**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?

45

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **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 it1. 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?  |