**Size of an Atom**

* Atoms are \_\_\_\_\_\_\_\_\_\_\_\_\_\_!
* The diameter of one atom is on average \_\_\_\_\_\_\_\_\_\_\_\_\_, that is a tenth of billionth of a meter.
  1. Example: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ = 1 700 000 000 000 000 000 000 atoms

**Arrangement of an Atom**

* Nucleus: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Rings: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Rings AKA Shells AKA Orbitals**

* Electrons are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_- they spin around the \_\_\_\_\_\_\_\_\_\_\_
* They can move in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ as long as they stay in their\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (or \_\_\_\_\_\_\_\_\_\_ or \_\_\_\_\_\_\_\_\_\_\_\_) is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ nucleus that the electron \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* The electrons in the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is always \_\_\_\_\_\_\_\_\_\_\_\_\_ to the nucleus than an electron in the\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**Orbital Basics**

* A shell can be called an \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ or \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* Shells are areas that \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_of an atom.
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_ live in something called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ .
* Each of those shells has a\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ .
* K shell: Can hold a max. \_\_\_\_\_\_\_\_\_\_\_\_\_.
* L shell: Can hold a max \_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* M shell: Can hold a max of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_for the first 18 elements, and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ after that
* Most any shell can hold:\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Where are the electrons RIGHT NOW?!?!?!**

* Yes electrons reside in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* BUT we can't really say exactly where \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is at any moment in time. We can only \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ where an electron is located.
* According to\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, an electron can be found \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ around the nucleus.
* Using \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, scientists are able to approximate, that electrons are in a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* These general areas are called the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**Power Up**

* Electrons are very important in the world of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* These very small particles stream through \_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_creating currents of\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ .
* Electrons move from \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_charged parts to \_\_\_\_\_\_\_\_\_\_\_\_ charged ones.
* Negatively charged pieces of any circuit have \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ while the positively charged pieces want \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* The electrons then \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to another.
* When the electrons\_\_\_\_\_\_\_\_\_\_\_\_\_, the current can flow through the\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**Molecule and Compounds**

* A **molecule** is a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ that are chemically bonded
  1. e.g. A molecule of water (H2O) is made from a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ between 2 atoms of \_\_\_\_\_\_\_\_\_\_\_\_ and 1 atom of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**Combining Atoms to Make Molecules**

**Chemical Formulas**

* Molecules are represented by their \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* This shows the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and the number of each atom that ­­­­­­­­­­­­­­­\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* Each atom is represented by its \_\_\_\_\_\_\_\_\_\_\_\_ from the\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* The number of each atom is written \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the symbol.   
  (the number 1 is not written)

H2O