

Special Senses

This lab focuses on eyes and ears, and includes a short nod to touch, taste, and smell. It is likely that students have not talked about special senses yet in lecture. You may want to provide some background information for this lab before they get started on this unit. Topics you may want to cover are

- Path of light through the eye
- Path of sound through the ear

Case Study: “The Painful Eye Puff” (work in pairs)

In this case study, Emran has trouble seeing things close-up. He also has high intraocular pressure and will be sent to test for glaucoma.

Activity 1 – The Structure and Function of the Eye (students work in pairs)

Students should take apart the eye model to identify all of the structure. We are not going to be doing eye muscles or the accessory structures. Please have them use the terminology checklist and pre-laminated labels. They will need your signature for this activity. They can use the model keys as well as their textbook to help them find these structures. Please make sure your students view the retina slide and find the structures indicated on the checklist. You may want to project this slide on the teaching microscope to point out some structures to students.

Materials needed: Eye Models, binder with sticky tack labels, extra sticky tack, 70% ethanol in bottles, lens paper, retina slides (4)

Activity 2 – Dissection of a Mammalian Cow Eye (students work as a lab bench)

Due to limited supplies, please have students dissect one cow’s eye per lab bench. Student must wear gloves, aprons and goggle for this dissection. If they are not careful and put too much pressure on the eye while they make their first incision, liquid can squirt out of the eye.

Materials needed: bucket of cow’s eyes, metal container opener, dissecting tools, 12 dissecting trays, vik’s vapo rub, aprons and goggles.

Activity 3 – Performing Visual Tests (students work in pairs)

Students should work carefully to complete each of the eye tests.

Materials needed: Snellen eye chart, Ishihara color plates, Dissecting pins (2 per tray), little rulers from behind microwave (2 per tray)

Case Study: “To Hear or Not to Hear” (work in pairs)

In this case study, a child is having trouble hearing. She is being sent for hearing tests. This will be a very preliminary look at the two types of deafness.

BIO141-Human Anatomy and Physiology I | 2023

Special Senses Notes

Activity 4 – The Anatomy and Physiology of the Ear (students work in pairs)

Students should take apart the ear model to identify all of the structure. Please have them use the laminated labels.

Materials needed: Ear models (6), binder with sticky labels, extra sticky tack

Activity 5 – Hearing Tests (students work in pairs)

Students will test if they can hear the tuning fork sounds through air conduction and bone conduction.

Materials needed: tuning fork and rubber activator (2 per tray each)

Activity 6 – The Common Cold and Sensation (students work in pairs)

Student should stand against the whiteboard to conduct this activity. They tend to rush toward the end and skip this activity. Please encourage them to test this before leaving lab!

Materials needed: white board markers

Lab Clean-up Instructions

Students must clean the lab benches with the disinfectant solution. Please have them place all models and charts back on the side and back lab benches. The remaining cow's eye pieces should be placed in a large Ziploc bag and disposed of in the regular trash. All dissecting tools and trays should be washed with soapy water, dried and returned to the side lab benches.