Chapter 3 details the periodic classification of elements, covering its history and the organization of the modern periodic table into periods (rows) and groups (columns). The table is further divided into blocks (s, p, d, f) based on electron subshells. Element location is determined by atomic number and mass.

Metals, nonmetals, and metalloids are categorized based on their properties and periodic table placement. Key element families (alkali metals, alkaline earth metals, transition metals, lanthanides, actinides, metalloids, halogens, noble gases) are described, highlighting their properties and group locations. The chapter also explains periodicity in physicochemical properties like electronegativity, atomic radius, and ionization energy, providing examples and exercises to predict element properties based on their periodic table position. Applications include writing electronic configurations and predicting element locations.