Linking Science Topics with National Curriculum Content- Year 4

Term	Topic	National Curriculum Knowledge Content	National Curriculum Working Scientifically Skills
Autumn 1	Changing States	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.	Identify differences, similarities or changes related to simple scientific ideas and processes Set up simple practical enquiries, comparative and fair tests Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment including thermometers and data loggers. Report on finding from enquiries, including oral and written explanations, displays or presentations of results and conclusions
Autumn 2	Dangers to Living Things	Recognise that environments can change and that this can sometimes pose dangers to living things. Construct and interpret a variety of food chains, identifying producers, predators and prey.	Ask relevant questions and use different types of scientific enquiries to answer them. Gather, record, classify and present data in a variety of ways to help in answering questions Set up simple practical enquiries, comparative and fair tests Use straightforward scientific evidence to answer questions or to support their findings
Spring 1	Grouping Living Things	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	Record findings using simple language, drawings, labelled diagrams, bar charts and tables Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers Gather, record, classify and present data in a variety of ways to help in answering questions Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables Use straightforward scientific evidence to answer questions or to support their findings
Spring 2	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.	Record findings using simple language, drawings, labelled diagrams, bar charts and tables Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions Use straightforward scientific evidence to answer questions or to support their findings Ask relevant questions and use different types of scientific enquiries to answer them. Identify differences, similarities or changes related to simple scientific ideas and processes

Summer 1	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.	Gather, record, classify and present data in a variety of ways to help in answering questions Set up simple practical enquiries, comparative and fair tests Identify differences, similarities or changes related to simple scientific ideas and processes Gather, record, classify and present data in a variety of ways to help in answering questions
Summer 2	Human Nutrition	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 Identify the different types of teeth in humans and their simple functions	Ask relevant questions and use different types of scientific enquiries to answer them. Set up simple practical enquiries, comparative and fair tests Report on finding from enquiries, including oral and written explanations, displays or presentations of results and conclusions Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions