

Science Curriculum Coverage

Year 1	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2	
EYFS	Health and self-care: Looking after our bodies when go to the toilet, before meals, brushing teeth, healthy food vs unhealthy food, cooking, exercise and mindfulness.	Health and self-care: Eating fruit and vegetables.	Health and self-care: How do you look after yourself on a space station? What food do you eat? What exercise can you do? Space	Health and self-care: How do you look after animals? What do we do when we have touched animals? What do animals need for food? How is it different from us? Farm animals and habitat The world – different farms around the world, weather.	Animals and Habitats: animals in the sea. Understanding the world: The world – where is the seaside? Oceans, boats, animals in the sea. Seaside day?	Health and self-care: How do you look after dinosaurs? Can you? What do they eat? Is it different to us/each other? Meat, veggie, cleaning, exercise.	
Experience	<i>Space wonderdome</i>		<i>Packington education farm animals talk</i>				
Year 1	Animals, including humans <i>What makes up a human body?</i>	Materials <i>How are materials different?</i>	Growing plants <i>What do plants need to grow?</i>	Animals including humans <i>How can we group animals?</i>	Growing plants <i>What do plants need to grow? (cont)</i>	Plants <i>How can we group plants?</i>	Growing plants <i>What do plants need to grow? (cont)</i>
Seasonal changes	What happens in Autumn?	What happens in winter?	What happens in Spring?		What happens in summer?		
Eco units			Caring for the planet <i>How can we care for our planet?</i>		Growing & cooking <i>Where does my food come from?</i>		
Experience			<i>Packington education harvest talk</i>		<i>South Staffs Water – water efficiency workshop</i>		
Year 2	Animals including Humans	Animals including humans <i>What do humans need to be healthy?</i>	Materials <i>What can some materials be used for?</i>	Plants <i>How do we successfully grow plants?</i>	Living things and their habitats <i>What is a habitat?</i>	Animals and humans <i>How do animals produce offspring?</i>	

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	What do animals need to survive?								
Eco units	Sustainability: plastic What are the problems with plastic?						Sustainability: wildlife Why is wildlife important?		
Experience				<i>Packington Farm nocturnal animals talk</i>					
Year 3	Humans and animals Which type of skeleton does a human have and how does it move?	Rocks How is Earth structured?	Fossils & Soils What is the structure of soil and how are fossils formed?	Light How does light affect our lives?	Plants What do plants need to survive?	Force and magnets What forces affect our lives?			
Eco units	Sustainability: Food waste How can we reduce food waste?						Sustainability: biodiversity Why does biodiversity matter?		
Experience				<i>Severn Trent water workshop</i>					
Year 4	All living things How do we classify?	All living things What can impact on a habitat? (incl food chains)	Data collection A (local wildlife)	Sound How do we hear?	Data collection B (local wildlife)	Electricity What uses electricity?	States of Matter How does matter make up our planet?	Data collection C (local wildlife)	Animals including humans Where does digestion start and end?
Eco units				Sustainability: energy Why does energy usage matter?			Sustainability: deforestation What is the impact of deforestation?		
Experience	<i>Local habitat investigation (school grounds)</i>								
Year 5	Forces How do we see forces in action?	Earth & Space What lies beyond Earth?	Properties of material How can you best preserve a packed lunch?	Changes of material How can we be inventors?	Living things & their habitats How do life cycles differ?	Humans & Animals How do human bodies change in a lifetime?			
Eco units	Global warming Why should we care about global warming?						Plastic pollution Why should we reduce the use of plastic?		
Experience							<i>Packington education farm trip (life cycles)</i>		

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Year 6	Living things and their habitats. What is classification?	Animals including humans. How do an animal's living systems work together to maintain a healthy body?	Light. How does light enable us to see?	Evolution. How have scientists used research to understand evolution?	Electricity. How do you make an electrical circuit?
Eco units	Sustainability: renewable energy What are the benefits of renewable energy?		Sustainability: light pollution How does light pollution affect living things?		
Experience	<i>Packington education food chains and webs talk</i>			<i>South Staffs Water – River Basins workshop</i>	

Key Stage 3

Pupils should be taught to:

Working scientifically:

Scientific attitudes

- pay attention to objectivity and concern for accuracy, precision, repeatability and reproducibility
- understand that scientific methods and theories develop as earlier explanations are modified to take account of new evidence and ideas, together with the importance of publishing results and peer review
- evaluate risks

Experimental skills and investigations

- ask questions and develop a line of enquiry based on observations of the real world, alongside prior knowledge and experience
- make predictions using scientific knowledge and understanding
- select, plan and carry out the most appropriate types of scientific enquiries to test predictions, including identifying independent, dependent and control variables, where appropriate
- use appropriate techniques, apparatus, and materials during fieldwork and laboratory work, paying attention to health and safety
- make and record observations and measurements using a range of methods for different investigations; and evaluate the reliability of methods and suggest possible improvements
- apply sampling techniques.

Analysis and evaluation

- apply mathematical concepts and calculate results
- present observations and data using appropriate methods, including tables and graphs
- interpret observations and data, including identifying patterns and using observations, measurements and data to draw conclusions
- present reasoned explanations, including explaining data in relation to predictions and hypotheses
- evaluate data, showing awareness of potential sources of random and systematic error
- identify further questions arising from their results.

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Measurement

- understand and use SI units and IUPAC (International Union of Pure and Applied Chemistry) chemical nomenclature
- use and derive simple equations and carry out appropriate calculations
- undertake basic data analysis including simple statistical techniques.

Biology:

Structure and function of living organisms

- Cells and organisation
- The skeletal and muscular systems
- Nutrition and digestion
- Gas exchange systems
- Reproduction
- Health

Material cycles and energy

- Photosynthesis
- Cellular respiration

Interactions and interdependencies

- Relationships in an ecosystem

Genetics and evolution

- Inheritance, chromosomes, DNA and genes

Chemistry:

- The particulate nature of matter
- Atoms elements and compounds
- Pure and impure substances
- Chemical reactions
- Energetics
- The periodic table
- Materials
- Earth and atmosphere

Physics:

Energy

- Calculation of fuel uses and costs in the domestic context
- Energy changes and transfers
- Changes in systems

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Motion and forces

- Describing motions
- Forces
- Pressure in fluids
- Balanced forces
- Forces and motion

Waves

- Observed waves
- Sound waves
- Energy and waves
- Light waves

Electricity and electromagnetism

- Current electricity
- Static electricity
- Magnetism

Matter

- Physical changes
- Particle model
- Energy in matter

Space physics

* Highlighted areas show where there is continuity of subjects taught across KS1-3