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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 oxidesAlkaline 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.** |