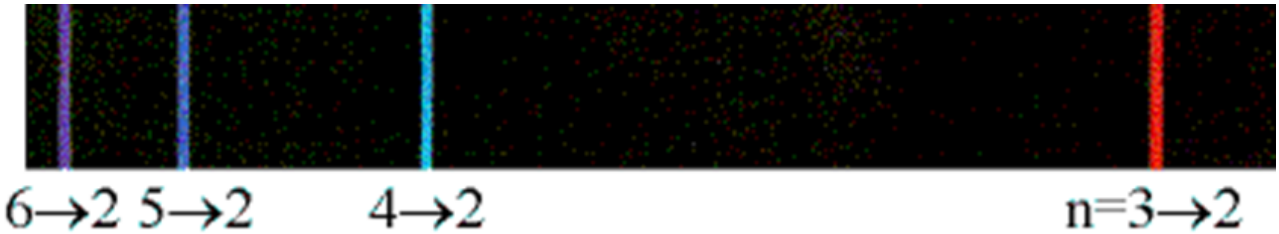
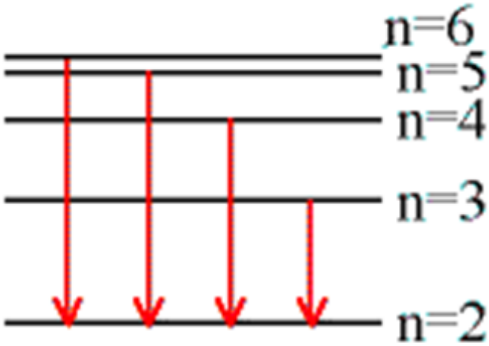




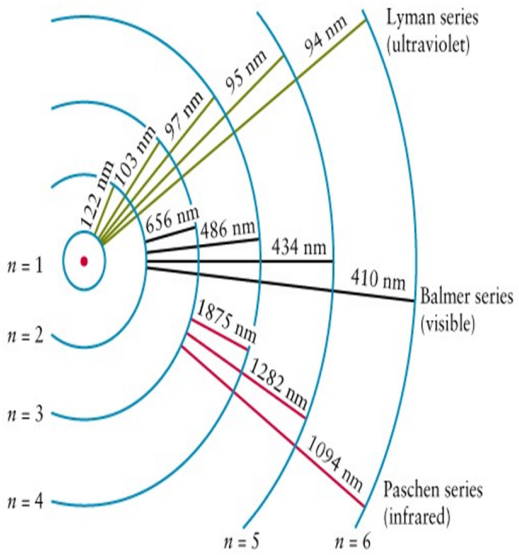
n=1 (Ground State)

What we know so far

- Draw, label and define the parts of a wave.
- Be familiar with the parts of the electromagnetic spectrum and how they are organized. For example – Gamma waves have high energy, high frequency and IR has low energy, low frequency
- Understand the relationship between wavelength and frequency
- Use the speed of light equation to calculate wavelength or frequency.
- Understand the relationship between Energy and frequency
- Use the energy equation (Planck's constant) to calculate E or frequency
- Report the mathematical answers with correct units (Hz or m or J)
- Lab info – Understand the concept of electrons moving between the ground state and excited state. Evidence via spectral lines.
- Quantum numbers – know what they describe about electrons
- Electron configurations – be able to label the s,p,d,f block
- Be able to write configurations for elements through the d block

$c = \lambda \nu$

$E = h\nu$


Lyman series
(ultraviolet)
94 nm
95 nm
97 nm
103 nm
122 nm
656 nm
486 nm
434 nm
410 nm
Balmer series
(visible)
1875 nm
1282 nm
1094 nm
Paschen series
(infrared)
n = 1
n = 2
n = 3
n = 4
n = 5
n = 6