

3.3 Assessment

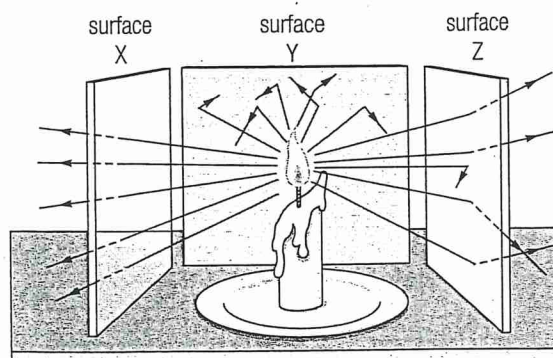
Match each term on the left with the best descriptor on the right. Each descriptor may be used only once.

Term	Descriptor
1. <u>C</u> reflection	A. This occurs as light passes through an object.
2. <u>B</u> refraction	B. The process in which light changes direction as it travels from one medium into another.
3. <u>E</u> scattering	C. This occurs when light bounces off a surface and travels in another direction.
4. <u>D</u> absorption	D. Responsible for dark surfaces getting hot on sunny days.
5. <u>A</u> transmission	E. Reason why objects seen through translucent materials are blurry.

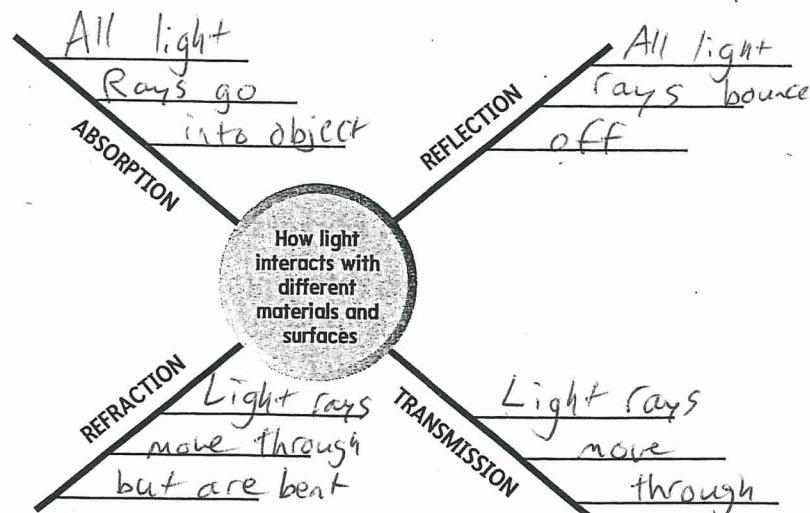
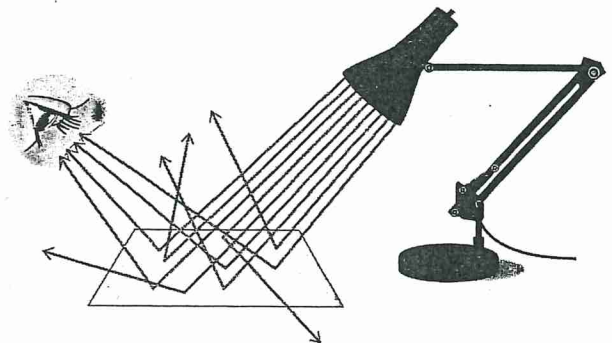
Circle the letter of the best answer for questions 6 to 14.

6. Which of the following objects will transmit the most light?
- A. a clear glass window C. a piece of wood
- B. a chunk of gold D. a white piece of paper
7. Which of the following objects will absorb the most light?
- A. sunglasses C. a white stone
- B. a black hockey puck D. a clear plastic bag
8. Which of the following objects is the least opaque?
- A. a tent C. a plastic sandwich bag
- B. a granite counter top D. a fabric shower curtain
9. A pencil in a glass half full of water appears broken at the water line due to which process?
- A. reflection C. absorption
- B. refraction D. transmission

Use the following diagram to answer questions 10 to 13.



10. Which of the surfaces is transparent?
- A. Surface X
 B. Surface Y
 C. Surface Z
 D. Surface Y and Surface Z
11. Which of the surfaces transmits the fewest light rays?
- A. Surface X
 B. Surface Y
 C. Surface Z
 D. Surface X and Surface Z
12. Which of the surfaces is most likely made of frosted plastic or glass?
- A. Surface X
 C. Surface Z
 B. Surface Y
 D. Surface X and Surface Y
13. Which statement correctly describes Surface Y?
- A. It transmits all light.
 B. It scatters all light.
 D. It allows no light to pass through it.
 C. It absorbs all light.
14. Which of the following processes is shown in the diagram on the right?
- B. reflection
 A. refraction
 C. absorption
 D. transmission
15. Complete a spider chart/map for the different ways that light interacts with different materials and surfaces. The graphic organizer has been partially completed to help guide you.



3.4 Assessment

Match each term on the left with the best descriptor on the right. Each descriptor may be used only once.

Term	Descriptor
1. <u>F</u> normal	A. extremely smooth, flat reflective surface
2. <u>B</u> incident ray	B. light ray going toward a mirror
3. <u>C</u> reflected ray	C. light ray that bounces off a mirror
4. <u>G</u> focal point	D. angle between the incident ray and the normal
5. <u>A</u> plane mirror	E. angle between the reflected ray and the normal
6. <u>E</u> angle of reflection	F. line perpendicular to a surface, such as a mirror
7. <u>D</u> angle of incidence	G. point where light rays come together when they reflect off a concave mirror

Circle the letter of the best answer for questions 8 to 17.

8. Which of the following mirrors can be used to make an image that is the same size as the object?
- A. plane mirror
 - B. convex mirror
 - C. concave mirror
 - D. both concave and convex mirrors
9. What do all three types of mirrors have in common?
- A. They all produce upside-down images.
 - B. They all reflect light rays to form an image.
 - C. They all reflect light rays so that the rays diverge and do not meet.
 - D. They all reflect light rays so that the rays converge on a focal point.
10. What shape of mirror would you use if you wanted the image to be larger than the object?
- A. plane mirror
 - B. convex mirror
 - C. concave mirror
 - D. no mirror produces an image that is larger than the object

11. Which of the following statements about a plane mirror is incorrect?
- A. It produces an upright image.
 - B. It produces an image in front of the mirror.**
 - C. It produces an image that is the same size as the object.
 - D. It produces an image that appears to be the same distance from the mirror as the object.

12. Which of the following lie on the same plane?

I	normal
II	incident ray
III	reflected ray

- A. I and II only
 - B. I and III only
 - C. II and III only
 - D. I, II, and III**
13. If the angle of incidence of a light ray striking a smooth, flat mirror is 50° , what is the angle of reflection?
- A. 5°
 - B. 25°
 - C. 50°**
 - D. 100°

14. Which of the following describes the difference between a virtual image and a real image?

	Virtual Image	Real Image
A.	Appears to be behind the mirror	Located in front of the mirror
B.	Located in front of the mirror	Appears to be behind the mirror
C.	Forms when reflected rays meet	Forms when extended rays meet
D.	Forms when incident rays meet	Forms when refracted rays meet

15. An object that is 10 cm high is placed 20 cm from a plane mirror. Which of the following describes the image formed in the plane mirror?
- A. The image is 20 cm high and 10 cm from the mirror. The image is upright.
 - B. The image is 10 cm high and 20 cm from the mirror. The image is upright.**
 - C. The image is 20 cm high and 10 cm from the mirror. The image is upside-down.
 - D. The image is 10 cm high and 20 cm from the mirror. The image is upside-down.