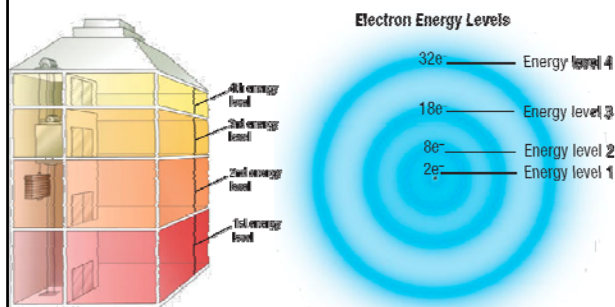


Bohr Model (1913)

- electrons travel in specific paths called orbits
- energy levels are like rungs on a ladder
- Electrons fill in the lowest energy level first
- The maximum amount of electrons that can fit on a level is $2n^2$. (n is the energy level)
Ex. The 3rd Level $\rightarrow 2 \cdot 3^2 = 18$ electrons

1

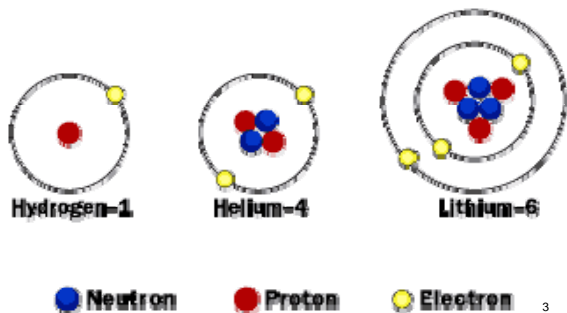
Energy Level Comparison



2

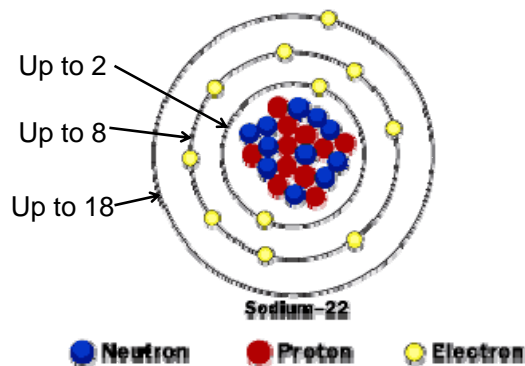
Bohr Models

Isotopes of Hydrogen, Helium, Lithium and Sodium



3

Bohr Model For Larger Atoms



4

Making a Bohr Model

- Start by drawing the nucleus. Determine the correct number of protons and neutrons.
- Fill in the electrons starting from the lowest energy level and work your way up.

1st Energy Level can hold up to 2 Electrons

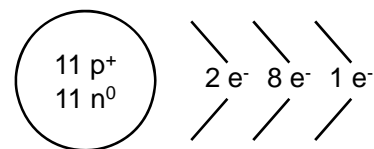
2nd Energy Level can hold up to 8 Electrons

3rd Energy Level can hold up to 18 Electrons

4th Energy Level can hold up to 32 Electrons

5

Drawing Bohr Models



Sodium-22

The total number of electrons from all levels should equal the number of protons

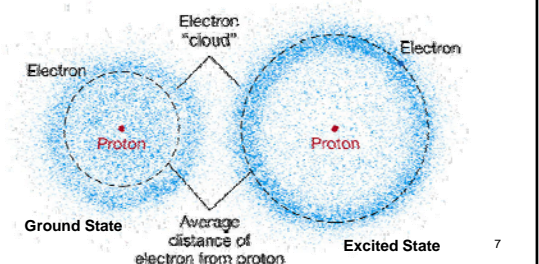
Protons and neutrons should total to the mass

6

Bohr Model of the Atom

Energy Levels

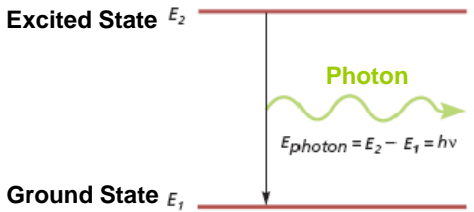
Ground State – lowest energy state of an atom
Excited State – atom at a higher potential energy than the ground state



7

Bohr Model in Action

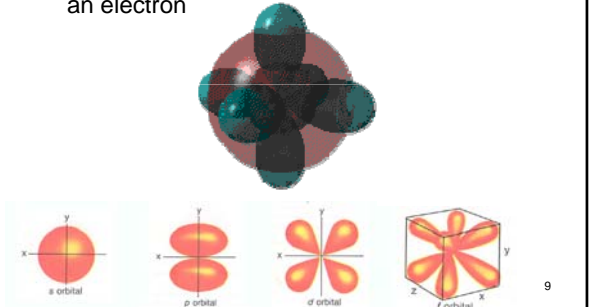
When an excited atom moves to the ground state, it releases a photon at a specific frequency. This is how light is made.



8

Schrodinger Model of the Atom

Orbital – a three-dimensional region around the nucleus that indicates the probable location of an electron



9