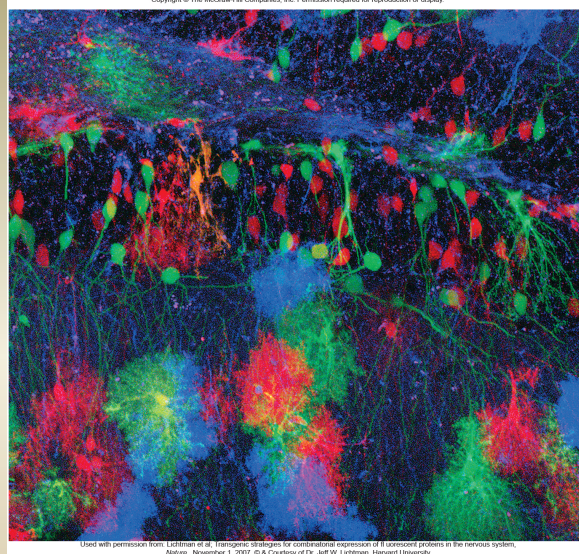
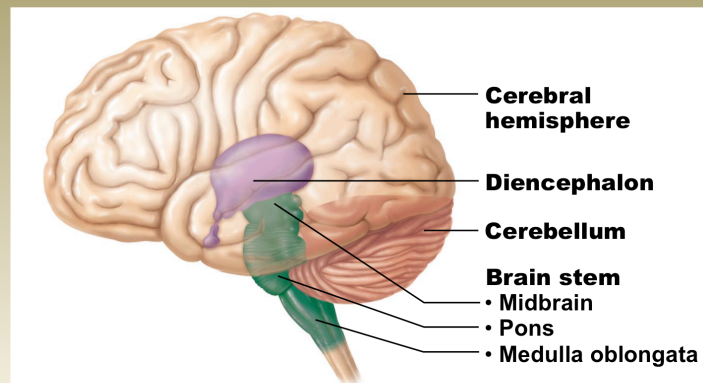


Parts of the Brain



The Brain

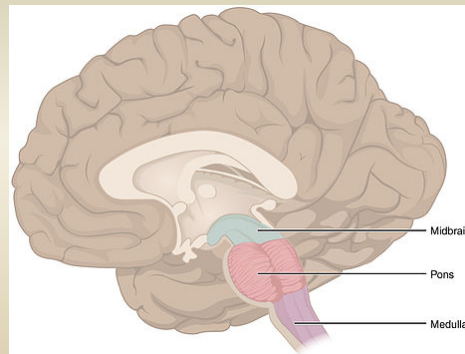


- Brain: part of CNS contained in cranial cavity
- Parts of the brain
 1. Brainstem
 - Consists of the medulla oblongata, pons, and midbrain
 2. Cerebellum
 3. Diencephalon:
 - Consists of thalamus and hypothalamus
 4. Cerebrum

The Brainstem

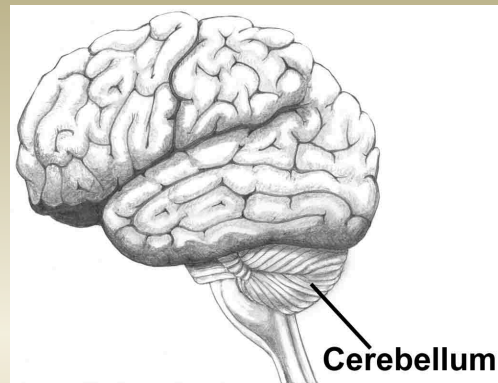
The brainstem regulates many basic functions and reflexes, and is made up of three separate structures:

1. Medulla oblongata: regulates heart rate and respiration
2. Pons: regulates respiration and REM sleep
3. Midbrain: regulates auditory and visual information as well as body movement.



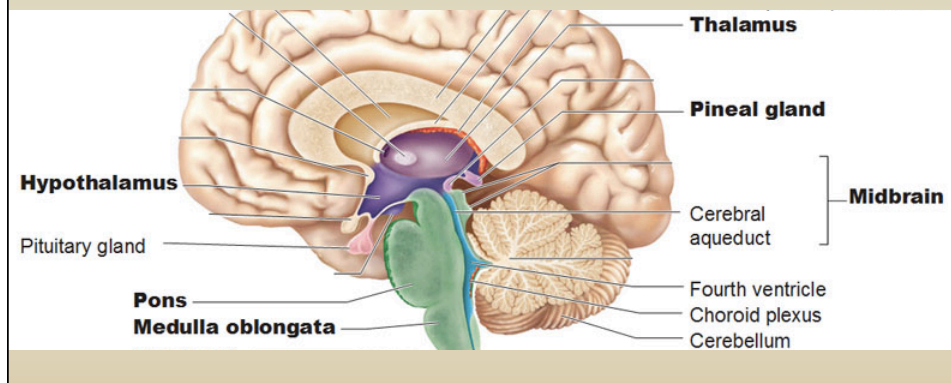
Cerebellum

- Attached to brainstem posterior to pons
- Involved in control of
 1. Posture
 2. Locomotion
 - Fine motor coordination
 - Learning of complex movements
 3. Balance



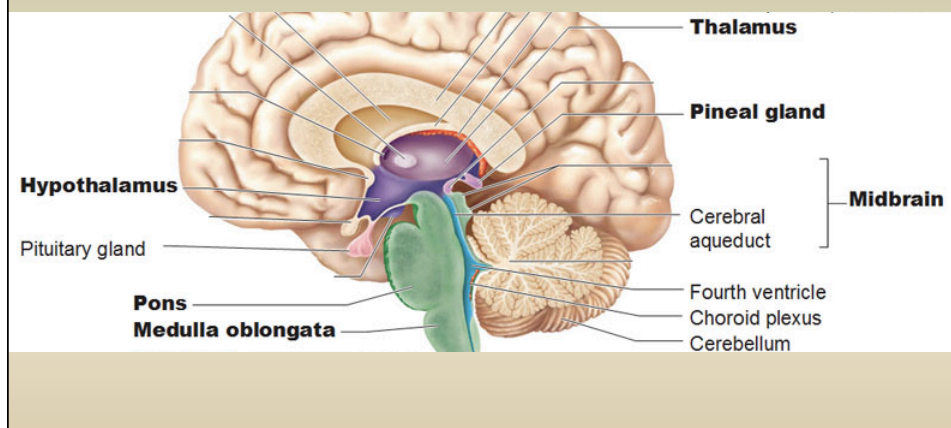
Diencephalon

- Located between brainstem and cerebrum
- Components:
 1. Thalamus: sensory relay station. Sensory information from spinal cord synapses here before projecting to cerebrum
 2. Hypothalamus: regulates mood and emotion, body temperature, the sleep/wake cycle



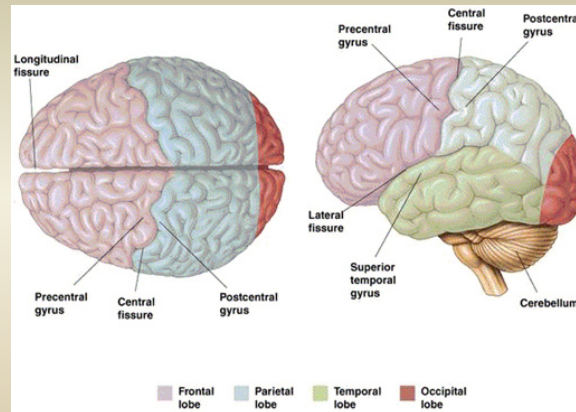
Diencephalon, continued

- Components, continued:
 3. Epithalamus: contains the pineal gland. The pineal gland secretes melatonin, which is important for the sleep wake cycle.



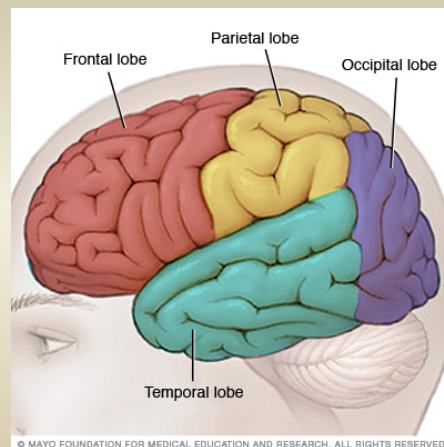
Functions of the lobes

- **Frontal lobe:** voluntary motor function, decision making
- **Parietal lobe:** reception of sensory information except smell, hearing, and vision
- **Occipital lobe:** reception and integration of visual input
- **Temporal lobe:** reception and evaluation for smell and hearing; memory, judgment.



Cerebrum

- Largest portion of brain
- Highest level of information processing
- Composed of right and left hemispheres
- Each hemisphere has the following lobes: frontal, parietal, occipital, and temporal



Review Questions

- Which part of the brain consists of the medulla oblongata, pons, and midbrain?
- Which part of the brain regulates respiration and REM sleep?
- What is *locomotion*?
- Name all four of the lobes of the brain contained in each hemisphere.