



Milestone 2b & 3

Science – Upper School (Cycle B)

	Basic:	Expected:	Deep:
Working scientifically (Y4)			
Ask relevant questions.			
Set up simple, practical enquiries, comparative and fair tests.			
Make systematic and careful observations.			
Take accurate measurements using standard units, using a range of equipment, e.g. thermometers and data loggers.			
Gather data in a variety of ways to help answer questions.			
Record data in a variety of ways to help answer questions.			
Classify data in a variety of ways to help answer questions.			
Present data in a variety of ways to help answer questions.			
Record findings using simple scientific language, drawings, labelled diagrams, keys, 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.			
Use results to make predictions for new values.			
Use results to suggest improvements.			
Use results to raise further questions.			
Identify differences, similarities or changes related to simple, scientific ideas and processes.			
Use straightforward, scientific evidence to answer questions or to support their findings.			
Working scientifically (Y5 & Y6)			
Plan enquiries, including recognising and controlling variables where necessary.			
Take measurements, using a range of scientific equipment, with increasing accuracy and precision.			
Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs, and models.			
Report findings from enquiries, including conclusions, causal relationships, and explanations of and degree of trust in results, in oral and written forms.			
Present findings in written form, displays and other presentations.			
Use test results to make predictions to set up further comparative and fair tests.			
Use simple models to describe scientific ideas, identifying scientific evidence that has been used to support or refute ideas or arguments.			
Animals, including humans: Circulation			
Identify the main parts of the human circulatory system.			
Name the main parts of the human circulatory system.			
Describe the functions of the heart, blood vessels and blood.			



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Recognise the impact of diet, exercise, drugs and lifestyle on the way the human body functions.			
Describe the ways in which nutrients and water are transported within humans.			
Sound			
Identify how sounds are made, associating some of them with something vibrating.			
Observe and name a variety of sources of sound, noticing that we hear with our ears.			
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.			
Properties and changes of materials: Properties including Electrical and Thermal			
Identify everyday materials with electrical properties.			
Identify everyday materials with thermal properties.			
Compare everyday materials based on evidence from comparative and fair tests, including their hardness, solubility, conductivity (electrical and thermal), and response to magnets.			
Group together everyday materials based on evidence from comparative and fair tests, including their hardness, solubility, conductivity (electrical and thermal), and response to magnets.			
Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic.			
Plants (Evolution and Inheritance): Adaptations			
Identify how plants are adapted to suit their environment in different ways.			
Recognise that adaptation to suit an environment may lead to evolution.			
Evolution and Inheritance			
Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago.			
Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents.			
Identify how humans resemble their parents in many features but are not identical.			



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Living things and their habitats: Ponds & Rivers			
Recognise that living things, including plants, micro-organisms and animals can be grouped in a variety of ways.			
Explore classification keys to help group, identify and name a variety of living things (according to common observable characteristics and based on similarities and differences) in their local and wider environment.			
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.			
Recognise that a change in environment can sometimes pose dangers to living things.			