What is an atom?

Atoms are the “\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_” of matter.



Atomic Structure/Location:

Nucleus: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ & \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Electron cloud/orbit: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Electrons**

* Tiny, very light particles (do not count \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_)
* Have a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_electrical charge (-)
* Move around the outside of the nucleus

**Protons**

* Much larger and heavier than electrons
* Protons have a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ charge (+)
* Located in the nucleus of the atom

**Neutrons**

* Large and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ like protons
* Neutrons have \_\_\_\_\_\_\_\_\_\_ electrical charge
* Located in the nucleus of the atom

If all atoms are made of protons, neutrons, & electrons, why do different atoms have different chemical properties? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* Electrons are the parts of atoms that are affected by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_!
* Atoms of different elements have different numbers of electrons, protons, and neutrons!

**Differentiating Atoms**

**Atomic Number=** Number of protons in the **nucleus-determines the type of atom**

 Since atoms are electrically \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, the # of protons = # of electrons

**Mass Number =**  Number of protons + neutrons in the nucleus

 Usually very close to the atomic mass BUT it’s \_\_\_\_\_\_\_\_ the same thing!

 Protons + neutrons= mass



How to determine the number electrons, neutrons, & protons for an element? :

* Atomic # = # of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_- determines the atom
* Atomic mass = # of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* In neutral atoms: #protons = electrons & many times neutrons
* To determine # of neutrons:

 atomic \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ - # of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_