

Sheep Eye Dissection

Name: _____ Date: _____

Materials: safety goggles latex gloves
forceps paper towels dissecting scissors
sheep's eye dissecting tray

Procedure:

1. After putting on safety goggles and gloves get a dissecting tray and put a couple of pieces of paper towel on it. Place the sheep's eye on it for inspection.
2. Use a pencil to sketch a side-view external diagram of the eyeball in **Observation #1**. Make sure to label the **sclera, cornea, optic nerve, and muscles**.
3. Cut the **fat and muscles** off the eyeball so that you can see the **sclera**.
4. Place your eye specimen in the dissection pan. Turn the specimen so the cornea is on the left and the optic nerve is on your right. Select a place to make an incision of the sclera midway between the cornea and optic nerve. Use the point of a very sharp razor blade to make a small cut through the sclera. Fluid should ooze out of the eyeball when you have cut deeply enough. You will be reminded of how tough the sclera is when you make this cut. With your dissecting scissors, cut around the entire eye so that you have two equal hemispheres when you are finished.
5. Take the **vitreous humour** and put it onto your dissection tray
6. Pick up the back of the **sclera** that contains the **optic nerve**. Use your forceps to peel the **retina** off the inside of the eye. Place the **retina** onto your dissection tray
7. Use the forceps to carefully peel the **choroid coat** from the sclera. Place the **choroid coat** onto your dissection tray
8. Pick up the front half of the sclera that contains the **cornea, iris, and lens**. Remove the **lens** carefully with the forceps.
9. Try dropping the **lens** once from about shoulder height onto the lab bench. It probably bounces. After you have attempted this, place the **lens** onto the dissection tray

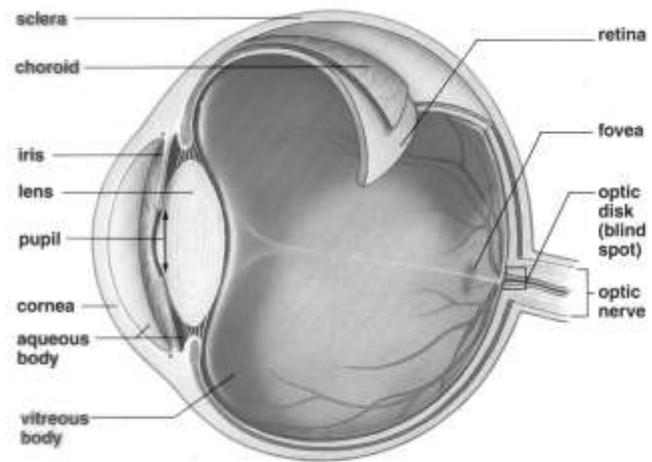


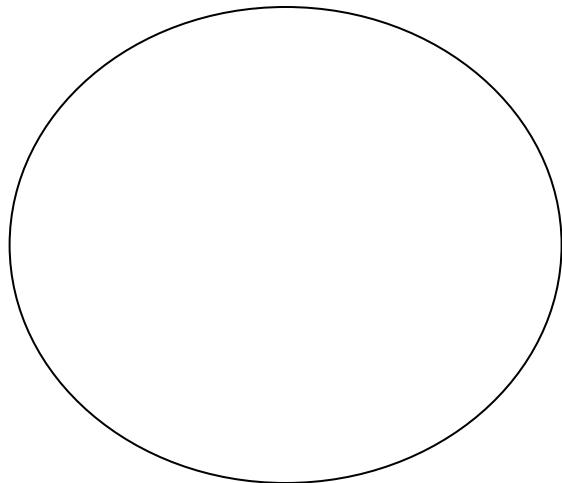
Fig. 32.30 Structure of the human eye.



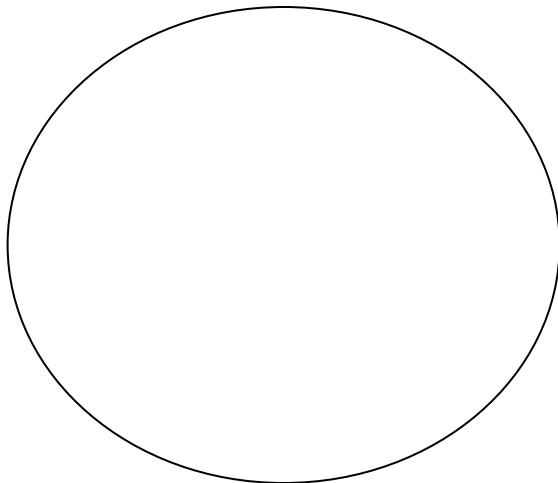
10. Use your fingers to carefully remove the **iris**. Use a pencil to make a sketch of the iris in **Observation #2**. Place the **iris** onto the dissection tray
11. Cut the **cornea** out of the front of the **sclera**. Place the cornea onto the dissection tray.
12. Carefully wash all dissecting materials and the bench top and put equipment away.

Observations/Discussion:

Observation #1 – External Diagram of Eye



Observation #2 – Iris Diagram



1. What is the job of the muscles on the outside of the eyeball? _____
2. What colour is the sclera? _____ Iris? _____ Pupil? _____
3. What did you observe about the texture of the sclera while cutting? Why is this a good feature for eyes to have? _____
4. What is the job of the vitreous humour? _____
5. What is the function of the retina? _____
6. You may have found it difficult to remove the retina. What may have made it difficult to remove? _____

7. The place where the retina and optic nerve connect is called the blind spot. Why is a blind spot produced? _____

8. The black, shiny layer under the retina is the choroid coat. What does the choroid coat contain and what is the function of this layer? _____

9. What is the purpose of the aqueous humour? Where is it located in the eye?

10. What shape is the lens? Why is it important that it acts like a magnifying glass?

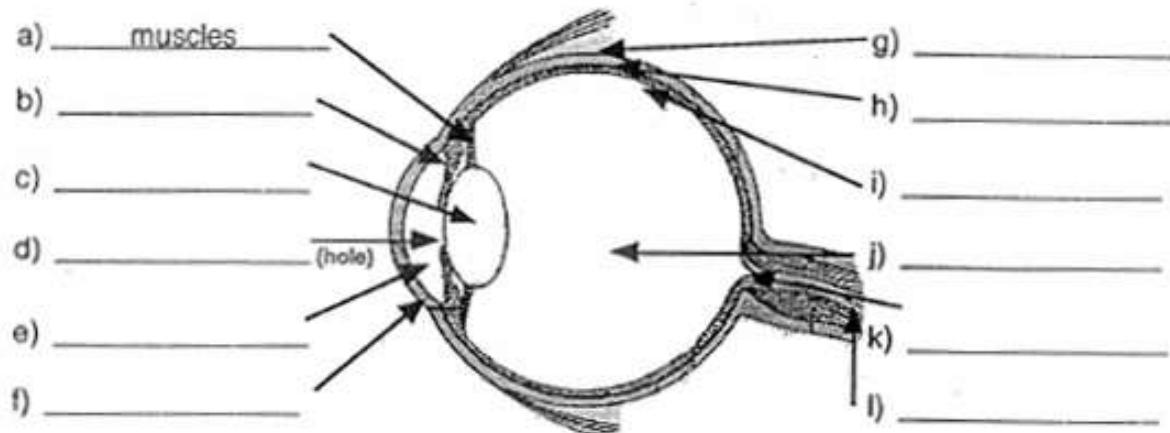
11. Why is it important that the lens is flexible? _____

12. What is the hole in the middle of the iris called? What is the function of the iris? Is the iris transparent, translucent or opaque?

13. What is the function of the lens? _____

14. The cornea is normally clear and colourless so that light can be refracted through it. In your sheep's eye the cornea may be cloudy. What do you think may have caused this? _____

15. Label the diagram with parts of the sheep's eye. (Hint: See **boldface** words!)



16. Write the names of the actual eye parts. (Hint: See **boldface** words!)

- a. Thick outer casing of eye _____
- b. Shiny, black with blood vessels _____
- c. Thin layer registering images _____
- d. Cord carrying messages to brain _____
- e. Connection-no info registers _____
- f. Jelly – like liquid prevents damage _____
- g. Controls amount of light entering _____
- h. First window protects and focuses _____
- i. Opening in coloured muscle _____
- j. Final focusing transparent ball _____
- k. Watery liquid feeds front of eye _____
- l. Stretch and relax to move parts _____