Bohr-Rutherford Diagrams

- Bohr-Rutherford diagrams are simple diagrams combining the ideas of both Scientists. They allow us to show the _____ and the _____ of all three subatomic particles (_____, _____, and _____).

***Remember:**

Electrons are placed in electron shells. Each shell holds a specific number of electrons. Starting with the shell closest to the nucleus:

Shell _____ holds _____ electrons and has an energy level of _____.

Shell _____ holds _____ electrons and has an energy level of _____.

Shell _____ holds _____ electrons and has an energy level of _____.

Consider an atom of Sulfur:

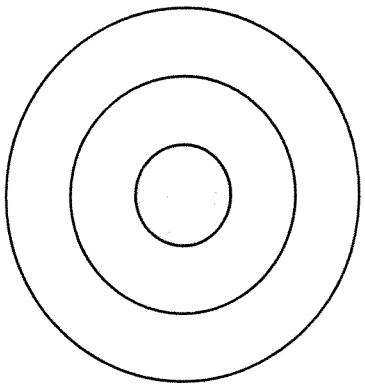
16 S 32

Sulfur has 16 electrons.
These are arranged in shells...

The _____ shell holds _____ electrons

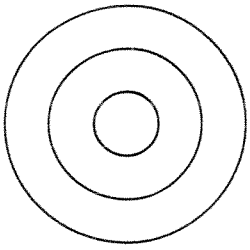
The _____ shell holds _____ electrons

The _____ shell holds _____ electrons

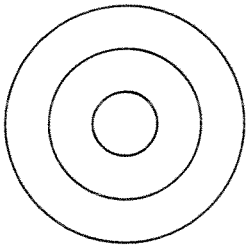


Electron Structure =

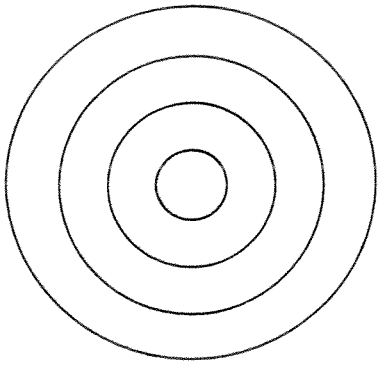
PRACTICE: Draw Bohr-Rutherford diagrams for the elements below



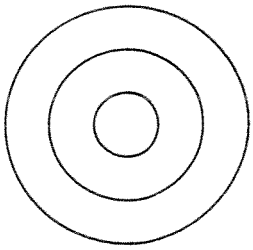
Helium



Carbon



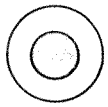
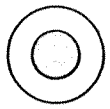
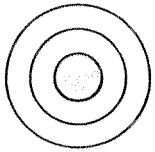
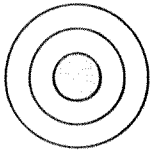
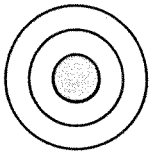
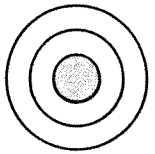
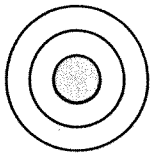
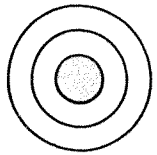
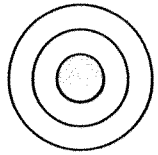
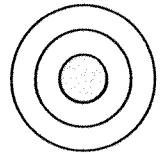
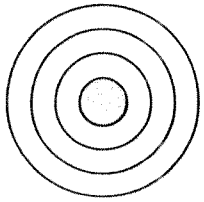
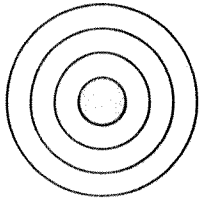
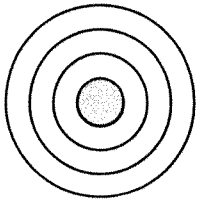
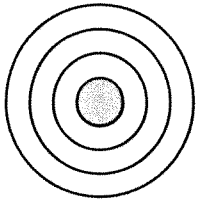
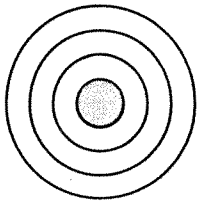
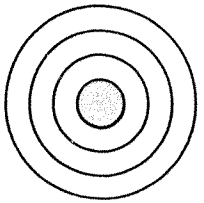
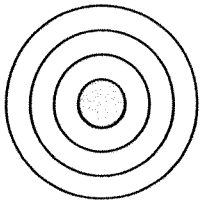
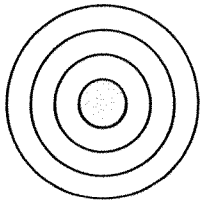
Magnesium



Chlorine

BOHR-RUTHERFORD DIAGRAMS FOR THE FIRST 18 ELEMENTS

1. Write the number of protons and neutrons in the shaded nucleus. For example: 3 protons = 3p+: neutrons = 3n
2. Draw the electrons in the correct energy level
3. Write the chemical symbol in standard atomic notation below the diagram, showing mass number (top left) and atomic number (bottom left)

Hydrogen  Symbol:							Helium  Symbol:
Lithium  Symbol:	Beryllium  Symbol:	Boron  Symbol:	Carbon  Symbol:	Nitrogen  Symbol:	Oxygen  Symbol:	Fluorine  Symbol:	Neon  Symbol:
Sodium  Symbol:	Magnesium  Symbol:	Aluminum  Symbol:	Silicon  Symbol:	Phosphorous  Symbol:	Sulphur  Symbol:	Chlorine  Symbol:	Argon  Symbol: