

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** –

- DRAW:

- **EMISSION** –

- DRAW:

CONTINUOUS vs DISCONTINUOUS Spectrum Bands:

- DISCONTINUOUS –

- CONTINUOUS –

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 $n = 4$.