



Attainment Band :	C1 Atomic Structure and the Periodic Table (AQA)
Knowledge and Understanding	
Yellow Plus/ Yellow	<p>Use symbol equations to describe chemical reactions.</p> <p>Use balanced equations to describe reactions.</p> <p>Explain why the scattering experiment led to a change in the atomic model.</p> <p>Complete data tables showing the atomic numbers, mass numbers and numbers of sub-atomic particles from symbols.</p> <p>Explain how Mendeleev was able to make predictions of as yet undiscovered elements such as eka-silicon.</p> <p>Explain how the electronic arrangement of transition metal atoms put them into a period.</p> <p>Explain that non-metals need to gain or share electrons during reactions and that metals need to lose electrons during reactions.</p> <p>Predict the relative reactivity across the periods and give reasons.</p> <p>Explain the trend down Group 0 of increasing boiling point in terms of atomic mass.</p> <p>Explain the trend down the group of increasing reactivity by electron structure.</p> <p>Predict displacement reaction outcomes of halogens other than chlorine, bromine and iodine.</p> <p>Explain the trend of increasing reactivity in terms of electron structure.</p> <p>Use ratios</p>
Blue	<p>Recall the names of the first 20 elements in the periodic table and the elements in Groups 1 and 7.</p> <p>Use word equations to describe chemical reactions.</p> <p>Explain that early models of atoms developed as new evidence became available.</p> <p>Calculate the numbers of sub-atomic particles in ions and isotopes given the atomic and mass numbers.</p> <p>Explain why the modern periodic table has the elements in order of atomic number.</p> <p>Explain how the electronic arrangement of atoms follows a pattern up to the atomic number 20.</p> <p>explain that atoms of metals have 1, 2 or 3 electrons in their outer shell.</p> <p>Explain that non-metals have 4, 5, 6, 7 or 8 electrons in their outer shell.</p> <p>Explain the trend down Group 0 of increasing boiling point.</p> <p>Predict and explain the relative reactivity down the groups.</p> <p>Describe the order of reactivity and explain the displacement of halogens.</p> <p>Predict the properties of 'unknown' elements from their position in the group.</p> <p>With some guidance use ratios</p>
Green	<p>Name compounds from their formula.</p> <p>Describe how to separate mixtures of elements and compounds.</p> <p>Explain that early models of the atom did not have shells with electrons.</p> <p>Draw a diagram of a small nucleus containing protons and neutrons with orbiting electrons at a distance.</p> <p>Describe how Mendeleev was able to leave spaces for elements that had not yet been discovered.</p> <p>Describe the pattern of the electrons in shells for the first 20 elements.</p> <p>Describe a number of physical properties of metals and non-metals.</p> <p>Explain that non-metals are on the right-hand side of the periodic table.</p> <p>Describe the unreactivity of the noble gases.</p> <p>Predict the reactions with water of Group 1 elements lower than potassium.</p> <p>Recall the colours of the halogens and the order of reactivity of chlorine, bromine and iodine.</p> <p>Explain that a stable outer shell of electrons makes noble gases unreactive.</p> <p>With help use ratios.</p>
White	Some elements of the above have been achieved