

Chapter 18 The Electromagnetic Spectrum and Light

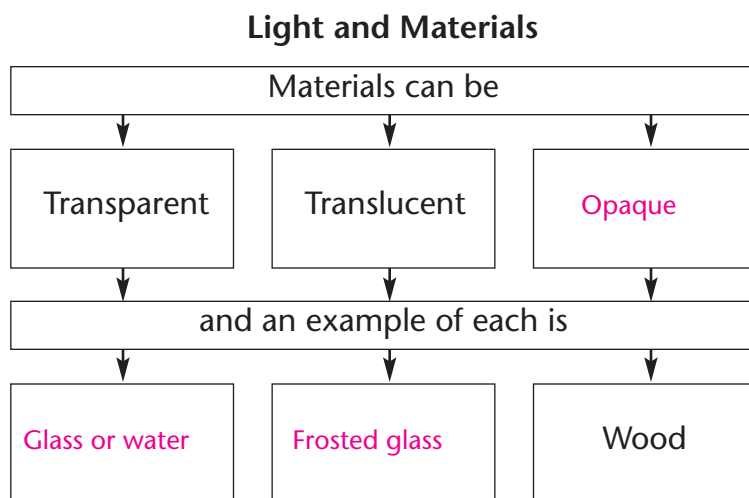
Section 18.3 Behavior of Light

(pages 546–549)

This section discusses the behavior of light when it strikes different types of materials.

Reading Strategy (page 546)

Monitoring Your Understanding As you read, complete the flowchart to show how different materials affect 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.



Light and Materials (pages 546–547)

1. Is the following sentence true or false? Without light, nothing is visible. true

Match each term to its definition.

Term	Definition
<u> b </u> 2. transparent	a. Material that absorbs or reflects all of the light that strikes it
<u> a </u> 3. opaque	b. Material that transmits light
<u> c </u> 4. translucent	c. Material that scatters light

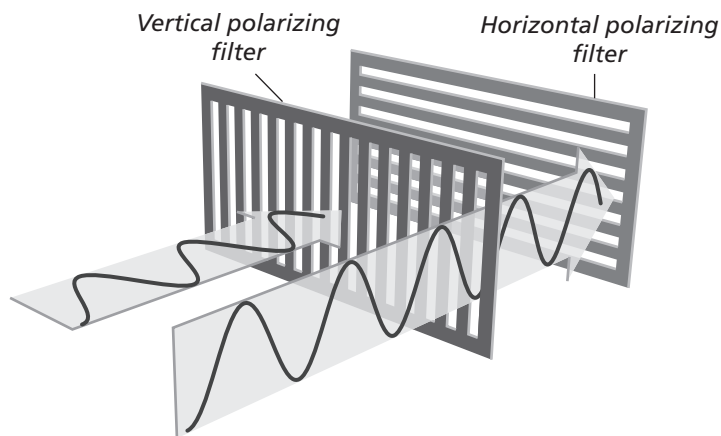
Interactions of Light (pages 547–549)

5. Is the following sentence true or false? Just as light can affect matter, matter can affect light. true

Chapter 18 The Electromagnetic Spectrum and Light

6. When light is transmitted, it can be refracted, polarized, or _____ **scattered** _____.
7. A copy of an object formed by reflected or refracted light waves is known as a(n) _____. Circle the best answer.
 image mirage photograph
8. When parallel light waves strike a smooth surface and reflect off it in the same direction, _____ reflection occurs. Circle the correct answer.
 diffuse irregular regular
9. When parallel light waves strike a rough, uneven surface and reflect in many different directions, _____ **diffuse** _____ reflection occurs.
10. Light bends, or _____, when it passes at an angle from one type of medium into another. Circle the correct answer.
 reflects refracts scatters
11. Is the following sentence true or false? Light with waves that vibrate in only one plane is polarized light. _____ **true** _____
12. Refer to the drawing and use the sentences in the box to complete the table on polarizing filters.

Light is blocked.	Light passes through.
-------------------	-----------------------



Polarizing Filters		
Direction of Light Vibration	Filter Type	Action
Horizontal wave	Vertical polarizing filter	Light is blocked.
Vertical wave	Vertical polarizing filter	Light passes through.