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| **Atoms Notes** | |
| • Consist of a nucleus (\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_) and electrons.  • There are 3x more atoms in 1 teaspoon of water that there are teaspoons of water in the Atlantic Ocean  • Atoms are mostly \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.  • Most of an atoms mass is in the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.  • Atomic mass = the number of protons and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in the atom.  • Protons have a charge of \_\_\_\_\_\_\_.  • Electrons have a charge of \_\_\_\_\_\_\_\_.  • Neutrons have \_\_\_\_\_\_\_ Charge.  • The number of electrons in an element is the \_\_\_\_\_\_\_\_\_\_\_\_ as the number of protons.  • Elements do not normally have a charge.  • The atomic number is the number of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in the atom of the element.  • Because the # of protons is equal to the # of electrons we can also tell the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ from the atomic number. | |
| **Periodic Table Notes** | |
| • Each square on the periodic table is an **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**  **•** Elements are divided vertically into \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.  • Elements in the same group tend to have \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.  • This is because each atom in the same group has the same \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  in its outermost shell.  • The outermost shell where electrons sit is known as a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.  • The number of electrons in the Valence shell affects how the atom \_\_\_\_\_\_\_\_\_\_\_\_\_\_.  • The way an atom bonds affects many of the properties of an element.  **•** Elements are divided horizontally into \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.  **•** Elements in the same period have the same number of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.  • 3 main groups on the periodic table are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.  • 75% of the elements are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.  • Metals have three main properties, they are:  1) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, 2) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  3) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  • Non-metals have three main properties, they are:  1) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, 2) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  3) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  • Only two elements are liquids at room T, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.  **•** Elements are organized from left to right by increasing \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.  **•** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ lie on the “Staircase”.  • Metalloids \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the properties of both metals and non-metals. | |
| **Important Groups (Families) of the Periodic Table** | |
| **Alkali metals** | **Group \_\_\_**, **VERY REACTIVE**, they can spontaneously combust in air and water. Reactivity \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ as you go \_\_\_\_\_\_\_\_\_\_\_\_ the group.  Alkali metals have \_\_\_\_\_ valence electron (electrons in outer shell) |
| **Halogens** | **Group \_\_\_\_\_\_**, **VERY REACTIVE**  Often bond with \_\_\_\_\_\_\_\_\_\_\_\_\_\_ (Group 1) because halogens have \_\_\_\_ valence electrons and alkali metals have \_\_\_ valence electron so when they bond they share electrons, and both get a stable octet (eight valence electrons)  Halogens have \_\_\_\_\_\_\_\_ valence electrons |
| **Alkaline earth metals** | **Group \_\_\_\_\_,** reactive but not as much as the alkali metals.  React with oxygen to form oxides  Alkaline earth metals have \_\_\_\_\_\_\_\_\_ valence electrons |
| **Noble Gases** | **Group \_\_\_\_\_\_\_,** Non-reactive because they have filled electron energy levels (normally 2 in innermost level, 8 in the others).  Noble gases have \_\_\_\_\_ valence electrons = stable \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. |
|  | **Color (in outline) on your Periodic Table and label METALS, METALLOIDS, NON-METLS, TRANSITION METALS, NOBLE GASES, ALKALI METALS, ALKALINE EARTH METALS, HALOGEN if you have not already done this.** |