**Please remind your student that they need to come to lab with their pre-lab on Canvas completed and the post lab activities from last week’s lab completed.**

The focus of this lab is for students to learn the anatomical structures of the brain. This is a pretty structure heavy lab. Students will probably need the entire lab period in order to finish this lab within the given time slot. Below is a list of a few topics you may want to give a brief chalk-talk on (depending on how much they have already had in lecture on this topic).

* Overview of major brain structures
* Functional Regions
* Flow of CSF

**Case Study** – **(in pairs)**

In this case study we have a patient experiencing confusion and loss of various senses. Students will come to learn that the patient has hydrocephaly (water on the brain) and impairment to various cranial nerves. At the end of this lab, they will determine the general location of the brain injury based on the cranial nerves that were damaged. One of the key things for them to understand is that damage to the right side of the brain affects the left side of the body

No material needed

**Activity 1 –** The Structure and Function of the Brain **(students work in tables)**

Students should spend a significant amount of time on this activity. Encourage students to place the labels on in sections and then remove them. They will need to practice this material with the “quiz” activity. Please pass out the notecards – one to each group – and have them use the terminology labels 1-5 to mark them on the brain model and then write down the structure in the in-lab.

Materials needed: 6 brain models (or as many as we have), binder of labels, 12 note cards (index cards) for quiz with 5 different structures listed on each card

**Activity 2 – Identifying the Meninges/Ventricles and Tracing the Flow of Cerebrospinal Fluid (Students work in pairs)**

Students should work in pairs to answer these questions. It might be easiest to show it as a demo to the whole class on the instructor computer/projector. Students will be filling in the questions in their in-lab for this activity. We do also have ventricle models that they can use.

Materials needed: any charts of the brain, sagittal model of brain, brain ventricle models

**Activity 3 – Dissecting a Sheep Brain (students work as a table)**

Students will need aprons and gloves for this exercise. Only the first section of the week will be making a midsagittal cut on the brain. All other sections should just look at the ½ brains and identify the structures. Instructors can take one brain as a demo and make transverse cuts to show additional views of the ventricles. Student will not be completing steps 7-8 of the dissection.

Materials needed: bucket of sheep brains, metal opener, dissecting tools and trays

**Activity 4 –** Identify the Cranial Nerves **(as a table)**

You will probably want to go over the cranial nerve names, sensory/motor/mixed and briefly the function of each. There is a fun “song” video link in the powerpoint that does a great job of summarizing the functions of each nerve. Please feel free to play this for your class.

Materials needed: 6 brain models (one per table for 4 students), pre-laminated labels

**Activity 5: Evaluate Cranial Nerve Function** **(in pairs)**

Before having students test each cranial nerve, show them the video of a cranial nerve test posted in the power point. This comes from the Merck Manual. One student will act as a clinician and the other as a patient. Remind them to record their results as they go. They will be using this information to then evaluate the cranial nerve function test of their patient.

Material Requires in each tray: Ziplock bag of cotton balls, Snellen eye chart (in the lab), penlight, activator, small vials with 3 different things to smell, set of tuning forks

**Lab Clean-up Instructions**

Students must clean the lab benches with the disinfectant solution. Please have them place the brain halves back in the buckets and wash all of the dissecting tools and trays with soapy water. All slides need to go back on the trays. All labels should be removed from the brain models and the brain models should be put back together and placed back on the side bench. Please be sure that students put away all of their lab material where they found it.