

CNS: Central Nervous System

Cerebrum

 Functions include all types of mental processes: sensations, consciousness, memory, and voluntary movements





CNS: Central Nervous System

Cerebral Cortex

- Outer layer of grey matter (dendrites & cell bodies)
- Interior made of white matter (nerve fibers bundled into tracts)



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- Frontal Lobe: Responsible for executive functions, thinking, intelligence, & language
- Coordination,



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- Parietal Lobe: Responsible for somatosensory info, visuospatial processing, and number representations
- Balance, touch, temp., taste



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Diencephalon

<u>Hypothalamus</u>



- Muscle contractions for rage, pleasure, pain
- Controls pituitary hormone secretions

- Coordinates autonomic functions

(hunger, thirst, body temp.)



Filter for awareness



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Cerebellum

- Helps control muscle contractions to produce coordinated movements
- Responsible for voluntary movement, balance, posture, timing, & sequencing
- Damage will decrease muscle tone & produce tremors



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Brainstem

- 3 Parts: <u>midbrain</u>, <u>pons</u>, & <u>medulla</u> <u>oblongata</u>
- Maintains homeostasis, alertness, sleep, balance, & the startle reflex









Medulla Oblongata

Autonomic Reflex adjustments

- Heart Rate – Blood Pressure
- Respiration
 Digestive activities

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CNS: Central Nervous System

- Meninges: specialized coverings
- Stability & shock absorption
- 3 layers
- Dura mater: tough outer covering
- <u>Arachnoid mater</u>: web-like membrane; contains CSF
- <u>Pia mater</u>: thin, innermost membrane; contains blood vessels





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Cerebrospinal Fluid (CSF)

- Watery fluid found between and around the brain/spinal cord and the skull
- Cushions the brain
- Helps maintain homeostasis

Ventricles



Lined w/ ependymal cells for circulation



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Spinal Cord

 Extends from base of brain; continues to 1st lumbar vertebra



Peripheral nerves extend out from the spinal cord



