

Chemistry Y7 Science - KS3 ASSESSMENT DESCRIPTORS

	Discovering 'Learning'	Growing	Emerging	Developing	Secure	Mastered
Matter	State that materials are made up of particles and identify the three states of matter.	Match particle models to the properties of a material. Make observations to determine the state.	Describe how materials are made up of particles. Describe the properties of the different states and use the particle model to explain them.	Use the particle model to explain why different materials have different properties. Discuss the properties of a range of materials, in terms of state and the particle model.	Explain how a range of materials are made up of particles. Use ideas about how fast particles are moving to explain the properties of substances and changing states.	Evaluate particle models that explain why different materials have different properties. Identify how observations would differ at different temperatures
Atoms and Elements	Match the term element to its definition. State examples of elements.	Present some simple facts about an element. Identify substances that are elements, giving a simple reason for their answer.	State what an element and a compound is. List the properties of six elements. State what atoms are	Record observations and data on elements. Compare the properties of one atom of an element to many atoms.	Explain why certain elements are used for a purpose, in terms of the properties.	Compare the properties and uses of different elements. Use observations and data obtained to form conclusions about given elements.
Compounds	Match compounds to their symbols	State why elements and compounds are different. Identify elements within compounds from chemical formulae.	Write chemical names for simple compounds and be able to interpret formulae.	Explain why a compound has different properties to the elements in it. Describe elements and compounds using symbols and formulae.	Differentiate elements from compounds when given names and properties. Calculate the percentage composition of a compound.	Use particle diagrams to explain why a compound has different properties to the elements in it. Use data to calculate formula mass.
Chemical Reactions	State what a chemical reaction is. Identify reactants and products.	State what happens to the reactants in a chemical reaction and state some signs of a chemical reaction. Describe the products of decomposition.	Describe what happens to atoms during a chemical reaction. Explain why chemical reactions are useful. Using word equations, predict the products.	Distinguish between chemical and physical changes. Be able to recall the definition of a catalyst. Write word equations.	Describe in detail what happens to particles in a chemical reaction. Compare and contrast physical and chemical changes. Construct simple formula equations.	Explain the differences in physical and chemical changes. - Categorise observations in terms of chemical or physical changes, and suggest reasons why these observations occur. Explain the pros and cons of some oxidation reactions.
Energy	State simply what happens in endothermic and exothermic changes.	Identify a reaction as endothermic or exothermic.	Record temperature changes during an exothermic and an endothermic change.	Describe the characteristics of exothermic and endothermic changes. Calculate the temperature change and make a conclusion in a range of familiar exothermic and endothermic changes.	Apply temperature changes to exothermic and endothermic changes in unfamiliar situations.	Begin considering endothermic and exothermic changes in terms of energy transfers to and from the surroundings. Calculate the temperature change and make a conclusion in a range of unfamiliar exothermic and endothermic changes.

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Periodic Table	Identify a group and a period on the periodic table and elements that are in the same group and period.	Explain that elements in the same group have similar properties. Identify where metals and non- metals are found on the periodic table.	Use patterns to predict the properties of elements. Explain the properties and difference in detail between metals and non- metals.	Compare patterns in properties in the groups and periods. Explain how Mendeleev came up with this structure for the periodic table.	Recall the properties of elements in Group 1, Group 7 and Group 0 as you go down the group. Be able to analyse data on elements to identify which ones are in the same group.	Explain how we can work the different reactivity of the halogens using displacement reactions and recall the results. Explain why elements in the same group have similar but not the same properties.
Separation Techniques	Explain the difference between pure and impure substances Explain what is meant by solubility. Describe how to filter a mixture	Describe the particle arrangement in mixture and how this differs from a compound Use the particle model to explain dissolving. Explain how filtration works	Describe solutions using the keywords Recall factors which can affect how quickly a solute dissolves. Explain how to use evaporation to separate mixtures	Explain the differences between a mixture and compound using examples. Explain how each of the factors affect solubility. Explain how distillation works	Be able to define the keywords; solute, solvent and solution with examples. Explain what a saturated solution is. Explain how chromatography separates a mixture	Be able to use graphs to identify whether a substance is pure or not. Design an experiment to compare the solubility of salt and sugar. Analyse chromatograms to identify substances in mixtures
Metals and Acids	Be able to carry out a simple experiment of adding metals to acid, burning metals in air and adding metals to water. Carry out displacement reactions between metals and metal compound solutions	Explain the test for hydrogen gas From the reactivity series predict outcomes Describe some simple ceramic, polymer and composite properties	Compare the reactions of different metals with dilute acids and compare the reactions of different metals with oxygen Use the reactivity series to explain the displacement reactions Describe in more detail the properties of ceramics, polymers and composites	Compare the reactions of metals with water and use state symbols in balanced formula equations Write word and symbol equations (balanced) for the displacement reactions Explain why the properties of ceramics makes them suitable for their uses	Use the reactivity series to predict reactions Use the reactivity series to decide which metals can be extracted from their ores by heating with carbon. Calculate the amounts of metals in ores.	Pupils to use the results of their experiments to construct their own reactivity series. Explain how the thermite reaction works with reference to the displacement reaction
The Earth	Give examples of sedimentary, igneous and metamorphic rocks. Explain where all resources on Earth come from Be able to recall some processes involved in the carbon cycle	Be able to label the layer of Earth on a diagram Explain two properties of sedimentary, igneous and metamorphic rocks. Explain what recycling is with examples Be able to label a diagram of the carbon cycle and use it to identify stores of carbon.	Compare the layers of Earth Explain how igneous and metamorphic rocks form. Explain how aluminium can be recycled Explain the concentration of carbon dioxide in the atmosphere did not change for many years.	Describe the composition of the atmosphere Compare the ways igneous and metamorphic rocks form Analyse the advantages and disadvantages of recycling. Explain why global warming happens	Explain how sedimentary rocks are made including weathering, transport, deposition, compaction and cementation. Explain some impacts of global warming	Use the rock cycle to explain how the material in rocks is recycled. Explain in detail the causes and effects of climate change