ATOMIC STRUCTURE
Smallest unit of an element that maintains the properties of that element.

Contains subatomic particles; protons, neutrons, and electrons.
NUCLEUS

- Tiny, **central** core of an atom
- Contains **protons** and neutrons
- Most of atom’s **mass** is found here
- Very small and **dense, positively charged**
**Protons**

- Positively charged
- 1 proton = 1 amu
- Atomic # = the number of protons
- Symbol used: + or p
Neutral (NO) charge

1 neutron = 1 amu

Symbol: =, 0, or n
TOGETHER (PROTONS AND NEUTRONS)

- Protons + Neutrons = atomic mass
Electron Cloud

- **Outside** the nucleus
- Most of an atom’s **volume** (size)
- Contains **electrons**
- **Negatively** charged
- MUCH **SMALLER** than protons and/or neutrons $1800e = 1p$
- Very **energetic**
- # of electrons = # of **protons** - therefore the overall charge on atom is neutral
- Symbol: - or **e**
BOHR MODEL

- 1\textsuperscript{st} Energy Level: 2 electrons
  - Must fill first before placing electrons in other levels.
- 2\textsuperscript{nd} Energy Level: 8 electrons
- 3\textsuperscript{rd} Energy Level: 8 electrons (18)
- 4\textsuperscript{th} Energy Level: 8 electrons (32)
THE ISOTOPE

- An **atom** that has the same number of **protons** but a **different** number of **neutrons** therefore it has a different **mass**

- See pages 91-92