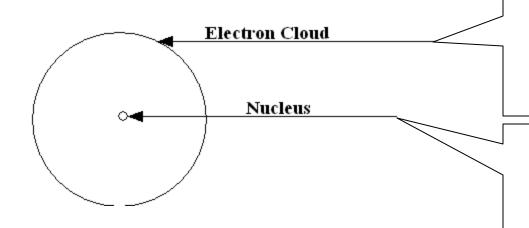
Atomic Structure



ns

- Makes up most of the volume of the atom
- Negatively charged (electrons are negative)
- Electrons are small and essentially have no mass, so the electron cloud is mostly empty space
- Contains the protons and neutrons
- Positively charged (positive protons, neutral neutrons)
- Small
- Contains all of the mass of the atom
- **Extremely** dense

	Where Found	Charge	Mass Number
Proton	Nucleus	+1	1
Neutron	Nucleus	0	1
Electron	Electron Cloud	-1	0

Definitions

- □ <u>Atom</u>: the smallest particle of an element that retains the properties of that element
- Atomic number: the number of protons in the nucleus of an atom
- ☐ Mass number: the total number of protons and neutrons in the nucleus of an atom
- □ <u>Isotopes</u>: Atoms of the same element that differ in mass number (differing numbers of neutrons)

Basic Electrostatics:

Opposite charges attract and identical charges repel

- Electrons and protons attract each other
- > Protons repel other protons
- > Electrons repel other electrons
- Neutrons are neutral and should neither repel nor attract any particles



Nuclear Forces:

Powerful short range forces in the nucleus that hold the nuclear particles (protons and neutrons) together. These forces overcome the electrostatic repulsion of protons.