Structures for Identification for the 2020-2021 U.S. National Brain Bee Dry Specimen Lab Practical: Histology, MRI's and Angiograms

A great resource for identifying these structures is:

- Neuroanatomy Atlas in Clinical Context Structures, Sections, Systems, and Syndromes
  Author(s): **Duane E. Haines PhD**
  ISBN/ISSN 9781496384164
- Neurbiology Atlas posted here: https://www.neomed.edu/brainbee/national-competition/

Neurohistology:

Peripheral System Structures:

Spinal Cord:

- Gray matter/White matter
- Posterior/Dorsal horn of the gray matter
- Posterior/Dorsal root
- Posterior/Dorsal root ganglion – Pseudounipolar neurons with Satellite cells
- Central canal of the gray matter with Ependymal cells
- Lateral horn of gray matter (intermediolateral column of gray matter) – thoracic region of spinal cord
- Anterior/Ventral horn of the gray matter
- Anterior/Ventral root
- Multipolar neurons
- Nissl substance/Nissl bodies

Peripheral nerves:

- Axons with myelinating Schwann cells (both in cross-section and longitudinal section)
- Nodes of Ranvier
- Axon hillock
- Neuromuscular junction, motor end plate

Central Nervous System:

- Pyramidal cells/Betz cells
- Purkinje cells of cerebellum
- Glial cells: Astrocytes, Oligodendrocytes, Ependymal cells

Cells of the Specialized Senses:

- Rod and cone cells/Bipolar cells/Ganglion cells of the retina
- Cornea of the eye
- Lens of the eye
- Hair cells of the cochlear duct/Scala media
- Spiral ganglia
- Tectorial and Basilar membrane

- Crista ampullaris of Semicircular ducts
- Hair cells in tongue papillae

Angiograms: https://www.neomed.edu/brainbee/national-competition/

- Anterior, Middle and Posterior Cerebral arteries
- Vertebral arteries
- Basilar artery →Superior Cerebellar artery
- Internal carotid artery
- Superior/Inferior sagittal sinus
- Confluence of sinuses
- Transverse sinus

MRI's:
See list of structures for Wet Specimen Lab Practical Exam