

Lab 11: Nervous System

Identify as many of the structures as possible on the sheep brains. Identify all of these structures on the models.

Cerebral hemispheres: gyri, sulci, longitudinal fissure, lateral sulcus, central sulcus, temporal lobe, frontal lobe, parietal lobe, occipital lobe, white matter, gray matter, corpus callosum, fornix, septum pellucidum, lateral ventricles

Diencephalon: optic chiasma and optic tract, olfactory bulbs, pituitary gland (part of hypothalamus) on infundibulum, interthalamic adhesion/intermediate mass (part of the thalamus), interventricular foramen/foramen of Monro, mammillary bodies, pineal gland (part of epithalamus)

Brain Stem: pons, medulla oblongata, cerebral aqueduct/aqueduct of Sylvius, fourth ventricle

Cerebellum: arbor vitae, vermis

Meninges: dura mater, arachnoid mater, subarachnoid space, pia mater, cerebrospinal fluid made by the choroid plexuses

Be able to give the **Roman numeral, name, and basic function** of the twelve cranial nerves (**Table 17.2**).

Name the structure that divides the Parietal lobes from the Frontal lobe.

Name the structure that divides the brain into right and left hemispheres.

Damage to Broca's area results in _____

Where is the gray matter located in the cerebral hemispheres? _____

Name the structure that divides the anterior horn of the lateral ventricles.

What is the name of the fluid inside the ventricles and between the arachnoid and pia maters?

Which structures make this fluid? _____

Give the name(s) and number(s) of the cranial nerve(s) conveying the sense of taste.

Slide Assignment: Nervous Tissue

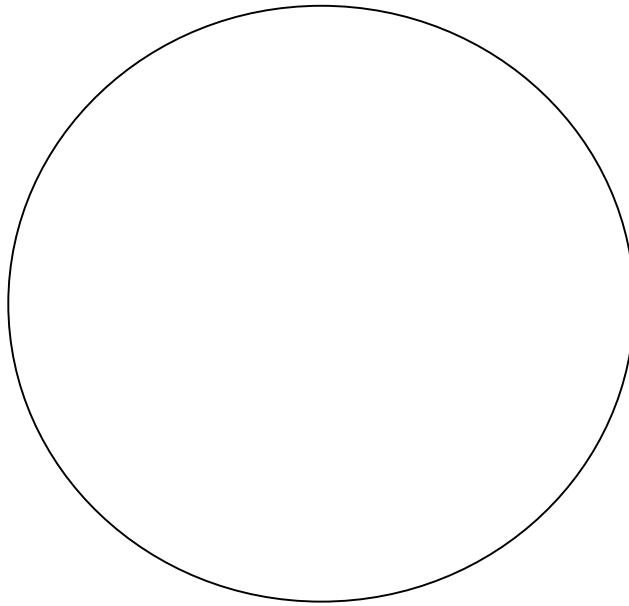
(Beginning on p257 in Lab Text, p171 in Histology Text)

Draw the following slides using the figures in the lab and histology texts as a reference. Use whichever magnification works best to show all given structures. Please note that not every slide will show everything; you will need to look at multiple slides and/or sources. Your drawings should artistically combine views to include all structures.

- **Spinal Cord** – You will need to change magnifications multiple times to draw, label, and understand function of the following:

(pages 175 & 177 of *diFiore's Atlas of Histology* are helpful)

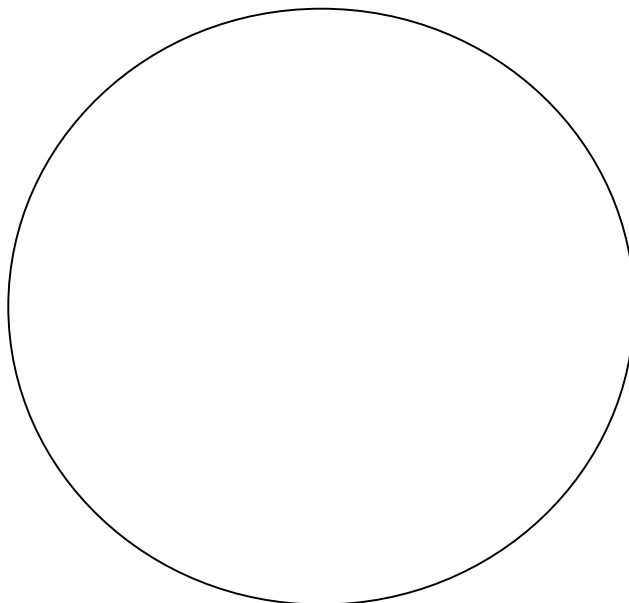
- Gray Matter
 - Ventral (Anterior) Horn
 - Motor Neurons
 - Dendrites
 - Dorsal (Posterior) Horn
 - Gray Commissure
 - Central Canal
- White Matter
- Pia Mater
- Arachnoid Mater
- Dura Mater



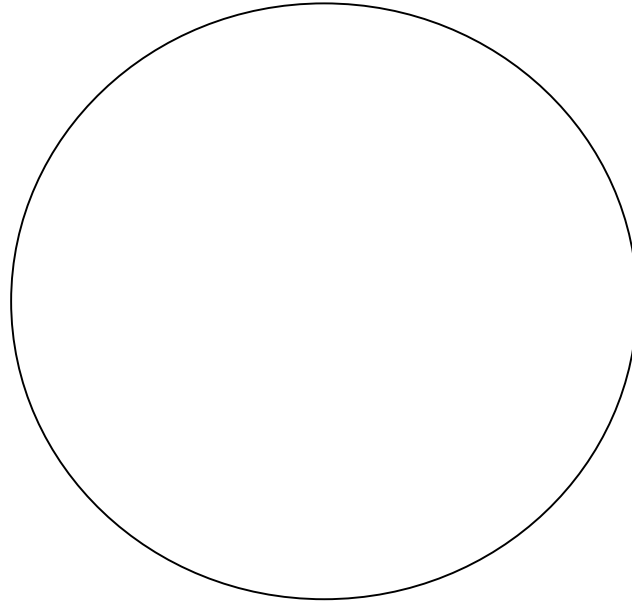
- **Cerebellum H & E** – label and understand function of the following:

(pages 187 & 189 of *diFiore's Atlas of Histology* are helpful)

- Sulci
- Gyri
- Pia Mater
- Gray Matter
 - Granular Layer
 - Molecular Layer
- White Matter
- Purkinje Cells



- **Peripheral Nerve (Yellow)** – label and understand function of the following:
(page 201 of *diFiore's Atlas of Histology* is helpful)
 - Schwann Cells
 - Myelin Sheath
 - Axon
 - Nodes of Ranvier



- **Peripheral Nerve (Blue)** - There are two sections on this slide: a transverse section and a longitudinal section. **Draw the transverse section.** You will need to change magnifications multiple times to draw, label, and understand function of the following:
(page 207 of *diFiore's Atlas of Histology* and 264 of our lab manual are helpful)
 - Epineurium
 - Perineurium
 - Endoneurium
 - Fascicle
 - Axon
 - Myelin Sheath

