

Nervous System Notes: The Brain

- Gray matter – _____ (Located on outside in brain and inside in spinal cord)
- White matter – _____ (Located on outside in spinal cord and inside in brain)

Brainstem

- The brainstem consists of three parts:
 - o Medulla oblongata: contains centers that control _____, blood pressure, breathing, _____, and vomiting
 - o Pons: controls _____
 - o Midbrain: contains centers for passing _____ and _____ signals

Cerebellum

- The cerebellum is important for _____ and _____
 - o Also involved in learning and remembering motor skills

Diencephalon

- The embryonic diencephalon develops into three adult brain regions:
 - o The epithalamus includes the _____ (releases melatonin) and the _____ (capillaries that produce cerebrospinal fluid)
 - o The thalamus sends sensory and motor information to the _____
 - o The hypothalamus regulates _____
 - Basic survival behaviors such as _____, fighting, fleeing, and reproducing
 - Part of the limbic center

Cerebrum

- The cerebrum contains right and left cerebral hemispheres
 - o Each consist of cerebral cortex overlying white matter and _____ (regions of gray matter inside brain) – centers for planning and learning movement sequences
- The _____ is a thick band of axons that provides communication between the right and left cerebral cortices
- Each side of the cerebral cortex has four lobes
 - o Frontal: _____
 - o Parietal: _____
 - o Temporal: _____
 - o Occipital: _____

The _____ is a ring of structures around the brainstem

- This limbic system includes three parts of the cerebral cortex: _____, _____, and olfactory bulb
 - o These structures attach emotional “feelings” to _____
 - o Structures of the limbic system form in early development and provide a foundation for _____ memory, associating emotions with particular events or experiences