



The Brain...continued

Where do complex thought and behavior come from?

Class Objectives

- Identify and discuss the mid brain and forebrain.
- Identify and discuss structures of the mid brain and forebrain
- Discuss how these structures influence behavior

Concept Check

Did you get it?

- What is the main function or purpose of the nervous system?

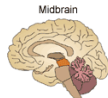
Have you ever seen a Kung-Fu movie?



The Midbrain

- The midbrain helps us orient our eye and body

- Coordination of visual and auditory reflexes
- The _____
runs through the hindbrain and midbrain.
- This finger-shaped structure filters incoming sensory information and alerts the higher brain centers to important events.



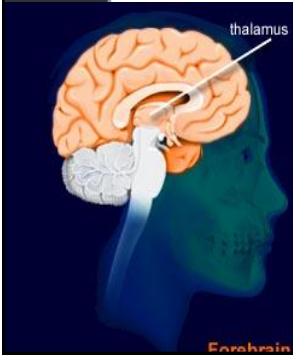
The Forebrain

- This the largest, _____

- This area of the brain is associated with

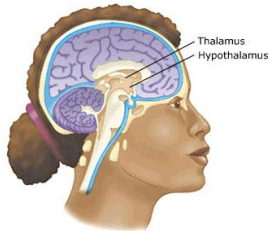
- The ability to concentrate, elaboration of thought, judgment and inhibition.

Forebrain



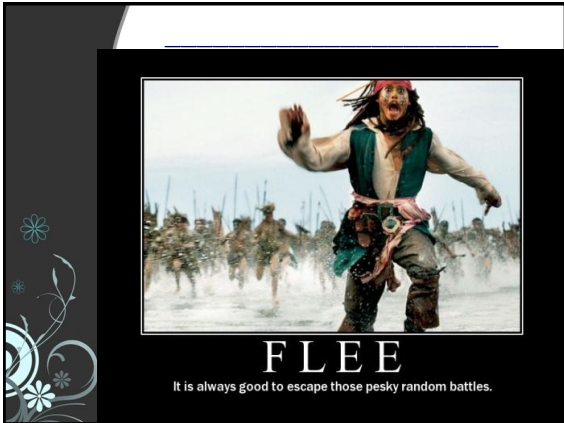
- The _____ is a large structure of forebrain that acts a routing station or _____
- Processes sensory information from the CNS before it reaches the cerebral cortex

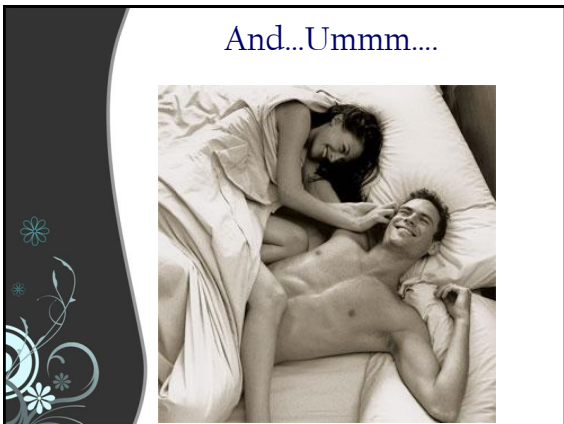
- _____ is a pea-sized structure that controls many complex behaviors such as eating, drinking and sexual activity.







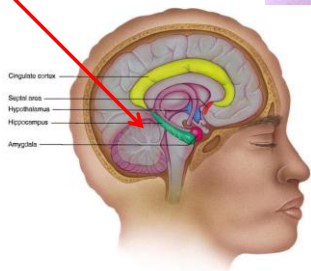




Where do my emotions come from?

- The *limbic system* is an interconnected group of structures that are especially significant in _____
- This is referred to as the “pleasure center” of the brain
- The limbic system also includes the _____

The Limbic System

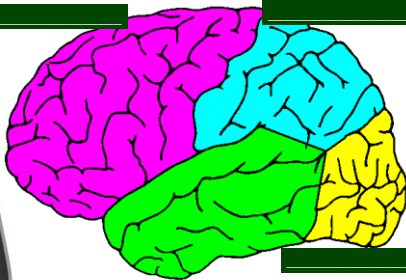


Can pleasure take us over?

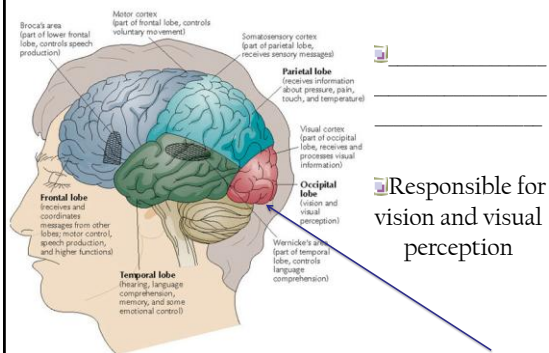
- _____ Research has shown that rats who received electrical stimulation will repeatedly press a lever which activates this region-producing pleasure (Olds & Milner, 1954).
- _____
- _____
- Recent research suggests that there is a link between _____ and the stimulation of these areas (Volvow et al., 2002).

- The cerebral cortex is responsible for the most complex mental activities including learning, remembering, thinking, and consciousness
- This area is made up of four lobes:
 - Occipital Lobe
 - Parietal Lobe
 - Temporal Lobe
 - Frontal Lobe

Four Lobes of the Brain



The Occipital Lobe



Parietal Lobe

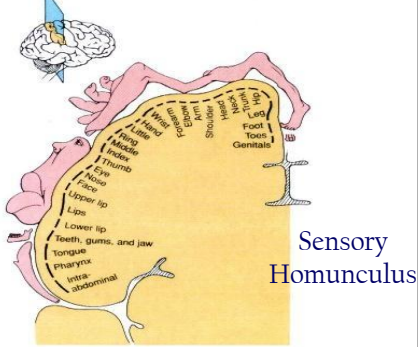
- Parietal Lobe is the area that is specialized for the _____
- The parietal lobe is involved with processing information related to:
 - _____
 - _____
 - _____
 - Awareness of the location of body parts

Includes the

a band of tissue on the front
of the parietal lobe

Each area of the *primary somatosensory cortex* receives information about touch in different body areas.

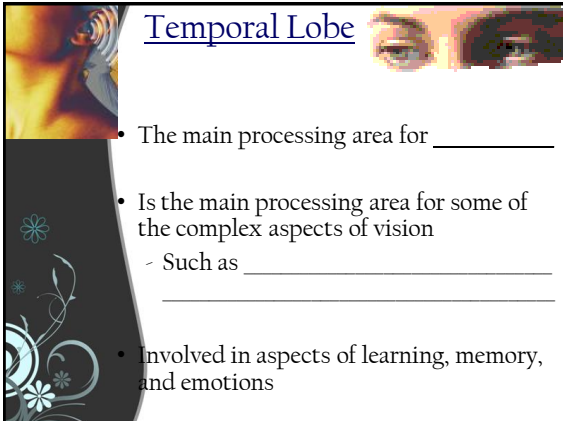
What areas of the body have the most cortex devoted to them?



• _____ are devoted to touch in the most sensitive parts of the body such as lips and hands.

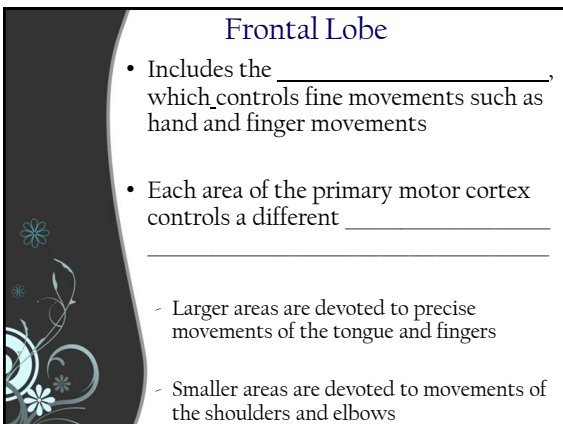
• Smaller areas are devoted to touch in less sensitive parts of the body such as the _____





Temporal Lobe

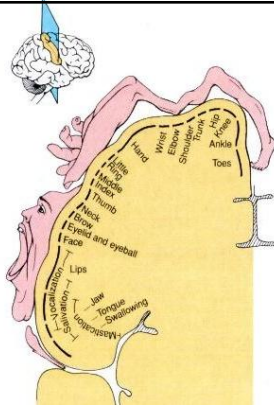
- The main processing area for _____
- Is the main processing area for some of the complex aspects of vision
 - Such as _____
- Involved in aspects of learning, memory, and emotions



Frontal Lobe

- Includes the _____, which controls fine movements such as hand and finger movements
- Each area of the primary motor cortex controls a different _____
 - Larger areas are devoted to precise movements of the tongue and fingers
 - Smaller areas are devoted to movements of the shoulders and elbows

Motor Homunculus



Frontal Lobe Continued...

- Includes the Prefrontal Cortex
 - Critical for planning movements and for certain aspects of memory, problem solving, emotion, complex thought

Next Class...

- Life Span Development
