Chapter 14 Notes

The eye is the sense organ responsible for sight. Each eyeball lies in the orbit and is attached to the skull by rectus muscles that control eye movement.

External Parts of the Eye

- Iris- A circular sheet of muscles that contains a pigment which gives the eye its colour. The amount of light entering the eye is controlled by the two sets of involuntary muscles in the iris, the circular muscles and the radial muscles.
- Conjunctiva- A thin white membrane covering the sclera in front. It is a mucous membrane that secretes mucus, which will help to keep the front of the eyeball moist. It is continuous with the skin of the eyelids.
- Sclera- A tough white outer covering of the eyeball. It is continuous with the cornea and protects the eyeball from damage.
- Eyelids- Covers the eye and protects the cornea from mechanical damage. The eyelids also partially close to prevent excessive light from entering the eye and damaging the retina. Blinking spreads tears over the cornea and conjunctiva and wipes dust particles off the cornea.
- Tear Gland- Lies at the corner of the upper eyelid and secretes tears which wash away dust particles and keeps the cornea moist for atmospheric oxygen to dissolve and diffuse into the cornea. Tears also lubricate the conjunctiva, which will help reduce friction when the eyelids move.
- Eyelashes- Help to shield the eye from dust particles.

Internal Parts of the Eye

- Ciliary body- A thickened region at the front end of the choroid. It contains ciliary muscles which control the curvature or thickness of the lens.
- Suspensory Ligament- A connective tissue that attaches the edge of the lens to the ciliary body.
- Cornea- A dome-shaped transparent layer continuous with the sclera or white of the eye. It refracts or bends light rays into the eye. The cornea causes most of the refraction of light that occurs in the eye.
- Aqueous Chamber- The space between the lens and the cornea. It is filled with aqueous humour, a transparent, watery fluid. Aqueous humour keeps the front of the eyeball firm and helps to refract light into the pupil.
- Lens- A transparent, circular and biconvex structure. It is elastic and changes its shape or thickness in order to refract light onto the retina.
- Retina- The innermost layer of the eyeball. It is the light-sensitive layer on which images are formed. It contains light-sensitive cells or photoreceptors. Photoreceptors consist of rods and cones. Cones enable us to see colours in bright light while rods enable us to see in black and white in dim light. The photoreceptors are connected to the nerve endings from the optic nerve.