



## Lesson 1: Atomic Theory

- **Pages:** 4-13
- **Summary:** The structure of the atom has been explained through evolving scientific models, from Dalton's solid sphere to the modern electron cloud model.
- **Key Ideas to Study:**
  - Early atomic theories: Dalton, Thomson (plum pudding), Rutherford (nuclear model), Bohr (planetary model), and modern model (electron cloud).
  - Main differences between each theory.
  - How scientific models change over time as new evidence is discovered. ●

### Focus Questions:

- Who created the first atomic theory and what did it say?
- How did Thomson's model differ from Dalton's?
- Why was Rutherford's gold foil experiment important?

## Lesson 2: The Periodic Table

- **Pages:** 16-27
- **Summary:** The periodic table organizes elements by atomic number, grouping them by shared properties and trends.
- **Key Ideas to Study:**
  - Organization of elements by increasing atomic number.
  - Periods (rows) vs. groups/families (columns).
  - Names of groups/families and their general properties.
- **Focus Questions:**
  - What does the atomic number tell us?
  - What are the main properties of each group/family.
  - Why are elements in the same group similar?

## Lesson 3: Bonding & the Periodic Table

- **Pages:** 28-36
- **Summary:** Valence electrons determine how elements bond, with reactivity patterns predicted by an element's group.
- **Key Ideas to Study:**
  - Metals, nonmetals, and metalloids — general properties.
  - Valence electrons and their role in bonding.
  - Group numbers and how they predict valence electrons.
  - Reactivity trends (e.g., alkali metals highly reactive, noble gases stable).



● **Focus Questions:**

- What are the characteristics of metals vs. nonmetals?
- What are valence electrons and why are they important?
- Which groups are most reactive? Least reactive?
- How does the periodic table help us predict bonding?

#### Lesson 4: Types of Bonds

● **Pages: 38-47**

- **Summary:** Atoms form ionic, covalent, or polar covalent bonds by transferring or sharing electrons.

● **Key Ideas to Study:**

- Ionic bond: transfer of electrons (metal + nonmetal).
- Covalent bond: sharing of electrons (nonmetal + nonmetal).
- Polar covalent bond: unequal sharing of electrons.

● **Focus Questions:**

- How does an ion become positively or negatively charged?
- What's the difference between ionic and covalent bonds?
- Give examples of compounds formed by each type.
- What makes a bond polar?

#### Lesson 5: Acids and Bases

● **Pages: 48-54**

- **Summary:** Acids and bases have distinct properties and can neutralize each other to form salt and water.

● **Key Ideas to Study:**

- Properties of acids and bases.
- Indicators (e.g., litmus).
- Neutralization: reaction of an acid with a base forms salt and water. ●

**Focus Questions:**

- What are the main properties of acids and bases?
- How do we use indicators to identify acids and bases?
- What happens during neutralization?

**N.B.: Do not forget to study the Lesson Check of each lesson. Remember to access the resources corresponding to each lesson available on the Resources page on LMS.**