SCIENCE PROGRESSION (CHEMISTRY ELEMENTS) – SKILLS AND CONTENTS AT TOLLERTON SCHOOL

Area of Chemistry	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Working Scientifically	*asking simple questions and recognising that they can be answered in different ways *observing closely, using simple equipment *performing simple tests *identifying and classifying *using their observations and ideas to suggest answers to questions *gathering and recording data to help in answering questions.		*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		*planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary *taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate *recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs *using test results to make predictions to set up further comparative and fair tests *reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations *identifying scientific evidence that has been used to support or refute ideas or arguments	
5268States of Matter				*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(°C) *identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.		
Rocks			*compare and group together different kinds of rocks on the basis of their appearance and simple physical properties *describe in simple terms how fossils are formed when things that have lived are trapped within rock *recognise that soils are			

			made from rocks and organic matter.			
Materials	Everyday Materials - *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 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.	Uses 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, twisting and stretching.			Properties and Changes of Materials – *compare and group together everyday materials and properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets, know that some materials will dissolve in liquid to form a solution, and know how to recover a substance from a solution *use knowledge of solids, liquids and gases to decide how mixtures might be separated, including filtering, sieving and evaporating *give reasons, based on evidence from comparative and fair tests, for theuses of everyday materials, including metals, wood and plastic *demonstrate that dissolving, mixing and changes of state are reversible changes *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.	