St. George and St. Martin's Catholic Academy

Growing, learning and loving in Christ; united in play prayer and peace

Part of the Newman Catholic Collegiate

MATERIALS (CHEMISTRY)

National Curriculum Statements in red are from other linked topics.

Progression in Scientific knowledge, concepts & skills	EYFS (Early Learning Goals)	Year 1	Year 2	Year 3	Year 4 (States of Matter)	Year 5	Year 6	KS3
Concepts Structure Function Cause and effect Similarity and Difference	Children know about similarities and difference in relation to places, objects, materials and living things. Children talk about features of their own immediate environment and how environments might vary from one another. Children make observations	Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water and rock. Distinguish between an object and the materials from which it is made. Describe the simple physical properties of everyday materials.	Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses. Find out how the shapes of solid objects made from some materials can be changed by squashing, bending,	Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties. (Y3 - Rocks) Describe in simple terms how fossils are formed when things that have lived are trapped within rock. (Y3 - Rocks) Compare and	Compare and group materials 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	Compare and group everyday materials based on their properties including their hardness, solubility, transparency, 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		Chemical reactions as the rearrangement of atoms. Representing chemical reactions using formulae and using equations. Combustion, thermal decomposition, oxidation and displacement reactions. Defining acids and alkalis in terms of neutralisation reactions. The pH scale

	of animals and plants and explain why some things occur and talk about changes.	Compare and group together a variety of everyday materials on the basis of their simple physical properties.	twisting and stretching.	group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials. (Y3 - Forces and magnets)	part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.	and plastic. Understand that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution. Use knowledge of solids, liquids and gases to decide how mixtures might be separated ,including through filtering, sieving and evaporating. Demonstrate that dissolving, mixing and changes of state are reversible changes.		for measuring acidity/alkalinity; and indicators.

						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 and the action of acid on bicarbonate of soda.		