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Year	Term 1	Term 2	Term 3	Term 4 British Science Week / Pupil Led Investigation	Term 5	Term 6
FS Following children's own interests and investigations	Theme: Ourselves/ International Term Key Question: What do I like/ dislike about where I live? Skills: Create drawings and models of their environment. Knowledge: Identify features of the local environment.	Theme: Celebrations/ Festivals Key Question: Cooking: Why does that happen? Skills: Explore objects/ materials/ living things/ resources designed to model scientific processes. Knowledge: Notice changes.	Theme: Journeys & Transport Key Question: Loose parts. I wonder? Skills: Explore objects/ materials/ living things/ resources designed to model scientific processes. Knowledge: Dependent upon	Theme: Buildings Key Question: What makes a good building? Skills: Explain simple phenomena: How? Why? Knowledge: Talk about similarities, patterns and change.	Theme: The Global Garden - Minibeasts / Animals Key Question: Are they the same? Skills: Listen and respond to stories about scientific processes/ events/ objects. Knowledge: Know about similarities and differences in	Theme: The Great Outdoors Key Question: What do I notice? Skills: Qualitative Talk about similarities and differences. Knowledge: Know how environments differ. Talk about
1	<ul> <li>Theme: Animals Including Humans</li> <li>Key Question: What are senses?</li> <li>Skills: Investigate functions of body parts. Use observations to say which part of the body is associated with each sense. Use observations and ideas to suggest answers to questions.</li> <li>Knowledge: Identify and name parts of the human body. Identify the 5 senses.</li> <li>Pupil-Led Investigation: What body parts do I have? Which parts of my body are associated with my 5 senses?</li> <li>Enquiry Skill: Researching</li> </ul>	<ul> <li>Theme: Seasonal Changes</li> <li>Key Question: Why do we have different weather?</li> <li>Skills: Collect data through observations across the seasons about the changing weather. Observe over time and record data to help in answering questions.</li> <li>Knowledge: Name the 4 seasons and describe their properties. Name different types of weather. Daylight changes.</li> <li>Pupil-Led Investigation: How does our school environment change throughout the seasons? (This topic should be touched upon throughout the year).</li> <li>Enquiry Skill: Observing Over</li> </ul>	the children. Theme: Animals Including Humans Key Question: How are animals different? Skills: Identify and classify animals by their animal group and diet. Understand how to look after pets. Knowledge: Name different types of common animals (fish, bird, reptile etc). Name different diets (herbivore, carnivore, omnivore). Pupil-Led Investigation: How can I classify my favourite animal? Enquiry Skill: Identifying, Grouping & Classifying	Theme: Pupil Led Investigations – Melting Ice & Water-Proofing Materials Key Question: Child-led, e.g. 'What makes the bounciest bubble?' How, what, why. Skills: Make simple predictions. Collect data and record findings. Knowledge: Dependent on investigations.	relation to animals Theme: Plants Key Question: What are the key parts of a plant? Skills: Identify and describe the basic structure and parts of a variety of common plants. Investigate planting seeds using different materials. Observe if and how a plant grows. Knowledge: Where plants grow; what plants and flowers need to grow; name the basic parts of flowers including trees; name common flowers and trees. Pupil-Led Investigation: What is the structure of a plant? Enquiry Skill: Pattern Seeking	changesTheme: Everyday MaterialsKey Question: What is a material?Skills: Compare, classify and group together a variety of everyday materials on the basis of their simple physical properties. Select appropriate materials using simple knowledge of their properties.Knowledge: Name and describe the simple properties of everyday materials such as wood, glass, metal and plastic. Compare objects based on their material.Pupil-Led Investigation: How would you group these materials?Enquiry Skill: Comparative & Fair Testing
; 2	Theme: Plants Key Question: What do plants need to grow and be healthy? Skills: Observe closely, noticing differences and	Time Theme: Animals Including Humans Key Question: How do animals survive and reproduce?	Theme: Uses of Everyday Materials Key Question: How are different materials used and why?	Theme: Pupil Led Investigations Key Question: Child-led, e.g. 'What is the stretchiest fabric?' How, what, why.	Theme: Living Things and Their Habitats Key Question: Where, how and why do animals live?	Theme: Animals inc Humans Key Question: How do animals survive and reproduce?

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# Science Curriculum Overview 2024-25

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similarities. Use simple equipment to conduct pupil led investigations on how best to grow seeds. Measure and compare plant growth. Create graph of parts of plants. Knowledge: Describe how plants need water, light and a suitable temperature to grow and stay healthy. Recognise parts of the plants and their uses. What parts of plants we eat. Seed dispersal. Pupil-Led Investigation: What do plants need to grow and be healthy? Enquiry Skill: Observing Over Time	<ul> <li>Skills: Use of appropriate scientific language to communicate their ideas. Record observations and make predictions by using existing knowledge. Identify differences between and sort things that are living, dead, and things that have never been alive.</li> <li>Knowledge: Describe differences between things that are living, dead, and things that have never been alive. Describe an animal's life cycle. Identify the basic survival needs of animals and humans and the relationship between diet and exercise, and health.</li> <li>Pupil-Led Investigation: How can we sort &amp; compare living % non-living things?</li> <li>Enquiry Skill: Pattern Seeking</li> </ul>	Skills: Ask simple questions and recognise that they can be answered in different ways. Make predictions and devise investigations about the suitability and properties of materials for different purposes, and the altering of materials. Use different ways to test waterproofness and compare these. Knowledge: Name properties of materials and suggest uses. Categorise natural and man- made materials. Understand the recycling process of some materials may change when heated. Pupil-Led Investigation: What material is the most waterproof? What material is the most suitable for making a bucket to put out a fire? Enquiry Skill: Comparative &	Skills: Devise and conduct investigations into properties and suitability of materials building on knowledge. Use and interpret bar graphs. Knowledge: Discover the bounciest ball; stretchiest fabric, etc. Others will be determined by children's own investigations.	<ul> <li>Skills: Explore different habitats and the animals that live there. Construct a simple food chain. Make links to the survival needs of animals. Construct a micro habitat suitable for a chosen animal.</li> <li>Knowledge: Explain how an animal survives in it's habitat. Identify whether something is alive, dead, or has never been alive.</li> <li>Pupil-Led Investigation: How can we observe and research which animals live in our school environment?</li> <li>Enquiry Skill: Researching</li> </ul>	<ul> <li>Skills: Use a range of scientific language to discuss an animal's lifecycle and it's basic survival needs.</li> <li>Knowledge: Describe an animal's life cycle. Identify the basic survival needs of animals and humans and the relationship between diet and exercise, and health.</li> <li>Pupil-Led Investigation: How can we match animals &amp; and their offspring?</li> <li>Enquiry Skill: Identifying, Grouping &amp; Classifying</li> </ul>
		Fair Testing			
Theme: Light	Theme: Forces and Magnets	Theme: Animals Including Humans	Theme: Pupil Led	Theme: Rocks	Theme: Plants
<ul> <li>Key Question: What can light do?</li> <li>Skills: Investigate and measure shadows at different times, looking for patterns and making a series of observations. Gather and record data to answer questions. Record observations in a systematic way that relates to a scientific question.</li> <li>Knowledge: Understand that light is needed to see, for reflections and for shadows. Recognise that shadows are formed when the light form a light source is blocked by an</li> </ul>	Key Question: What are forces? Skills: Use scientific evidence to answer questions and support findings. Ask questions and use enquiries to answer them. Set up simple, fair practical enquiries. Gather, record and present data (in a table or bar chart) to help in answering questions. Record accurate measurements. Knowledge: Understand different types of force (magnetism, touching). Compare how things move on different surfaces. Properties of magnetism, and facts	Humans Key Question: How are bodies structured? Skills: Suggest healthy meals; explore alternative diets; understand traffic light system. Gather and record data in a variety of ways. Use different types of scientific enquiries to answer questions including secondary sources. Knowledge: Purpose of skeletons and muscles in animals & humans for support, protection & movement. Animals get nutrition from food. Healthy diets.	Investigations Key Question: Child-led relating to topic or own ideas. Skills: Predictions, reasoning, data collection, beginning to analyse data, conclusions. Knowledge: Dependent on investigation choices.	<ul> <li>Key Question: Why and how are rocks formed?</li> <li>Skills: Simply describe and demonstrate how rocks are formed. Compare and group together different kinds of rocks on the basis of their properties. Reporting on findings from enquiries and drawing conclusions.</li> <li>Knowledge: Rock formation; types of rocks; rock properties; rock uses.</li> <li>Pupil-led Investigation: What rocks are the most suitable for building houses and why?</li> </ul>	<ul> <li>Key Question: Do all plants need the same things to be healthy?</li> <li>Skills: Explore the requirement of plants for life and growth, and how they vary from plant to plant. Investigate how water is transported in plants. Making systematic and careful observations. Use simple apparatus to make and record measurements using standard units.</li> <li>Knowledge: Describe functions of the parts of plants; life cycle / reproduction of plants.</li> </ul>
opaque subject.	relating to materials.				Pupil-Led Investigation: How much water do plants need?



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4	Pupil-Led Investigation: Can everything make a shadow? Enquiry Skill: Comparative & Fair Testing Theme: Sound Key Question: What is sound? Skills: Explain sound is produced by vibrations. Investigate how different sounds are produced by	Pupil-Led Investigation:         Which surface slows the toy         car down the most?         Enquiry Skill: Pattern Seeking         Theme: Electricity         Key Question: How does         electricity work?         Skills: Construct a simple         circuit with switches; wire a         plug; investigate how circuits         can be altered. Using results to	Pupil-Led Investigation: How         is the human skeleton         structured?         Enquiry Skill: Researching         Theme: Animals Including         Humans         Key Question: How does food         affect our bodies?         Skills: Explain how the         digestive system works;         understand how teeth develop;         workstand how teeth develop;	Theme: Pupil Led Investigations Key Question: Child-led relating to topic or own ideas. Skills: Predictions, reasoning, data collection, beginning to analyse data, conclusions.	Enquiry Skill: Identifying, Grouping & Classifying Theme: Living Things and Their Habitats Key Question: How can we group living things, and why should we protect them? Skills: Classify and group living things in different ways.	Enquiry Skill: Observing Over Time Theme: States of Matter Key Question: What causes materials to change state? Skills: Observe changes of materials and investigate and measure temperatures. Classify materials. Investigate
	different materials. Identify differences, similarities or changes related to simple scientific ideas and processes. <b>Knowledge:</b> Recognise that vibrations from sounds travel through a medium to the ear. How sound travels best; how materials can alter sounds; descriptions of sounds (high, low, pitch etc). <b>Pupil-Led Investigation:</b> What makes the best string telephone? <b>Enquiry Skill:</b> Pattern Seeking	draw simple conclusions, make predictions for new values, suggest improvements. <b>Knowledge:</b> Give examples of electricity (batteries, mains etc) and what uses electricity. Safety awareness. How electricity works in a simple way e.g. recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit. Insulator / conductor materials. <b>Pupil-Led Investigation:</b> How can we make a purposeful switch? (for a Christmas card) <b>Enquiry Skill:</b> Comparative & Fair Testing	explain the effects of different diets. Identify predators and prey. Use results to draw simple conclusions. Suggest explanations for findings, improvements and raise further questions. <b>Knowledge:</b> How the digestive system works; how diets affect the body including teeth; examine the difference between 3 core diets (herbivore, omnivore, carnivore). What are the functions of teeth, what damages teeth and how to look after them. <b>Pupil-Led Investigation:</b> How do different drinks effect our teeth? <b>Enquiry Skill:</b> Researching	Knowledge: Dependent on investigation choices.	Gather, record and classify data. Knowledge: Understand that environmental changes can be dangerous for living things and their habitats. Classification keys. Recognise that living things can be grouped in a variety of ways. When animals belong to different 'groups' they therefore have different needs and habitats. Pupil-Led Investigation: What vertebrates & invertebrates live in our local school environment? Enquiry Skill: Identifying, Groups & Classifying	and observe evaporation. Set up a fair test by identifying what is to be changed and what is to be kept the same. Identify what needs to be measured/observed to see changes. <b>Knowledge:</b> Which materials change state when heated / cooled and at what temperature & rate. Understand the differences between solids, liquids and gases. Explain the water cycle in relation to evaporation and condensation. <b>Pupil-Led Investigation:</b> Which conditions are the best to dry materials by evaporation? <b>Enquiry Skill:</b> Observing Over Time
5	Theme: Forces Key Question: What different forces are there, and can we change them? Skills: Predict and investigate gravitational forces, resistances and friction, and draw conclusions from	Theme: Earth and Space Key Question: How do the planets affect us on Earth? Skills: Explain day and night in relation to its rotations. Demonstrate movements of planets. Gather and record data using tables and graphs	Theme: Properties and Changes of Materials Key Question: What happens when we make changes to everyday materials? Skills: Carry out an investigation to test out a hypothesis. Investigate	Theme: Pupil Led Investigations Key Question: Child-led e.g. "What is the best thermal insulator for a lunch box?" "What is the best electrical conductor to make a bulb shine brightest?"	Theme: Living Things and Their Habitats Key Question: How do animals and plants reproduce? Skills: Investigate and describe comparisons between species. Record data and results of increasing	Theme: Animals Including Humans Key Question: What happens when we get older? Skills: Observe changes and make comparisons. Take accurate measurements using a range of equipment. Plot
	experiments. Systematically collect results. Measure, taking repeat readings for improved accuracy.	(in a line graph or bar chart). Knowledge: Movement of planets in relation to each	dissolving and separating and reversing processes. Give reasons through testing for different material uses.	Skills: Devise and conduct investigations into properties and suitability of materials building on knowledge.	complexity using scientific diagrams and labels, classification keys, tables and bar graphs.	results accurately on a graph (e.g. a line graph).

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ur to th be fa	<b>(nowledge:</b> Explain that nsupported objects fall owards the Earth because of he force of gravity acting etween the Earth and the	other and the Sun, and how this creates night and day. Movement of the Moon. Understand the Sun, Earth and Moon as approximately	Compare and group materials. Give reasons, based on evidence from comparative and fair tests, for the particular	Predictions, reasoning, data collection, beginning to analyse data, conclusions.	Knowledge: Understand how life cycles are different depending on the animal.	<b>Knowledge:</b> Understand the physiological changes to humans as they age.
efi ac dc wi cli tin fa	alling object. Understand how hechanisms can change the ffect of forces. Identify the ffect of air resistance that cts between moving surfaces. <b>Pupil-Led Investigation:</b> How oes the length of ing/number of paper lips/size of paper affect the me it takes for the spinner to all? <b>Enquiry Skill:</b> Pattern Seeking	spherical bodies. Pupil-Led Investigation: How are 'craters' formed? Enquiry Skill: Comparative & Fair Testing	uses of everyday materials. Use test results to make predictions to set up further comparative and fair tests. <b>Knowledge:</b> Understand solutions are made by dissolving. Explain how new materials can be made through an irreversible process. Deeper understanding of material properties including conductivity and magnetism. Compare everyday materials on basis of their thermal conductivity. <b>Pupil-Led Investigation:</b> Which cup will keep the tea warm and insulate it for the longest?	<b>Knowledge:</b> Understand solutions are made by dissolving. Explain how new materials can be made through an irreversible process. Deeper understanding of material properties including conductivity and magnetism.	Describe reproductive processes in living things. Identify how different plants disperse their seeds. <b>Pupil-Led Investigation:</b> How are seeds dispersed in our local environment? <b>Enquiry Skill:</b> Researching	Pupil-Led Investigation: What could we measure to show how humans develop as they grow older? Enquiry Skill: Observing Over Time
			Enquiry Skill: Identifying,			
Т	heme: Living Things and	Theme: Evolution and	Groups & Classifying Theme: Light	Theme: Pupil Led	Theme: Animals including	Theme: Electricity
	heir Habitats	Inheritance	Theme: Light	Investigation	Humans	meme. Electricity
			Key Question: How does light	C C		Key Question: How do we
	<b>(ey Question:</b> How and why o we classify living things?	Key Question: How do living things change over time?	help us see?	Key Question: Child-led relating to topic or own ideas.	Key Question: What factors affect our health and how?	alter circuits?
SI	kills: Classify organisms,	Skills: Observe and compare	Skills: Explain complex processes about how we see	Skills: Predictions, reasoning,	Skills: Carry out a scientific	Skills: Investigate and give reasons for variations in
	lants and micro-organisms by	characteristics inherited	objects and shapes. Take	data collection and recording,	enquiry to answer a question.	brightness and volume within
	heir characteristics. Create	between generations and	accurate measurements and	analyse data, conclusions.	Compare lifestyles and	circuits. Create a scientific
	uestions which separate	make real-life links. Explain the	record data accurately on a	-	examine effects of different	question which identifies the
	nimals/plant groups. Identify	process of natural selection	graph (e.g. a line graph).	Knowledge: Dependent on	lifestyles on health. Explain	'change' and 'measure.' Plan a
	rganisms within their local	and evolution. Report and	Ka sada daga Dan da da d	investigation choices.	and model the transportation	scientific enquiry to answer a
	rea. Record the results of a	present.	Knowledge: Recognise that light appears to travel in		of nutrients and water around	question, recognising and
	urvey using a classification ey including scientific	Knowledge: That humans and	straight lines and understand		the body. Use test result to make predictions and set up	controlling variables to ensure a fair test.
	anguage.	living things have evolved over	that we see due to light		further comparative & fair	
		time, and factors and	reflections in the eye.		tests.	Knowledge: Compare
Kı	nowledge: Correct names	behaviours affect changes.	Understand that light travels.			variations in how electrical
	nd characteristics of	The work of Darwin. Plants	Understand why shadows		Knowledge: Understand the	components function and
	rganisms. Carl Linnaeus	and animals adapt to their	have the same shape as their		impact of diet, drugs, exercise	understand what factors affect
	lassification system. Links	environment. Living things	objects.		and lifestyle on the health and	volume and brightness.
	etween micro-organisms and	produce offspring of some	Development of the later		function of the body. Identify	Correct symbols and scientific
	iseases. Give reasons for	kind, not always identical to	Pupil-Led Investigation: How		and name parts of the human	language within circuitry.
	lassifying plants and animals ased on specific	their parents.	does the shadow of an object change?		circulatory system and describe different functions.	Pupil I ad Investigation User
			change?		describe different functions.	Pupil-Led Investigation: How
ba	haracteristics.	Pupil-Led Investigation: How			Describe the functions of the	can you change the brightness



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**Link to Kingswood**	adapted to live in its environment?		heart, blood vessels and blood.	Enquiry Skill: Comparative &
<b>Pupil-Led Investigation:</b> How else can we classify animals?	Enquiry Skill: Researching		**Link to PSHCE**	Fair Testing
Enquiry Skill: Identifying, Groups & Classifying			<b>Pupil-Led Investigation:</b> How do different poses & positions effect my heart rate?	
			Enquiry Skill: Observing Over Time	