

Central Nervous System - Brain

- Identify the anatomical location of each major brain area.
- Describe the functions of the major brain areas including specialized subregions.

Major brain areas

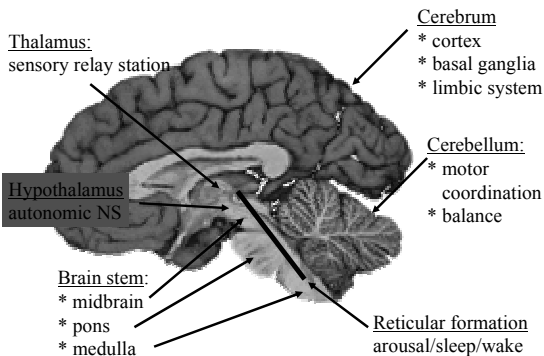


Figure 48.24 Structure and functional areas of the cerebrum

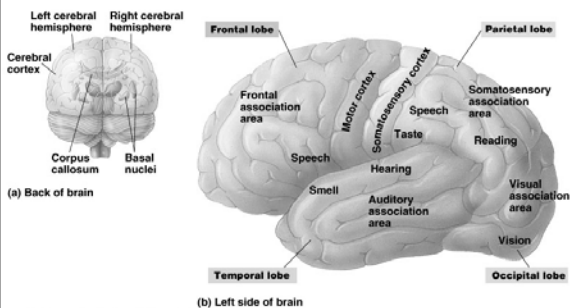
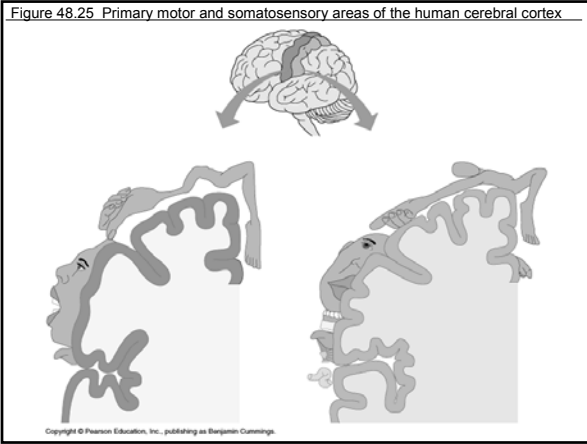
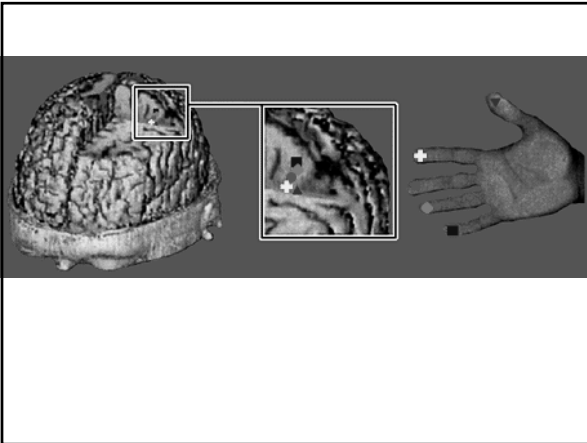


Figure 48.25 Primary motor and somatosensory areas of the human cerebral cortex





Cerebrum - basal nuclei and limbic system

- Basal nuclei – control of movement
- Limbic System
 - Cingulate gyrus – role in emotion
 - Hippocampus – learning & memory
 - Amygdala – emotion & memory

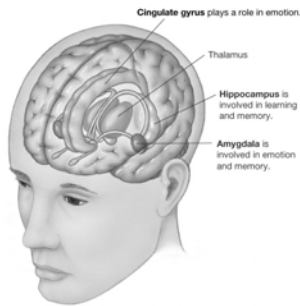
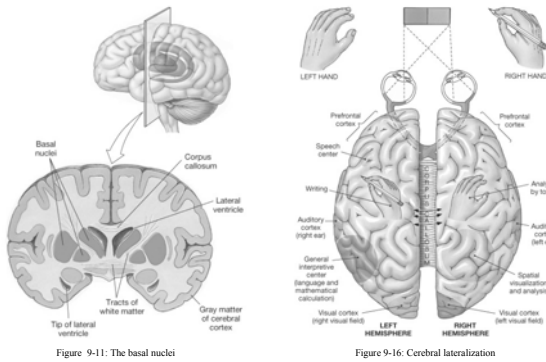


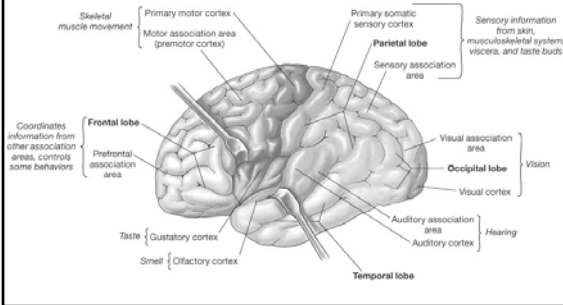
Figure 9-13: The limbic system

Cerebrum



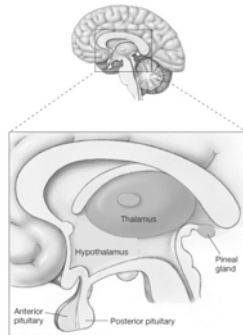
Cerebral Cortex:

Perception: hearing, vision, olfaction, muscles & viscera
Reasoning, information integration
Directing voluntary behavior



Diencephalon -thalamus & hypothalamus

- Thalamus – relay & sensory integration
- Hypothalamus
 - Homeostatic control centers
 - Motivated behavior control
 - Hunger, stress
 - Thirst: body osmolarity
 - Autonomic NS control
 - Emotional input
 - Circadian rhythms
 - Tropic for endocrine



Map this pathway:

“You touch the desk and then move your hand away as soon as you feel the desk.”

