

Whole School Curriculum Overview – Science (Chemistry)

	Milestone 1 (Year 1 & 2)	Milestone 2 (Year 3 & 4)	Milestone 3 (Year 5 & 6)
To work scientifically	Ask simple questions.	Ask relevant questions.	Plan enquiries, including recognising and controlling variables where necessary.
	Observe closely, using equipment.	Set up simple practical enquiries and comparative fair tests.	Use appropriate techniques, apparatus, and materials during fieldwork and laboratory work.
	Perform simple tests.	Make accurate measurements using standard units, using a range of equipment, eg. Thermometers and data loggers.	Take measurements, using a range of scientific equipment, with increasing accuracy and precision.
	Identify and classify.	Gather, record, classify and present data in a variety of ways to help answering questions.	Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, bar and line graphs and models.
	Use observations and ideas to suggest answers to questions.	Record findings using simple scientific language, drawings, labelled diagrams, bar charts and tables,	Report findings from enquiries, including oral and written explanations of results, explanations involving causal relationships and conclusions.
	Gather and record data to help in answering questions.	Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.	Present findings in written forms, displays and other presentations.
		Use results to draw simple conclusions and suggest improvements, new questions and predictions for setting up further tests.	Use test results to make predictions to set up further comparative and fair tests.
		Identify similarities, differences or changes related to simple scientific ideas and processes,	Use simple models to describe scientific ideas, identifying scientific evidence that has been used to support or refute ideas or arguments.
		Use straightforward, scientific evidence to answer questions or to support their findings.	
To investigate materials	Distinguish between an object and the material from which it is made.	Compare and group together different kinds of rocks on the basis of their simple, physical properties.	Compare and group together everyday materials based on evidence from comparative and fair tests, including their hardness, solubility, conductivity (electrical and thermal) and responses to magnets.
	Identify and name a variety of everyday materials including wood, plastic, glass, metal, water and rock.	Relate the simple physical properties of some rocks to their formation (igneous or sedimentary).	Understand how some materials will dissolve in liquid to form a solution and describe how to recover a substance from a solution.
	Describe the simple physical properties of a variety of everyday materials.	Describe in simple terms how fossils are formed when things that have lived are trapped within a sedimentary rock.	Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating.
	Compare and group together a variety of everyday materials on the basis of their simple physical properties.	Compare and group materials together according to whether they are solids, liquids or gases.	Give reasons based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic.
	Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.	Observe that some materials change their 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.	Demonstrate that dissolving, mixing and changes of state are reversible changes.
	Identify and compare the uses of a variety of everyday materials, including wood, metal, plastic, glass, brick/rock and paper/cardboard.	Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.	Explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning, oxidation and the action of acid on bicarbonate of soda.