**Chemistry Unit C1: Structures, Trends, Chemical Reactions, Quantitative Chemistry and Analysis**

**C1.2 Bonding**

|  |  |  |  |
| --- | --- | --- | --- |
| **Content - CCEA Double Award Biology 1 – Fort Hill Integrated College** | Got it | Nearly | Haven’t a clue |
| **C1.2 Bonding** | | | |
| **Ionic bonding** |  |  |  |
| Can you describe and explain that an ion is a charged particle formed when an atom gains or loses electrons and a molecular ion is a charged particle containing more than one atom; |  |  |  |
| **Can you define the terms cation and anion;** |  |  |  |
| Can you explain, using dot and cross diagrams, how ions are formed and how ionic bonding takes place in simple ionic compounds, limited to elements in Groups 1 (I) and 2 (II) with elements in Groups 6 (VI) and 7 (VII), the ions of which have a noble gas electronic configuration; |  |  |  |
| Do you understand that:   * ionic bonding involves attraction between oppositely charged ions; * ionic bonds are strong; and * substantial energy is required to break ionic bonds; |  |  |  |
| Do you recognise that ionic bonding is typical of metal compounds; |  |  |  |
| **Covalent bonding** |  |  |  |
| Can you describe a single covalent bond as a shared pair of electrons; |  |  |  |
| Can you explain, using dot and cross diagrams, how covalent bonding occurs in H2, Cl2, HCl, **H2O, NH3, CH4** and similar molecules and label lone pairs of electrons; |  |  |  |
| **Can you** **draw dot and cross diagrams and indicate the presence of multiple bonds in O2, N2 and CO2;** |  |  |  |
| Can you recognise covalent bonding as typical of non-metallic elements and compounds. |  |  |  |
| Can you demonstrate knowledge and understanding that a molecule is two or more atoms covalently bonded and that diatomic means there are two atoms covalently bonded in a molecule; |  |  |  |
| Can you recall that covalent bonds are strong and substantial energy is required to break covalent bonds; |  |  |  |
| Can you recall that a covalent bond may be represented by a line; |  |  |  |
| **Metallic bonding** |  |  |  |
| **Can you** **demonstrate describe and explain that metallic bonding results from the attraction between the positive ions in a regular lattice and the delocalised electrons.** |  |  |  |