The Beeches Community Primary School
Science Long Term Plan 2025/2026

	Autumn		Spring		Summer	
Nursery 1	 How many colours in a rainbow? How many colours in a rainbow? What happens when you mix red and blue? Explore these questions and more in this project about colours in the natural and man-made world.	 Why do leaves go crispy? What is inside a conker? Explore these questions and more in this project about autumn.	 Where does snow go? Why does snow melt? How can we keep warm? Explore these questions and more in this project about winter.	 Can we explore it? Where can we hide? Explore these questions and more in this project about holes, hiding spaces and great adventures in far away places.	 Creep, Crawl and Wiggle • Plants need looking after • Minibeasts is a name for animals such as insects, spiders and snails. • Caterpillars change as they grow.	 How many pebbles on the beach? • We walk on the land • The sea is made up of water. • Some animals live in the sea and some live on the land and some can do both. • It is important not to litter as this can hurt animals
Nursery 2	 Me and My Community • As we get older we grow and change • When we are babies we need lots of help but as we get older we don't need as much help • We should look after the environment including putting rubbish in the bin	 Once Upon a Time • Objects are made from materials • Materials feel different • Materials have different names • Materials can be sorted into groups (colour, size etc)	 Starry Night This project explores the differences in the world at night compared to during the day. It teaches children about the importance of a good night's sleep, and helps them to discover what is happening in the world while they are sleeping, including finding out about nocturnal	 Dangerous Dinosaurs This exciting project teaches children about the different animals that roamed Earth millions of years ago and how they are related to animals that live on Earth today.	 Sunshine and Sunflowers This seasonal project provides opportunities for outdoor learning and teaches children how to care for the plants and animals in their local environment and how to stay safe in the sun.	 Big Wide World This project teaches children about the global community to which they belong and explores how living things, communities and climates differ around the world.

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			animals.			
Reception	 Let's Explore • Materials have different textures and can feel soft, hard, rough, smooth • Different animals live in different places	 Marvellous Machines This interest-led project teaches children about the technology that is part of their daily lives and how machines help us. The project gives children the opportunity to build and create marvellous machines.	 Long Ago • Machines need power • Batteries give power to some devices • Some materials are magnetic	 Ready Steady Grow This project teaches children about food and farming and explores themes, including where food comes from, what plants and animals need to grow and survive	 Animal Safari • Some animals are pets • Pets need food, water, sleep, exercise and play • Some animals lay eggs • Animals can be grouped e.g. birds • Young and adult animals do not always look the same	 On the Beach • A beach is pebbly or sandy • The shore is where the land and the sea meet • Some animals live by the seashore e.g. seabirds, crabs, starfish • Animals live in different places • A rockpool is a place where animals can live near the sea

Year 1	
	Human Senses
	• Humans are living things
	• They have 5 senses: Sight, hearing, taste, touch, smell
	• Humans are mammals
	• Body parts
	  ○ Head
	  ○ Arm
	  ○ Leg
		
		Everyday Materials
		• A material is what something is made from
		• Materials
		  ○ Wood
		  ○ Plastic
		  ○ Glass
		  ○ Metal
		  ○ Water
		  ○ Rock
		  ○ Fabric
			
			Seasonal Changes
			• There are 4 seasons which are a cycle
			  ○ Spring
			  ○ Summer
			  ○ Autumn
			  ○ Winter
			• There are weather patterns linked to each season
			• The environment changes according to the seasons
			• How to stay safe in different seasons
				
				Plant Parts
				• Plants provide food for humans and other animals
				• Plant parts
				  ○ Root
				  ○ Stem
				  ○ Leaf
				  ○ Flower
				  ○ Petal
					
					Animal Parts
					• Animals are living things and include fish, amphibians, invertebrates, mammals and birds.
					• Living things need water, food, warmth and shelter.
					• Carnivores, herbivores and omnivores.

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	○ Nose ○ Eyes ○ Ears ○ Mouth ○ Hands ○ Feet • How to keep my body safe	• Materials have properties ○ Hard ○ Soft ○ Rough ○ Smooth ○ Rigid ○ Bendy		• Plants grow from seed or bulbs	
Year 2	 Human survival • Humans grow and change ○ Baby ○ Toddler ○ Teenager ○ Adult ○ Elderly • Humans need water, food, air and shelter to survive. • Humans need a healthy lifestyle with balanced diet, sleep and hygiene. • An unhealthy lifestyle can lead to illness, obesity, tooth decay and mental health problems.	 Habitats • A habitat is a place such as a beach or a woodland where plants and animals live and provides food, water, shelter and space. • Living things are alive. • Dead things were alive. • Some things have never been alive. • Seven life processes of living things are: ○ Moving ○ Breathing ○ Use of senses ○ Feeding ○ Getting rid of waste ○ Having offspring ○ growing	 Animal survival • Invertebrates are animals without a backbone • Herbivores eat plants • Carnivores eat meat • Omnivores eat plants and meat • Food chains show how living things depend on one another for food • Animals are born or hatch from eggs • Young animals grow into adults • Many animals behave differently in different seasons	 Uses of materials • Materials can be natural or man-made • Materials have properties that make them suitable for different purposes • Some materials can be changed by squashing, bending, twisting and stretching • Materials can be Opaque, Translucent and Transparent • Conservation activities protect the environment for people in the future	 Plant survival • Plants can provide food, shelter and materials. • Plants need water, light and a suitable temperature to grow and stay healthy • Many plants grow from seeds or bulbs • Plants have: ○ Root ○ Stem ○ Leaf ○ Flower ○ Petal ○ Fruit

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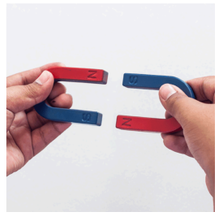
		• Food chains show how living things depend on one another for food • Know that carnivores just eat other animals • Know that herbivores just eat plants • Know that omnivores eat plants <u>and</u> animals			

Year 3	
	[Forces and Magnets]
	• Forces cause objects to move, change speed or shape
	• Friction is a force between 2 surfaces which slows moving objects
	• Magnetism is a non-contact force which can attract or repel
	• Magnets as having two poles - north and south
	• Magnets will attract or repel each other, depending on which poles are facing.
	• Magnetic materials
	  ◦ Iron
	  ◦ Cobalt
	  ◦ Nickel
	  ◦ Steel
	• Non-magnetic materials
	  ◦ Paper
	  ◦ Plastic
	  ◦ Glass
	  ◦ Wood
		
		[Skeletal and Muscular Systems]
		• Know that carnivores just eat other animals
		• Know that herbivores just eat plants
		• Know that omnivores eat plants and animals
		• Many plants grow from seeds and bulbs
		• Plants have:
		  ◦ Root
		  ◦ Stem
		  ◦ Leaf
		  ◦ Flower
		  ◦ Petal
		  ◦ Fruit
		  ▪ Plants are living things because they grow, take in water and nutrients and reproduce.
		  ◦ Plants need:
		  ◦ Air
		  ◦ Light
		  ◦ Water
		  ◦ Nutrients
		  ◦ Room to grow to survive
		• Nutrition is the life process of making or finding food to
			
			[Plant Nutrition and Reproduction]
			Plant parts have a purpose:
			• Roots - anchor the plant and transport water and nutrients from the ground to the plant
			• Stem / trunk - to support the plant above the ground
			• Leaves - collect energy from the Sun and make food
			• Flowers / fruit - to make seeds to produce new plants
			
			Stages of a plant's life cycle
				
				[Light and Shadows]
				• Shadow is an area of darkness created by blocked light
				• Light is a form of energy which travels in straight lines
				• The main natural light source on Earth is The Sun.
				• The Sun can be damaging to vision and skin.
				• Light can be reflected on surfaces
				• Opaque, Translucent and Transparent materials create different shadows.

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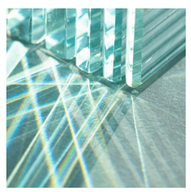
			eat • Humans must eat food and drink water to gain the nutrients they need to survive • Humans have a skeleton and muscles for movement to protect and support internal organs • A joint is where two or more bones meet and connect, parts of the body can bend because there are joints • Muscles are soft tissue made up of stretchy fibres • Muscles allow us to breathe, move and digest food • The main three types of muscles inside the body are skeletal, cardiac and smooth	• Germination • Flower production • Pollination • Fertilisation • Seed formation • Seed dispersal	
Year 4	 Food and the Digestive System • The digestive system digests food and absorbs nutrients and water into the body. • To know the key functions of body parts involved in the digestive system: ◦ Teeth - to break food up into smaller parts ◦ Oesophagus - a tube for food to travel to the stomach ◦ Stomach - a sack which breaks down the food into a liquid	 Sound • A sound is a vibration that travels to the ear via sound waves • Volume is measured in decibels and tells us how loud a sound is • Pitch is a measure of how high or low a sound is • Sound get fainter as the source gets further away	 States of Matter • Materials can be grouped into ◦ Solids ◦ Liquids ◦ Gases • Heating and cooling can cause reversible and irreversible changes to a state • Water freezes at 0c • Water evaporates at 100 degrees c, this is known as the boiling point	 Grouping and Classifying • Classifying is the grouping of objects living and non-living according to a property or characteristic • Animals can be classified as vertebrates and invertebrates • Vertebrates are animals with a backbone or spine • Invertebrates are animals without a backbone or spine ...	 Electrical Circuits and Conductors • Electricity is a type of energy • Electricity can come from mains or batteries • A circuit is a collection of components which must be a complete loop to work • A series circuit has a single path • Some materials are conductors some are insulators • A switch makes or breaks a circuit • Electrical circuits can be dangerous

	○ Small intestine - nutrients are absorbed through the walls ○ Large intestine - transports the waste to the bowel ○ Rectum - where the unwanted waste comes out of • Babies grow 20 teeth which are replaced by 32 adult teeth • 4 types of teeth ○ Incisor ○ Canines ○ Molars ○ Premolars • Teeth need to be taken care of through good hygiene and healthy choices				
Year 5	 Earth and Space • The Sun is the centre of our solar system. • The planets, including Earth, orbit around The Sun.	 Forces and Mechanisms • Gravity is the force that causes objects to travel towards the centre of the Earth • Identify the effects of:	 Changes of Materials • Properties of materials include: ○ Hardness ○ Solubility ○ Transparency	 Human Reproduction and Ageing • A lifecycle is the series of changes as a human gets older ○ Birth ○ Growth ○ Reproduction ○ Death

	• The Moon orbits The Earth. • The Earth rotates on an axis. This creates night, day and the four seasons.	○ air resistance - the frictional force air exerts against a moving object. ○ Water resistance - a type of force that uses friction to slow things down that are moving through water. ○ Friction - the force resisting the movement of solid surfaces and materials sliding against each other. • recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.	○ Conductivity (electrical and thermal) ○ Magnetism • A material's properties can dictate what it is used for: • Thermal conductors transfer heat: • Thermal conductors such as metals are materials that allow the transfer of heat and can be used to heat things up quickly • Thermal insulators help to maintain a temperature: • Thermal insulators, such as wood, glass and plastic are materials that do not transfer heat effectively • Dissolving is when a solute becomes incorporated into a solvent • Solubility is a measure of a material's ability to dissolve a solvent • Reversible changes include heating, cooling, melting, dissolving, evaporating • Irreversible changes include burning, rusting, decaying and chemical reactions • A mixture is a combination of two or more substances which are not chemically joined and can be separated again	• As humans age they change ○ Baby - needs completely caring for - unable to do anything themselves ○ Toddler - learning to walk and talk ○ Child - goes to school and become more independent ○ Teenager - body changes as they go through puberty ○ Adult - fully grown and able to reproduce ○ Elderly - mobility difficulties, more likely to become unwell and may need more help to do things they did before • Human reproduction is the process of creating new human life • Describe the life processes of: ○ Mammals - give birth to live young (feed their young after hatching) ○ Amphibians - lay eggs in water ○ Insects - lay eggs ○ Birds - lay eggs (feed their young after hatching)
Year 6	 Light Theory This project teaches children about the way that light behaves, travelling in straight	 Circulatory system This project teaches children about the transport role of the human circulatory system, its	 Electrical Circuits and Components This project teaches children about electrical circuits, their	 Evolution and Inheritance This project teaches children how living things on Earth have changed over time and how fossils provide evidence for this. They learn how characteristics are passed from parents to their

	lines from a source or reflector, into the eye. They explore how we see light and colours, and phenomena associated with light, including shadows, reflections and refraction.	main parts and their primary functions. They learn about healthy lifestyle choices and the effects of harmful substances on the body.	components and how they function. They recognise how the voltage of cells affects the output of a circuit and record circuits using standard symbols. It also teaches children about programmable devices, sensors and monitoring. They combine their learning to design and make programmable home devices.	offspring and how variation in offspring can affect their survival, with changes (adaptations) possibly leading to the evolution of a species.