Ready, Respectful, Safe

Science Overview

Cathcart Street Primary School 2023-2024

	Autumn	Spring	Summer
Science – Year 4	**Year 4 NC Objectives**	**Year 4 NC Objectives**	**Year 4 NC Objectives**
	Animals including Humans • construct and interpret a variety of food chains, identifying producers, predators and prey **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 recognise that environments can change and that this can sometimes pose dangers to living things	**Electricity** Pupils should be taught to: • 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. **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	**States of Matter** Pupils should be taught to: • 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 **Sound** Pupils should be taught to: • 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. • (Scientist Alexander Bell)
	Year 4 **Key Learning**	**Year4** **Key Learning**	**Year 4** **Key Learning**
	Animals including Humans - Biology • **To be able to name producers, predators and prey within a habitat.** • **To be able to classify living things into producers, consumers, predators and prey according to their place in the food chain.**	**Electricity - Physics** • **To be able to identify household devices and appliances that run on electricity.** • **To be able to build an electrical circuit consisting of a cell or battery connected to a component using wires.**	**States of Matter - Chemistry** • To compare and group materials together. • To know that melting is a state change from solid to liquid. • To know that freezing is a state change from liquid to solid.

	• **To be able to independently construct a food chain.** **Living things and their habitats** • To know animals can be grouped in different ways. • To be able to use classification keys to identify, group and name living things. • To know living things live in a habitat which provides and environment to which they are suited. To know environments can change and can sometimes pose dangers to living things.	• **To know the names of some components in a circuit and how it works.** • **To know the names of some metals that are conductors.** **To know the names of some materials that are insulators.** **Animals including humans - Biology** • **To be able to describe the simple functions and sequence the main parts of the digestive system.** • **To be able to name and identify the function of human teeth.**	• To identify the part played by evaporation and condensation in the water cycle. **Sound - Physics** • To know that a sound source vibrates to produce sound waves which travel to our ears. • To be able to explain how different mediums such as air or water or wood can carry sound. • To know that pitch is the highness or lowness of a sound.
Working Scientifically	**Animals including Humans** • To follow a given plan to carry out a comparative and simple fair test/ observations over time • To communicate their findings to an audience both orally and in writing, using appropriate scientific vocabulary. **Living things and their habitats** • To gather, record, classify and present data in a variety of ways. To record findings using scientific language, drawings, labelled diagrams, keys, bar charts and tables.	**Electricity** • To use their evidence to suggest values for different items tested using the same method e.g. conductors/ insulators. • To draw conclusions based on their evidence and current subject knowledge. To identify how they would do it differently if they repeated an enquiry. **Animals including Humans** • To follow a given plan to carry out a comparative and simple fair test/ observations over time • To communicate their findings to an audience both orally and in writing, using appropriate scientific vocabulary.	**States of Matter** • To decide for themselves how to gather evidence to answer a question posed by the teacher • To select from a range of practical resources to gather evidence to answer questions generated the teacher. • To accurately use equipment for measuring temperature (Celsius). • To ask further questions which can be answered by extending the same enquiry. **Sound** • To accurately measure sound using data loggers. • To make systematic and careful observations. • To decide how to record and present evidence. • To interpret their data to generate simple comparative statements based on their evidence. • To begin to identify naturally occurring patterns and causal relationships. •

Vocabulary	**Key Vocabulary (Animals inc Humans)** digestive system, saliva, oesophagus, small intestine, large intestine, rectum, anus, incisor, canine, molar, premolars, decay, function, producer, consumer. **Key Vocabulary (Living things and their habitat)** migrate, hibernate, pollution, littering, deforestation, endangered, extinct, invasive species	**Key Vocabulary (Electricity)** Circuit, electrical appliance/device, mains, component, cell, positive, negative, conductor, insulator, renewable, non-renewable, generate N.B. Children in year 4 do not need to use standard symbols as this is taught in year 6 **Key Vocabulary (Animals inc Humans)** digestive system, saliva, oesophagus, small intestine, large intestine, rectum, anus, incisor, canine, molar, premolars, decay, function, producer, consumer.	**Key Vocabulary (States of Matter)** Solid, liquid, gas, state, boiling,evaporation, precipitation, condensation, collection, water vapour, particles, Water cycle. **Key Vocabulary (Sound)** vibrate, volume, insulation, ear drum, sound waves, amplitude, particles, soundproof,