


Review C1.1 Fundamental ideas in chemistry

Can you...?	😊	😐	😞
C1.1.1 Atoms			
Define the word 'element' in terms of atoms			
State that there are about 100 different elements which are shown in the periodic table			
Identify where metals and non-metals appear in the periodic table			
State that groups (columns) contain elements with similar properties			
Recognise elements from their names or symbols, using a periodic table			
Describe the structure of an atom, including the nucleus, protons, neutrons and electrons			
State the relative charges of protons, neutrons and electrons			
Explain why atoms have no overall electrical charge			
Define the terms 'atomic number' and 'mass number' and use them to calculate the number of protons, neutrons or electrons in any atom			
Describe how electrons fill up the energy levels (or 'shells') around the nucleus, starting from the lowest energy level (or innermost available shell)			
Represent the electronic structure of the first 20 elements of the periodic table in the following forms:		<div style="border: 1px solid black; padding: 5px; display: inline-block;">sodium 2,8,1</div>	
C1.1.2 The periodic table			
Relate an element's group in the periodic table to the number of electrons in its highest energy level (outer electrons) and state that this gives them similar chemical properties			
Describe the reactions between metals of group 1 metals with water and oxygen			
Explain why the noble gases (group 0) are unreactive, in terms of their outer electrons			
C1.1.3 Chemical reactions			
Describe how elements react to form compounds, and state that they can give, take or share electrons when they form these compounds, forming ions or molecules			
State that compounds formed from metals and non-metals are made of ions			
Describe how metals form positive ions and how non-metals form negative ions			
State that compounds formed from only non-metals are made of molecules, and that molecules contain atoms held together by covalent bonds			
Write word equations for all the chemical reactions in the science course			
Recognise symbol equations and use them to work out the numbers of atoms involved			
(HT) Balance symbol equations			
Use the idea of conservation of mass: no atoms are lost or made during a chemical reaction, so the mass of the products equals the mass of the reactants			