**Homework Menu Grid – C4 Periodic table**

Complete some of the tasks from the grid below to reach a total of points over this unit of work. Try and cover a variety of tasks over the unit so that you’re practicing different skills. Once you’ve completed a task, colour that box on the grid to keep a record of your points. Can you get the highest point score this unit?

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| **Topic** | **1 Point** | **2 Points** | **4 Points** | **6 Points** | **10 Points = FGF!** |
| **Atomic structure** | Draw the structure of an atom. | Add labels, the relative charge and the relative mass of each subatomic particle to your drawing of an atom. | Explain why models are using in science and why they change over time. | Draw a timeline of the 4 main developments of the periodic table. Include a drawing of the model and the year that it was developed. | Write a description of how the model of an atom developed from Daltons solid sphere to the model we have today. |
| **Periodic table** | Write a definition of a group and a period. | What elements are found in:   1. Group 1 2. Group 7 3. Group 0/8 | What are the mass and atomic numbers for these elements:   1. Gold 2. Silver 3. Platinum 4. Oxygen | What group and period are the following elements:   1. Lithium 2. Neon 3. Carbon 4. Iron 5. Magnesium 6. Argon | Create a fact sheet on an element in the periodic table including:  The mass and atomic number  Description of the appearance and properties of the element and what it can be used for. |
| **Development of the periodic table** | What was wrong with the first periodic table developed in the early 1800s? | Describe who Dimitri Mendeleev was. | Explain how Mendeleev improved the periodic table and why it was accepted by other scientists. | Compare Mendeleev’s original periodic table to the one we use today. What are the similarities and differences. | Research and produce a report into why Mendeleev did not win a Nobel prize for his work on the periodic table. |
| **Chemical and physical properties** | Write a definition of a chemical and physical reaction. | Give examples of 3 physical and 3 chemical properties of an element or compound. | Give examples of:   1. An element with a low boiling point. 2. An element with a high boiling point. 3. An element or compound that is highly flammable. 4. An element or compound that conducts electricity. | Give a chemical and physical property of each of these elements.   1. Carbon 2. Oxygen 3. Lithium 4. Hydrogen | Produce a clock map of this unit as a whole to use for your revision. |
| **Metals and non-metals** | Write the symbols of 3 metal and 3 non metal elements. | Describe where you can find the metals and non-metals on the periodic table. | Describe the properties of a typical metal.  Describe the properties of non metals. | Pick 3 metals, describe their properties and why they make them ideal for a particular use. | Explain how you can test a material to see if it   1. Conducts electricity 2. Conducts heat 3. Reacts with water 4. Reacts with acid |
| **Electronic structure** | State how many electrons atoms of the following elements contain.   1. Carbon 2. Oxygen 3. Hydrogen | State how many electrons fit in the   1. First shell 2. Second shell 3. Third shell | State how many electrons, protons and neutrons are found in the following elements:   1. Helium 2. Neon 3. Chlorine | Draw the electron configuration for the following:   1. Nitrogen 2. Fluorine 3. Magnesium | Write a guide to teach another student how to work out where to place the electrons in Calcium. Remember to add tips including how to arrange them within each shell. |
| **Group 1** | What type of elements are found in group 1? | Describe the general properties of elements in group 1. | Write the word and symbol equation for the reaction between the first 5 group 1 elements and water. Add state symbols and balance. | Explain why the water has a high pH after the group 1 element has reacted in it. | Explain why the reactivity of elements in group 1 increase as you go down the group. In your answer you should include the following key words:  Electron, nucleus, shells, reactivity, lost. |
| **Group 7** | What group of elements are found in group 7? | Describe the general properties of elements in group 7. | Draw the electronic structure of two elements in group 7. | Explain why this group of elements likes to form bonds with elements in group 1. | Research one of the group 7 elements and create a fact sheet on it. |
| **Group 0** | What group of elements are found in group 0/8? | Describe the general properties of elements in group 0. | Draw the electronic structure of two of the element in group 0. | Explain why this group of elements is so unreactive. | Research the use of noble gases in lighting. Which gas creates which colour? |