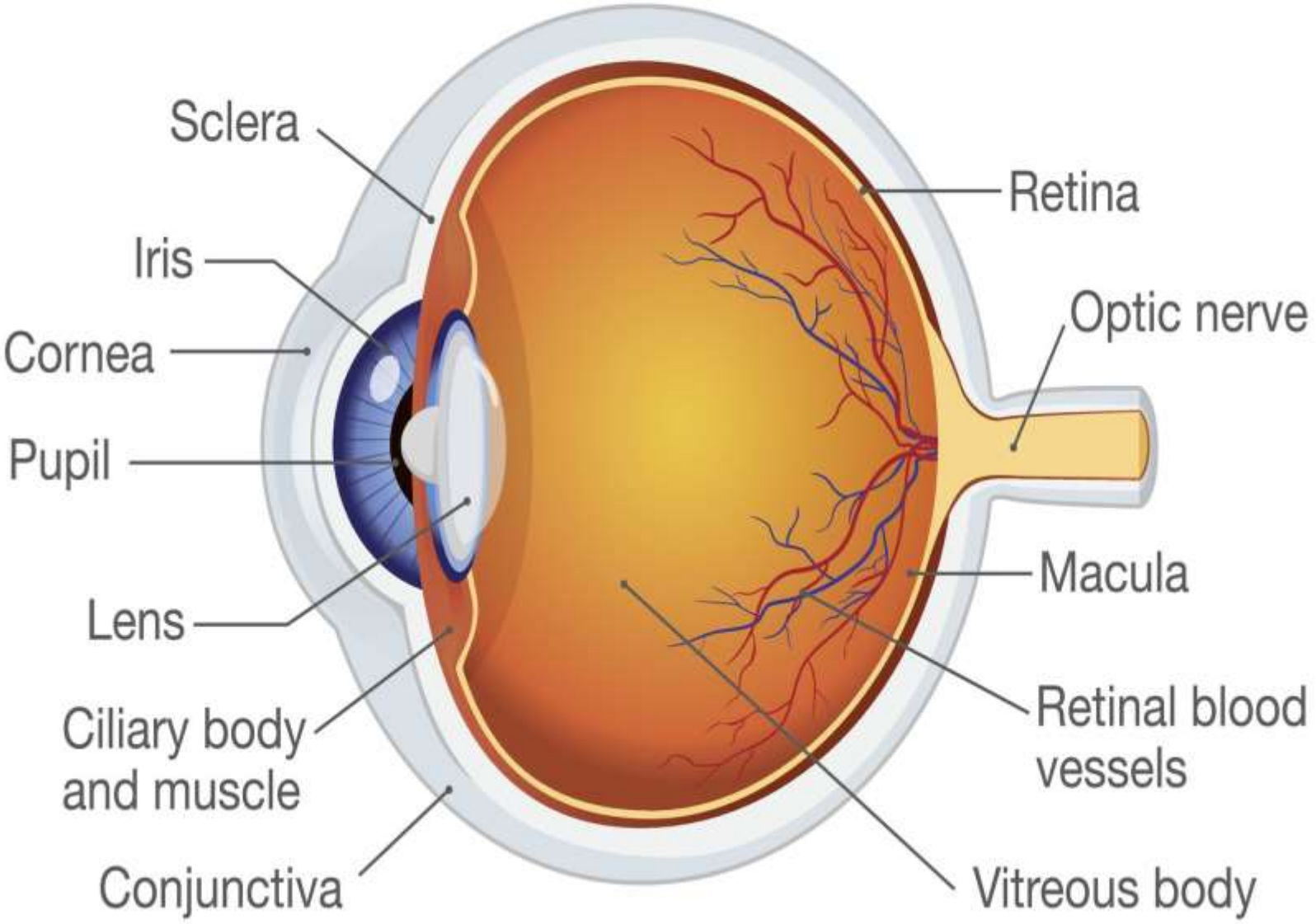
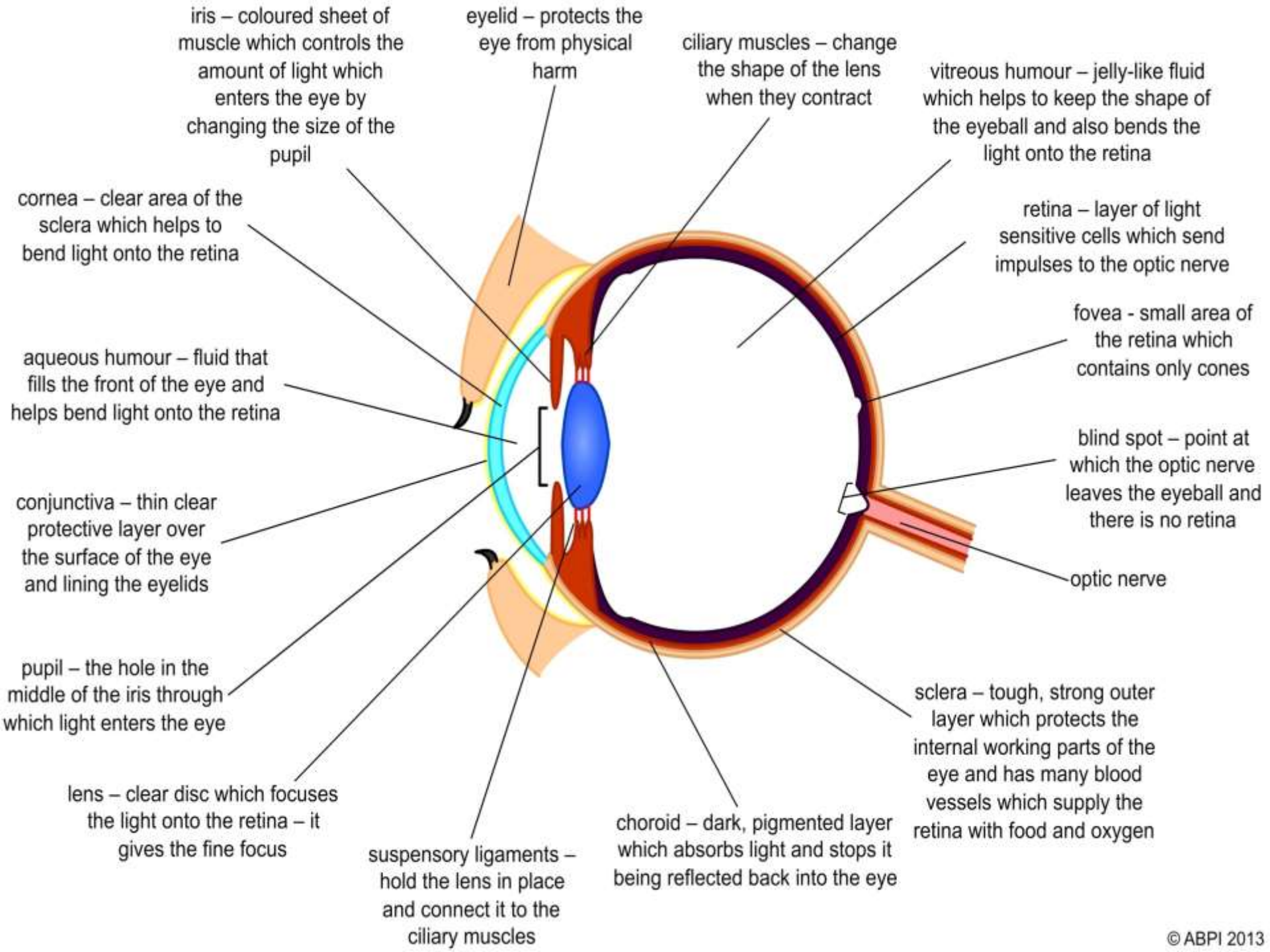
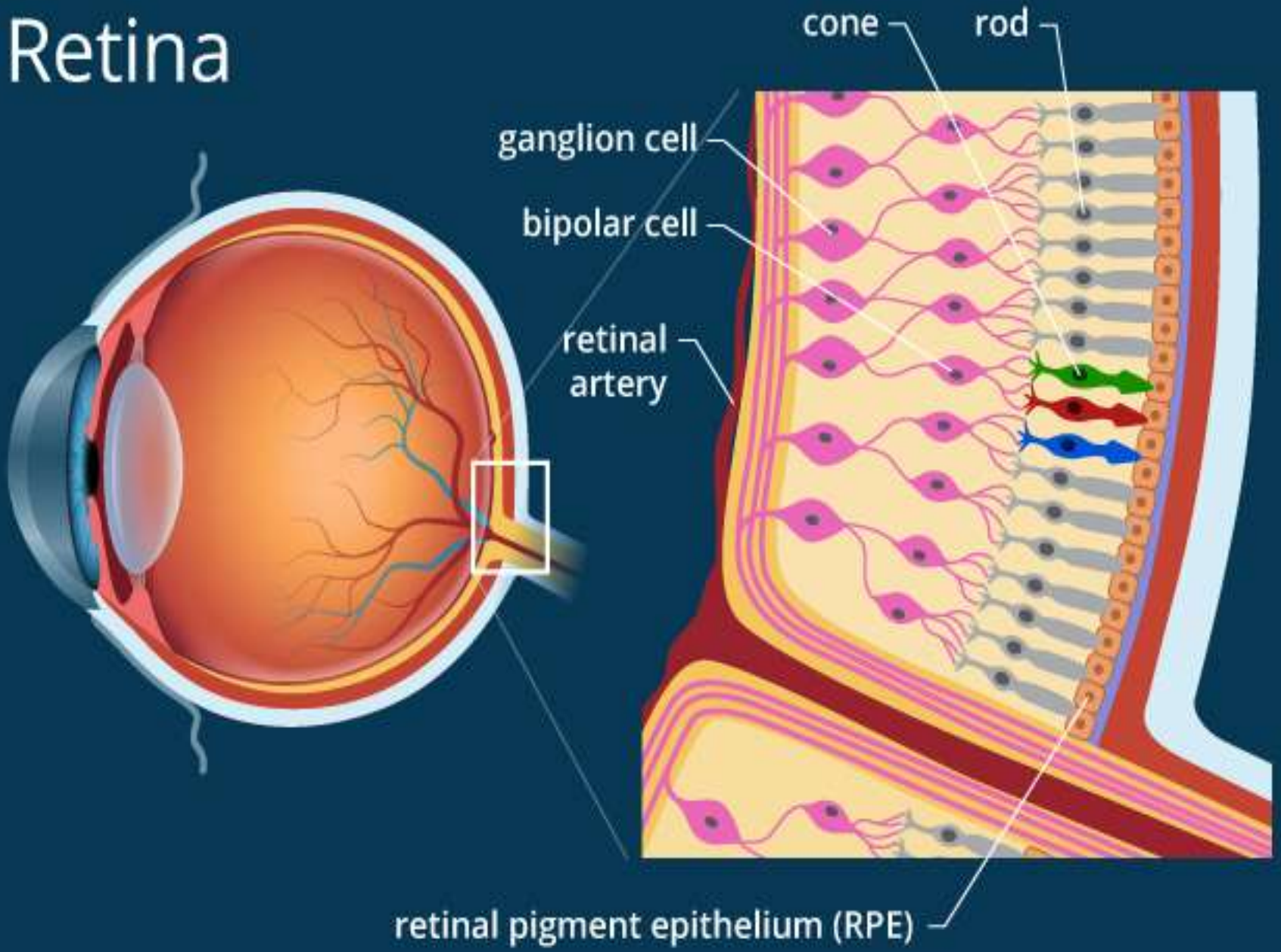
THE HUMAN EYE

Human Eye Anatomy

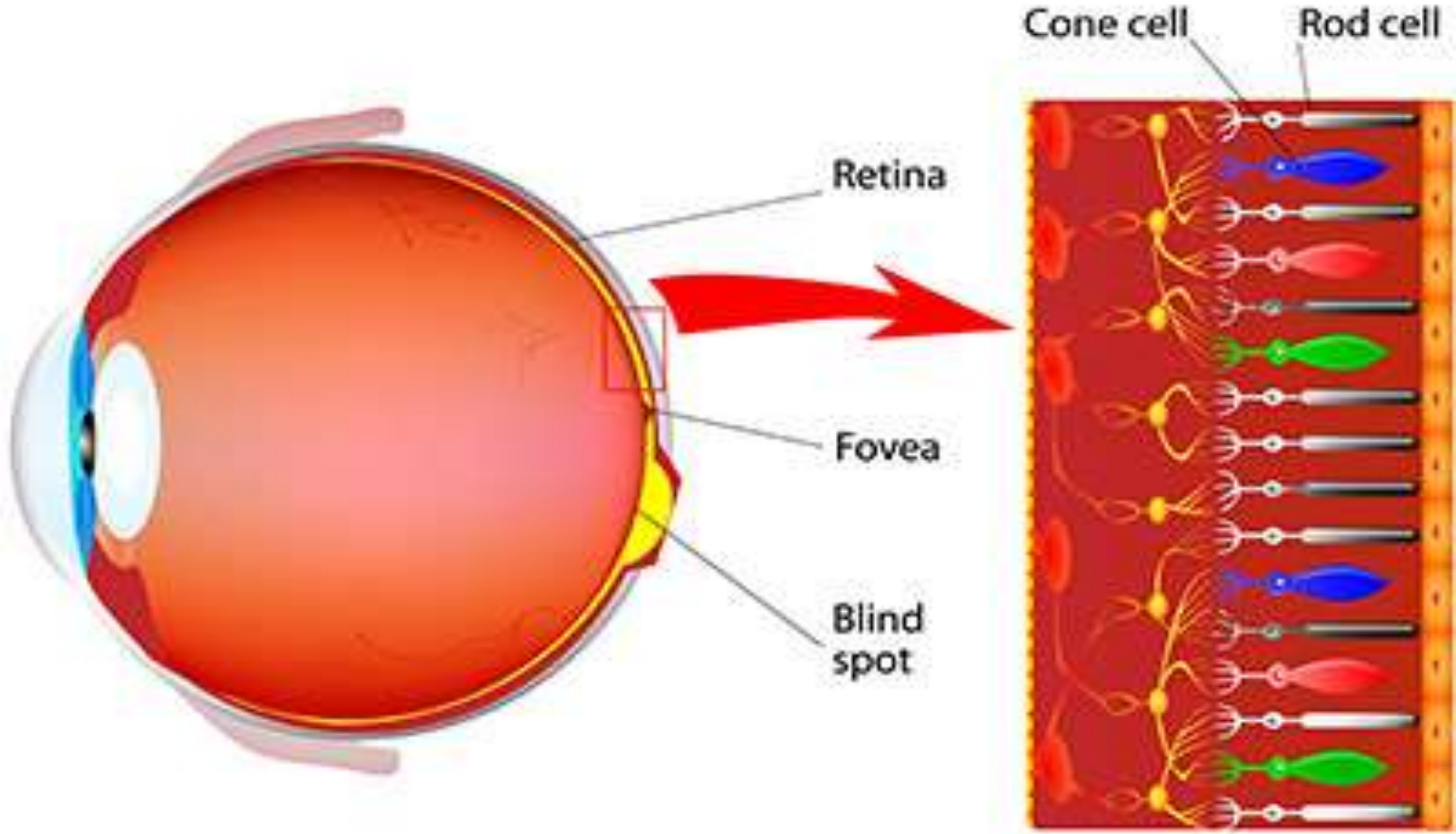


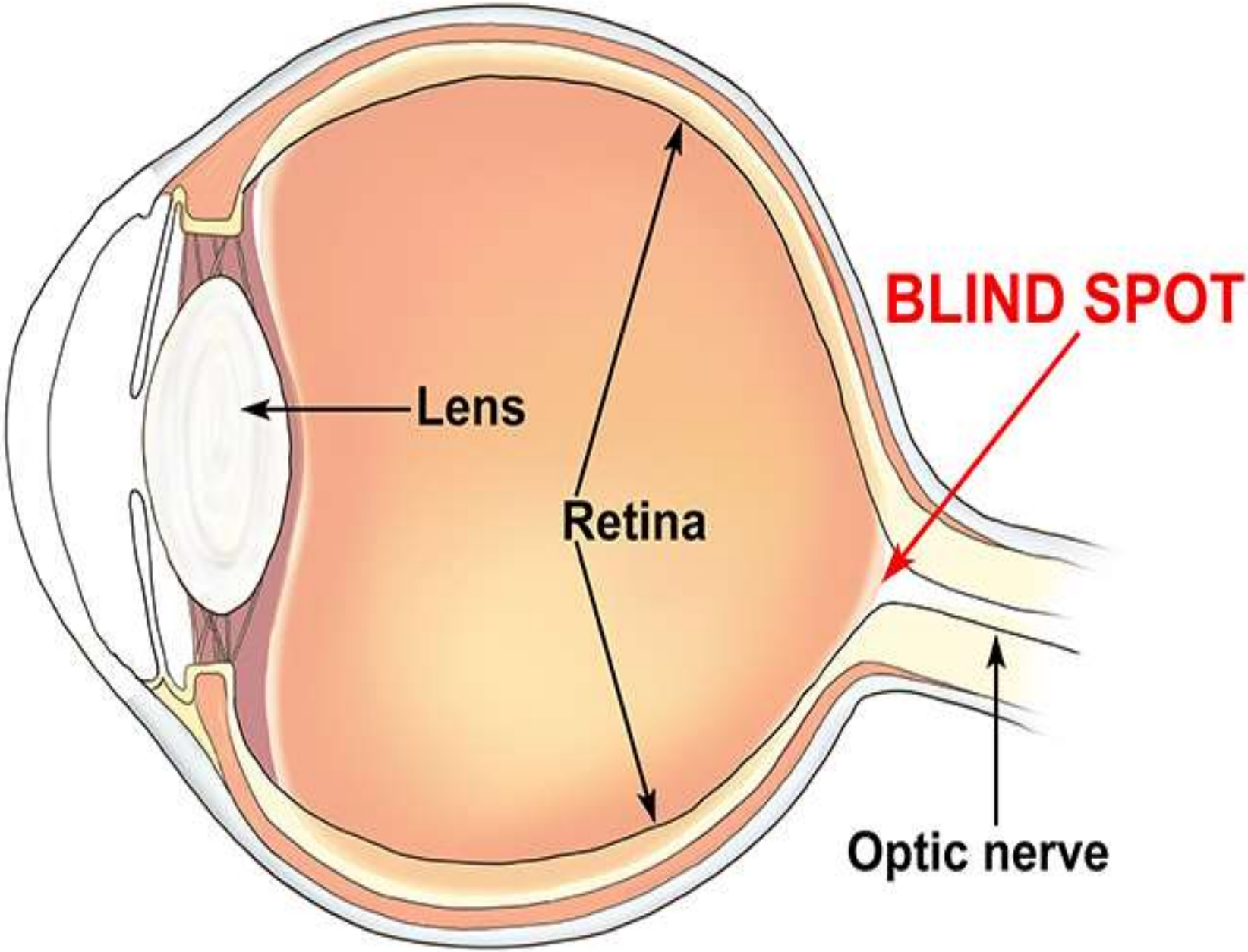

iris – coloured sheet of muscle which controls the amount of light which enters the eye by changing the size of the pupil
eyelid – protects the eye from physical harm
ciliary muscles – change the shape of the lens when they contract
vitreous humour – jelly-like fluid which helps to keep the shape of the eyeball and also bends the light onto the retina
cornea – clear area of the sclera which helps to bend light onto the retina
retina – layer of light sensitive cells which send impulses to the optic nerve
fovea - small area of the retina which contains only cones
aqueous humour – fluid that fills the front of the eye and helps bend light onto the retina
blind spot – point at which the optic nerve leaves the eyeball and there is no retina
conjunctiva – thin clear protective layer over the surface of the eye and lining the eyelids
optic nerve
pupil – the hole in the middle of the iris through which light enters the eye
sclera – tough, strong outer layer which protects the internal working parts of the eye and has many blood vessels which supply the retina with food and oxygen
lens – clear disc which focuses the light onto the retina – it gives the fine focus
suspensory ligaments – hold the lens in place and connect it to the ciliary muscles
choroid – dark, pigmented layer which absorbs light and stops it being reflected back into the eye

Retina


cone
rod
ganglion cell
bipolar cell
retinal artery
retinal pigment epithelium (RPE)

Photoreceptor cell




BLIND SPOT
Lens
Retina
Optic nerve

How we see color:

1

All the invisible colors of sunlight shine on the apple.

2

The surface of a red apple absorbs all the colored light rays, except for those corresponding to red, and reflects this color to the human eye.

3

The eye receives the reflected red light and sends a message to the brain.

The Human Eye

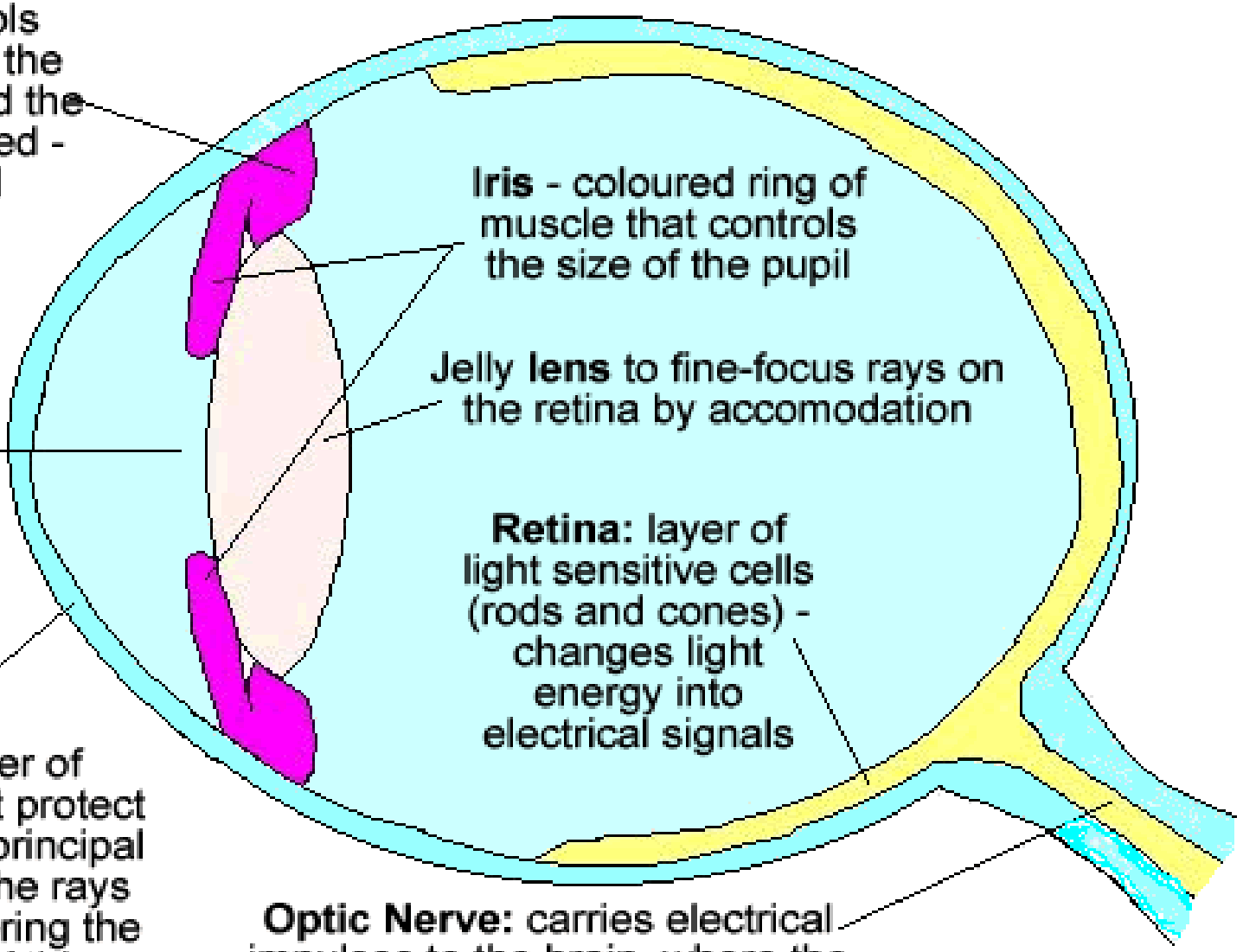
Ring of muscle: controls the shape of the lens - controls accomodation of the eye. When relaxed the lens is least curved - least powerful

Iris - coloured ring of muscle that controls the size of the pupil

Pupil: hole in the iris that lets the light in - like the aperture of a camera - automatically responds to light level

Jelly **lens** to fine-focus rays on the retina by accomodation

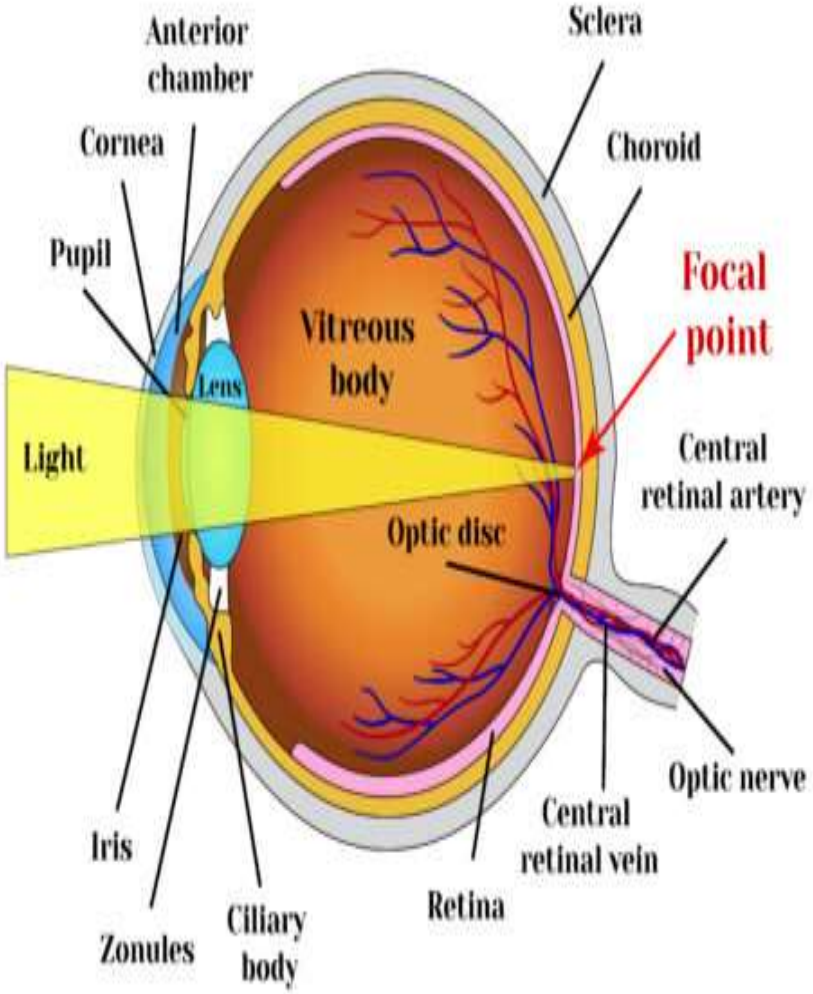
Retina: layer of light sensitive cells (rods and cones) - changes light energy into electrical signals



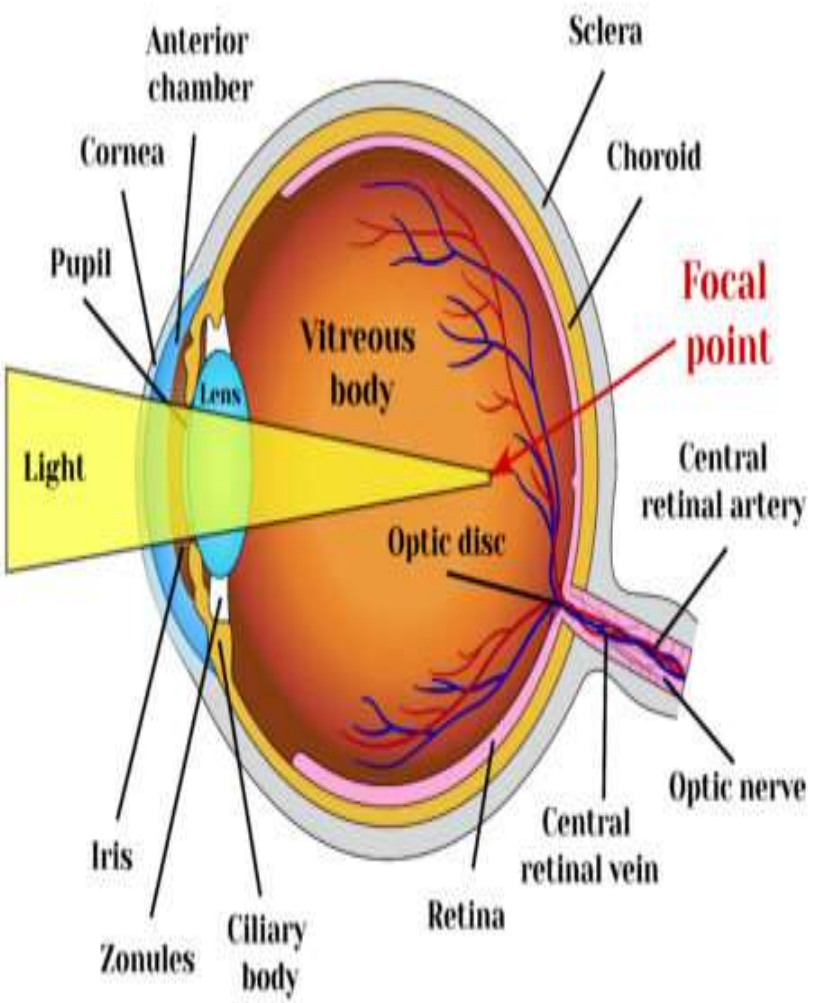
Cornea: thick layer of transparent cells that protect the eye and are the principal means of focusing the rays by refraction on entering the eye. Fine tuning of this focusing is done by the lens

Optic Nerve: carries electrical impulses to the brain, where the image information is processed

Normal vision



Myopia




Thank
You