Science Curriculum: Year 4

What are the aims and intentions of this curriculum?

Our school science curriculum is aligned to the national curriculum for science, which aims to ensure that all pupils:

- develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics
- develop understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them
- are equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future

Term	Topic	Key Learning	Key Vocabulary
Autumn 1	Animals, including humans	Know the basic parts of the digestive system in humans and their simple functions. Know the different types of teeth in humans and their simple functions. Know what a producer, predator and prey is. Know simple food chains. Recognise when secondary sources can be used to answer questions that cannot be answered through practical work Make careful observations Ask questions based upon their prior knowledge Record findings using labelled scientific diagrams and writing present data in different ways in order to help answer a question with support Using straightforward scientific evidence to answer questions	herbivore, carnivore, omnivore, canine, molar, pre-molar, incisor, digest, predator, prey, producer, consumer, organism.
Autumn 2	Living things and their habitats	Know that living things can be grouped Know some of the ways that living things can be grouped. Name a variety of living things in local and wider environment. Know some of the ways that environments can change. Know that change sometimes poses danger for living things. Ask questions considering their prior knowledge answer questions posed by the teacher Record their observations using a classification key Present findings using a Venn diagram	habitat, micro / mini, organism, vertebrate, invertebrate, environment, mammals.
Spring 1	Sound	Know that some sounds are made by something vibrating. Know that vibrations from sounds travel through a medium to the ear. Know that the pitch of a sound is affected by the features of the object that produced it. Know that the stronger the vibration the louder the sound. Know that sounds get fainter as the distance from the source increases Answer relevant questions using different types of scientific enquiries	sound, source, vibrate, vibration, travel, pitch, volume, faint, loud, insulation, amplitude, sound waves and sound particles.

		make systematic and careful observations Measure using a range of equipment in standard units Select from a range of practical resources to gather evidence to answer questions generated by the teacher Carry out a comparative test Record results using their own suitable method interpret their data to generate simple comparative statements based on their evidence draw conclusions based on their evidence and current subject knowledge identify naturally occurring patterns and causal relationships	
Spring 2	States of matter	Know that materials can be grouped into solids, liquids and gases. Know that some materials change state when they are heated or cooled. Know the temperature at which change of state occurs in degrees Celsius (°C) Know the part played by evaporation and condensation in the water cycle. Know that the rate of evaporation is associated with temperature. Answer relevant questions using different types of scientific enquiries make systematic and careful observations Measure using a range of equipment in standard units Carry out a comparative test Record results using tables and Venn diagrams Using their own results to answer questions interpret their data to generate simple comparative statements based on their evidence draw conclusions based on their evidence and current subject knowledge identify naturally occurring patterns and causal relationships Identify how they would adapt a comparative test if they repeated the enquiry ask further questions which can be answered by extending the same enquiry Predict using current subject knowledge	solid, liquid, gas, state change, melting, freezing, melting point, boiling point, evaporation, temperature, water cycle.
Summer	Electricity	Know some common appliances that run on electricity. Know the parts of a simple series circuit, including cells, wires, bulbs, switches and buzzers. Know whether or not a bulb will light in a simple series circuit (based on whether or not the lamp is part of a complete loop with a battery). Know that a switch opens and closes a circuit (and this affects whether or not a lamp will light in a simple series circuit. Know some common conductors and insulators. Know that metals are associated with being good conductors. Answer relevant questions using different types of scientific enquiries make systematic and careful observations	electricity, electrical appliance/device, mains, plug, electrical circuit, complete circuit, component, cell, battery, positive, negative, connect/connections, loose connection, short circuit, crocodile clip, bulb, switch, buzzer, motor, conductor, insulator, metal, non-metal,

		Measure using non-standard units Carry out a comparative test Record results using tables Using their own results to answer questions interpret their data to generate simple comparative statements based on their evidence draw conclusions based on their evidence and current subject knowledge ask further questions which can be answered by extending the same enquiry Predict using current subject knowledge	symbol.