**Knowledge, Skills & Understanding Progression- Year 4 Science**

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| **National Curriculum Requirements of Science KS2- Lower** |
| The principal focus of science teaching in lower key stage 2 is to enable pupils to broaden their scientific view of the world around them. They should do this through exploring, talking about, testing and developing ideas about everyday phenomena and the relationships between living things and familiar environments, and by beginning to develop their ideas about functions, relationships and interactions. They should ask their own questions about what they observe and make some decisions about which types of scientific enquiry are likely to be the best ways of answering them, including observing changes over time, noticing patterns, grouping and classifying things, carrying out simple comparative and fair tests and finding things out using secondary sources of information. They should draw simple conclusions and use some scientific language, first, to talk about and, later, to write about what they have found out.Pupils should read and spell scientific vocabulary correctly and with confidence, using their growing word-reading and spelling knowledge.**Working scientifically**During years 3 and 4, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:* asking relevant questions and using different types of scientific enquiries to answer them
* setting up simple practical enquiries, comparative and fair tests
* making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers
* gathering, recording, classifying and presenting data in a variety of ways to help in answering questions
* recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables
* reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions
* using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions
* identifying differences, similarities or changes related to simple scientific ideas and processes
* using straightforward scientific evidence to answer questions or to support their findings.
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| **Skill** | **National Curriculum Objective** | **Term 1** | **Term 2** | **Term 3** |
| **Sound** **‘What’s that 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
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| **States of Matter****‘Looking at 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
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| **Living things and their habitats** **‘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
* recognise that environments can change and that this can sometimes pose dangers to living things
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| **Animals, including humans** **‘Teeth and eating’** | * 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
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| **Electricity** **‘Power it up’** | * To identify common appliances that run on electricity.
* To construct a simple series electrical circuit.
* To 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.
* To recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit.
* To recognise some common conductors and insulators, and associate metals with being good conductors.
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| **Super Science Topic** **(This unit develops the ‘working scientifically’ skills.)****‘Brilliant Bubbles’**  |  |  |  | **√** |