



Year 4 Science Knowledge Progression

Term / unit	Builds on	Knowledge progression	Working scientifically	Key vocabulary	Where this leads next
Advent 1 Animals including humans: Digestion and food	- Builds on Y3 nutrition, skeletons and muscles. - Recalls that animals need food and that teeth have different visible features.	- Identify main digestive organs and describe their functions. - Explain the journey of food through the digestive system. - Identify types of human teeth and relate shape to function. - Recognise how dental hygiene affects teeth. - Construct food chains using producers, predators and prey.	- Use models to represent digestion. - Make careful observations and record findings. - Plan a simple dental-hygiene investigation and identify variables. - Use evidence such as teeth/skull features to infer diet.	digestive system; mouth; oesophagus; stomach; intestine; incisor; canine; molar; producer; predator; prey	Supports Y6 circulation/health and KS3 digestion.
Advent 2 Energy: Electricity and circuits	- Builds on everyday experience of electrical appliances and materials. - Introduces formal circuit knowledge used again in Y6.	- Identify common appliances that use mains electricity or batteries. - Know that a complete circuit needs a cell/battery, wires and components in a closed loop. - Recognise and use switches to open and close circuits. - Identify electrical conductors and insulators. - Recognise factors that can affect bulb brightness at an introductory level. - Know key rules for electrical safety.	- Build and compare simple circuits. - Classify materials from test evidence. - Plan a comparative investigation. - Record circuit observations clearly and use evidence to explain outcomes.	electricity; appliance; circuit; cell; battery; wire; bulb; switch; conductor; insulator; mains	Direct prior learning for Y6 circuits, batteries and switches.
Lent 1 Materials: States of matter	- Builds on KS1 material identification and properties. - Recalls that materials can behave differently under different conditions.	- Group materials as solids, liquids or gases using characteristic properties. - Understand melting and freezing as changes of state. - Understand evaporation and condensation and relate them to temperature. - Know that water changes state within the water cycle. - Recognise that changes of state are reversible physical changes.	- Classify from observations rather than appearance alone. - Measure temperature and observe changes over time. - Record results in tables/graphs and identify patterns. - Use a model/diagram to explain the water cycle.	solid; liquid; gas; state; melt; freeze; melting point; evaporate; condense; water cycle; temperature	Direct prior learning for Y5 mixtures and separation/properties and changes.
Lent 2 Energy: Sound and vibrations	- Builds on Reception exploration of loud/quiet sounds and general experience of hearing. - Connects to knowledge of body senses from Y1.	- Know that sounds are produced by vibrating objects. - Understand that vibrations travel through a medium to the ear. - Relate stronger vibrations to louder sounds. - Recognise that sound becomes quieter with distance. - Relate pitch to the rate of vibration.	- Observe vibrations using practical models. - Measure/compare sound in controlled conditions. - Identify variables in tests of volume, distance or insulation. - Use patterns in results to support explanations.	sound; vibration; medium; volume; pitch; ear; distance; insulation; sound wave	Supports KS3 sound waves and energy transfer.

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		Identify materials that can reduce sound transmission.			
Pentecost 1 Living things: Classification and changing habitats	- Builds on Y2 habitats/microhabitats and classification. - Recalls animal groups and plant features.	- Group vertebrates and invertebrates using characteristics. - Group plants using observable features. - Use classification keys to identify living things. - Recognise that habitats change seasonally. - Explain how human actions can positively or negatively affect habitats. - Recognise that natural environmental changes can affect living things.	- Generate useful classification questions. - Use and create branching keys. - Make repeated observations of habitats. - Gather and present data and use evidence to evaluate environmental change.	classification; vertebrate; invertebrate; flowering plant; non-flowering; classification key; habitat; environment; human impact	Direct prior learning for Y6 classification and evolution.
Pentecost 2 Making connections: How does the flow of liquids compare?	- Applies Y4 states-of-matter knowledge. - Uses enquiry skills developed across the year.	- Recognise liquids by their ability to flow and take the shape of a container. - Compare liquids using observable/measurable properties such as flow. - Understand that fair comparisons require the same testing conditions. - Use evidence to describe differences between liquids.	- Develop an enquiry question. - Choose a method for comparing flow. - Measure time/distance consistently and repeat readings. - Represent results appropriately, conclude and evaluate.	liquid; flow; viscosity; compare; variable; measure; repeat; data; pattern; conclusion	Strengthens enquiry skills and prepares for Y5 materials work.