

8G Metals & Their Uses	Knowledge, Skills and Understanding
Higher	<p>Use valencies to deduce the formula of simple two-element compounds including transition metals</p> <p>Model simple reactions using balanced symbol equations</p> <p>Use ideas about reactivity to explain how sacrificial metals can protect iron from rusting</p> <p>Write and derive the formulae for common acids and simple salts, given the ratios of atoms or the formulae of reactants</p> <p>Model simple reactions using balanced symbol equations</p> <p>Describe some ways in which purity is stated</p> <p>Plot and interpret graphs of melting point or boiling point for mixtures of varying compositions</p>
Intermediate	<p>Name the compounds formed by a reaction between a metal and a non-metal</p> <p>Describe how catalysts affect the speed or rate of a reaction</p> <p>Describe some applications of catalysts in everyday use</p> <p>Model simple reactions of metals and non-metals using word equations</p> <p>Model simple oxidation reactions using word equations</p> <p>Explain how barrier methods protect iron from rust</p> <p>Identify the products and reactants using a symbol equation</p> <p>Identify and explain the products formed by the reactions of metals with water</p> <p>Model simple reactions of metals and water using word equations</p> <p>Use information on the reactions of metals with water to place them in an order of reactivity</p> <p>Supply missing reactants or products to complete a symbol equation</p> <p>Model simple reactions of metals and acids using word equations</p> <p>Use information on the reactions of metals with acids to place them in order of reactivity</p> <p>Model simple reactions using symbol equations</p> <p>State that a pure material has a fixed melting point and boiling point</p> <p>Describe how impurities alter melting, freezing and boiling points</p> <p>Identify a pure substance from its melting or boiling point</p> <p>Use models to explain why converting pure metals into alloys often increases the strength of the product</p>
Foundation	<p>Describe some common properties of metals and non-metals</p> <p>Relate the uses of different elements to their properties</p> <p>Recall some reactions that happen slowly and some that happen quickly</p> <p>Relate the uses of different elements to their chemical properties</p> <p>Describe the corrosion of metals by reactions with oxygen</p> <p>Identify and explain the products formed by the oxidation of metals</p> <p>State the meaning of: rusting</p> <p>Recall ways in which iron can be prevented from rusting</p> <p>Recall some reactions that happen slowly and some that happen quickly</p> <p>Relate the uses of different elements to their chemical properties</p> <p>Describe the reactions of different metals with water</p> <p>Describe the gas test for hydrogen</p> <p>Relate the uses of different elements to their chemical properties</p> <p>Describe the reactions of acids with metals</p> <p>Recall which salts are produced by which acids</p> <p>Recall some reactions that happen slowly and some that happen quickly</p> <p>Relate the uses of different elements to their chemical properties</p> <p>Describe what happens during changes of state</p> <p>State what happens at a material's melting, freezing and boiling point</p> <p>State what is meant by: pure</p> <p>State the meaning of: alloy</p> <p>Explain why metals are often alloyed with other elements</p>