



KS2 Science

PROGRESSION GRID – CHEMISTRY

Yr	Everyday Materials (Year 1, 2, 5)	Properties and changes of materials (Year 5/6)	Rocks and states of matter (Year 3 & 4)
5/6	Use properties to distinguish metals from other solids that some materials are better thermal insulators than others that some materials are better electrical conductors than others	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 Predict whether changes are reversible or not Suggest ways in which other mixtures, similar to water & sand, salt & sand can be separated. use knowledge of solids, liquids and gases to decide how mixtures might be separated	identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature recognise differences between solids, liquids and gases, in terms of ease of flow and maintenance of shape and volume
4/5	give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets Give reasons based on evidence for particular uses of everyday materials (metals, wood, plastic)	demonstrate that dissolving, mixing and changes of state are reversible changes know 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 Describe evaporation, distillation, filtration method for separation Use scientific terms to describe changes: condensation, evaporation dissolving, melting, boiling, freezing Burning materials results in the formation of new materials, this change is not usually reversible e.g. wood, wax, natural gas Non-reversible changes result in the formation of new materials that may be useful e.g vinegar reacting with bicarbonate of soda, plaster of Paris with water	recognise that soils are made from rocks and organic matter 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) describe and group rocks and soils on the basis of their characteristics, including appearance, texture and permeability
3/4	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, twisting and stretching Explain why materials are used for specific purposes (glass, copper wiring)	Describe sieving method to sort sizes of solid particles e.g. soils, waste management Indicate that changes are non-reversible. (clay) Indicate that changes are reversible. (water) Classify changes as reversible or non-reversible Describe changes that occur when materials are mixed e.g. adding salt to water, sugar and water	describe in simple terms how fossils are formed when things that have lived are trapped within rock compare and group materials together, according to whether they are solids, liquids or gases
2	describe the simple physical properties of a variety of everyday materials compare and group together a variety of everyday materials on the basis of their simple physical properties Sort objects into groups on the basis of simple material properties Identify similarities/differences between materials. To sort materials on basis of properties.	Describe ways in which materials can be changed by bending, stretching, twisting, squashing Describe ways in which materials can be changed by heating & cooling e.g. water, chocolate, bread, clay	compare and group together different kinds of rocks on the basis of their appearance and simple physical properties
1	distinguish between an object and the material from which it is made identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock describe materials using their senses - appearance colour/size, texture		Based on Bucks Learning Trust Science Adviser: Shane Clark (slclark@learningtrust.net)

