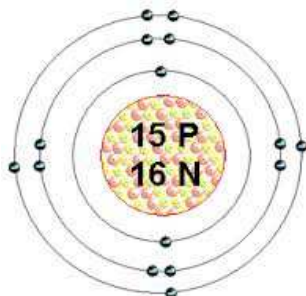


Rules for Drawing Bohr-Rutherford Diagrams

Bohr's model of the atom can be combined with Rutherford's model in diagrams that summarize the numbers and positions of all three subatomic particles. For example, consider the following diagram for Phosphorous:



There are certain rules to follow when drawing these diagrams:

- 1) A circle is drawn in the center to represent the nucleus of the atom.
- 2) The number of protons and neutrons are written in this circle.
- 3) A series of concentric circles is drawn around the nucleus to represent the orbits.
- 4) The order of filling of electrons in the first orbit is 2, 8, 8, 8.

Self-Check:

- a) Using your Periodic Table to find the number of each subatomic particle, draw the B-R diagram for Oxygen.

Using Standard Atomic Notation

One way to convey the mass number and the atomic number of an element is by using Standard Atomic Notation. This notation includes the mass number (placed at the upper left of the chemical symbol) and the atomic number (placed at the lower left of the symbol). For example, the Standard Atomic Notation for Helium is:



Self-Check:

- a) Use the following Standard Atomic Notation to draw the B-R diagram for Potassium.

39

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19