

THE SPECIAL SENSES

Lab Objectives

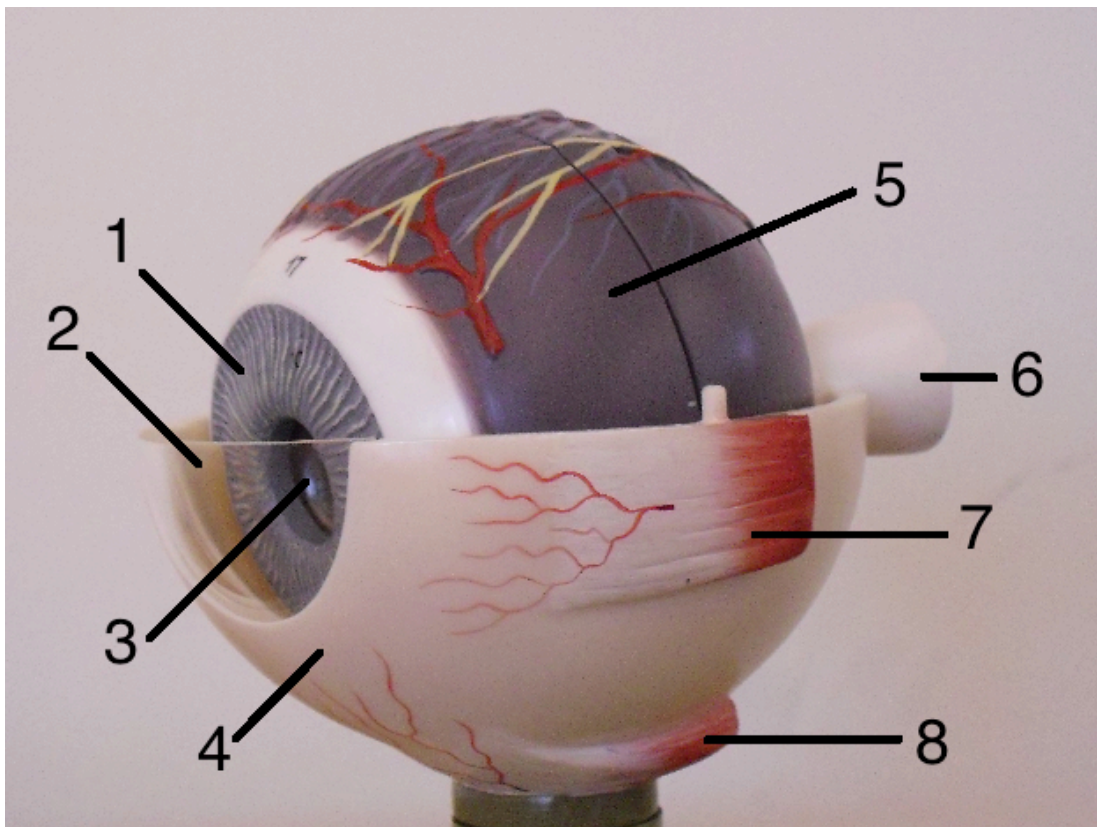
Students should be able to:

1. Identify the anatomical structures of the eye, ear and tongue.
2. Discuss basic physiological function of each sense.
3. Identify the microscopic anatomy of the tongue.

The human eye is subdivided into three tunics, each with specific structures:

1. Fibrous tunic: sclera and cornea
2. Vascular tunic: choroid layer, ciliary body, ora serrata, lens, suspensory ligaments, iris and pupil
3. Sensory tunic: macula lutea, fovea centralis, optic disc, and optic nerve

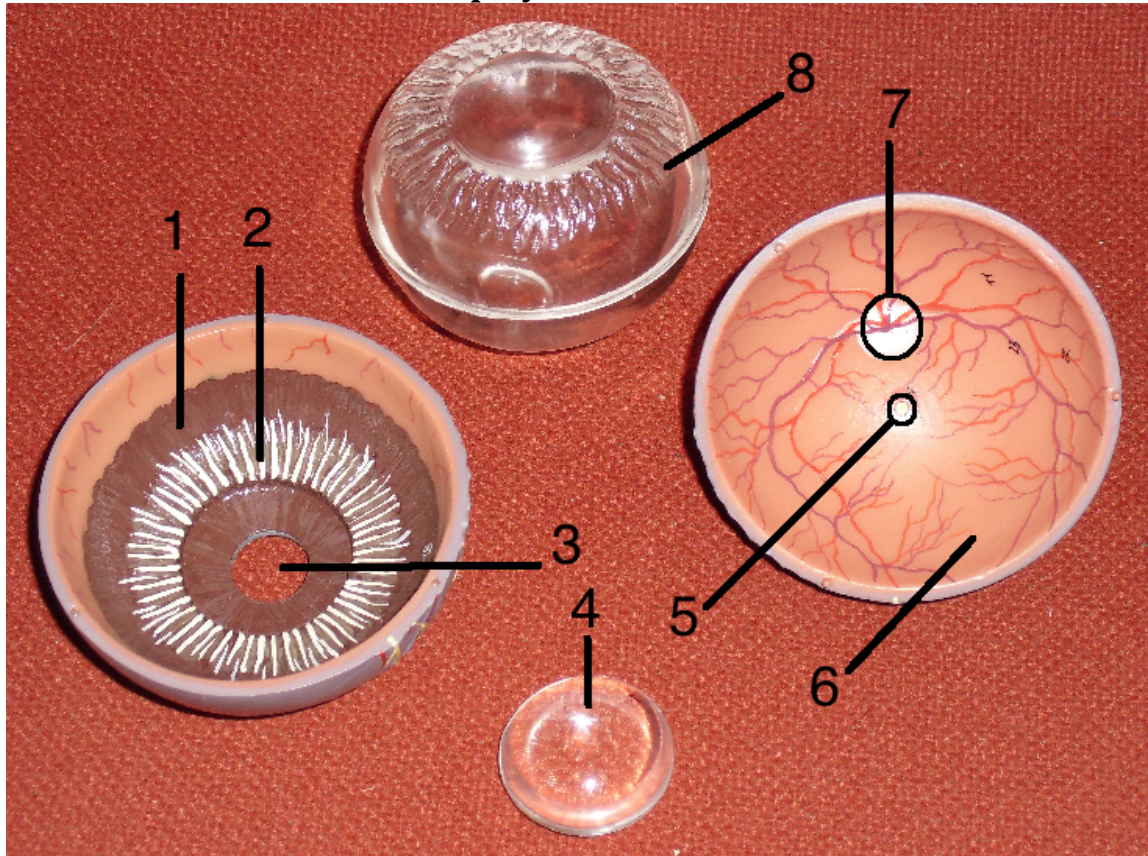
Superficial (External) Eye Structures



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|-----------|--------------------|
| 1. Iris | 5. Choroid |
| 2. Cornea | 6. Optic Nerve |
| 3. Pupil | 7. Medial rectus |
| 4. Sclera | 8. Inferior rectus |

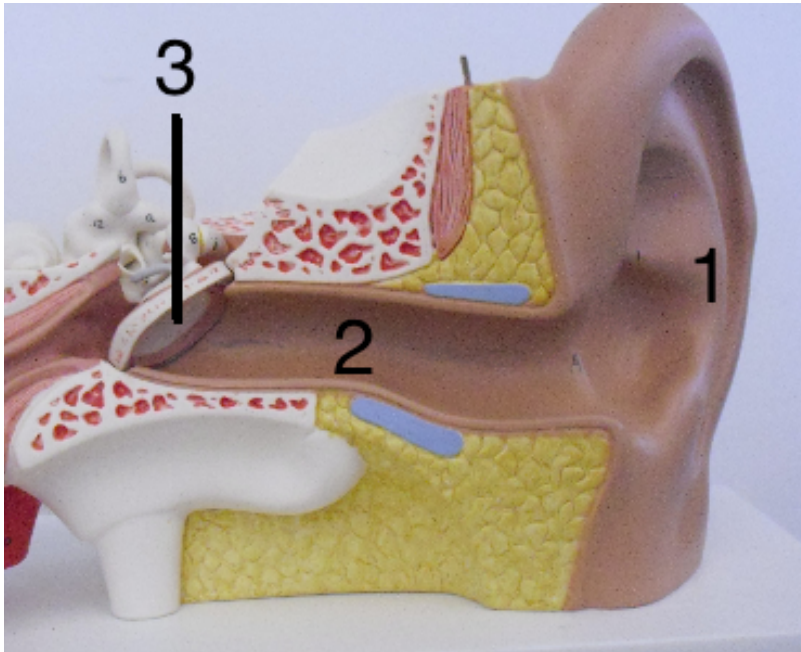
Note: Know all rectus and oblique muscles associated with the eye

Deep Eye Structures



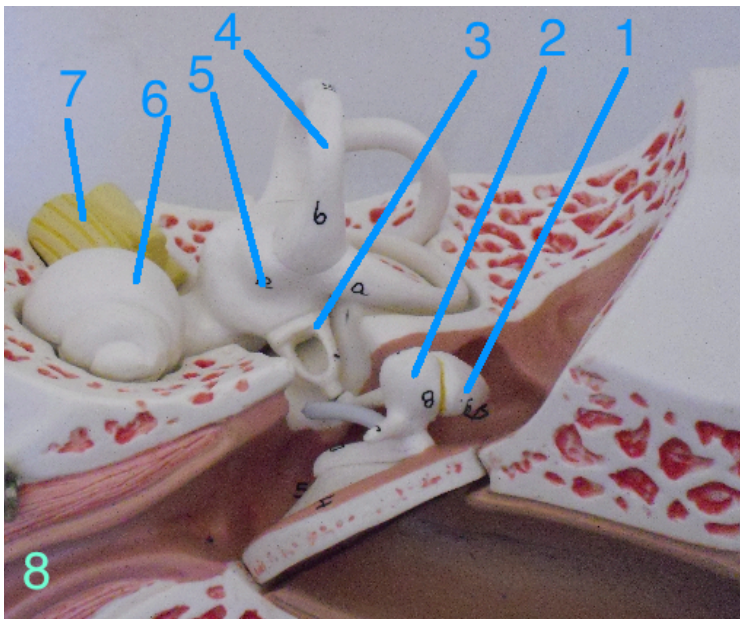
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|-------------------------|--|
| 1. Ciliary body | 5. Macula lutea (w/ fovea centralis) |
| 2. Suspensory ligaments | 6. Retina |
| 3. Pupil | 7. Optic disc (leading to optic nerve) |
| 4. Lens | 8. Vitreous humor |

Note: Also know the following structures: anterior segment, posterior segment, aqueous humor and ora serra of the retina



Outer Ear

1. Pinna
2. External acoustic (auditory) meatus
3. Tympanic membrane

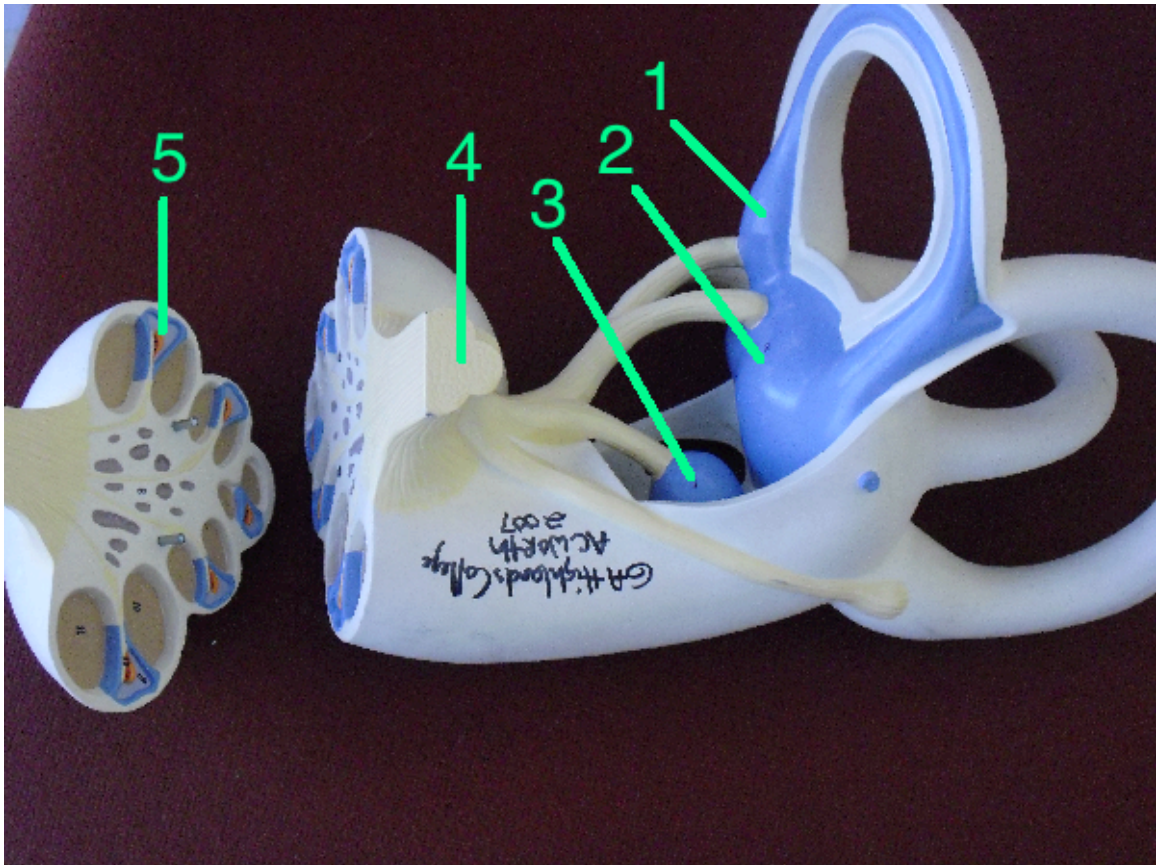


Middle Ear

1. Incus
2. Malleus
3. Stapes

Inner Ear

4. Semicircular canals
5. Vestibule
6. Cochlea
7. Nerve: Cranial nerve VIII vestibulocochlear
8. Eustachian tube



Internal Inner Ear Structures

- 1. Ampulla**
- 2. Utricle**
- 3. Sacule**
- 4. Vestibulocochlear nerve**
- 5. Cochlear duct**

In addition to the Eye and Ear structures, students must know the following:

Taste: taste buds and the three types of papilla (fungiform, filiform, and circumvallate)

Smell: nasal concha, vomer, perpendicular plate, cribriform plate, olfactory foramina, and olfactory nerve (cranial nerve I)