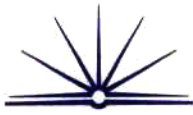




Communication.

- a) i) Photo-receptor cells are located in the retina.
- ii) A = conjunctiva = protects the pupil, lens etc. at the front of the eye.
B = Iris = determines how much light will or will not be allowed in the eye.
- (b) (i) Gather information from various sources for example encyclopedia, internet and books. Then use information to find the structures used by animals to produce sound.
- (ii) Through a number of sources I can compare my information and see which information is the same which should be true and which information is totally different to other sources which should be untrue. This should help me to assess the relevant and reliable information.

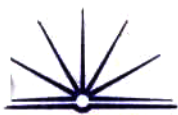


c) surgical techniques can be used to overcome the effects of cataracts.

An incision is made into the eye and the cloudy covered lens is removed and replaced with a lens.

Also glasses are used to then focus the eye on objects desired to be looked at. Cloudiness over the eye can be ~~removed~~ taken away only to ~~keep~~ keep reappearing again and again if not properly removed.

Cataracts are the cloudiness that appears over ~~the~~ eyes. It ~~is~~ can be mild but will eventually lead to blindness. Techniques of the insertion of a new lens is a great technology ~~is~~ used world wide which can save a persons sight.



(d) Accommodation of the eye is the processes involved in the eye to refract light to such a way that objects become visible. Accommodation particularly occurs in the lens of the eye when it bends to a shape to make objects clear at all different distances. Light needs to be focused on the retina at the back of the eye in order for the objects to be clear. The lens 'accommodates' for this by either expanding or contracting to

different thicknesses.

To model the process of accommodation I performed the following experiment:

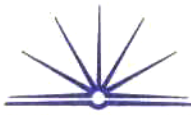
Aim: To model communication of the eye.

Method: With the use of a raybox shine three rays through different shaped lenses. Trace the lines and measure the focal distance from the lens to the focused point.

Results: The thicker the lenses the shorter the focal length. The thinner the lenses the longer the focal length.

Conclusion: The closer the object from the eye the thicker the lens. The further the thinner.

This experiment shows how the eye accommodates for different distances.



(e) Two devices designed to assist people with different types of hearing impairment are hearing aids and cochlear implants.

Hearing aids are used for people who have a slight impairment in hearing but are not completely deaf they are not used by people ~~have~~ who have damage to nerves in the ear or who are completely deaf

Hearing aids are placed behind a persons ear depending on which ear they are unable to hear properly from.

They ~~have~~ are sensitive to any sound which is produced

my amplifying the sound produced. that is then transmitted to the ear.

Cochlear-implants are a device which is a bionic ear which is implanted. It is used by people who have damage to nerve cells in their ear and are completely deaf.

Cochlear implants consist of a receiver, an amplifier and a speech detector. When sound is produced the tympanic membrane detects it and amplifies the sound. which then it is heard. A speech detector is also given to allow the person to produce sound.

some implications are a hearing aid must be always adjusted for example if watching TV or listening to music it must be adjusted to various sounds.

These technology