Eye

The eye is a specialized organ with the primary function of detecting light. The exposed thick layer is the sclera, often called “the white of the eye.” It does not cover the cornea, which bends and focuses incoming light. Light then travels through the pupil. A dilated pupil allows more light to pass through, and pupil dilation is controlled by the iris. The lens is the final site of focusing, controlled by the ciliary muscles. In order to interpret the light, signals run through the optic nerve to the brain. Rods and cones are two photoreceptors that transmit light through the optic nerve. Rods transmit black and white images and respond to low-intensity illumination, useful in night vision. Cones transmit color. The retina is located on the back of the eye and is the location where light is imaged. Once it reaches the retina, it can be transmitted through the photoreceptors and optic nerve to the brain.



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Characteristics

Sclera
Skulls
The sclera is the outer thick layer of the eye, but it does not cover the entire eye. It is often referred to as the white of the eye.

Cornea
Corn-stalks
Light first passes through the cornea, which bends and focuses it.

Iris
Iris-Flower
The iris controls the dilation of the pupil and adjusts the amount of light entering the eye.

Lens
Lens
The lens does the final focusing of light entering the eye.

Ciliary Muscles
Seals with Muscles
The ciliary muscles control the thickness of the lens, which affects the focus of light on the retina.

Optic Nerve
Optic Nerve-octopus
The optic nerve is a bundle of ganglionic cell axons that exits the back of the eye and transmits the light signal to the brain for interpretation.

Rods
Rods with white and black stripes
Rods transmit black and white images as well as low-intensity light. Rods only have one pigment: rhodopsin.

Cones
Colorful Cones
Cones transmit colored light. There are three types of cones, each containing a different pigment (red, blue and green).

Retina
Red-tin-cans
The retina is the location where light is imaged at the back of the eye. Once it hits the retina, it is transmitted through photoreceptors and the optic nerve.

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