

The Human Eye : Instructions

You are provided with an outline of the human eye in its bony socket (orbit) of the skull. The eye is moved in the orbit by six muscles, of which two are shown - one on top of the eye and the other on the bottom. Also shown are the eyelids and eyelashes.

1 Label:

- (a) the bone of the skull
- (b) one of the muscles
- (c) one of the eyelids
- (d) one of the eyelashes

You are also provided with all the other parts of the eye, but they are jumbled up.

2 From the descriptions given, identify the parts, cut them out as carefully as you can and place them in the outline in the order given below.

- (a) **sclera** (two parts) - the tough, non-elastic, fibrous outer layer which protects the eyeball and helps to maintain its shape
- (b) **choroid** (two parts) - the layer just inside the sclera containing blood vessels (which supply food and oxygen to the eye) and a dark pigment (which reduces the reflection of light inside the eye)
- (c) **retina** (two parts) - the innermost layer which consists of light-sensitive cells (photoreceptors - rods and cones)
- (d) **cornea** - continuous with the sclera but transparent to let in the light at the front of the eye
- (e) **conjunctiva** - a thin transparent layer of cells (epithelium) lying on the outside of the cornea
- (f) **ciliary muscle** (two parts) - these hold the lens in position and make it thicker or thinner when focusing

- (g) **crystalline lens** - lies between the suspensory ligaments, its more curved surface facing towards the back of the eye
- (h) **iris** (two parts) - lies just in front of the lens and controls the amount of light entering the eye.

3 Once you have cut out and sorted all the parts and placed them in their proper places, stick them down on to the outline.

4 Label each of the structures given in 2 above and write (in brackets) after each label what the function of each structure is (what it is for).

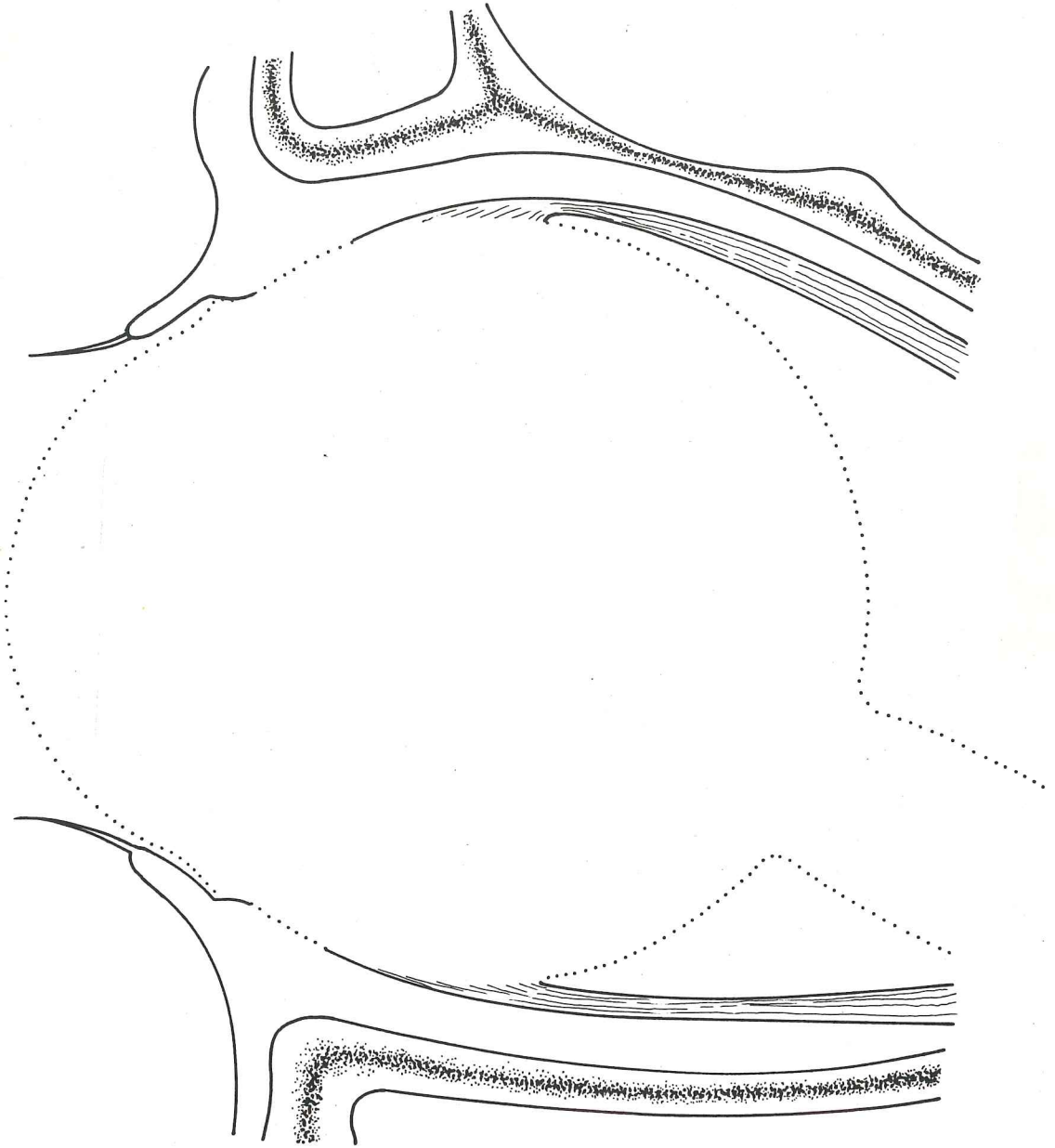
5 Also label the following:

- (j) **optic nerve** - carries the nerve impulses from the retina to the brain
- (k) **fovea** - a small yellow area of the retina which is in line with the visual axis and is particularly sensitive
- (l) **blind spot** - an area of the retina at the back of the eye which has no photoreceptors
- (m) **pupil** - the hole in the iris through which the light passes
- (n) **aqueous humour** - a colourless watery fluid filling the space between the lens and the cornea. It maintains the shape of the front of the eye
- (o) **vitreous humour** - a gelatinous (jelly-like) transparent substance filling the inside of the eye behind the lens. It pushes against the sclera and so maintains the shape of the eyeball.

6 After each labelled structure from 5 above describe its function (in brackets).

Hand these instructions back to your teacher when finished.

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