Collingwood School Science 9

**Science 9: Chemistry Unit Project: Model a Compound**

Matter all around us are made up of pure substances. Pure substances are either elements or compounds. There are around 10 million compounds known to us today. What are the compounds made of? How are the compounds bonded together? Have you ever wondered what the difference between an ionic and a covalent compound is?

Challenge:

Create a model of a compound! Due Date: Wednesday, November 9th 2016

**Guidelines:**

* You may work alone or with one other.
* You are to design and create a 3D model of a compound. Your model must accurately demonstrate the location and number of protons, neutrons and electrons.
* Your model must consist of 2 elements or more. You may choose either an ionic compound or a covalent compound.
* Along with your finished model, you will turn in a Bohr model diagram of your compound, an explanation of whether your compound contains ionic or covalent bonds (or both), and why. Bonus marks will be given to models that contain both ionic and covalent bonds! Your Bohr model diagram must be of high quality and your explanation must be detailed and accurate.
* Be creative!

**Rubric:**

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| A 3D model representing your chosen model, with the correct number of protons, neutrons and electrons in the correct location. Protons, neutrons and electrons are easily identifiable and differentiated from each other (A legend is recommended)  |   | / 20  |
| The configuration of the electrons is well demonstrated, including demonstrating the proper electron shells and the electrons in the valence shells are correct.   |   | / 10  |
| Bohr model diagram of the compound is neat and accurate  |   | / 10  |
| The explanation of the type of bond(s) that exist in your compound is accurate and demonstrates a solid understanding of your knowledge about the bond.   |   | / 10 |
| The compound looks neat / creative/sleek/cool/attractive  |   | / 10  |
| Extra Credit ‐ for choosing a compound that involves three or more elements  |   | / 10  |
| Extra Credit – for choosing and accurately depicting a compound that contains both ionic and covalent bonds  | / 5  |
| **Total**  | **/60**  |