Unit 1 - Classification of Matter

- Types of matter
- Periodic table - trends, families, etc.
- Periodic law
- Elements
- Atoms → protons, neutrons, electrons
- Isotopes
- Calculating atomic mass
- Ions
- Bohr Theory
- Quantum Mechanical Model
- Electron configurations

Atom -

Element - one type of atom
C, O_2

Compound - two or more elements Ex. H_2O

Molecule - two or more atoms O_2, H_2O

Isotope Name	Atomic Number	Mass Number	Symbol	# of Protons	# of Neutrons
Fluorine-19	9	19	$^{19}_{9}F$	9	10
Fluorine-20	9	20	$^{20}_{9}F$	9	11

~~Mass #~~ vs. Atomic Mass

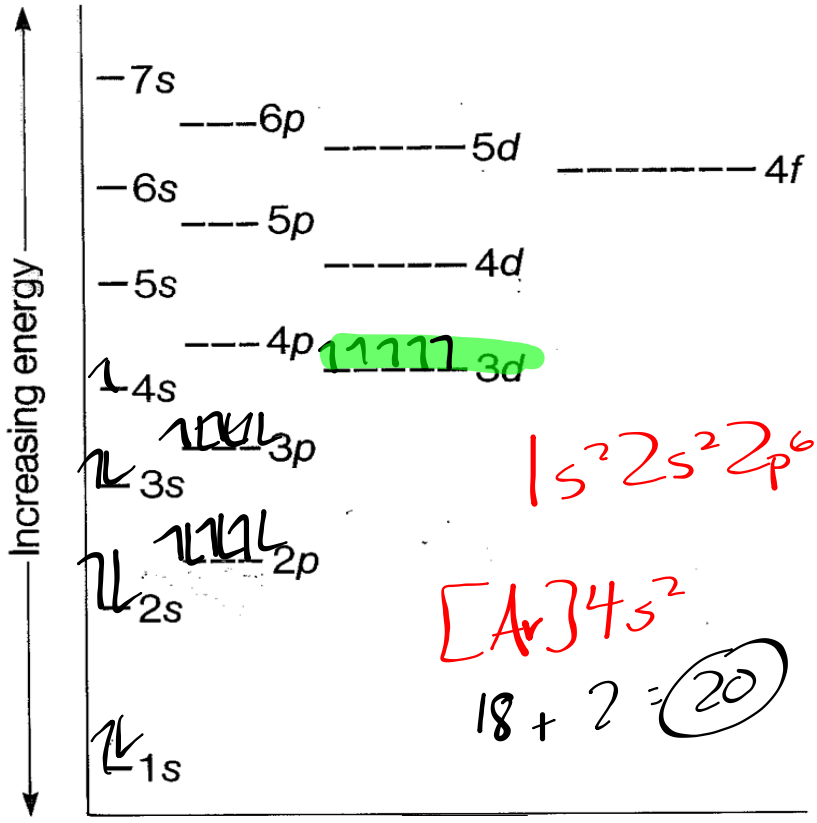
19.000 (98.7%)

20.000 (1.3%)

$19.000(0.987) + 20.000(0.013)$

Name	Symbol	# of Protons (+)	# of Electrons (−)	Gain or Lose?	Net Charge
Selenide ion	Se^{2-}	34	36	Gain 2	2−

Aufbau Diagram



$1s^2 2s^2 2p^6 3s^2 3p^6 3d^1 4s^2$

$[Ar] 4s^2$

$18 + 2 = 20$

Test Review

Ch. 4 p. 122-123 #34, 39-41, 44-58, 60, 63-6 5, 71-73

Ch. 5 p. 149-150 #23-39

Ch. 6 p. 181-182 #24, 26-35