

Visual system. Anatomy. Functions.

Correctly match the structures, their functions, and their localization.

Localization:

- I. Outer (Fibrous) Layer
- II. Middle (Vascular) Layer – Uvea
- III. Inner (Neural) Layer – Retina
- IV. Internal Structures

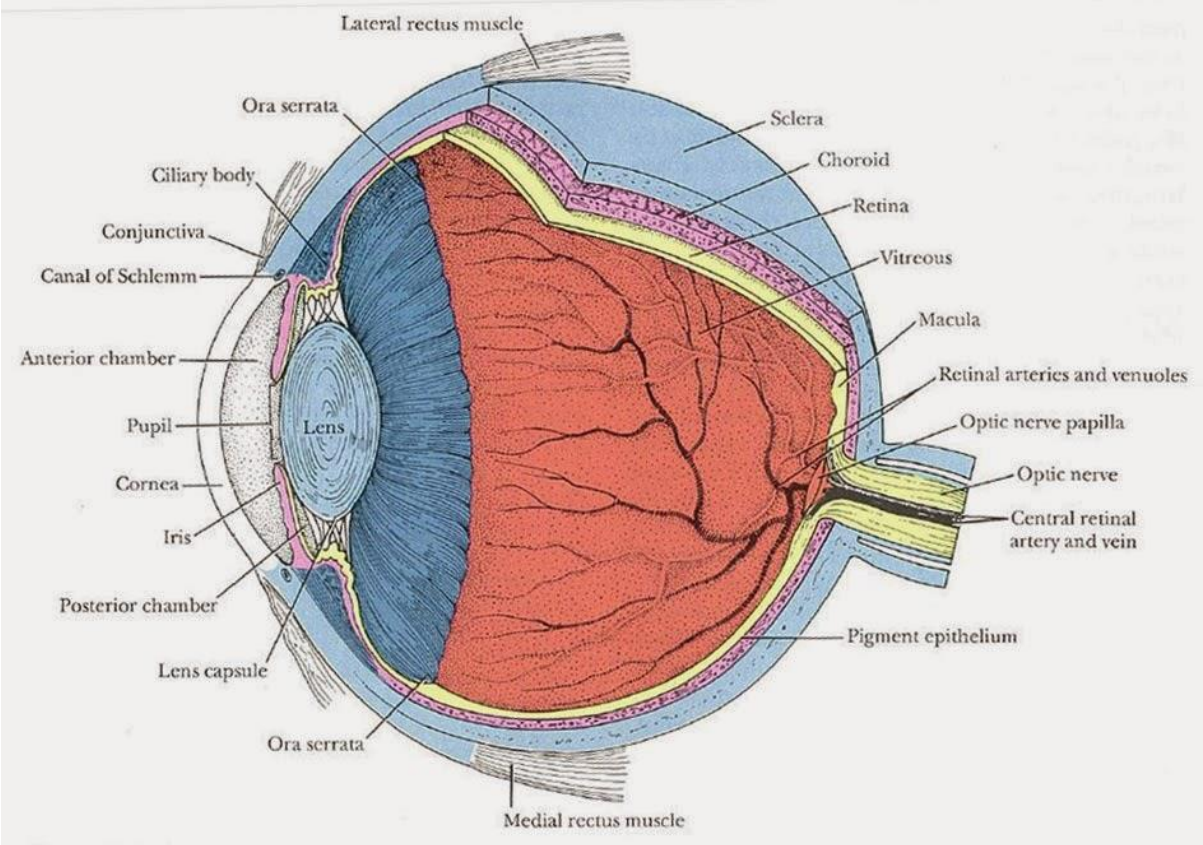
Structure:

- | | |
|----------------------------|------------------|
| 1. Vitreous Humor | 8. Choroid |
| 2. Optic Disc (Blind Spot) | 9. Aqueous Humor |
| 3. Iris | 10. Lens |
| 4. Macula & Fovea | 11. Ciliary Body |
| 5. Cornea | 12. Pupil |
| 6. Retina | 13. Cones |
| 7. Rods | 14. Sclera |

Function:

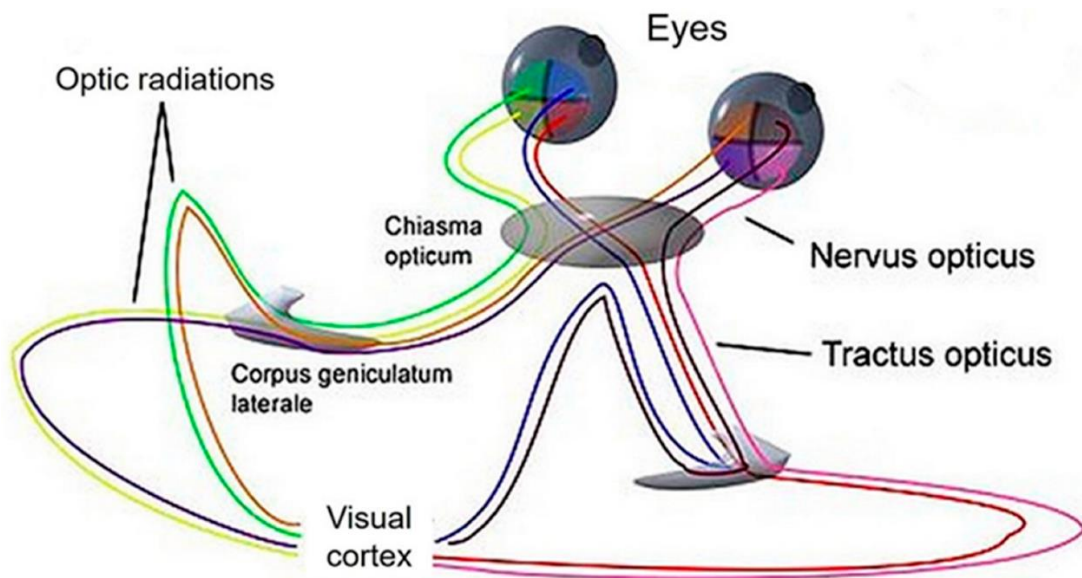
- a. Maintains intraocular pressure and nourishes the cornea and lens.
- b. Regulates the amount of light entering the eye by adjusting the size of the pupil.
- c. Function in dim light; responsible for black-and-white vision.
- d. Refracts (bends) light to help focus it on the retina.
- e. Provides oxygen and nutrients to the retina; absorbs excess light to prevent glare.
- f. A gel-like substance that maintains the eye's shape and provides support to the retina.
- g. Controls the shape of the lens (for focusing) and produces aqueous humor.
- h. Contains photoreceptors that detect light and convert it into nerve signals.
- i. Protects and maintains the shape of the eye.
- j. The point where the optic nerve exits; has no photoreceptors.
- k. Function in bright light; responsible for color vision and sharp detail.
- l. Adjusts focus by changing shape to project a sharp image onto the retina.
- m. Provide sharp central vision and color perception.

n. Controls how much light enters the eye.



Localization	Structure	Function
I.		
II.		
III.		
IV.		

Optic nerve. Visual field. Scotoma.



Fill the gaps.

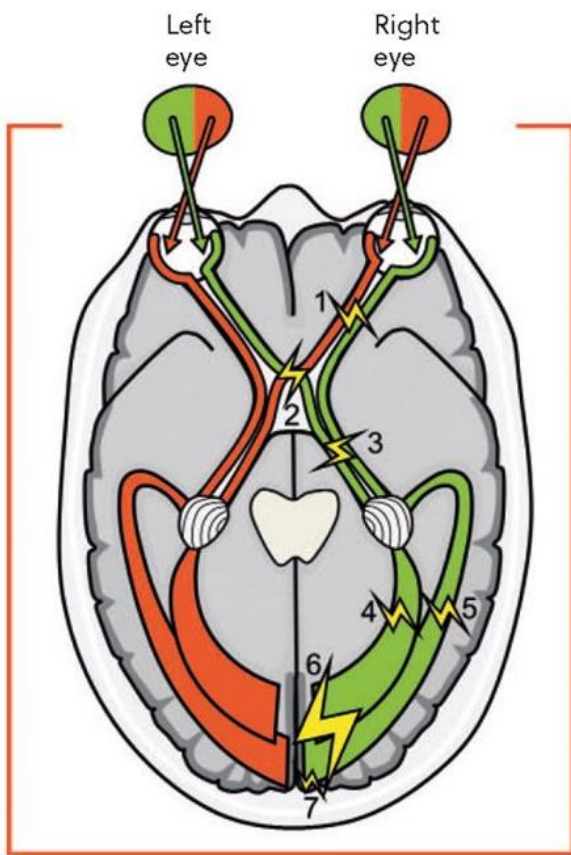
The optic nerve (cranial nerve II) is responsible for transmitting visual information from the to the brain. It carries signals from photoreceptors to the, where images are processed. Damage to the optic nerve can lead to visual field defects.

The is the total area in which objects can be seen while focusing on a central point. It includes both central and vision. Each eye has a unique visual field, which overlaps to create vision.

Visual field measurement is performed using, a technique that maps the field of vision and detects abnormalities. Common tests include confrontation testing, automated perimetry (Humphrey or Octopus), and Goldmann perimetry. These assessments help diagnose glaucoma, optic neuropathies, and neurological disorders.

A is an area of partial or complete vision loss within the visual field. It can be physiological (e.g., the where the optic nerve exits the retina) or pathological, caused by conditions like optic neuritis, macular degeneration, or brain lesions.

According to the anatomy of the optic nerve, draw the localization of the scotoma based on the impaired part of the optic nerve.



Associated field defects

Left eye	Right Eye	
		1. <i>Right hemianopia</i>
		2.
		3.
		4.
		5.
		6.

Match the scotoma localization with its name.

Left superior quadrantanopia

Bitemporal hemianopia

Left homonymous hemianopia

~~Right hemianopia~~

Left hemianopia with macular sparing

Left inferior quadrantanopia