Optics and the Human Body

Optics · Answer Key · 10 Questions

1. What is the primary refractive surface of the human eye, responsible for most of the light bending?

A) The lens
B) The iris
C) The cornea
D) The retina

2. Which part of the eye contains photoreceptor cells (rods and cones) that convert light into electrical signals?

A) The vitreous humor
B) The choroid
C) The sclera
D) The retina

3. The condition where the eye's lens becomes cloudy, impairing vision, is known as:

A) Glaucoma
B) Astigmatism
C) Cataract
D) Myopia

4. What is the name for the condition where light is not focused evenly on the retina, causing blurred vision at all distances?

A) Presbyopia
B) Astigmatism
C) Hyperopia
D) Color blindness

5. Which eye structure controls the amount of light entering the eye by adjusting the size of the pupil?

A) The ciliary body
B) The conjunctiva
C) The iris
D) The optic nerve

6. The bending of light as it passes from one medium to another (e.g., from air to cornea) is called:

A) Diffraction
B) Reflection
C) Refraction
D) Dispersion

7. What is the term for the eye's ability to change the focal length of its lens to focus on objects at different distances?

A) Accommodation
B) Convergence
C) Adaptation
D) Binocular vision

8. A common cause of 'red eye' in photographs is the reflection of light off of which part of the eye?

A) The iris
B) The retina
C) The pupil
D) The cornea

9. Which type of vision disorder results from increased pressure within the eye that can damage the optic nerve?

A) Macular degeneration
B) Diabetic retinopathy
C) Glaucoma
D) Conjunctivitis

10. The spectral range of light visible to the human eye is approximately:

A) 300-700 nanometers
B) 400-700 nanometers
C) 500-800 nanometers
D) 200-500 nanometers