

## Electricity

Study Guide: Chapter 8, *Conceptual Physical Science*, 4<sup>th</sup> edition

*Objectives:* When you finish this chapter you should be able to:

- List the 4 fundamental forces.
- Describe the structure of the atom.
- Explain the concept of static charge.
- Define Coulomb's Law and use it to tell how the electric force changes when charge and distance changes.
- Define voltage, current and resistance. Give units and defining equations.
- Compare and contrast direct and alternating current.
- State and use Ohm's Law to solve simple problems.
- Describe series and parallel circuits and answer questions about the relationship between voltage, current, and resistance in these circuits.
- Give the equation relating electrical power to voltage and current. Use this equation to answer questions about electrical usage by devices.

*Activities:*

- Read chapter 8.
- Answer mentally as many of the Review Questions as possible.
- Answer Exercises 1, 5, 6, 9, 11, 13, 14, 17, 19, 22, 23, 24, 25, 26, 31, 43, 44, 48.
- Answer Problems 2, 8, 9, 10, 13, 14.
- Practice Book: pages 57, 59, 60. (4th edition)
- Lab: Direct Current Circuits