p>bulb comparative test conclusion condition diagram dissect dormant energy flower germinate growth leaf life cycle measure nutrient observe seed</p>

	<p>explore gardens and how people use plants to grow food. REAL LIFE LINK: Create and maintain their own garden space in school where they can grow plants from seeds and bulbs and care for them.</p>			<p>young growing plant.</p> <p>Each seed or bulb is a whole new plant, just waiting to grow.</p> <p>A seed contains a baby plant.</p> <p>In order to germinate, the conditions must be right.</p> <p>Five conditions for successful growth are: water, light, a suitable temperature, air and time.</p> <p>The 5 stages in a plant life cycle are: seed, germination, growth, reproduction and dispersal.</p>	
<p>Summer 1 Off we go! Where will our journey take us? Living Things (Habitats)</p>	<p>This theme focuses on the importance of journeys. In science, children explore the different animals and habitats they may come across along different journeys.</p>	<p>explore and compare the differences between things that are living, dead, and things that have never been alive</p> <p>identify that</p>	<p>Ask simple questions, recognising that they can be answered in different ways</p> <p>To classify objects into groups</p> <p>To gather and record data in a simple table</p> <p>To carry out research to find answers to questions</p>	<p>To begin to understand some of the life processes, including movement, reproduction, sensitivity, growth, excretion and nutrition</p> <p>To know the difference between things that are living, dead and things that have never been alive, using some of the life processes</p> <p>To know a variety of plants and animals and describe some differences</p> <p>To name a variety of habitats, including woodland, ocean, rainforest and coastal</p> <p>To know that a habitat is the environment where an animal or plant lives/grows because</p>	<p>alive</p> <p>camouflage</p> <p>classify</p> <p>dead</p> <p>diet</p> <p>analyse</p> <p>carnivore</p> <p>coastal</p> <p>depend</p> <p>energy</p> <p>excretion</p> <p>growth</p> <p>Herbivore</p> <p>hunt</p> <p>mammal</p> <p>nutrition</p>

		<p>most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other</p> <p>identify and name a variety of plants and animals in their habitats, including microhabitats</p> <p>describe how</p>		<p>it provides what they need to survive</p> <p>To know that living things depend upon each other (for food or shelter etc.)</p> <p>To understand that a food chain can be used to show how animals obtain food from eating either plants and/or other animals</p> <p>Identify and classify living things into broad categories, such as plants and animals, and recognise key characteristics that distinguish them from non-living things.</p> <p>Demonstrates the ability to observe and describe different habitats where living things reside, such as forests, grasslands, deserts, oceans, rivers, ponds, and gardens.</p> <p>Understands the concept of interdependence among living things and their habitats, recognizing that living things rely on their environment for food, shelter, water, and other basic needs.</p> <p>Identify some adaptations that living things have developed to survive in their habitats, such as camouflage, hibernation, migration, and specialised body parts.</p> <p>Shows awareness of the importance of protecting habitats and biodiversity, understanding that human activities can impact ecosystems and the need to conserve</p>	<p>food chain habitat life process movement ocean omnivore prey rainforest sensitivity predator producer reproduction shelter woodland</p>
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		<p>animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food</p>		<p>natural resources.</p> <p>All objects are either living, dead or have never lived.</p> <p>There are some things which all living things do and these are called life processes.</p> <p>Animals which hunt and eat other animals are predators. The animals which they eat are their prey.</p> <p>The plants and animals in a habitat are linked in 'food chains'.</p> <p>The arrow in a food chain means 'is eaten by'.</p> <p>The first part of a food chain is always a plant.</p>	
<p>Summer 2 A bug's life</p> <p>Living things (Microhabitats)</p>	<p>This theme focuses on insects and why they are important. In science, children explore the importance of different insects in microhabitats and conduct fieldwork in geography to support a real life study.</p>	<p>identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of</p>	<p>Raising their own simple questions</p> <p>Recognising that there are different types of enquiry</p> <p>Responding to suggestions of how to answer questions</p> <p>Deciding if observations are suitable</p> <p>Observing a simple method</p> <p>Suggesting what might happen</p> <p>Using their senses to describe what</p>	<p>Know a variety of plants and animals and describe some differences</p> <p>Know that a habitat is the environment where an animal or plant lives/grows, because it provides what they need to survive</p> <p>Know that a microhabitat is a very small habitat (under stones, logs and leaf litter)</p> <p>Know that living things depend upon each other (for food, shelter, etc.)</p> <p>Define a microhabitat as a small, specialised habitat within a larger ecosystem and identify</p>	<p>botanist</p> <p>camouflage</p> <p>characteristics</p> <p>classification key</p> <p>classify</p> <p>conclusion</p> <p>data</p> <p>comparative test</p> <p>criteria</p> <p>food chain</p> <p>identify</p> <p>method</p> <p>minibeast</p> <p>results</p> <p>invertebrate</p>

		<p>different kinds of animals and plants, and how they depend on each other</p> <p>identify and name a variety of plants and animals in their habitats, including microhabitats</p>	<p>they notice</p> <p>Recording results using simple observations and tally marks</p> <p>Organising questions to create simple classification keys</p> <p>Using results to answer simple questions</p>	<p>examples such as under a rock, inside a tree stump, or in a rotting log.</p> <p>Demonstrates the ability to observe and describe the characteristics of microhabitats, including factors such as temperature, moisture levels, light availability, and types of plants and animals found there.</p> <p>Understands how living things in microhabitats interact with each other and their environment, such as predators and prey, producers and consumers, and symbiotic relationships.</p> <p>Identify some adaptations that organisms have developed to survive in specific microhabitats, such as camouflage, burrowing behaviour, or specialised feeding habits.</p> <p>Shows awareness of the importance of conserving microhabitats as part of overall ecosystem health and biodiversity, understanding that human activities can impact these small but vital environments.</p> <p>All living things live in places which meet their needs. These places are called habitats.</p> <p>Plants live in habitats where they can grow.</p> <p>Habitats can be very big or very small. Very small habitats are called microhabitats.</p>	<p>microhabitat research</p> <p>species survey</p> <p>tally test</p>
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				We can see different plants and animals in a habitat in different seasons.	
YEAR 3					
Autumn 1 Why is the rainforest important? Plants	This theme is centred around rainforests. After uncovering the structure of a rainforest, children learn about the different types of plants that might be found in the Amazon rainforest and what they need to survive alongside their structure.	Identify and describe the functions of different parts of flowering plants: roots, stem/trunk leaves and flowers Explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant investigate the way in which water is transported within plants	Asking relevant questions and using different types of scientific enquiries to answer them. Setting up simple practical enquiries, comparative and fair tests. Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables. 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. Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.	Plants can grow in many different places, inside and outside. Plants have roots for specific reasons. Roots are integral to the survival of a plant. Roots can adapt to their environment. A stem is integral to the survival of a plant. Flowers have male and female parts. Flowers are an important part of plant reproduction. There are six main ways of dispersing seeds: wind, water, carried by animals, eaten by animals, explosive and drop and roll. All plants need five things for life: light, water, air, nutrients and room to grow. Roots anchor a plant into the ground. Roots absorb water and nutrients. A stem transports water from the roots. A stem supports the plant.	absorb air animal dispersal carrying conclude disperse dropping eating evaluate female flower fruit germination improve leaves life cycle male nutrients petal pollen pollination roots soil seed seed formation shaking space stem/trunk sunlight

		<p>Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal</p>	<p>Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.</p> <p>Using straightforward scientific evidence to answer questions or to support their findings.</p> <p>Identifying differences, similarities or changes related to simple scientific ideas and processes.</p>	<p>Plants can produce their own food using their leaves.</p> <p>This process is called photosynthesis.</p> <p>There are many different parts to a flower. There are five stages in the life cycle of a plant: germination, growing and flowering, pollination, fertilisation and seed formation and seed dispersal.</p>	<p>support</p> <p>testable</p> <p>transport</p> <p>water</p> <p>water dispersal</p> <p>wind dispersal</p>
<p>Autumn 2</p> <p>Rainforest civilisation</p> <p>Light and Shadows</p>	<p>This theme builds upon the last term's theme but focuses more on the human civilisation of the Mayans. Children explore light and shadow in science and relate this to what they know about the different layers of the rainforest.</p>	<p>Recognise that they need light in order to see things and that dark is the absence of light</p> <p>Notice that light is reflected from surfaces</p> <p>Recognise that light from the sun can be dangerous</p>	<p>Beginning to raise further questions during the enquiry</p> <p>Considering what makes a testable question</p> <p>Beginning to recognise that there are different types of enquiry and that they are suitable for different questions</p> <p>Beginning to make suggestions about how different questions could be answered</p> <p>Making predictions about what they think will happen by using scientific knowledge and/or personal</p>	<p>Light travels from a source (e.g. the Sun, light bulbs and torches).</p> <p>Light is needed to see things and that dark is the absence of light.</p> <p>Light from the Sun can be dangerous and how to protect their eyes.</p> <p>All materials reflect light.</p> <p>Shadows form when the light from a light source is blocked by an opaque object.</p> <p>Shadows change as a result of changing the position of the light source and changing the distances between the light source, object and surface.</p>	<p>cast a shadow</p> <p>dangerous</p> <p>light source</p> <p>luminous</p> <p>non-luminous</p> <p>opaque</p> <p>protect</p> <p>reflect</p> <p>reflection</p> <p>reflective (shiny)</p> <p>shadow</p> <p>shadow puppet</p> <p>translucent</p> <p>transparent</p>

		<p>and that there are ways to protect their eyes</p> <p>Recognise that shadows are formed when the light from a light source is blocked by an opaque object</p> <p>Find patterns in the way that the size of shadows change</p>	<p>experience to explain their prediction</p> <p>Using their senses to describe, in more detail and with simple scientific vocabulary, what they notice or what has changed</p> <p>Using standard units to measure and compare</p> <p>Using measuring equipment with increasing accuracy</p> <p>Reading scales with unmarked intervals between numbers</p> <p>Using a prepared table to record results including detailed observations</p> <p>Using tables with more than two columns</p> <p>Identifying and adding headings to tables</p> <p>Beginning to design simple results tables</p> <p>Grouping based on visible characteristics and measurable properties</p> <p>Reading the value of bars with</p>	<p>Shadows change position and length throughout the day as the Sun changes position in the sky.</p> <p>Famous scientists throughout history.</p> <p>A range of jobs and careers use scientific knowledge and methods.</p> <p>There are spiritual, moral, social and cultural links with Science.</p> <p>Methods and equipment used by scientists throughout history and how these have led to modern methods.</p> <p>Scientific knowledge has changed over time, leading to the current understanding of Science.</p> <p>Collaboration and peer reviewing are essential for effective scientific progress.</p> <p>describe basic properties of light, such as its ability to travel in straight lines, reflect off surfaces, and be absorbed by objects.</p> <p>demonstrates an understanding of the movement of the Sun across the sky and how it affects the direction and length of shadows throughout the day, such as shorter shadows at midday and longer shadows in the morning and evening.</p>	
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			<p>greater accuracy</p> <p>Writing a conclusion to summarise findings using simple scientific vocabulary</p> <p>Beginning to suggest how one variable may have affected another</p> <p>Beginning to quote results as evidence of relationships</p> <p>Identifying data that does not fit a pattern (anomalous data)</p> <p>Recognising when results or observations do not match their prediction</p> <p>Beginning to use identified patterns to predict new values or trends</p> <p>Beginning to identify steps in the method that need changing and suggest improvements</p> <p>Beginning to identify which variables were difficult to control and suggesting how better to control them</p> <p>Beginning to identify new questions that would further the enquiry</p>	<p>demonstrate simple experiments or activities to manipulate light and shadows, such as using objects of different shapes and sizes to create shadows, or using mirrors to reflect and redirect light.</p> <p>Objects that give out light are called sources of light.</p> <p>Light sources can be natural or man-made.</p> <p>Light shines from the Sun onto Earth.</p> <p>UVA rays can result in sunburn, ageing and illness.</p> <p>Light travels in a straight line. When light hits an object, it is reflected (bounces off).</p> <p>If the reflected light hits our eyes, we can see the object.</p> <p>Transparent - allows all light to pass through it.</p> <p>Opaque - allows no light to pass through it.</p> <p>Translucent - allows some light to pass through it.</p> <p>Shadows are formed when light is blocked by an object.</p>	
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				<p>The lower the angle of the light source, the longer the shadow that is formed.</p> <p>The closer the object is to a light source - the wider the shadow becomes</p>	
<p>Spring 1 The Stone Age</p> <p>Movement and nutrition</p>	<p>This theme focuses on the Stone Age and how the first human settlers survived without the benefits of modern life. Through science, the children explore what all humans need in order to survive and the importance of a balanced diet.</p>	<p>Identify that animals, including humans, need the right types and amount of nutrition, and they cannot make their own food; they get nutrition from what they eat</p> <p>Identify that humans and some other animals have skeletons and muscles for support, protection and movement</p>	<p>Using standard units to measure and compare</p> <p>Using measuring equipment with increasing accuracy</p> <p>Reading scales with unmarked intervals between numbers</p> <p>Using a prepared table to record results including more detailed observations</p> <p>Writing a conclusion to summarise findings using simple scientific vocabulary</p> <p>Beginning to identify new questions that would further the enquiry</p>	<p>To know that animals can be grouped based on the presence of a skeleton.</p> <p>To know that the skeleton in humans and some animals is used for movement, protection and support.</p> <p>To know that the muscular system in humans and some animals works with the skeleton for movement.</p> <p>Demonstrates an understanding of the muscular system and its role in movement, including how muscles work in pairs to produce movement and how exercise strengthens muscles.</p> <p>To know the main bones in the body.</p> <p>To know that animals, including humans, need the right types and amount of nutrition.</p> <p>To understand that humans cannot make their own food and therefore eat to get the nutrition needed.</p> <p>To know the main food groups (carbohydrates,</p>	<p>balanced diet</p> <p>carbohydrate</p> <p>exoskeleton</p> <p>fibre</p> <p>joint</p> <p>bone</p> <p>endoskeleton</p> <p>fat</p> <p>invertebrate</p> <p>mineral</p> <p>movement</p> <p>nutrient</p> <p>protein</p> <p>support</p> <p>vitamin</p> <p>muscle</p> <p>protection</p> <p>skeleton</p> <p>vertebrate</p> <p>water</p> <p>skeleton</p> <p>bone</p>

				<p>protein, fats, fibre, vitamins, minerals and water) and their simple functions.</p> <p>To know that a balanced diet should include all food groups.</p> <p>To describe the diets of different animals.</p> <p>Understands the importance of regular physical activity for maintaining overall health and well-being, including benefits such as improving strength, flexibility, endurance, and cardiovascular health.</p> <p>Shows awareness of healthy eating habits and can make simple choices to maintain a balanced diet, such as choosing a variety of foods from different food groups and drinking plenty of water</p> <p>The human skeleton is a framework of bones.</p> <p>There are 206 bones in the skeleton of an adult human.</p> <p>Our skeleton supports our bodies.</p> <p>Our skeleton protects vital organs.</p> <p>Our skeleton allows movement of the body.</p> <p>Skeletal muscles work with our bones to allow us to move.</p>	
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				<p>An endoskeleton is found inside the body.</p> <p>An exoskeleton is found outside of the body.</p> <p>Nutrition is the process of providing our body with what it needs.</p> <p>We need to eat a range of different foods in order to do this.</p> <p>Animals, like humans, cannot make their own food.</p> <p>Food chains show what animals eat.</p>	
<p>Spring 2 Sounds Rubbish Sound (Year 4)</p>	<p>This unit investigates sound, how sounds are made, how sound travels to the ear, patterns of pitch and how sounds get fainter the further away you are from the source. They will research junk instruments and how they can create different sounds by causing</p>	<p>identify how sounds are made, associating some of them with something vibrating</p> <p>recognise that vibrations from sounds travel through a medium to</p>	<p>To observe closely how different instruments create a sound</p> <p>Research how cetaceans (whales and dolphins) communicate underwater</p> <p>Present results using a bar chart</p> <p>Suggest which variable to measure and for how long</p> <p>Design simple results tables</p> <p>Identify when results or observations do not match predictions</p>	<p>To know sound is a result of vibrations</p> <p>Know vibrations from sounds travel through mediums to the ear</p> <p>Know an insulating material reduces the amount of vibrations that pass through it and this can be used to protect the ears from damaging sounds</p> <p>Different materials provide different amounts of insulation against sound</p> <p>Know a variety of ways to change the pitch or volume of a sound</p> <p>Know quicker vibrations cause higher-pitched sounds and slower vibrations cause lower-pitched sounds</p>	<p>Air</p> <p>absorb</p> <p>decibel metre</p> <p>eardrum</p> <p>gas</p> <p>high pitch</p> <p>decibels (dB)</p> <p>ear</p> <p>ear protectors</p> <p>hertz (Hz)</p> <p>insulator</p> <p>liquid</p> <p>low pitch</p> <p>medium</p> <p>pitch</p> <p>loud</p> <p>matter</p> <p>musical instrument</p>

	<p>vibrations. REAL LIFE LINK: Create a junk orchestra</p>	<p>the ear</p> <p>find patterns between the pitch of a sound and features of the object that produced it</p> <p>find patterns between the volume of a sound and the strength of the vibrations that produced it</p> <p>recognise that sounds get fainter as the distance from the sound source increases</p>		<p>Know stronger vibrations cause louder sounds and weaker vibrations cause quieter sounds</p> <p>Know sounds get fainter as the distance from the source increases</p> <p>Describe the relationship between volume and distance</p> <p>Describe pitch and how to change it</p> <p>Explain how insulating materials can be used to muffle sound</p> <p>Identify various sources of sound in their environment, including natural sources (such as animals, weather) and human-made sources (such as musical instruments, machines).</p> <p>Understands how sound travels through different mediums (e.g., air, water, solids) and can describe how the speed and loudness of sound can change depending on the medium.</p> <p>The student demonstrates an understanding of basic units used to measure sound, such as decibels (dB), and can relate different sound levels to everyday experiences (e.g., whispering, talking, shouting).</p> <p>Sound is a type of energy.</p>	<p>quiet solid sound sound proofing volume sound vibration volume</p>
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				<p>All sound is made when something vibrates.</p> <p>Sound travels in waves.</p> <p>We can protect our hearing by absorbing unwanted sound.</p> <p>Volume means how loud or quiet a sound is.</p> <p>Different sized vibrations produce sounds of different volumes.</p> <p>Pitch is how high or low a sound is.</p> <p>Pitch is determined by the speed or frequency of the vibrations.</p> <p>Sounds appear to fade as we move further away from the source.</p>	
<p>Summer 1 Ooo la la, vive la France</p> <p>Making connections</p>	<p>This unit is an exploration of France. Children use this time to consolidate science learning from year 3 and before and make connections to their everyday life and the world around them.</p>	<p>Identify that humans and some other animals have skeletons and muscles for support, protection and movement.</p> <p>Explore the part the flower plays in</p>	<p>Carry out a full scientific enquiry - <i>How does hand span affect grip strength?</i></p>	<p>The muscular system in humans and some animals works with the skeleton for movement.</p> <p>To know the main food groups and their simple functions.</p> <p>To know that shadows are formed when the light from a light source is blocked by an opaque object.</p> <p>Flowers are the reproductive organs of a plant.</p> <p>The process of pollination is the transfer of</p>	<p>bar chart bone carbohydrate conclusion evaluate fat flower fruit friction grip strength joint light source material muscle nutrition opaque</p>

		<p>the life cycle of flowering plants, including pollination, seed formation and seed dispersal.</p> <p>Identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat.</p>		<p>pollen to the female (part of the) flower.</p> <p>The process of seed formation is the growth of a seed after pollination.</p>	<p>predict protein seed shadow trustworthy variable</p>
<p>Summer 2 Life on the high seas</p> <p>Forces and magnets</p>	<p>This theme concentrates on the coastal heritage of Plymouth and the South West. In this unit, children explore lights and magnets to better</p>	<p>Compare how things move on different surfaces</p> <p>Notice that some forces need contact between two objects, but magnetic</p>	<p>Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.</p> <p>Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.</p>	<p>To know some examples of contact and non-contact forces.</p> <p>To know that some forces are a result of contact between two surfaces, but some forces can act at a distance (eg magnetism).</p> <p>To know the North and South poles of a magnet.</p>	<p>force contact force non-contact force friction magnetism magnet north pole south pole magnetic material non-magnetic</p>

	<p>understand the navigation element of the theme.</p>	<p>forces can act at a distance</p> <p>Observe how magnets attract or repel each other and attract some materials and not others</p> <p>Compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials</p> <p>Describe magnets as having two poles</p> <p>Predict whether two</p>	<p>Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.</p> <p>Making systematic and careful observations.</p> <p>Using straightforward scientific evidence to answer questions or to support their findings.</p> <p>Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions.</p>	<p>To know some examples of magnetic materials, including iron and nickel, and how they react to a magnet and each other.</p> <p>To know some different examples of magnets, including bar, horseshoe, button and ring.</p> <p>To know some uses of magnets.</p> <p>To know that friction is a contact force that acts between two surfaces to slow an object down.</p> <p>To know that magnetism is a non-contact force that affects objects containing magnetic material.</p> <p>To understand that the opposite poles of a magnet attract one another and like poles repel one another.</p> <p>To know that rougher surfaces have more friction between them than smoother surfaces.</p> <p>To understand that the strength of different magnets may vary.</p> <p>Describe basic properties of magnets, including attraction and repulsion, poles (north and south), and the ability to attract certain materials such as iron, nickel, and cobalt.</p> <p>Describe the concept of magnetic fields and understand that they exert forces on other</p>	<p>material attract repel electromagnet</p>
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		<p>magnets will attract or repel each other, depending on which poles are facing</p>		<p>magnets and magnetic materials within their influence.</p> <p>Demonstrates awareness of practical applications of magnets in everyday life, such as compasses for navigation, refrigerator magnets, magnetic toys, and magnetic closures on doors and cabinets.</p> <p>Understands that magnets exert forces on each other and on magnetic materials, and can identify other types of forces, such as gravity and friction, and describe their effects on objects.</p> <p>A force can cause a change in speed, direction or shape.</p> <p>Friction slows moving objects down.</p> <p>Gravity is a pulling force.</p> <p>All magnets have two poles – a north pole and a south pole.</p> <p>Opposite poles of magnets are attracted to each other.</p> <p>Like poles of magnets repel each other.</p> <p>Materials attracted to magnets are often metals.</p> <p>Not all metal objects are magnetic.</p>	
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				<p>Magnets come in different shapes and sizes.</p> <p>The magnet inside a compass helps people to know the direction they are travelling in.</p>	
YEAR 4					
<p>Autumn 1 The Age of Change</p> <p>Electricity and circuits</p>	<p>This theme focused on the Victorian era and their way of life including changes during the Industrial Revolution. In their science unit, children explore electricity and circuits to better understand the inventions of the time and how they impacted the people's quality of life, both positively and negatively.</p>	<p>Identify common appliances that run on electricity</p> <p>Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers</p> <p>Identify whether or not a lamp will light in a simple series circuit, based on whether or</p>	<p>Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions. Recording findings using simple scientific language and tables.</p> <p>Recording findings using simple scientific diagrams.</p> <p>Setting up simple practical enquiries, comparative and fair tests.</p> <p>Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment.</p> <p>Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions.</p> <p>Identifying differences, similarities or changes related to simple scientific ideas and processes.</p>	<p>To know that all electrical appliances need a power source, including batteries or mains electricity.</p> <p>To know that an electrical circuit needs a complete path for the electrical charge to flow through.</p> <p>To know the main components in a simple series circuit.</p> <p>To know the precautions of working safely with electricity.</p> <p>To know that some materials allow electrical charge to pass through them quickly and these are known as electrical conductors (e.g metals).</p> <p>To know that some materials do not allow electrical charge to pass through them easily and these are known as electrical insulators (eg wood and plastic).</p>	<p>ammeter appliance battery bulb buzzer cell circuit component electrical conductor electrical insulator electricity hazard mains material</p>

		<p>not the lamp is part of a complete loop with a battery</p> <p>Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp light in a simple series circuit</p> <p>Recognise some good conductors and insulators, and associate metals with being good conductors</p>	<p>Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.</p>	<p>To know that metals are used for cables and wires because they are good conductors of electricity.</p> <p>To know that plastic is used to cover cables and wires because it is a good insulator.</p> <p>To understand that an open switch breaks a series circuit so the components will be off/</p> <p>To understand that a closed switch breaks a series circuit so the components will be off.</p> <p>To understand that a closed switch completes a series circuit so the components will be on.</p> <p>To understand the relationship between bulb brightness and the number of bulbs in a circuit.</p> <p>Define electricity as the flow of electric charge (electrons) through a conductor, such as wires, and describe how it is produced by sources such as batteries, generators, and solar cells.</p> <p>Interpret and draw simple circuit diagrams using standard symbols to represent components, and understand how to connect them to form closed circuits.</p> <p>Awareness of electrical safety precautions when working with electricity, such as avoiding contact with live wires, not overloading circuits, and using insulated tools.</p>	
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				<p>Demonstrates awareness of practical applications of electricity in everyday life, such as lighting, heating, communication (telephones, computers), and transportation (electric vehicles).</p> <p>Electricity is a type of energy and powers many things we use every day.</p> <p>Those appliances which use electricity will either be mains powered or battery powered.</p> <p>A circuit needs a power source.</p> <p>A circuit needs wires.</p> <p>A complete circuit allows electricity to flow around the circuit to power components.</p> <p>Adding additional bulbs to a circuit would cause all the bulbs to become dimmer.</p> <p>Adding additional batteries to a circuit would cause a single bulb to become brighter.</p> <p>A switch can be used to complete or break a circuit.</p> <p>A conductor allows an electrical current to pass through it.</p> <p>An insulator does not allow an electrical current to pass through it.</p>	
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<p>Autumn 2 Fire and ice</p> <p>States of matter</p>	<p>This theme centres around volcanoes and mountains. The science unit must be taught first in order to support children to contextualise and better understand the content that follows in geography. During the science unit, the children will become familiar with the effects of cooling, heating and the water cycle which will support them in making links to the causes of natural disasters.</p>	<p>Compare and group materials together, according to whether they are solids, liquids or gases</p> <p>Observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius</p> <p>Identify the part played by evaporation and condensation in the water cycle and associate the</p>	<p>Asking relevant questions and using different types of scientific enquiries to answer them.</p> <p>Use results to draw simple conclusions.</p> <p>Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers.</p> <p>Use results to make predictions for new values.</p> <p>Recording findings using simple scientific language and labelled diagrams.</p> <p>Gathering and presenting data in a variety of ways to help in answering questions.</p>	<p>To know that all substances around us can exist as solids, liquids and gases.</p> <p>To know that a property of a solid is that it keeps its shape unless a force is applied to it.</p> <p>To know that a property of a liquid can flow freely and take on the shape of a container.</p> <p>To know that a property of a gas does not have a fixed shape and can escape an unsealed container.</p> <p>To know that heating causes solids to turn into liquids (melting) and liquids to turn into gases (evaporating).</p> <p>To know that cooling causes gases to turn into liquids (condensing) and liquids to turn into solids (freezing).</p> <p>To know that water can exist as a solid, a liquid or a gas.</p> <p>To know that the melting point of water is zero degrees Celsius and the boiling point of water is 100 degrees Celsius.</p> <p>To know that water flows around the world in a continuous process called the water cycle.</p> <p>To know that in the water cycle, evaporation is when bodies of water are heated and turn into water vapour.</p>	<p>boiling point climate change compress condensation condensing condensing point drought evaporating evaporation rate flood force freezing freezing point melting melting point gas solid liquid</p>
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		rate of evaporation with temperature		<p>To know that in the water cycle, condensation is the process of water vapour cooling to form water droplets in clouds, which can result in precipitation.</p> <p>To know that the rate of evaporation increases as temperature rises.</p> <p>Solids keep their shape and have a fixed volume.</p> <p>Liquids have a fixed volume but change shape to fit a container.</p> <p>Gases have no fixed shape or volume.</p> <p>Freezing is the changing of a state from liquid to a solid.</p> <p>Melting is a change of state from solid to liquid.</p> <p>Some solids melt when they get warm.</p> <p>Ice melts at 0°C.</p> <p>Water boils at 100°C.</p> <p>Evaporation is the change of state from liquid to gas.</p> <p>Condensation is the change of state from gas to liquid.</p>	
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<p>Spring 1 What's eating you?</p> <p>Digestion and food</p>	<p>This theme focuses on the human digestive system and teeth. Science is the main driver of this unit where children explore all the parts of the digestive system and their functions. Children also learn about the different types of teeth and how these give us clues as to the diet of different animals.</p>	<p>Recognise that living things can be grouped in a variety of ways</p> <p>Describe the simple functions of the basic parts of the digestive system in humans</p> <p>Identify the different types of teeth in humans and their simple functions</p> <p>Construct and interpret a variety of food chains, identifying producers, predators and prey</p>	<p>Using results to suggest improvements and raise further questions.</p> <p>Identifying differences, similarities or changes related to simple scientific ideas and processes.</p> <p>Setting up simple practical enquiries and fair tests.</p> <p>Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units.</p> <p>Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions.</p> <p>Recording findings using simple tables and charts.</p> <p>Reporting on findings from enquiries.</p> <p>Using results to suggest improvements and raise further questions.</p>	<p>To know the main organs of the human digestive system (mouth, teeth, tongue, oesophagus, stomach, small and large intestines) and describe their simple functions.</p> <p>To know the different types of human teeth (incisor, canine, premolar and molar) and their simple functions.</p> <p>To know that teeth can be damaged, including the effect of sugary and acidic food.</p> <p>To know that it is important to brush teeth twice a day, make good food choices and visit the dentist regularly.</p> <p>To describe the teeth of carnivores and herbivores, and understand why they are different.</p> <p>To know that predators hunt for their food and prey are the animals being hunted.</p> <p>To know that producers make their own food.</p> <p>To know that food chains begin with a producer followed by consumers, and arrows to show the energy passed on.</p> <p>Shows awareness of the importance of oral hygiene practices, such as brushing and flossing teeth regularly, avoiding sugary foods and drinks, and visiting the dentist for check-ups and cleanings.</p>	<p>absorb canine carnivore digest faeces food chain herbivore incisor large intestine molar premolar mouth oesophagus omnivore predator digestive system</p>
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				<p>Demonstrates knowledge of healthy eating habits that support good digestion and dental health, such as eating a balanced diet with plenty of fruits, vegetables, whole grains, and lean proteins, and drinking water instead of sugary beverages.</p> <p>The different types of teeth are incisors, canines, premolars and molars.</p> <p>We can and will lose our teeth if we do not look after them.</p> <p>Some foods and drinks can damage our teeth more than others.</p> <p>Brushing our teeth can help to limit the damage.</p> <p>Carnivores have teeth designed for eating meat.</p> <p>Herbivores have teeth designed for eating plants.</p> <p>Omnivores have teeth designed for eating both meat and plants.</p> <p>Our digestive system breaks food down so that nutrients can be absorbed into our bloodstream.</p> <p>Our digestive system breaks down food.</p>	
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<p>Spring 2 Lights, camera, action</p> <p>Making connections</p>	<p>This unit investigates what it takes to stage a performance for a live audience. Children use this time to consolidate science learning from year 4 and before and make connections to their everyday life and the world around them.</p>	<p>Compare and group materials together, according to whether they are solids, liquids or gases.</p> <p>Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit.</p> <p>Recognise some common conductors and insulators, and associate metals with being good conductors.</p>	<p>Asking relevant questions and using different types of scientific enquiries to answer them.</p> <p>Setting up simple practical enquiries, comparative and fair tests.</p> <p>Make systematic and careful observations and, where appropriate, taking accurate measurements.</p> <p>Gathering, recording, classifying and presenting data in a variety of ways.</p> <p>Recording findings using simple tables and charts.</p>	<p>How to compare and group materials together, according to whether they are solids, liquids or gases.</p> <p>The part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.</p> <p>To know that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit.</p> <p>To know of some common conductors and insulators, and associate metals with being good conductors.</p> <p>To know the simple functions of the basic parts of the human digestive system in humans.</p> <p>Evaporation is the change of state from liquid to gas.</p> <p>Condensation is the change of state from gas to liquid.</p> <p>Adding additional batteries to a circuit would cause a single bulb to become brighter.</p> <p>A switch can be used to complete or break a circuit.</p> <p>A conductor allows an electrical current to pass through it.</p>	<p>bar chart condensing cell/battery conclusion evaluate evaporating gas insect liquid motor pharmacology pharmacologist precipitation predict solid switch temperature the water cycle trustworthy variable water vapour</p>
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				<p>An insulator does not allow an electrical current to pass through it.</p> <p>Our digestive system breaks food down so that nutrients can be absorbed into our bloodstream.</p> <p>Our digestive system breaks down food.</p>	
<p>Summer 1 Dartmoor Life</p> <p>Rocks, fossils and soils (Year 3)</p>	<p>This theme explores Dartmoor National Park. In science, children explore rocks and soils and use their knowledge to describe their local area, linking to historic uses. Children also learn about fossils and their formation.</p>	<p>Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties</p> <p>Describe in simple terms how fossils are formed when things that have lived are trapped within rock</p> <p>Recognise that soils are made from rocks and</p>	<p>Using their senses to describe, in more detail and with simple scientific vocabulary, what they notice or what has changed</p> <p>Gathering specific information from a source</p> <p>Beginning to draw more scientific diagrams by:</p> <ul style="list-style-type: none"> - Drawing in 2D to produce simple line diagrams - Labelling with more scientific vocabulary <p>Grouping based on visible characteristics and measurable properties</p> <p>Representing data using bar charts</p> <p>Beginning to suggest how one variable may have affected another</p>	<p>Know that rocks can be grouped based on their appearance or properties (e.g. colour, texture, hardness and permeability).</p> <p>Know that rocks may contain grains, crystals or fossils.</p> <p>Know that grains and crystals appear differently and can be used to classify rocks.</p> <p>Know that soils are made from rocks and dead matter.</p> <p>Know the relationship between the properties of rocks and their uses.</p> <p>Know that fossils can form from the remains of living things.</p> <p>Know that rocks can change over time (e.g. erosion and weathering).</p> <p>Demonstrates an understanding of the composition of soil, including mineral particles (sand, silt, clay), organic matter (humus), air,</p>	<p>absorbency</p> <p>bone</p> <p>clay soil</p> <p>fossil</p> <p>acid rain</p> <p>clay</p> <p>crystal</p> <p>era</p> <p>fossil record</p> <p>grain</p> <p>hardness</p> <p>igneous rock</p> <p>lava</p> <p>magma</p> <p>hard</p> <p>impermeable</p> <p>imprint</p> <p>loam soil</p> <p>metamorphic rock</p> <p>mineral</p> <p>organic matter</p> <p>peaty soil</p> <p>rate</p> <p>sandy</p>

		organic matter	<p>Beginning to quote results as evidence of relationships</p> <p>Beginning to use identified patterns to predict new values or trends</p>	<p>and water, and understands how soil is formed through processes such as weathering, erosion, and deposition.</p> <p>Identify and describe the three main types of rocks: sedimentary, igneous, and metamorphic</p> <p>Demonstrates an understanding of basic properties of rocks, including colour, texture (e.g., smooth, rough, grainy), and hardness, and can use these properties to identify and classify rocks.</p> <p>Understands how fossils are formed through processes such as sedimentation, burial, and mineralization, and can describe different types of fossils (e.g., moulds, casts, imprints) and the information they provide about past life forms and environments.</p> <p>Explain the importance of fossils in understanding Earth's history, including the evolution of life forms, changes in environments over time, and the formation of fossil fuels such as coal, oil, and natural gas.</p> <p>There are three types of rock: sedimentary, igneous and metamorphic.</p> <p>Durable means hardwearing.</p> <p>Permeable means to let water or air pass through.</p>	<p>molten rock palaeontologist permeable rock sandy soil sediment sedimentation soft silt soil</p>
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				<p>Those different properties mean that rocks have different uses.</p> <p>Different rocks are used for different purposes.</p> <p>Fossils are the shape of or remains of a plant or animal.</p> <p>Mary Anning is known as an early fossil hunter.</p> <p>These fossils are a result of bones dissolving and the shape being replaced by minerals.</p> <p>Soil is made up of small bits or grains of rock.</p>	
<p>Summer 2 South-west settlement</p> <p>Classification and habitats</p>	<p>This theme builds on Dartmoor Life (Summer 1) by looking at the coastal landscape of the South West. In science, children consider different habitats, including coastal habitats and considers why certain animals and plants can be</p>	<p>Recognise that living things can be grouped in a variety of ways</p> <p>Explore and use classification keys to help group, identify and name a variety of living things in their local and wider</p>	<p>Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions.</p> <p>Recording findings using simple scientific languages, drawings, labelled diagrams, keys, bar charts and tables.</p> <p>Asking relevant questions and using different types of scientific enquiries to answer them.</p> <p>Using straightforward scientific evidence to answer questions or to support their findings.</p>	<p>Several microhabitats can be found within a single habitat.</p> <p>All organisms display the seven characteristics of life.</p> <p>All organisms are suited to live in their natural habitat.</p> <p>Everything we eat can be traced back to a green plant.</p> <p>Food chains show the connections and movement of energy within a single ecosystem.</p> <p>Multiple food chains can be shown together in a food web.</p>	<p>amphibian</p> <p>Carroll diagram</p> <p>characteristics</p> <p>classification key</p> <p>classify</p> <p>conservation</p> <p>conservationist</p> <p>deforestation</p> <p>earthquake</p> <p>endangered flood</p> <p>flowering</p> <p>plants</p> <p>human impact</p> <p>invertebrate</p> <p>observe</p> <p>nature reserve</p> <p>vertebrate</p>

	<p>found there.</p>	<p>environment</p> <p>Recognise that environments can change and that this sometime poses dangers to living things</p> <p>Construct and interpret a variety of food chains, identifying producers, predators and prey</p>		<p>Insects are a type of invertebrate.</p> <p>Crustaceans are a type of invertebrate.</p> <p>Echinoderms are a type of invertebrate.</p> <p>Annelids are a type of invertebrate.</p> <p>Arachnids are a type of invertebrate.</p> <p>Molluscs are a type of invertebrate.</p> <p>Protozoa are a type of invertebrate.</p> <p>A species is a group of animals with similar characteristics.</p> <p>Different species can belong to the same class of animal.</p> <p>Flowering plants include grasses.</p> <p>Non-flowering plants include ferns, mosses and conifers.</p> <p>A change can be positive for the environment.</p> <p>A change can be negative for the environment.</p> <p>We can create a classification key to identify what we see in our local environment.</p> <p>Environmental changes are happening in our local environment.</p>	
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				<p>Some changes will have a negative impact on our local environment.</p> <p>Some changes will have a positive impact on our local environment.</p> <p>We should protect the organisms in our local environment.</p> <p>We can do more to protect those organisms.</p> <p>A habitat is the natural home of a plant or animal.</p> <p>Animals and plants are known as organisms.</p> <p>Food chains show how organisms depend on each other for survival.</p> <p>Vertebrates are animals with a backbone.</p> <p>Mammals are a type of vertebrate.</p> <p>Reptiles are a type of vertebrate.</p> <p>Fish are a type of vertebrate.</p> <p>Birds are a type of vertebrate.</p> <p>Amphibians are a type of vertebrate.</p> <p>Animals without a backbone are called invertebrates.</p> <p>Animals have characteristics which make them</p>	
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				<p>the same, similar or different.</p> <p>We can use characteristics to help us to identify and classify animals.</p> <p>We can classify plants as flowering plants.</p> <p>We can classify plants as non-flowering plants.</p> <p>Carl Linnaeus was a scientist who created two scientific systems for classifying plants and animals and for naming all living things.</p> <p>An environment can change because of something natural.</p> <p>An environment can change because of the actions of humans.</p> <p>There are many different habitats in our local environment.</p> <p>There are many different ecosystems in our local environment.</p> <p>There will be different organisms in our local environment.</p>	
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YEAR 5

Autumn 1 Material Magic Properties and	Science is the main driver in this theme with children	know that some materials will dissolve in	Writing a method including detail about how to ensure control variables are kept the same.	To describe a broader range of materials and their properties, including hardness, solubility, transparency, conductivity and response to magnets.	burning circumference conductor electrical
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<p>changes in materials</p> <p>Mixtures and separation</p>	<p>focusing on materials and their properties. Children learn what changes are irreversible and reversible. This supports children to better understand the role of science and chemistry in their English text of Harry Potter</p>	<p>liquid to form a solution, and describe how to recover a substance from a solution</p> <p>use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating</p> <p>demonstrate that dissolving, mixing and changes of state are reversible changes</p> <p>compare and group together</p>	<p>Making increasingly scientific predictions by:</p> <ul style="list-style-type: none"> - Using previous scientific knowledge and evidence to inform their predictions - Using scientific language to describe a potential outcome or explain why they think something will happen - Making links between topics to evidence a prediction <p>Using standard units to measure and compare with increasing precision (decimals)</p> <p>Suggesting headings to tables, including units</p> <p>Designing results tables with increasing independence with considerations of variables</p> <p>Writing a conclusion to summarise findings using increasingly complex scientific vocabulary</p> <p>Identifying which variable were difficult to control and suggesting how better to control them</p> <p>Commenting on the degree of trust by also reflecting on</p> <ul style="list-style-type: none"> - accuracy 	<p>To know that dissolving, mixing and changes of state are reversible changes.</p> <p>To know that some changes result in the formation of new materials and that these are usually irreversible. (e.g. burning, rusting, the action of acid on bicarbonate of soda.)</p> <p>Identify real-world applications and uses of materials based on their properties, such as:</p> <ul style="list-style-type: none"> - Choosing appropriate materials for specific purposes (e.g., building materials, clothing fabrics, electrical conductors). - Understanding how properties affect the performance and durability of materials in different contexts. <p>To know that some substances will dissolve in a liquid to form a solution.</p> <p>To know the factors that affect the time taken to dissolve, including temperature and stirring.</p> <p>The substance that dissolves is called the solute; it dissolves in a solvent and forms a solution.</p> <p>Neutralisation occurs when an acid reacts with a base.</p> <p>To know that some liquids and solids can be</p>	<p>conductivity</p> <p>freezing</p> <p>change of state</p> <p>condensing</p> <p>dissolve</p> <p>evaporating</p> <p>hard</p> <p>hardness</p> <p>irreversible</p> <p>change</p> <p>light metre</p> <p>mixture</p> <p>property</p> <p>insulator</p> <p>light intensity</p> <p>melting</p> <p>opaque</p> <p>reversible change</p> <p>rust</p> <p>soft</p> <p>trustworthy</p> <p>translucent</p> <p>rusting</p> <p>states of matter</p> <p>thermal</p> <p>conductivity</p> <p>transparent</p> <p>control variable</p> <p>crystallising</p> <p>dissolve</p> <p>evaporation</p> <p>evaporation</p> <p>method</p>
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		<p>everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets</p> <p>give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic</p> <p>explain that some changes result in the formation of</p>	<p>- reliability</p> <p>Gathering answers to open-ended questions from a variety of sources</p> <p>Labelling with a broader range of scientific vocabulary</p> <p>Annotating diagrams to explain concepts and convey opinions</p> <p>Selecting the most appropriate enquiry method to answer question and give justification</p> <p>Using their sense to describe, in detail and with a broader range of scientific vocabulary, what they notice or what has changed</p> <p>Suggesting which variable will be changed, measure and controlled</p> <p>Making and explaining decisions about what observations to make and how long to make them for</p>	<p>separated using sieving, filtering and evaporation and to describe these processes.</p> <p>Materials can exist as a solid, liquid or gas, or a mixture of these.</p> <p>Conductivity is the ability of a material to allow heat or electricity to pass through it.</p> <p>The magnetic field exerts a force that attracts or repels objects.</p> <p>Factors such as temperature and pressure can affect how much solute can be dissolved, and can affect how quickly the solvent dissolves.</p> <p>A mixture is a substance composed of more than one material.</p> <p>Solids can be separated from a mixture through filtration.</p> <p>Solids of different sizes can be separated through sieving.</p> <p>Some changes are irreversible; after the change has happened, we cannot recover the original materials.</p>	<p>filtering insoluble mixture particle sieve sieving soluble solution variable</p>
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		new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda.			
Autumn 2 Ere Be Dragons Imbalance Forces	This theme centres around China and the Shang Dynasty. The science unit helps children understand and contextualise their next unit of science (Earth and Space) which is taught in the next term (Spring 1).	Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object identify the effects of air resistance, water resistance and friction, that act between moving	Reporting and presenting findings from enquiries, including conclusions, casual relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations. 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.	Forces can change the speed of movement. Forces can change the direction of something. Forces can change the shape of something. There are contact and noncontact forces. Gravity has always existed but was officially discovered and described by Isaac Newton. Friction is a contact force. Friction is a pushing force. Sometimes friction is useful and other times it is not useful. Galileo Galilei experimented with gravity and	aerodynamics air resistance amplify balanced contact force density distance effort force friction gear gravity lever load machine mass matter non-contact force pivot pulley

		<p>surfaces</p> <p>recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.</p>		<p>mass.</p> <p>His findings help us to understand air resistance on Earth. There is no air on the Moon and so there is no air resistance.</p> <p>The density of an object impacts the ability to float.</p> <p>Air resistance is a contact force. Streamlined objects and animals reduce the effects of water resistance.</p> <p>Some machines change our force into a larger force or change the direction of a force.</p> <p>There are machines all around us that use levers, pulleys and gears.</p> <p>Forces are pushes and pulls.</p> <p>Forces can be balanced or unbalanced.</p> <p>Friction produces heat.</p> <p>Gravity is a non-contact pulling force.</p> <p>Gravity holds the planets in place in the solar system.</p> <p>Gravity pulls everything towards the Earth.</p> <p>Mass is how much matter there is in an object</p>	<p>streamlining</p> <p>surface area</p> <p>unbalanced</p> <p>water resistance</p>
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				<p>and is measured in kilograms and grams.</p> <p>Weight is the force of gravity on an object and is measured in newtons.</p> <p>Air resistance is a pushing force. It acts on an object travelling through the air.</p> <p>Water resistance is a type of friction that acts in water. It is a contact force and a pushing force.</p> <p>Levers, pulleys and gears are all types of simple machine.</p>	
<p>Spring 1 A history of time and space</p> <p>Earth and Space</p>	<p>This theme focuses on a history of human exploration of space. Science is a key driver in this unit and allows the children to contextualise other learning.</p>	<p>describe the movement of the Earth, and other planets, relative to the Sun in the solar system</p> <p>describe the movement of the Moon relative to the Earth</p> <p>describe the Sun, Earth and Moon as approximatel</p>	<p>Raising questions throughout the enquiry process</p> <p>Identifying testable questions</p> <p>Selecting the most appropriate enquiry method to answer questions and give justification</p> <p>Drawing scientific diagrams by:</p> <ul style="list-style-type: none"> - Using a wider range of standard symbols - Drawing with increasing accuracy - Labelling with a broader range of scientific vocabulary - Annotating diagrams to explain concepts and convey opinions <p>Suggesting headings to tables,</p>	<p>Know the Sun, Earth and Moon are approximately spherical bodies.</p> <p>Know the names, order and relative positions of the planets and other main celestial bodies.</p> <p>Know the moon is a celestial body that orbits a planet and give examples of moons that orbit other planets.</p> <p>Know the tilt of the Earth and its orbit around the Sun causes the seasons.</p> <p>Know the Moon orbits around the Earth.</p> <p>Know how the Earth's rotation causes day and night and the apparent movement of the Sun across the sky.</p>	<p>artificial satellite</p> <p>calibrate</p> <p>climate change</p> <p>daytime</p> <p>Earth</p> <p>axis</p> <p>celestial bodies</p> <p>day</p> <p>data</p> <p>elliptical</p> <p>face</p> <p>force</p> <p>gnomon</p> <p>horizon</p> <p>first quarter</p> <p>moon</p> <p>full moon</p> <p>gravity</p> <p>Jupiter</p>

		<p>y spherical bodies</p> <p>use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky</p> <p>explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object</p>	<p>including units</p> <p>Designing results table with increasing independence with consideration of variables where applicable</p> <p>Using identified patterns to predict new values or trends</p>	<p>Seasons are caused by the Earth orbiting the Sun on its axis.</p> <p>To know about famous scientists throughout history.</p> <p>To know how scientific knowledge has changed over time, leading to the current understanding of Science.</p> <p>To know that mistakes can lead to new discoveries.</p> <p>To know about the work of modern day scientists.</p> <p>To know about science in the news and recent discoveries.</p> <p>To know about the methods and equipment used by scientists throughout history and how these have led to modern methods.</p> <p>Know about current scientific research and what it aims to achieve in the future.</p> <p>To know that collaboration and peer reviewing is essential for effective scientific progress.</p> <p>To know that the Sun is a star at the centre of our Solar System.</p> <p>Know the Earth and other planets orbit around the Sun.</p>	<p>last quarter moon</p> <p>Mercury</p> <p>moon</p> <p>Neptune</p> <p>Mars</p> <p>midday</p> <p>natural satellite</p> <p>new moon</p> <p>night</p> <p>planet</p> <p>orbit</p> <p>reflect</p> <p>phase</p> <p>Pluto</p> <p>Solar System</p> <p>rotate</p> <p>Saturn</p> <p>shadow</p> <p>space</p> <p>spherical</p> <p>summer</p> <p>season</p> <p>space junk</p> <p>star</p> <p>sundial</p> <p>sunrise</p> <p>table</p> <p>Uranus</p> <p>sunset</p> <p>Sun</p> <p>tilt</p> <p>Venus</p> <p>winter</p> <p>year</p>
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				<p>When parts of the Earth are facing the Sun it is their daytime.</p> <p>Parts of Earth facing away from the Sun experience night-time.</p> <p>The Moon is not changing shape, it is our view of the Moon from Earth that is changing.</p> <p>We call the changes the phases of the Moon.</p> <p>There are four inner planets: Mercury, Venus, Earth, Mars.</p> <p>The inner planets are all rocky planets.</p> <p>There are four outer planets.</p> <p>The outer planets are all gas planets.</p>	
<p>Spring 2 Material World</p> <p>Renewable Energy (Teacher made)</p>	<p>This unit involves learning about earth and space, materials and their properties and how this knowledge was used by the USSR and America when endeavouring to be the first</p>	<p>No National Curriculum objectives</p>	<p>Identify and classify different forms of energy depending on renewable or nonrenewable</p> <p>Make observations and relate my findings to the environment.</p> <p>Interpret the impact of renewable or nonrenewable energy over time</p>	<p>Define renewable energy as energy derived from naturally replenished sources and identify different types of renewable energy source</p> <ul style="list-style-type: none"> - solar energy: energy from the Sun captured through solar panels - wind energy: energy generated by wind turbines - hydropower: energy derived from flowing water in rivers or dams - geothermal energy: energy from heat stored beneath the Earth's surface 	<p>renewable energy</p> <p>solar panel</p> <p>wind energy</p> <p>turbine</p> <p>hydroelectric power</p> <p>biomass</p> <p>geothermal energy</p> <p>conservation</p> <p>climate change</p> <p>greenhouse gas</p> <p>fossil fuels</p>

	<p>nation to explore space. It explores the movement of earth and other planets and the solar system, the movement of the moon and how we have night and day.</p>			<p>Demonstrates an understanding of the advantages and benefits of renewable energy compared to non-renewable sources, including:</p> <ul style="list-style-type: none"> - sustainability: renewable energy sources are naturally replenished and can be used indefinitely - environmental benefits: Reduced greenhouse gas emissions, air pollution and dependence on fossil fuels - economic benefit: job creation, energy security and cost savings over time <p>Describe technologies used to harness renewable energy and their applications</p> <ul style="list-style-type: none"> - solar panels - wind turbines - hydropower plants - biomass boilers - geothermal heat pumps <p>Understands the importance of renewable energy in achieving a sustainable future and can discuss potential strategies for increasing its use and reducing reliance on fossil fuels</p> <p>Renewable energy comes from a source that won't run out.</p> <p>Types of renewable energy: Solar energy is power from the sun; Wind energy is power from the wind using wind turbines; hydropower is power from flowing rivers and dams and geothermal is energy</p>	<p>weather social economical carbon dioxide atmosphere</p>
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				<p>from the heat beneath the Earth's surface.</p> <p>Advantages of using renewable energy is that it's there all of the time, it's good for the environment and creates new jobs.</p> <p>To list some of the technologies used to harness renewable energy.</p>	
<p>Summer 1</p> <p>The circle of life</p> <p>Life cycle and reproduction</p>	<p>This theme centres around the circle of life for all forms of life on earth, alongside interconnectivity. The science unit allows children to focus on life cycles of creatures and plants in their locality. They explore other animals and plants and the interdependence of these for survival.</p>	<p>describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird</p> <p>describe the life process of reproduction in some plants and animals.</p>	<p>Raising questions throughout the enquiry process</p> <p>Identifying testable questions</p> <p>Suggesting which variable will be changed, measured and controlled</p> <p>Making and explaining decisions about what observations to make and how long to make them for</p> <p>Using their senses to describe in detail and with broader range of scientific vocabulary, what they notice or what has changed</p> <p>Using standard units to measure and compare with increasing precision (decimals)</p> <p>Using their senses to describe, in detail and with a broader range of scientific vocabulary, what they notice or what has changed</p>	<p>A life cycle shows the changes an animal or plant goes through until the reproduction of a new generation when the cycle starts again</p> <p>All living things must reproduce for the species to survive</p> <p>Sexual reproduction require two parents whereas asexual reproduction only requires one parent</p> <p>There are different processes plants and animals use to reproduce (asexual and sexual reproduction)</p> <p>Define a life cycle as the series of stages through which an organism passes from birth, growth, reproduction, and death, and understand that life cycles vary among different organisms.</p> <p>Describe the life cycles of common organisms, including plants (e.g., flowering plants, conifers) and animals (e.g., mammals, birds, amphibians, insects), and understand adaptations related to their life cycles.</p>	<p>adolescence</p> <p>amphibian</p> <p>bird</p> <p>bulb</p> <p>characteristic</p> <p>adult</p> <p>asexual</p> <p>reproduction</p> <p>birth</p> <p>carnivore</p> <p>chrysalis</p> <p>cocoon</p> <p>egg</p> <p>extrapolating</p> <p>fledgling</p> <p>cuttings</p> <p>estimating</p> <p>fertilisation</p> <p>flowering stage</p> <p>tadpole</p> <p>frog</p> <p>germination</p> <p>gills</p> <p>froglet</p> <p>gestation</p>

			<p>Gathering answers to open-ended questions from a variety of sources</p> <p>Representing data by using line graphs and scatter graphs</p> <p>Plotting points with greater accuracy</p> <p>Reading the value of potted points with greater accuracy</p> <p>Suggesting with increasing independence how one variable may have affected another</p> <p>Quoting relevant data as evidence of relationships</p> <p>Using identified patterns to predict new value or trends</p>	<p>Understands the importance of conserving habitats and biodiversity to ensure the survival of species and their life cycles, and can discuss the impact of human activities on ecosystems and life cycles.</p> <p>Animal classes are different groups of animals: amphibian, bird, reptile, mammal and fish.</p> <p>Vertebrate animals have a backbone.</p> <p>Some invertebrates have an exoskeleton to protect their internal organs.</p> <p>Plants can either reproduce sexually or asexually.</p> <p>In asexual reproduction, the single parent plant produces identical offspring.</p>	<p>hatch</p> <p>hatchling</p> <p>incubation</p> <p>insect</p> <p>larva</p> <p>herbivore</p> <p>infancy</p> <p>juvenile</p> <p>life cycle</p> <p>lungs</p> <p>mating</p> <p>nest</p> <p>mammal</p> <p>line of best fit</p> <p>metamorphosis</p> <p>nestling</p> <p>newborn</p> <p>offspring</p> <p>pollen</p> <p>pupa</p> <p>nymph</p> <p>ovule</p> <p>pollination</p> <p>reproduction</p> <p>seed dispersal</p> <p>seedling</p> <p>sexual</p> <p>reproduction</p> <p>species</p> <p>tuber</p>
<p>Summer 2</p> <p>Powerful planet</p>	<p>This unit looks at natural disasters,</p>	<p>describe the differences in the life cycles</p>	<p>Planning different types of scientific enquiries to answer questions, including recognising and</p>	<p>To know the movement of the Earth, and other planets, relative to the Sun in the solar system.</p>	<p>accurate</p> <p>air resistance</p> <p>asteroid</p>

<p>Human Timeline</p>	<p>conservation and what we can do to make a difference. Children use this time to consolidate science learning from year 5 and before and make connections to their everyday life and the world around them. They will also explore the changes that happen to humans as they age.</p>	<p>of a mammal, an amphibian, an insect and a bird</p> <p>describe the life process of reproduction in some plants and animals</p> <p>describe the changes as humans develop to old age</p>	<p>controlling variables where necessary.</p> <p>Taking measurements with increasing accuracy and precision, taking repeat readings when appropriate.</p> <p>Recording data and results using tables.</p> <p>Use test results to make predictions to set up further comparative and fair tests.</p> <p>Report and present findings from enquiries, including conclusions, casual relationships and explanations of and degree of trusts in results, in oral and written forms.</p> <p>Identify scientific evidence that has been used to support or refute ideas or argument.</p>	<p>The Sun, Earth and Moon are approximately spherical bodies.</p> <p>To know the differences in the life cycles of a mammal, an amphibian, an insect and a bird.</p> <p>To understand how to compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets.</p> <p>Unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object.</p> <p>To know the effects of air resistance, water resistance and friction, that act between moving surfaces.</p> <p>To understand how to use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating.</p> <p>Animal classes are different groups of animals: amphibian, bird, reptile, mammal and fish.</p> <p>To know that the Sun is a star at the centre of our Solar System.</p> <p>Know the Earth and other planets orbit around the Sun.</p>	<p>celestial bodies</p> <p>conclusion</p> <p>crater</p> <p>diameter</p> <p>evaluate</p> <p>fair test</p> <p>force</p> <p>gravity</p> <p>hardness</p> <p>material</p> <p>predict</p> <p>property</p> <p>spherical</p> <p>reliable</p> <p>trustworthy</p> <p>variable</p>
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				<p>Forces are pushes and pulls.</p> <p>Gravity is a non-contact pulling force.</p> <p>Gravity holds the planets in place in the solar system.</p> <p>Gravity pulls everything towards the Earth.</p> <p>Mass is how much matter there is in an object and is measured in kilograms and grams.</p> <p>Weight is the force of gravity on an object and is measured in newtons.</p> <p>Air resistance is a pushing force. It acts on an object travelling through the air.</p> <p>Water resistance is a type of friction that acts in water. It is a contact force and a pushing force.</p> <p>To know that some liquids and solids can be separated using sieving, filtering and evaporation and to describe these processes.</p>	
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YEAR 6

Autumn 1 Conflict and resolution	This theme focuses on World War II. In science, children	recognise that light appears to travel in straight lines	Posing testable questions Selecting the most appropriate enquiry method to answer questions	Luminous objects are seen as a result of light directly entering the eye, whereas non-luminous objects reflect light into the eye.	cast light ray luminous non-luminous
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<p>Light and reflection</p>	<p>investigate light and will be able to reflect on light and the absence of light during WWII.</p>	<p>use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye</p> <p>explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes</p> <p>use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that</p>	<p>and give justification</p> <p>Suggesting which variable will be changed, measured and controlled</p> <p>Writing a method including detail about how to ensure control variables are kept the same</p> <p>Using their sense to describe, in detail an with a broader range of scientific vocabulary, what they notice or what has changed</p> <p>Using standard units to measure and compare with increasing precision (decimals)</p> <p>Reading a wider variety of scales with unmarked intervals between numbers</p> <p>Drawing scientific diagrams with increasing accuracy, labelling with a broader range of scientific vocabulary and annotating diagrams to explain concepts and convey opinions</p> <p>Using tables with columns that allow for repeat readings</p> <p>Calculating the mean average</p> <p>Representing data by using line</p>	<p>Shiny surfaces reflect light uniformly.</p> <p>When light is reflected off a surface, its direction changes.</p> <p>Mirrors and periscopes work using reflection of light on smooth surfaces.</p> <p>There are relationships between light sources, objects and shadows.</p> <p>The distance between the object and the screen affects the size of the shadow.</p> <p>The angle of a reflected ray is affected by the angle of the incoming ray on a smooth surface.</p> <p>Light travels in a straight line from a light source.</p> <p>Light is reflected off objects into our eyes.</p> <p>Light travels in straight lines.</p> <p>Light bounces off a reflective surface and changes direction.</p> <p>Isaac Newton discovered that clear white light is made up of 7 colours.</p> <p>Shadows are formed by blocking light.</p> <p>Shadows have the same shape as the objects</p>	<p>periscope incoming ray light source mirror opaque pupil ray diagram shadow straight reflective</p>
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		cast them	<p>graphs and scatter graphs</p> <p>Plotting points with greater accuracy</p> <p>Reading the value of plotted points with greater accuracy</p> <p>Writing a conclusion to summarise findings using increasingly complex scientific vocabulary</p> <p>Suggesting with increasing independence how one variable may have affected another</p> <p>Identifying anomalies in repeat data and excluding results where appropriate</p> <p>Using identified patterns to predict new values or trends</p> <p>Identifying steps in the method that need changing and suggesting improvements</p> <p>Identifying which variable were difficult to control and suggesting how to control them better</p> <p>Commenting on a degree of trust by reflecting on accuracy and reliability</p>	<p>that cast them as a result of light travelling in straight lines.</p> <p>Light pollution is the unnecessary use of light.</p>	
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<p>Autumn 2 Crime and punishment</p> <p>Evolution and inheritance</p>	<p>This theme focuses on comparing USA to the UK. In science, children learn about fossil records and what information these provide us with, such as the dinosaur remains that have been located in the USA (Texas). Children also learn about plant and animal adaptations to their environment and how these differ between the USA and UK.</p>	<p>recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago</p> <p>recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents</p> <p>identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to</p>	<p>Raising questions throughout the enquiry process.</p> <p>Selecting the most appropriate enquiry method to answer questions and give justification</p> <p>Suggesting which variables will be changed, measured and controlled.</p> <p>Using senses to describe, in detail and with a broader range of scientific vocabulary, what is noticed or what has changed.</p> <p>Using tables with columns that allow for repeat readings.</p> <p>Calculating the mean average.</p> <p>Grouping in a broader range of contexts</p> <p>Suggesting with increasing independence how one variable may have affected another.</p> <p>Quoting relevant data as evidence of relationships.</p> <p>Identifying anomalies in repeat data and excluding results where appropriate.</p>	<p>Living things have changed over time.</p> <p>Fossils provide information about living things that inhabited the Earth millions of years ago.</p> <p>Characteristics are passed from parents to their offspring, but all offspring vary from their parents.</p> <p>Over time, variation in offspring can affect animals' chances of survival in particular environments.</p> <p>Animals and plants have adapted to suit their environment over many millions of years and this process can be called evolution.</p> <p>Know famous scientists throughout history.</p> <p>Know a range of jobs and careers using scientific knowledge and methods.</p> <p>Know the work of modern-day scientists.</p> <p>Know there are spiritual, moral, social and cultural links with Science.</p> <p>Know the methods and equipment used by scientists throughout history and how these have led to modern methods.</p> <p>Know that scientific knowledge has changed over time, leading to the current understanding of Science.</p>	<p>adaptation characteristic environmental evolution fossil ancestor competitor evidence extinct gene habitat natural selection peer review reproduce inherit offspring population scientific theory selective breeding specimen survival of the fittest scientific theory species survival variation</p>
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		<p>evolution.</p>	<p>Comparing individual, class and/or model data to the prediction and recognising when they do not match.</p> <p>Identifying steps in the method that need changing and suggesting improvements.</p> <p>Identifying which variables were difficult to control and suggesting how to control them better.</p> <p>Commenting on the degree of trust by reflecting on accuracy (human error with equipment) and reliability (repeating results).</p> <p>Posing new questions in response to the data that would extend the enquiry.</p>	<p>Know that collaboration and peer reviewing are essential for effective scientific progress.</p> <p>Know that scientific evidence is used to support or refute ideas or arguments.</p> <p>Fossils are the preserved remains or impressions of once living things from the past.</p> <p>Living things have adapted, or changed, over time to be able to survive in their environment.</p> <p>Living things that are better adapted tend to have a greater chance of survival.</p> <p>This process leads to evolution.</p> <p>Living things do not choose to evolve. It happens as a result of environmental changes to their environment.</p> <p>Genes contain the information that gives a living thing its characteristics, or traits.</p> <p>Genes are passed on to us by our parents.</p> <p>Each cell contains chromosomes which are made up of our genetic code, known as our DNA.</p> <p>Humans can choose which plant or animals to combine in order to select particular traits</p>	
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				<p>from different varieties of a species.</p> <p>Living things become extinct when something happens which means they cannot reproduce and so the species dies out.</p> <p>Living things are in danger of extinction today because of the actions of humans.</p>	
<p>Spring 1 Crime and punishment</p> <p>Energy: Circuits, batteries and switches</p>	<p>Children then continue on from Autumn 2. In science, children explore circuits, including voltage, batteries and bulb brightness.</p>	<p>Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit</p> <p>compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches</p>	<p>Suggesting which variables will be changed, measured and controlled.</p> <p>Writing a method including details about ensuring control variables are kept the same.</p> <p>Writing a method that considers reliability by planning repeated readings.</p> <p>Suggesting the most appropriate equipment to make observations and measurements and justifying their choices.</p> <p>Using previous scientific knowledge and evidence to inform their predictions.</p> <p>Using scientific language to describe a potential outcome or explain why they think something will happen.</p> <p>Using their senses to describe, in</p>	<p>Know a variety of components in a series circuit (including buzzer and motor).</p> <p>Know the voltage of a circuit can be changed and this affects bulb brightness (or buzzer volume).</p> <p>Know a range of jobs and careers that use scientific knowledge and methods.</p> <p>Know how scientific evidence is used to support or refute ideas or arguments.</p> <p>Define an electrical circuit as a closed loop or pathway through which electricity can flow, consisting of a power source, conductors, and components.</p> <p>Demonstrates an understanding of the basic components of electrical circuits, including power sources (such as batteries or mains electricity), conductors (such as wires), switches, bulbs, and resistors.</p> <p>Interpret and draw circuit symbols and</p>	<p>ammeter</p> <p>battery</p> <p>buzzer</p> <p>circuit</p> <p>component</p> <p>appliance</p> <p>bulb</p> <p>cell</p> <p>circuit diagram</p> <p>current</p> <p>electricity</p> <p>power source</p> <p>switch</p> <p>voltmeter</p> <p>motor</p> <p>resistance</p> <p>voltage</p> <p>wire</p>

		<p>use recognised symbols when representing a simple circuit in a diagram</p>	<p>detail and with a broader range of scientific vocabulary, what they notice or what has changed.</p> <p>Using standard units to measure and compare with increasing precision (decimals).</p> <p>Reading a wider variety of scales with unmarked intervals between numbers.</p> <p>Drawing scientific diagrams by using a wider range of standard symbols and drawing with increasing accuracy.</p> <p>Using tables with columns that allow for repeat readings.</p> <p>Suggesting headings to tables, including units.</p> <p>Designing results tables with increasing independence with consideration of variables where applicable.</p> <p>Calculating the mean average.</p> <p>Writing a conclusion to summarise findings using increasingly complex scientific vocabulary.</p> <p>Suggesting with increasing</p>	<p>diagrams representing different components and configurations, including series and parallel circuits.</p> <p>Understands the differences between series and parallel circuits, including how components are connected and the effects on current, voltage, and resistance.</p> <p>Shows awareness of electrical safety precautions when working with circuits, such as turning off power sources before making changes, using insulated tools, and avoiding overloading circuits</p> <p>Can troubleshoot simple circuit problems, such as identifying faulty components or connections.</p> <p>Know conventions are used to draw circuit diagrams, including the recognised symbols for common components and using straight lines.</p> <p>Electricity is a type of energy that is used to power electrical items.</p> <p>Rather than drawing detailed electrical circuits, they are represented in simple diagrams (with straight lines).</p> <p>In a series circuit, electricity flows along one pathway and passes through every component one after the other.</p>	
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			<p>independence how one variable may have affected another.</p> <p>Quoting relevant data as evidence of relationships.</p> <p>Identifying anomalies in repeat data and excluding results where appropriate.</p> <p>Comparing individual, class and/or model data to the prediction and recognising when they do not match.</p> <p>Using identified patterns to predict new values or trends.</p> <p>Identifying steps in the method that need changing and suggesting improvements.</p> <p>Identifying which variables were difficult to control and suggesting how to control them better.</p>	<p>A parallel circuit has branches.</p> <p>Unlike a series circuit, electricity can flow around a parallel circuit along multiple pathways.</p> <p>Voltage measures the power of an electrical current.</p> <p>Insulating materials are used to cover electrical appliances to protect us from the electrical current.</p>	
<p>Spring 2 Hearts and minds</p> <p>Circulation and health</p>	<p>This theme explores what it is to have a healthy mind and body as well as the consequences of not doing this.</p>	<p>identify and name the main parts of the human circulatory system, and describe the functions of</p>	<p>Reporting and presenting findings from enquiries, including conclusions, casual relationships and explanations of and a degree of trust in results, in oral and written forms such as displays and other presentations.</p>	<p>Plasma is a straw-coloured liquid carrying the different types of cell.</p> <p>Platelets clot the holes in blood if you graze or injure yourself.</p> <p>The heart has 4 main chambers.</p>	<p>absorbs arteries balanced diet blood blood cells bloodstream blood vessels carbon dioxide</p>

	<p>In science, they achieve this by looking at the importance of diet, exercise, drugs and lifestyle on the body as well as nutrient and vitamin requirements. They then go on to study how their mental wellbeing is just as important as their physical well being.</p>	<p>the heart, blood vessels and blood</p> <p>recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function</p> <p>describe the ways in which nutrients and water are transported within animals, including humans</p>	<p>Identifying scientific evidence that has been used to support or refute ideas or arguments.</p> <p>Using test results to make predictions to set up further comparative and fair tests.</p> <p>Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.</p> <p>Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.</p> <p>Taking measurements, using a range of scientific equipment , with increasing accuracy and precision, taking repeat readings when appropriate.</p>	<p>Valves ensure the blood travels in only one direction.</p> <p>Our bodies require many nutrients to keep our bodies fit and healthy. 5 key food groups needed: carbohydrates, proteins, fats, vitamins and minerals.</p> <p>Heart rate is how many times your heart beats in one minute.</p> <p>All drugs can have long term effects on the body if they are overused.</p> <p>Blood is made up of 4 main components: red blood cells, white blood cells, plasma and platelets.</p> <p>Red blood cells carry oxygen around our body.</p> <p>White blood cells fight off disease and infection.</p> <p>Lungs infuse blood with oxygen and exhale the waste product carbon dioxide.</p> <p>Blood vessels distribute blood throughout the body.</p> <p>Regular exercise strengthens the cardiovascular system - increasing oxygen distribution around the body.</p> <p>All drugs can become addictive.</p>	<p>cell chambers circulatory system diet drug exercise fitness health heart heart rate lifestyle lungs mass nutrient organs oxygen pulse pump (verb) rate resting heart rate transport veins water</p>
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<p>Summer 1 Make a difference- Who made the most significant impact/change in the 20th century?</p> <p>Living things: Classification big and small</p>	<p>This theme focuses around heroes. Children explore who their heroes are and why before exploring other heroes who have impacted the 20th century. In science, children explore how things are classified into broad groups using common observable features and other specific characteristics.</p>	<p>describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including microorganisms, plants and animals</p> <p>give reasons for classifying plants and animals based on specific characteristics</p>	<p>Grouping in a broader range of contexts</p> <p>Organising the layout of number and branching keys</p> <p>Formulating appropriate questions for classification keys</p>	<p>To know that 'organism' is a term used to refer to an individual living thing</p> <p>To know that microorganisms are incredibly small and cannot usually be seen by the naked eye</p> <p>To know the characteristics of the different groups of vertebrate and commonly found invertebrates</p> <p>To know about famous scientists throughout history</p> <p>Define classification as the process of grouping objects or organisms based on similarities and differences in their characteristics.</p> <p>Understands that there are different classification systems used to categorise living things, such as the traditional Linnaean system and more modern systems based on evolutionary relationships, and can compare and contrast these systems.</p> <p>Apply classification principles to group and categorise organisms based on given criteria, such as sorting animals into vertebrates and invertebrates, or plants into flowering and non-flowering.</p> <p>Classification is the process of arranging organisms, both living and extinct, into groups based on similar characteristics.</p>	<p>amphibian bird classify cold-blooded exoskeleton binomial system characteristic classification key conifer fern fish insect life process Mammal microscopic flowering plant invertebrate Linnaean system microorganism moss organism snail vertebrate worm reptile spider warm-blooded</p>
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<p>Summer 2</p> <p>Where have we come from?</p> <p>Where are we going?</p> <p>Making connections</p>	<p>This unit looks at the locality of the school, city centre and Stonehouse in the past and gives children the chance to research Plymouth in the past. Children use this time to consolidate science learning from year 6 and</p>	<p>Recognise the impact of diet, exercise, drugs and lifestyle on the way a body functions.</p> <p>Use the idea that light travels in straight lines to explain that objects are seen</p>	<p>Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.</p> <p>Taking measurements.</p> <p>Recording data and results.</p> <p>Use test results to make predictions to set up further comparative and fair tests.</p> <p>Reporting and presenting findings</p>	<p>To know the characteristics of the different groups of vertebrates and commonly found invertebrates.</p> <p>When light is reflected off a surface, its direction changes.</p> <p>Luminous objects are seen as a result of light directly entering the eye, whereas non-luminous objects reflect light into the eye.</p> <p>Characteristics are passed from parents to their offspring, but all offspring vary from their parents.</p>	<p>adaptation</p> <p>amphibian</p> <p>bar chart</p> <p>bird</p> <p>bulb</p> <p>characteristic</p> <p>circuit</p> <p>circuit diagram</p> <p>classify</p> <p>component</p> <p>conclusion</p> <p>control variable</p> <p>electrical circuit</p> <p>evaluate</p> <p>evidence</p>

	<p>before and make connections to their everyday life and the world around them.</p>	<p>because they give out or reflect light into the eye</p> <p>Explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes.</p> <p>Associate the brightness of the lamp with the number of voltage cells used in the circuit.</p> <p>Compare and give reasons for variations in how components function.</p> <p>Use recognised</p>	<p>from enquiries, including conclusions, casual relationships and explanations of and a degree of trust in results, in oral and written forms such as displays and other presentations.</p>	<p>Animals and plants have adapted to suit their environment over many millions of years and this process can be called evolution.</p> <p>Over time, variation in offspring can affect animals' chances of survival in particular environments.</p> <p>A variety of components in a series circuit (including buzzer and motor).</p> <p>Conventions are used to draw circuit diagrams, including the recognised symbols for common components and using straight lines.</p> <p>To know the impact of diet, exercise, drugs and lifestyle on the way a body functions.</p> <p>A vertebrate is an animal with a backbone.</p> <p>An invertebrate is an animal without a backbone .</p> <p>Living things have adapted, or changed, over time to be able to survive in their environment.</p> <p>Genes contain the information that gives a living thing its characteristics, or traits.</p> <p>Genes are passed on to us by our parents.</p> <p>Regular exercise strengthens the cardiovascular system - increasing oxygen distribution around the body.</p>	<p>fish habitat health inherit insect invertebrate lifestyle light ray light source luminous mammal method opaque predict reflection refute reptile support translucent transparent trustworthy ultraviolet unit variable vertebrate</p>
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		symbols when representing a simple circuit in a diagram.		<p>All drugs can become addictive.</p> <p>Light travels in a straight line from a light source.</p> <p>Light is reflected off objects into our eyes.</p> <p>Light travels in straight lines.</p> <p>Light bounces off a reflective surface and changes direction.</p>	
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