

<sup>4-5</sup>  
Ch. 4 Objectives

1. State the charge, mass, and location of each part of an atom according to the modern model of the atom.
2. Relate the organization of the periodic table to the arrangement of electrons within an atom.
3. Compare and contrast Bohr's model with the modern model of the atom.
4. Explain why some atoms gain or lose electrons to form ions.
5. Determine how many protons, neutrons, and electrons an atom has, given its symbol, atomic number, and mass number.
6. Locate alkali metals, alkaline-earth metals, and transition metals in the periodic table.
7. Locate semiconductors, halogens, and noble gases in the periodic table.
8. Relate an element's chemical properties to the electron arrangement of its atoms.

Sunshine State Standards:

**SC.912.P.8.3:** Explore the scientific theory of atoms (also known as atomic theory) by describing changes in the atomic model over time and why those changes were necessitated by experimental evidence.

**SC.912.P.8.4:** Explore the scientific theory of atoms (also known as atomic theory) by describing the structure of atoms in terms of protons, neutrons and electrons, and differentiate among these particles in terms of their mass, electrical charges and locations within the atom.

**SC.912.P.8.5:** Relate properties of atoms and their position in the periodic table to the arrangement of their electrons.

Vocabulary:

Nucleus	group	metal	halogen
Proton	ion	nonmetal	noble gas
Neutron	atomic number	semiconductor	
Electron	mass number	alkali metal	
Valence electron	isotope	alkaline-earth metal	
Period	average atomic mass	transition metal	