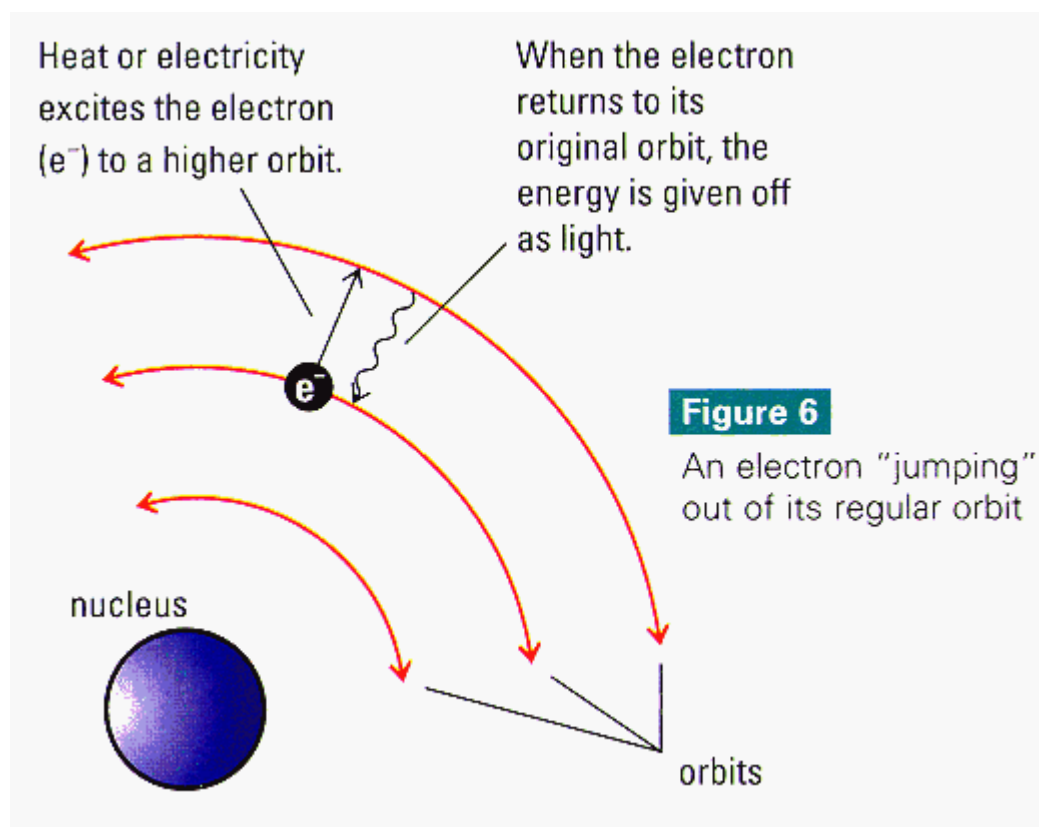


7.2 Bohr Model

Bohr suggested that:

- Electrons move around the nucleus in circular paths called orbits.
- Each electron in an orbit has a definite amount of energy.
- The farther away the electron is from the nucleus, the greater its energy is.
- Electrons cannot exist between orbits, but can move up or down from one orbit to another.
- The order of filling of electrons in the first three orbits is 2, 8, and 8.
- Electrons are more stable when they are at lower energy, closer to the nucleus.

Spectra of Gas Discharge



1. The spectra of elements is explained by the "jumps" that electrons make from one orbit or energy level to another:
2. Electrons are arranged in orbits in a definite pattern.
3. When the electrons are in their orbit they move quickly and any increase in energy (due to heat, electricity or light) causes the electrons to jump to the higher orbit. [the excited state.]
4. The excited electrons are very unstable and tend to fall back into their normal, more stable orbits. [The ground state.]
5. The amount of energy given off is equal to the difference in energy between the higher and lower energy levels. { A very specific color }
6. Each element has a different spectrum.