**Atomic Structure Review**

1. **The 3 particles of the atom are:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Location in Atom? | Size of LOCATION? | Charge? | Mass? |
| Protons |  |  |  |  |
| Neutrons |  |  |  |  |
| Electrons |  |  |  |  |

1. The number of protons in one atom of an element determines the atom’s \_\_\_\_\_\_\_\_\_\_\_,

and the number of electrons determines \_\_\_\_\_\_\_\_\_\_\_\_\_ of an element.

1. The atomic number tells you the number of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in one atom of

an element. It also tells you the number of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in a neutral

atom of that element.

1. The atomic number gives the “identity “of an element as well as its location on the

Periodic Table. No two different elements will have the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

atomic number.

1. The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of an element is the average mass of an element’s

naturally occurring atom, or isotopes, taking into account the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of

each isotope.

1. The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of an element is the total number of protons and

neutrons in the\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of the atom.

1. The mass number is used to calculate the number of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in

one atom of an element. In order to calculate the number of neutrons you must subtract

the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ from the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ .

1. **Give the symbol and number of protons in one atom of:**
   1. Lithium: Symbol\_\_\_\_\_\_\_\_\_\_ Protons\_\_\_\_\_\_\_\_\_\_\_\_
   2. Iron: Symbol\_\_\_\_\_\_\_\_\_\_ Protons\_\_\_\_\_\_\_\_\_\_\_\_
   3. Oxygen: Symbol\_\_\_\_\_\_\_\_\_\_ Protons\_\_\_\_\_\_\_\_\_\_\_\_
2. **Give the symbol and number of electrons in a neutral atom of:**
   1. Uranium : Symbol\_\_\_\_\_\_\_\_\_\_ electrons\_\_\_\_\_\_\_\_\_\_\_\_
   2. Boron : Symbol\_\_\_\_\_\_\_\_\_\_ electrons \_\_\_\_\_\_\_\_\_\_\_\_
   3. Antimony : Symbol\_\_\_\_\_\_\_\_\_\_ electrons \_\_\_\_\_\_\_\_\_\_\_\_
3. **Give the symbol and number of neutrons in one atom of:** Show your calculations
   1. Barium-137 Symbol\_\_\_\_\_\_\_\_\_\_ Neutrons (include math)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   2. Carbon-12 Symbol\_\_\_\_\_\_\_\_\_\_ Neutrons (include math)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   3. Fluorine-19 Symbol\_\_\_\_\_\_\_\_\_\_ Neutrons (include math)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   4. Hydrogen-1 Symbol\_\_\_\_\_\_\_\_\_\_ Neutrons (include math)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. **Name the element which has the following numbers of particles:**
   1. 26 electrons, 29 neutrons, 26 protons \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   2. 53 protons, 74 neutrons \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   3. 2 electrons (neutral atoms) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   4. 20 protons \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   5. 86 electrons, 125 neutrons, 82 protons (charged atom) \_\_\_\_\_\_\_\_\_\_\_\_\_
   6. 0 neutrons \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. **If you know only the following information can you always determine what the element is? (Yes or No answers).**
   1. number of protons \_\_\_\_\_\_\_\_\_\_\_
   2. number of neutrons\_\_\_\_\_\_\_\_\_\_\_
   3. number of electrons in a neutral atom\_\_\_\_\_\_\_\_\_\_\_
   4. number of electrons\_\_\_\_\_\_\_\_\_\_\_