

Atomic Structure

Subatomic Particles: ↳ (parts of an atom)

protons (p⁺)

- ⊗ found in nucleus
- ⊕ equal to atomic # on periodic table
↳ every element has diff # of protons
- ⊗ element identity determined by the # of protons

~~***~~ Change protons = change element
positively charged

neutrons (n)

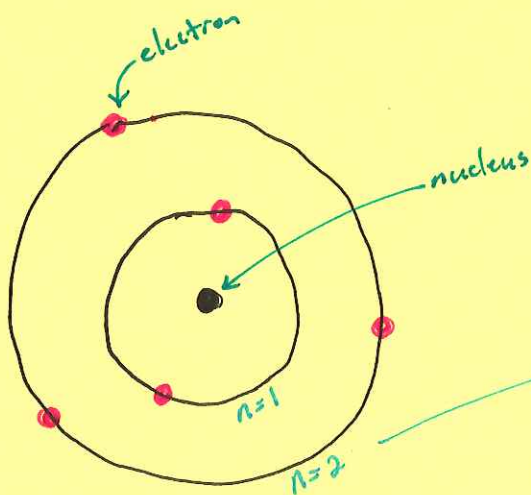
- ⊕ found in nucleus
- ⊗ neutral in charge
- ⊗ only change the mass of the element

~~***~~ Change neutrons = change mass

electrons (e⁻)

- ⊗ found in electron cloud around the nucleus
- ⊗ negatively charged
- ⊗ changing # of e⁻ changes charge

~~***~~ Change electrons = change charge



Bohr Model of Atom

Rings = energy levels

↳ farther rings mean higher energy level

n=1 principle energy level 1

n=2 principle energy level 2

Charge of Atoms

neutral atom: # of p⁺ = # of e⁻

positive ion: # of p⁺ > # of e⁻

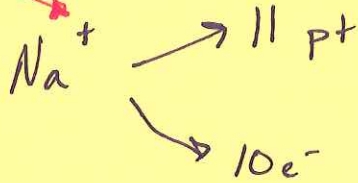
negative ion: # of p⁺ < # of e⁻

→ lost e⁻
→ gain e⁻

Ions: occur when # of e⁻ change !!!

e⁻ can be gained or lost

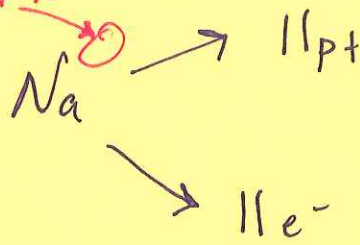
Charge shown here



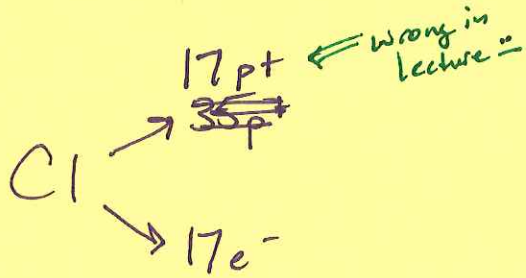
Positive ion
(# of p⁺ > # of e⁻)

Lost e⁻

No charge written
so it is neutral

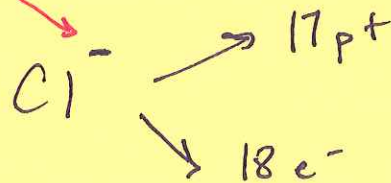


Neutral atom
(# of p⁺ = # of e⁻)



Neutral atom

negative charge shown



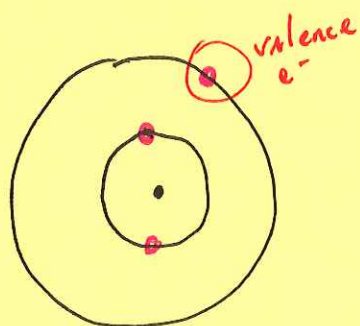
Negative ion
(# of p⁺ < # of e⁻)

gain e⁻

Remember: # of protons Don't change!!!!

1										
2	Li	Be								Ne
3										
4										
5										
6										
7										

1VE (above column 1), 2VE (above column 2), 3VE (above column 3), 4VE (above column 4), 5VE (above column 5), 6VE (above column 6), 7VE (above column 7), 8VE (above column 10)



Bohr Model of Li

Periods (Horizontal Rows)

↳ period = energy level of valence electrons

Groups (vertical Columns)

↳ group = number of VE in atom

Valence electron - electron on outermost (highest) energy level
 ↳ (VE)