



Science Long Term Plan

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Nursery	Seasonal Change Comparing Self with Others (families) Caring for the Environment	Light and Dark (Diwali)	Seasonal Change Keeping Healthy Melting Freezing Heating	Cookery Water Play Life Cycles	Seasonal Change Planting Environment Life Cycles	How Toys Work Using Metal Detectors Melting and Freezing Making Healthy Foods
Reception	Seasonal Change Comparing Self with Others Caring for the Environment	Light and Shadows	Dental Hygiene Melting Freezing Heating Seasonal Change	Cookery Using Metal Detectors Water Play	Life Cycles Growing Seasonal Change	How Toys Work Melting and Freezing Making Healthy Foods
	<p>Early Learning Goals - Exploring the Natural World 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. Safely use and explore a variety of materials</p>					
Year 1	<p>Seasonal changes and daily weather</p> <p>What are the four seasons?</p> <p>What's the weather like in Autumn, Winter, Spring and Summer?</p> <p>Why does day become night?</p> <p>What makes a tree?</p> <p>What trees live around my school?</p> <p>What's the difference between trees?</p>	<p>Animals, including humans</p> <p>What is an animal?</p> <p>What types of animals are there?</p> <p>What is similar and what is different?</p> <p>What does food tell us about an animal?</p> <p>What makes me an animal?</p> <p>What senses do I have?</p>	<p>Introducing Materials</p> <p>What are materials?</p> <p>What are things made of in school?</p> <p>How can I describe materials?</p> <p>Which materials are waterproof and which are not?</p> <p>Which materials are transparent and which are opaque?</p>	<p>Revisit Animals including humans</p> <p>What's the best material for the job? Why?</p> <p>Revisit and name it</p> <p>Describe it</p> <p>Sort it</p>	<p>Plants</p> <p>What are the parts of a plant?</p> <p>What are wild plants and where do you find them?</p> <p>What are garden plants and where do you find them?</p>	<p>Revisit Plants, Animals including humans, Seasonal change and weather</p> <p>Animals, including humans Remember it</p> <p>Animals, including humans Elaborate it</p> <p>Plants Remember it</p>
	<p>Seasonal Change: Observe changes across the 4 seasons observe and describe weather associated with the seasons and how day length varies</p>					

<p>Year 2</p>	<p>Living Things and Their Habitats</p> <p>What is alive and what is not? What do all living things have in common? Where do plants and animals live? What plants and animals live in our local environment? What are food chains? How are they connected? Why do plants and animals need each other?</p> <p>REMEMBER: what is an animal?</p>	<p>Animals, including humans</p> <p>How do animals change as they mature? How do we change as we mature? What do all animals need to stay alive? Keeping healthy: why do we exercise? Keeping healthy: why do we eat different types of food?</p>	<p>Uses of Everyday Materials</p> <p>What are materials used for? Categorise and compare wood, metal, plastic and glass. What are materials used for? Categorise and compare ceramics, rock, paper and card, and fabric. What happens when we squash, bend, twist or stretch a material? What's the right material for the job? What's the best absorbent material?</p>	<p>Revisit Living things and their habitats / materials</p> <p>Who invented waterproofing? What is it made from? Revisit Living things and their habitats / materials Compare: what is alive, what is not alive and what has never been alive? What materials do our pets have or need? Why is that?</p>	<p>Plants</p> <p>How do seeds germinate and what happens? What happens when bulbs sprout? What do plants need to thrive and be healthy? What can happen if plants don't get the things they need? What do I notice about plants around the school? How are they healthy? How are they unhealthy?</p>	<p>Plants</p> <p>Show what you know. How do seeds and bulbs grow? What do plants need to be healthy? Revisit Living things and their habitats / Animals, including humans How do seeds and bulbs grow? What do I know about animals, including humans? What do plants need to thrive and be healthy?</p>
<p>Year 3</p>	<p>Rocks</p> <p>How are rocks formed? What types of rocks are there? How can we test a rock to see if it is limestone DT or chalk? Is soil just dirt? What makes soil? How are fossils formed?</p>	<p>Animals, including human</p> <p>What effect does the food we eat have? Where is my skeleton and what does it do? Where are my muscles and what do they do?</p> <p>Revisit Rocks</p> <p>How are rocks formed and what types are there? Remember: how can rocks change? Remember: how are fossils formed and how do we know?</p>	<p>Forces and magnets</p> <p>What are contact forces? How do surfaces affect the motion of an object? How does friction affect moving objects? What is a non-contact force? How is this different to a contact force? How do magnets attract and repel?</p>	<p>Plants</p> <p>Which materials are magnetic? What are the parts of a flowering plant? What do they do? Do all plants need the same things to thrive and grow? How do leaves make food for the plant?</p>	<p>Plants</p> <p>How does water move through a plant? What do flowers do? What is pollination?</p>	<p>Light</p> <p>Do we need light to see things? Remember: what are light sources and what are not light sources? How are shadows formed? What happens to the size of a shadow when the object moves closer to, or away?</p>
<p>Year 4</p>	<p>Living things and their habitat</p> <p>What are the characteristics of living things? What animals are vertebrates? What animals are invertebrates? What groups are plants classified in?</p>	<p>States of matter</p> <p>What is matter? What does 'state' mean? What are solids, liquids and gases? Melting: how do materials change state?</p>	<p>Animals, including humans</p> <p>What teeth do humans have? What do they do? How does our mouth and teeth help digestion? What's the process? Can teeth tell us what animals eat?</p>	<p>Animals Including humans</p> <p>How does digestion work? What's the process? What are food chains? How do they work? How do I construct and interpret a food chain?</p>	<p>Electricity</p> <p>What appliances use electricity? What sort of power makes them work? What are the components in a simple series circuit?</p>	<p>Sound</p> <p>What is sound? How does sound travel? What is the pitch and loudness of sound?</p>

	<p>What is classification?</p> <p>How do I use a key?</p> <p>What happens if the environment in a habitat changes?</p>	<p>Evaporating: how do materials change state?</p> <p>Condensing: how do materials change state?</p> <p>Summary: how do materials change their state of matter?</p>	<p>What are the parts of the digestive system?</p> <p>How does digestion work? What's the process?</p>	<p>SUMMARY How are teeth, digestion and food chains connected?</p>	<p>What are the effects of changing circuit components and batteries?</p>	
Year 5	<p>Properties and changes of materials</p> <p>What properties do materials have?</p> <p>How do we use them?</p> <p>What is a solution and what is a mixture?</p> <p>How can we separate materials from a mixture?</p> <p>How can we separate materials from a solution?</p> <p>What changes are reversible?</p> <p>What changes are irreversible?</p>	<p>Animals, including humans</p> <p>What is the human timeline?</p> <p>How do we change into adults?</p> <p>How do human and animal lifespans compare?</p>	<p>Forces</p> <p>Remember gravity: when is friction helpful and when is it not?</p> <p>What's the effect of air resistance?</p> <p>What's the effect of water resistance? A</p> <p>Who was Galileo Galilei?</p>	<p>Earth and Space</p> <p>What are the planets in our solar system?</p> <p>How does our view of the moon change in a lunar month?</p> <p>Why does the rotation of Earth result in night and day?</p> <p>Why is the Earth's tilt (axis) responsible for the seasons?</p> <p>Review, summarise and present what you know about Earth and Space.</p>	<p>Living things sand their habitats</p> <p>Life cycle differences – what's the difference between a mammal and an amphibian?</p> <p>Life cycle differences – what's the difference between an insect and a bird?</p> <p>What is similar and what is different between the life cycles of a mammal, an insect, an amphibian and a bird?</p> <p>Summer birds – who was Maria Merion and what did she do?</p> <p>The science of life - how do living things reproduce?</p>	<p>Living things sand their habitats</p> <p>Plants and animals: what's the life process of reproduction?</p> <p>Forces continued</p> <p>How do levers help us?</p> <p>How do pulleys and gears help us?</p>
Year 6	<p>Electricity</p> <p>What is electricity?</p> <p>How does it work?</p> <p>What are the components in a series circuit?</p> <p>What are the effects and consequences of changing circuit components and batteries?</p> <p>Animals including humans</p> <p>What is blood made of and why do we need it?</p> <p>Why do our bodies need nutrients and how are they transported?</p>	<p>Animals including humans</p> <p>What is our circulatory system?</p> <p>What is our heart like inside? How does it work?</p> <p>Who influenced what we know about our circulatory system?</p> <p>What can we do to keep healthy?</p> <p>Present and explain what we know about the circulatory system, nutrients and keeping healthy.</p>	<p>Animals, including humans</p> <p>Remember circulation and digestion: how are these two systems connected?</p> <p>Where are the kidneys and what do they do?</p> <p>How do kidneys keep us healthy?</p>	<p>Light</p> <p>How does light travel?</p> <p>What colour is light made of?</p> <p>Reflection - how does light help us to see objects?</p> <p>Which surfaces make the best reflectors?</p> <p>Why do we see objects as a particular colour?</p> <p>What happens to the appearance of objects when placed in water?</p>	<p>Living things and their habitats</p> <p>Who was the scientist Carl Linnaeus and what did he do?</p> <p>How do we classify vertebrates?</p> <p>How do we classify invertebrates we know?</p> <p>How do we classify invertebrates we don't know? (Sponges, Jellyfish and Flatworms)</p> <p>What are microorganisms?</p>	<p>Living things and their habitats</p> <p>How do we classify plants?</p> <p>Evolution and inheritance</p> <p>How have living things changed over time? How do we know?</p> <p>How has life evolved over time?</p> <p>What is DNA and what does it do?</p> <p>Are all offspring identical to their parents?</p> <p>Darwin and Wallace – what evidence did they share to argue the case for evolution?</p>

						Survival of the fittest - how have animals adapted and evolved to suit their environment?
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