Unit 2 – Ch 5.1 – Bohr Model of the Hydrogen Atom

BOHR MODEL OF HYDROGEN ATOM:

- **According to BOHR:**
  - 1. _____ must _____ the nucleus of an atom in a _____ path.
    - Electrons _____ exist on an _____ ; **NOT** in the empty space between orbits.
  - 2a. **GROUND STATE:**
    - _____ (atom) is in its _____ energy state when _____ to the nucleus.
    - 2b. Electrons _____ away from the nucleus = _____ energy.
  - 3. **EXCITED STATE:**
    - By _____ energy, gained or supplied *(heat)*, an electron has _____ energy.
  - 4. _____ of light (_____) emitted or absorbed is _____ to the energy _____ between energy levels.

QUANTUM ENERGY:

- **ABSORPTION (_____ State) –**
  - DRAW:

- **EMISSION (_____ State) –**
  - DRAW:

ENERGY TRANSITION PRACTICE:

Ex #1: Calculate the energy of light *emitted* when an electron moves from n = 5 to n = 2.

Ex #2: Calculate the energy of light *absorbed* when an electron moves from n = 1 to n = 4.

FLAME TEST OF METAL IONS - *CONTINUOUS* vs *DISCONTINUOUS* Spectrum Bands:

- **DISCONTINUOUS –**

- **CONTINUOUS –**