

Chapter 18 The Electromagnetic Spectrum and Light

Section 18.4 Color

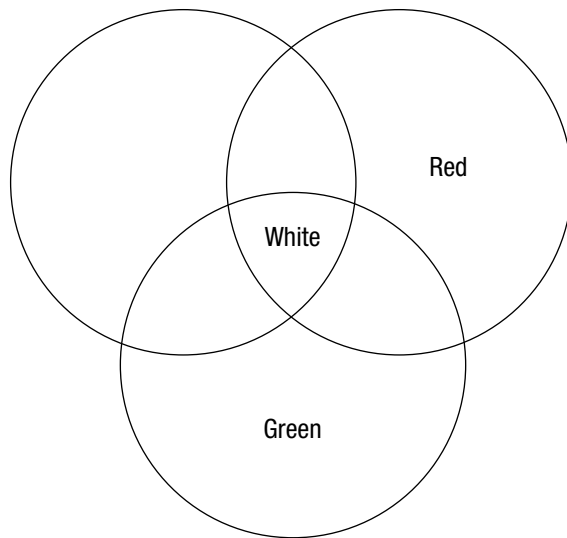
(pages 550–553)

This section explains how a prism separates white light. It also discusses factors that influence the various properties of color.

Reading Strategy (page 550)

Venn Diagram As you read, label the Venn diagram for mixing primary colors of light. For more information on this Reading Strategy, see the **Reading and Study Skills** in the **Skills and Reference Handbook** at the end of your textbook.

Mixing Colors of Light



Separating White Light Into Colors (page 551)

1. What did Isaac Newton’s experiments with a prism in 1666 show?

2. What happens when white light passes through a prism? _____

3. Circle the letter of the process in which white light is separated into the colors of the rainbow.

a. reflection	b. dispersion
c. absorption	d. polarization
4. How does a rainbow form? _____

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The Colors of Objects (pages 551–552)

5. List two factors that determine the color of an object seen by reflected light.
 - a. _____
 - b. _____
6. Is the following sentence true or false? I see a red car in sunlight because the color of light reaching my eyes is mostly red light.

Mixing Colors of Light (page 552)

Match the colors of light with the correct type of color.

Type of Color	Colors of Light
_____ 7. primary colors	a. Cyan, yellow, and magenta
_____ 8. secondary colors	b. Blue and yellow
_____ 9. complementary colors	c. Red, green and blue

Match each color of light to its definition.

Type of Color	Definition
_____ 10. primary colors	a. Formed when two primary colors combine
_____ 11. secondary colors	b. Combine in varying amounts to form all possible colors
_____ 12. complementary colors	c. Combine to form white light

Mixing Pigments (page 553)

13. What is a pigment? _____

14. List four natural sources of pigments.
 - a. _____ b. _____
 - c. _____ d. _____
15. The primary colors of pigments are _____, _____, and magenta.

Match the primary colors of pigment to the color they produce when combined.

Primary Colors	Color Produced
_____ 16. Cyan and magenta	a. green
_____ 17. Cyan and yellow	b. red
_____ 18. Yellow and magenta	c. blue

19. Any two colors of pigments that combine to make black pigment are _____ colors of pigments.