

# THE EYE

## INTRODUCTION

The eye contains receptors sensitive to light. When these **PHOTORECEPTORS**, called **RODS** and **CONES** are stimulated, they send impulses that travel via the optic nerve to the brain where impulses are interpreted as an image. Of the special senses, humans rely most heavily on sight to interact with their environment.

## PROCEDURE

You will need to identify several structures associated with the cow eye. The anatomy of the cow eye is very similar to the human eye, with a few exceptions that will be noted. For ease of discussion, we will separate the procedure into external and internal anatomical features.

### EXTERNAL ANATOMY

- 1) Use surgical gloves to handle the cow eye to prevent your hands from contacting the preservative.
- 2) Remove the cow eye from the container and rinse it in the sink. Immediately cap the container to prevent preservative volatilization.
- 3) Put the eye into a dissecting pan and take it back to your bench. Identify the external anatomical features listed in **TABLE 8.1**. You may need to trim some of the adipose tissue to expose features such as the optic nerve and extrinsic eye muscles. Use your scissors; be careful not to cut yourself.

### INTERNAL ANATOMY

- 1) Hold the eye in the pan so that the cornea is in the superior position (i.e. facing up at you). Carefully puncture the eye with your scissors about ½ cm from the edge of the cornea. **CAUTION:** the sclera is tough, relatively thick, and slippery from the preservative. Be careful that you apply firm, **DIRECT** pressure so the scissors won't slip; you want to puncture the cow eye, not your hand or finger.
- 2) Cut all the way around the cornea so that you will have anterior and posterior portions. A gelatinous substance call **VITREOUS HUMOR** will be in the **POSTERIOR CAVITY** of the eye. Carefully remove the vitreous humor. The **LENS** may remain attached to the **CILIARY BODY** by the **SUSPENSORY LIGAMENTS**. If so, "pop" out the lens.
- 3) Identify the cavities and structures listed in **TABLE 8.2**
- 4) After you are finished with the dissection and have identified all the structures, discard loose tissue into the garbage container. Rinse the dissecting pan with water and store it upside down by the sink. Return your dissected cow eye to the jar for future reference. Discard used surgical gloves, or retain them for future use.