Chapter 2, Atoms, Ions, Molecules

Terms:

- nucleus
- proton
- neutron
- atomic number
- mass number
- electron
- cathode rays
- ion
- cation
- anion
- isotope
- family (group)
- period
- molecular formula
- empirical formula
- structural formula
- alkali metals
- alkaline earth metals
- halogens
- noble gases, inert gases, rare gases

You should be able to:

1. indicate what was discovered with the cathode ray tube and Rutherford’s experiment,
2. describe the structure of the atom,
3. describe the properties and contents of the nucleus and electron cloud,
4. give the relative mass and charge for the electron, proton, and neutron,
5. describe the relationship between the number of protons and the number of electrons in a neutral atom,
6. explain what distinguishes an atom of one element from the atom of another element,
7. explain how ions are formed,
8. given an elemental symbol in the form $A^\text{charge}X$, indicate the atomic number, mass number, and the number of protons, neutrons, and electrons,
9. given an element, indicate whether or not it's a metal or nonmetal and what properties it might have,
10. explain what elements in a group have in common,
11. given a structural formula, write the corresponding molecular and empirical formulas,