Year 4 Science Curriculum Overview
Based on White Rose Science Scheme (To be read alongside the National Curriculum)

Year 4 Autumn	Autumn 1	Autumn 2	National Curriculum
	Group and classify living things **Data collection A** **States of matter**	**States of Matter**	**Living things and their habitats** • Recognise that living things can be grouped in a variety of ways • Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment **States of matter** • Compare and group materials together, according to whether they are solids, liquids or gases • Observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C) • Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature
Disciplinary knowledge (How are you teaching it?) **(Skills)**	• Ask relevant questions about living things • Use straightforward scientific evidence to answer questions about states of matter • Identify patterns between living things • Record classifications using keys • Make systematic observations about living things	• Make systematic and careful observations • Organise simple practical enquiries for states of matter • Record findings using simple scientific language • Identify differences, similarities or changes related to simple scientific ideas and processes • Draw simple conclusions about different states	
Substantive knowledge (What are you teaching? /what are children learning?) **(Knowledge)**	• Recognise that living things can be grouped in a variety of ways • Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment • Identify living things we do have in our local area and how does this changes over the year • Compare and group materials together, according to whether they are solids, liquids or gases • Understand and explain how states of matter change i.e. melting, boiling and evaporation • Explain the process of the water cycle • **Further states of matter objectives are in Autumn Term 2**	• Compare and group materials together, according to whether they are solids, liquids or gases • Observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C) • Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature	

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Year 4 Spring	Spring 1	Spring 2	National Curriculum
	Sound **Data collection B**	**Electricity** **Sustainability - Energy**	**Sound** • Identify how sounds are made, associating some of them with something vibrating • Recognise that vibrations from sounds travel through a medium to the ear • Find patterns between the pitch of a sound and features of the object that produced it • Find patterns between the volume of a sound and the strength of the vibrations that produced it • Recognise that sounds get fainter as the distance from the sound source increases **Electricity** • Identify common appliances that run on electricity • Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers • Identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery • Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit • Recognise some common conductors and insulators, and associate metals with being good conductors
Disciplinary knowledge (How are you teaching it?) **(Skills)**	• Consider prior knowledge to answer questions • Make systematic and careful observations • Carry out comparative and fair tests for sound • Identify patterns in sound • Record observations using tables and charts • Draw simple conclusions	• Set up simple practical enquiries for electricity • Gather, record, present data about electricity • Record findings using simple labelled diagrams • Use straightforward scientific evidence	
Substantive knowledge (What are you teaching? /what are children learning?) **(Knowledge)**	• Identify how sounds are made, associating some of them with an object vibrating • Recognise that vibrations from sounds travel through a medium to the ear • Find patterns between the pitch of a sound and features of the object that produced it • Identify patterns between the volume of a sound and the strength of the vibrations that produced it • Recognise that sounds get fainter as the distance from the sound source increases • Collect data about vertebrates and invertebrates and explain findings	• Identify common appliances that run on electricity • Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers • Identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery • Recognise that a switch opens and closes a circuit and associate this with whether a lamp lights in a simple series circuit or not • Recognise some common conductors and insulators, and associate metals with being good conductors • Understand what energy is and how we can reduce our usage	

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Year 4 Summer	Summer 1	Summer 2	National Curriculum
	Data collection C **Habitats** **Sustainability - Deforestation**	**The Digestive System** **Food Chains**	**Living things and their habitats** • Recognise that living things can be grouped in a variety of ways • Recognise that environments can change and that this can sometimes pose dangers to living things **Animals including humans** • Describe the simple functions of the basic parts of the digestive system in humans • Identify the different types of teeth in humans and their simple functions • Construct and interpret a variety of food chains, identifying producers, predators and prey
Disciplinary knowledge (How are you teaching it?) **(Skills)**	• Communicate findings orally and in writing • Draw conclusions based on subject knowledge • Answer questions based on observations about local habitats • Identify patterns from data collection • Make observations about local environment	• Ask and answer questions about the digestive system • Gather and record information about the human body • Use sources to describe impacts and changes to food chains	
Substantive knowledge (What are you teaching? /what are children learning?) **(Knowledge)**	• identify living things and their habitats • Recognise that environments can change and that this can sometimes pose dangers to living things • Understand and explain that humans cause the environment to change in both positive and negative ways • Recognise and explain the impact of climate change and what is being done to limit the effects • Use classification keys to sort plants and animals • Explain deforestation and what impact this has on the UK and rest of the world	• Describe the simple functions of the basic parts of the digestive system in humans • Identify the different types of teeth in humans and their simple functions • Construct and interpret a variety of food chains, identifying producers, predators • Explain what would happen if there were changes in the food chain	