Investigation 14.1

Examining the human eye

1. Use a flat mirror to look at your left eye. Make a drawing of your eye. Label the following: sclera, iris, pupil, eyelashes.

2. Cover your left eye completely with your left hand. Hold the mirror with your right hand. Count to 20 slowly and then suddenly remove your left hand from your eye. Look into the mirror to see what happens to the pupil of your left eye. Describe what you observe. Give an explanation for your answer.

3. The change in size of the pupil is a reflex action. Name the stimulus and the effector in this action.

Practical Book Link

Experiment 12.2

Try It Out

Eye tricks

Hold your book such that the dot is close to your left eye. Cover your right eye and keep your left eye fixed on the dot. Move your book slowly away from your eye. What do you observe? Explain your observation after studying page 274.

Eyelashes

They help to shield the eye from dust particles.

Tear gland

This is a gland lying at the corner of the upper eyelid. It secretes tears which:
- Wash away dust particles.
- Keep the cornea moist for atmospheric oxygen to dissolve. The dissolved oxygen diffuses into the cornea.
- Lubricate the conjunctiva, helping to reduce friction when the eyelids move.

Eyelids

- They protect the cornea from mechanical damage.
- The eyelids can be partly closed. This is known as squinting. Squinting prevents excessive light from entering the eye and damaging the light-sensitive tissues (retina) inside.
- Blinking spreads tears over the cornea and conjunctiva and wipes dust particles off the cornea.