



Pyrford C of E School Science Progression Map

	Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Biology: Plants								
Plants	<ul style="list-style-type: none"> Growth, decay, changes over time; Plants. Human stages of growth. Parts of a plant-stem and root. 	Plants and growing <ul style="list-style-type: none"> Parts of a flower- Leaf, stem, roots and flower. What a plant needs to grow. Where does our food come from-crops 	<ul style="list-style-type: none"> Identify and name common plants (including those in the locality) Identify and describe the basic structure of flowering plants including trees (Link to EYFS) 	<ul style="list-style-type: none"> Observe and describe how seeds and bulbs grow into plants Plants need water, light, suitable temp (Link to Year 1) 	<ul style="list-style-type: none"> Identify and describe the function of flowering plants (Link to Year 1) Needs for life and growth (Link to Year 2) Water transportation Flowers life cycle – pollination/seed formation and dispersal Know that plants make own food (Link to Year 2) 			
Biology: Animals, including humans								
Animals	<ul style="list-style-type: none"> Zoo animals; identification Farm animals; identification 	<ul style="list-style-type: none"> Animals around the world; name sort and classify. Farm animals that give us food. Duck and bee lifecycles. Minibeasts-worms 	<ul style="list-style-type: none"> Identify and name common animals Identify animals by their diet Compare the structure of animals Classify animals Pets 	<ul style="list-style-type: none"> Basic needs of animals for survival Moths- Literacy	<ul style="list-style-type: none"> Some animals have skeletons and muscles for support protection and movement (Link to Year 1) 	<ul style="list-style-type: none"> Construct and interpret a variety of food chains (Link to year 2) 		
Humans	<ul style="list-style-type: none"> Exploring senses-identifying the 5. Verbal naming of basic body parts. 'The body song'. Exploring the 5 senses Oral Health 	<ul style="list-style-type: none"> Body parts and senses Healthy Eating Oral Health 	<ul style="list-style-type: none"> Identify, name, draw and label human body and its associated senses 	<ul style="list-style-type: none"> Importance of exercise, type of food and hygiene (Link to EYFS) How offspring change into adults 	<ul style="list-style-type: none"> Identify that animals need right type of nutrition and cannot make their own food (Link to year 2) 	<ul style="list-style-type: none"> Describe simple functions of basic parts of digestive system Identify different types of teeth and their functions (Link to Year 1) 	<ul style="list-style-type: none"> Describe changes as humans develop into old age (Link to year 1 and 2) RSE Sex Education Changes experienced in puberty 	<ul style="list-style-type: none"> Circulatory system; describe functions of heart, blood vessels, (Link to year 3 and 4) Transport of nutrients and water in animals inc humans Recognise impact of diet, exercise drugs and lifestyle on bodies((Link to Year 2)

Biology: Living things and their Habitats

Habitats	<ul style="list-style-type: none"> Care and concern for the environment; -The nursery garden -The environmental garden 	<ul style="list-style-type: none"> Where do minibeasts live? Where do some animals live? -Farm and Africa (Geography link) 		<ul style="list-style-type: none"> Adaptation to a habitat Identify and name animals and plants in their habitats 		<ul style="list-style-type: none"> Recognise that environments can change 	<ul style="list-style-type: none"> Find out about work of naturalists e.g. David Attenborough 	<ul style="list-style-type: none"> Classification by common characteristics inc microorganisms plants and animals (Link to year 1) Reasons for classifications
Living things				<ul style="list-style-type: none"> Compare-living/dead/never alive (Link to year 1) Simple food chains; identify food sources 		<ul style="list-style-type: none"> Recognise that living things can be grouped in a variety of ways (including those in the locality)(Link to year 1) Explore and use classification keys to group, identify and name thing in local and wider environment 	<ul style="list-style-type: none"> Describe differences in life cycles of mammal, amphibian, insect, bird (Link to Year 1) Reproduction in plants and animals RSE Sex Education Sexual reproduction in animals inc humans 	

Biology: Evolution and Inheritance

Strand								<ul style="list-style-type: none"> Living things have changed over time-fossils are proof Living things produce offspring of same kind, but vary and not normally identical to parents (Link to year 5 and 2) Plants and animals adapted to suit environment; may lead to evolution
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Chemistry: Materials

Identify materials	<ul style="list-style-type: none"> Exploring textures of different materials. Identify the material the 3 pigs use. Explore how the respond to wind(hairdryer) 	<ul style="list-style-type: none"> Materials and recycling Make a boat for the Gingerbread man. Identify, classify and describe different materials. 	<ul style="list-style-type: none"> Distinguish between an object and the material it's made from Identify a variety of everyday materials 	<ul style="list-style-type: none"> People who have developed useful new materials 				
Use of materials	<ul style="list-style-type: none"> Why things happen How things work 			<ul style="list-style-type: none"> Identify and compare suitability of materials for particular uses 			<ul style="list-style-type: none"> Reasons for use of particular materials- metals/wood/plastic (Link to Year 2) 	
Changing materials		<ul style="list-style-type: none"> Cooking- popcorn/pancakes/ gingerbread men 		<ul style="list-style-type: none"> Investigate how shapes of solid objects can be changed (Link to Year 1) 			<ul style="list-style-type: none"> Know that some materials will dissolve in liquid to form a solution and can be recovered Separate mixtures (s/l/g) Reversible changes Irreversible changes (Link to EYFS) 	
Property of materials		<ul style="list-style-type: none"> Which is the best material for the 3 pigs house? Why does the gingerbread man need a lift across the river? 	<ul style="list-style-type: none"> Describe simple properties of everyday materials Compare and group materials based on their physical properties 				<ul style="list-style-type: none"> Group everyday materials by their properties e.g. hardness, solubility, transparency, conductivity and response to magnets (Link to Year 1 and 2) 	

Chemistry: States of Matter

Changing states	Changing materials	<ul style="list-style-type: none"> Materials and recycling Changing materials- Gruffalo crumble. Making butter from cream 				<ul style="list-style-type: none"> Compare and group materials- solid, liquid or gas Observe change of state when heated or cooled Associate rate of evaporation with temperature 		
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The water cycle						<ul style="list-style-type: none"> Evaporation and condensation in the water cycle 		
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Chemistry: Rocks

Rocks and soil			Identify rocks as a material		<ul style="list-style-type: none"> Group- by appearance and physical properties or rock groups Soils are made from rocks and organic matter 			Living things have changed over time- fossils are proof
Fossils					<ul style="list-style-type: none"> Describe how fossils are formed 			

Physics: Seasons and Change

The 4 seasons	<ul style="list-style-type: none"> Name the 4 seasons 		<ul style="list-style-type: none"> Name and identify the 4 seasons 					
Seasonal change	<ul style="list-style-type: none"> Noticing changes in our garden. 	<ul style="list-style-type: none"> Changes in the seasons - Observing specific plants -observing the weather -Identify evergreen trees 	<ul style="list-style-type: none"> Observe and describe weather/day length associated with the seasons 					

Physics: Light

Light	<ul style="list-style-type: none"> Light and dark -nocturnal animals -stories about the dark 	<ul style="list-style-type: none"> Light and dark -nocturnal animals -day animals Exploring -reflection -light sources -shadows -torches 			<ul style="list-style-type: none"> Light needed to see (Link to year 1) Dark = no light Light is reflected from surfaces Sun danger, eyes protection Shadows made by blocked light source Find patterns in the way size of shadows change 			<ul style="list-style-type: none"> Travels in straight lines Objects give out or reflect light into the eye (Link to year 1) Light travels from source to eye or source to object to eye Explain why shadows have the same shape as objects that cast them
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Physics: Electricity

Circuits						<ul style="list-style-type: none"> Appliances that use electricity Construct simple circuit-cell, wire, bulb, switch, buzzer Identify whether a lamp will light or not in a simple circuit Recognise a switch opens and closes a circuit Recognise some common conductors and insulators; metals good conductors 		<ul style="list-style-type: none"> - Brightness or volume – number of cells and voltage Variations in components Recognize symbols (Link to Year 4)
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Physics: Magnets and Forces

Magnets	Through provision-exploring magnets		<i>Identify magnetic materials</i>		<ul style="list-style-type: none"> Magnets act at a distance How magnets attract and repel each other and attract some materials Group materials-magnetic or not? Two poles on a magnet Which poles attract or repel? (Link to Year 1 and 2)materials			
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Forces	Through provision-exploring floating	<ul style="list-style-type: none"> • Exploring floating and sinking • Exploring magnets 			<ul style="list-style-type: none"> • Movement on different surfaces 		<ul style="list-style-type: none"> • Gravity • Air/water resistance • Friction • Some mechanisms e.g. levers/pulleys/gears, allow a smaller force to have a greater effect (Link to Year 3) 	
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Physics: Earth and Space

Earth							<ul style="list-style-type: none"> • Describe movements of Earth and planets relative to the Sun • Describe movement of Moon relative to Earth • Shape of Earth/Moon/Sun • Use idea of Earth's rotation to explain day and night • 	
Space							<ul style="list-style-type: none"> • The Sun is a star and has eight planets • Moon is a celestial body that orbits a planet 	

Physics: Sound

						<ul style="list-style-type: none"> • Identify how sounds are made-vibrating (Link to Year 1 senses) • Vibrations travel through a medium to the ear • Find patterns in pitch • Find patterns between volume and strength of vibrations • Recognise sounds get fainter as distance increases 		
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Working Scientifically

<u>Asking questions</u>	<ul style="list-style-type: none"> • Active learning; being involved and concentrating • Active learning; being involved and concentrating • Creative and Critical Thinking; Having their own ideas. • Creative and Critical Thinking; working with ideas 	<ul style="list-style-type: none"> • Ask simple questions recognising that they can be answered in different ways 	<ul style="list-style-type: none"> • Ask relevant questions and use different types of scientific enquiry to answer them • Suggest improvements and raise further questions. • Use scientific evidence to answer questions, to support their findings. 	<ul style="list-style-type: none"> • Plan different types of scientific enquiry to answer questions, recognising when and how to set up comparative and fair tests, and explain which variables need to be controlled
<u>Making predictions</u>	<ul style="list-style-type: none"> • Playing and Exploring; Playing with what they know • Creative and Critical Thinking; Having their own ideas. • Creative and Critical Thinking; Making links • Creative and Critical Thinking; working with ideas 	<ul style="list-style-type: none"> • Identify and classify 	<ul style="list-style-type: none"> • Set up own and directed practical enquiries, comparative and fair tests 	<ul style="list-style-type: none"> • Plan different types of scientific enquiry to answer questions, recognising when and how to set up comparative and fair tests, and explain which variables need to be controlled
<u>Setting up tests</u>	<ul style="list-style-type: none"> • Playing and exploring; being willing to 'have a go' • Active learning; being involved and concentrating • Active learning; Keep trying 	<ul style="list-style-type: none"> • Perform simple tests 	<ul style="list-style-type: none"> • Set up own and directed practical enquiries, comparative and fair tests 	<ul style="list-style-type: none"> • Plan different types of scientific enquiry to answer questions, recognising when and how to set up comparative and fair tests, and explain which variables need to be controlled
<u>Observing and measuring</u>	<ul style="list-style-type: none"> • Playing and exploring; Finding out and exploring • Active learning; being involved and concentrating • Active learning; Keep trying 	<ul style="list-style-type: none"> • Observe closely, using simple equipment • Use observations and ideas to suggest answers to questions 	<ul style="list-style-type: none"> • Make systematic and careful observations and where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers. 	<ul style="list-style-type: none"> • Decide what observations/measurements to take • Take measurements using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate
<u>Recording data</u>	<ul style="list-style-type: none"> • Active learning; being involved and concentrating • Active learning; Keep trying 	<ul style="list-style-type: none"> • Gather and record data to help in answering questions 	<ul style="list-style-type: none"> • Gather, record, classify and present data in a variety of ways to help in answering questions, <ul style="list-style-type: none"> • Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables. 	<ul style="list-style-type: none"> • Record data and results of increasing complexity using scientific diagrams, labels, classification keys, tables, scatter graphs, bar and line graphs. Children to sometimes decide how to record data.
<u>Interpreting and communicating results</u>	<ul style="list-style-type: none"> • Active learning; being involved and concentrating • Active learning; Enjoying achieving what they set out to do • Creative and Critical Thinking; Making links • Creative and Critical Thinking; working with ideas 	<ul style="list-style-type: none"> • Gather and record data to help in answering questions 	<ul style="list-style-type: none"> • Use results to draw simple conclusions, make predictions for new values • Use relevant simple scientific language to discuss ideas and report on findings from enquiries, including oral and written explanations, displays or presentation of results and conclusions • Report on findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables. • Report on findings from enquiries-written and oral explanations, displays, or presentations of conclusions or findings. 	<ul style="list-style-type: none"> • Report and present findings including conclusions, causal relationships and explanations of degree of trust in results, using oral and written forms such as displays and other presentations.

<u>Evaluating</u>	<ul style="list-style-type: none">• Active learning; being involved and concentrating• Active learning; Enjoying achieving what they set out to do• Creative and Critical Thinking; Making links• Creative and Critical Thinking; working with ideas	<ul style="list-style-type: none">•	<ul style="list-style-type: none">• Use results to draw simple conclusions, make predictions for new values and suggest improvement's and further questions.• Identify differences, similarities or change related to simple ideas and processes.	<ul style="list-style-type: none">• Use results to make predictions and identify when further observations, comparative and fair tests might be needed• Identify scientific evidence that has been used to refute or support ideas or arguments.
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