Parts of the Brain
The Nervous System

**Function:** The nervous system controls and coordinates the functions throughout the body and responds to external and internal Stimuli.
Cerebrum

- The **largest** part of the brain; divided into two halves called **hemispheres**.
- Carries out **thought** processes involved with learning, **memory**, language, **speech**, voluntary body movements, and **sensory** perception. The folds and grooves increase **surface area** & allow more complicated **thought** process.
Lobes:

- **Frontal Lobe Functions:**
  - Motor Functions
  - Higher Order Functions
  - Planning
  - Reasoning
  - Judgment
  - Impulse Control
  - Memory
Lobes:

- **Parietal lobe function:**
  - Cognition
  - Information Processing
  - Pain and Touch Sensation
  - Spatial Orientation
  - Speech
  - Visual Perception
Lobes:

- **Temporal Lobe Function:**
  - Auditory Perception
  - Memory
  - Speech
  - Emotional Responses
  - Visual Perception
Lobes:

- **Occipital Lobe Function:**
  - Visual Perception
  - Color Recognition
Cerebellum

- Located in the **back** of the brain.
- Controls **balance**, posture, & **coordination**. Responsible for the **smooth** and coordinated movement of **skeletal muscle**. Involved with **motor** skills, like playing the **piano** or riding a **bike**.
Brain Stem

- Connects the **brain** to the **spinal cord**
- **2 regions:**
  - **pons** - Relays **signals** between the **cerebrum** and the **cerebellum**.
  - Also helps control **breathing rate**.

**Diagram:**
- Pons
- Medulla
- Spinal Cord
Medulla oblongata

- Relays **signals** between the **brain** and the **spinal cord**.
- Helps control **breathing** rate, **heart** rate & blood **pressure**.
- Also responsible for the **swallowing**, **gagging**, **vomiting**, **coughing**, and **sneezing** reflexes.
**Spinal Cord**

- Nerve column extends from the **brain** to the **lower back**.

- **Spinal** nerves extend from the spinal cord to parts of the body & connect them to the **Central nervous system**.

- **Reflexes** are processed by the spinal cord.
Thalamus

- Receives messages from all sensory receptors throughout the body
- Relays information to the proper region of the cerebrum for further processing
Hypothalamus

- Essential for maintaining **homeostasis**.
- Coordinates activities of nervous and endocrine systems.
Pituitary gland

- "Master Gland"
- Produces hormones that regulate other glands
- Produces hormone that stimulates growth