

Exploring Optics: Light and Vision Basics

Optics · Answer Key · 20 Questions

1. What is the term for light bouncing off a surface?

- A) Refraction
- B) Diffraction
- C) Reflection**
- D) Absorption

2. Which of these colors is NOT part of the visible light spectrum?

- A) Red
- B) Green
- C) Blue
- D) Infrared**

3. When light bends as it passes from one medium to another, it is called:

- A) Reflection
- B) Refraction**
- C) Dispersion
- D) Scattering

4. What is the primary function of the iris in the human eye?

- A) Focusing light onto the retina
- B) Detecting color
- C) Controlling the amount of light entering the eye**
- D) Sending signals to the brain

5. A mirror that curves inwards and magnifies objects is called a:

- A) Plane mirror
- B) Convex mirror
- C) Concave mirror**
- D) Prism

6. What do we call the part of the eye that is sensitive to light and forms an image?

- A) Cornea
- B) Pupil
- C) Lens
- D) Retina**

7. Which of the following objects can produce its own light?

- A) A book
- B) A mirror
- C) A star**
- D) A pencil

8. When white light is split into its constituent colors, this phenomenon is known as:

- A) Absorption
- B) Refraction
- C) Dispersion**
- D) Polarization

9. What type of mirror always forms a virtual, upright, and smaller image?

- A) Concave mirror
- B) Plane mirror
- C) Convex mirror**
- D) None of the above

10. The bending of light as it passes through tiny openings or around obstacles is called:

- A) Reflection
- B) Refraction
- C) Diffraction**
- D) Scattering

11. What part of the eye is a transparent outer layer that covers the iris and pupil?

- A) Retina
- B) Lens
- C) Optic nerve
- D) Cornea**

12. Which of the following is a source of light?

- A) A shadow
- B) A sound wave
- C) The Sun**
- D) A photograph

13. When light strikes a smooth, polished surface, it bounces off in a predictable way. This is:

- A) Refraction
- B) Absorption
- C) Diffusion
- D) Regular reflection**

14. What is the name for the colored part of the eye that surrounds the pupil?

- A) Sclera
- B) Cornea
- C) Iris**
- D) Pupil

15. Which of these materials does NOT allow light to pass through it easily?

- A) Glass
- B) Water
- C) Wood**
- D) Air

16. The phenomenon where light bounces off an uneven surface, scattering in many directions, is called:

- A) Regular reflection
- B) Diffuse reflection**
- C) Refraction
- D) Dispersion

17. What is the main role of the lens in the human eye?

- A) To protect the eye
- B) To control light entry
- C) To focus light on the retina**
- D) To convert light into nerve signals

18. Which statement about shadows is true?

- A) Shadows are colored.
- B) Shadows are formed when light is blocked by an opaque object.**
- C) Shadows are always larger than the object.
- D) Shadows require sound to be formed.

19. A prism splits white light into a spectrum of colors because:

- A) The prism absorbs some colors.
- B) Each color of light bends at a slightly different angle.**
- C) The prism emits its own light.
- D) The prism reflects all colors equally.

20. Which of the following is an example of refraction?

- A) Seeing your reflection in a mirror
- B) A magnifying glass making an object appear larger
- C) Light bouncing off a wall
- D) A rainbow appearing in the sky**