Key Stage 2
YEAR 4 SCIENCE

<table>
<tr><th>National Curriculum
KS2Programme of Study</th><th colspan="2">Chris Quigley Essential Skills
Milestone 2</th></tr>
<tr><td rowspan="2"><u>Working Scientifically</u>
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.</td><td><u>1. To work scientifically</u></td><td>• Ask relevant questions.
• Set up simple practical enquiries and comparative and fair tests.
• Make accurate measurements using standard units, using a range of equipment, e.g. 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, bar charts and tables.
• Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.
• Use results to draw simple conclusions and suggest improvements, new questions and predictions for setting up further tests.
• Identify differences, similarities or changes related to simple, scientific ideas and processes.
• Use straightforward, scientific evidence to answer questions or to support their findings.</td></tr>
<tr><td><u>Living things and their habitats</u>
Pupils should be taught to:
• 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</td><td>To investigate living things</td><td>Identify and name a variety of living things (plants and animals) in the local and wider environment, using classification keys to assign them to groups.
• Give reasons for classifying plants and animals based</td></tr>
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their local and wider environment • 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.		on specific characteristics. • Recognise that environments are constantly changing and that this can sometimes pose dangers to specific habitats.
Animals, including humans Pupils should be taught to: • identify the different types of teeth in humans and their simple functions	To understand animals and 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.	To investigate materials	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 the temperature at which this happens in degrees Celsius (°C), building on their teaching in mathematics. • 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.	To investigate sound and hearing	Identify how sounds are made, associating some of them with something vibrating. • Recognise that sounds get fainter as the distance from the sound's source increases. 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. (From Milestone 3)

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.	To understand electrical circuits	Identify common appliances that run on electricity. • Construct a simple series electrical circuit. Identify common appliances that run on electricity. 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.