

Biology 30 IB

Nervous System

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Unfinished!

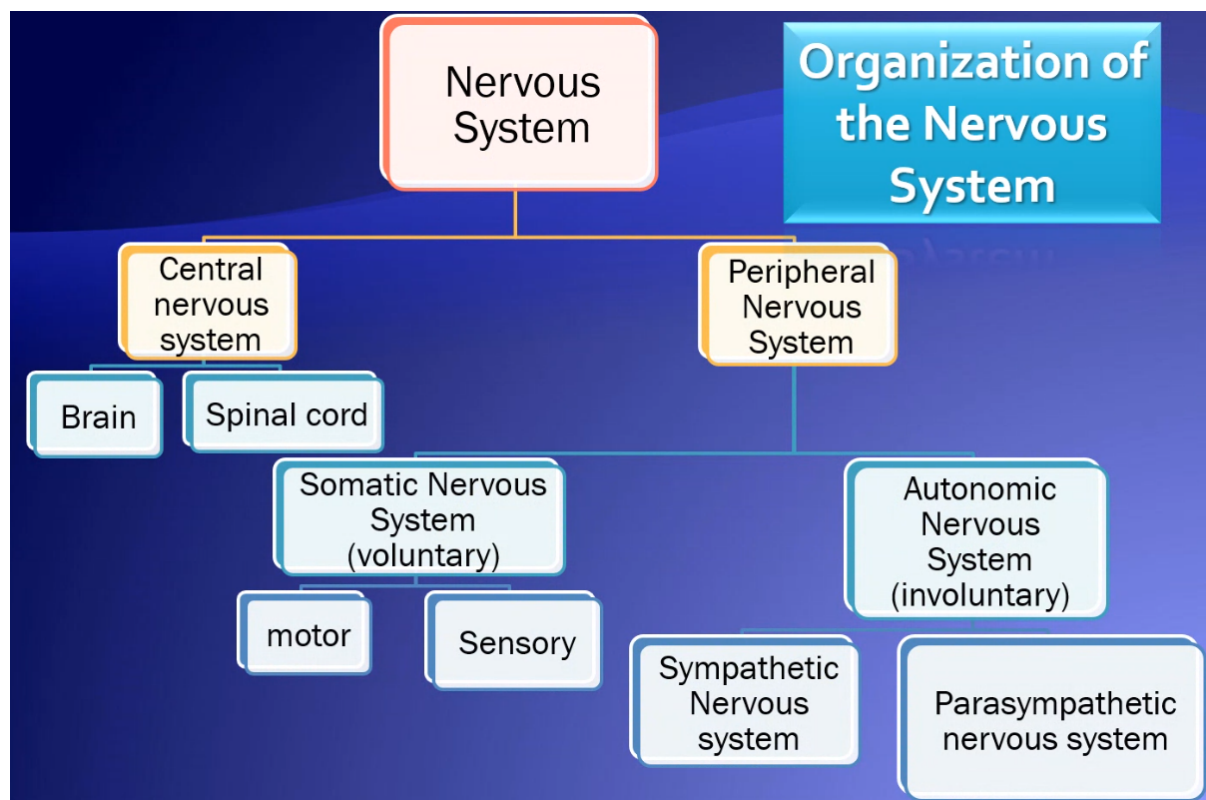
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(13.1) The Nervous System

- **Equilibrium/Homeostasis** = balance, main job of nervous system is to maintain this
- Nervous system contains...
 - Brain
 - Spinal cord
 - Nerves

Divisions of the Nervous System



Central Nervous System (CNS)

- Integrates and processes information
- Consists of **brain** and **spinal cord**

Peripheral Nervous System (PNS)

- **Messenger nerves**; bring **info to and from** the central nervous system
- Consists of nerves that...
 - carry sensory messages to the CNS
 - send info from the CNS to the muscles and glands

Somatic Nervous System (SNS)

- Voluntary control
- Includes neurons for...
 - Voluntary motor/muscle control = carry signals from the CNS to the skeletal muscles
 - Sensory receptors = carry sensory info to the CNS

Autonomic Nervous System (ANS)

- Divisions of automatic nerves that are antagonistic/oppose each other
- Regulates involuntary control processes (automatic) such as breathing or heartbeat
- Controls...
 - glandular secretions
 - function of smooth and cardiac muscles

Sympathetic Nervous System

- "Fight or flight (or freeze)" responses
- Prioritizes urgent functions, such as by speeding up rates of breathing, heart rate, etc.
- Disables non-urgent functions, such as digesting

Parasympathetic Nervous System

- "Rest and digest" responses
- Restores normal priorities restored, slows down rates of breathing, heart rate, etc.
- Re-enables non-urgent functions, such as digesting

Cells of the Nervous System

- **Neurons** = functional units of nervous system, tissues of neurons are called **nerves**
 - Respond to physical and chemical stimuli
 - Conduct electrochemical signals
 - Release chemicals that regulate various body processes
- **Glial Cells** = supporting cells of nerve cells
 - Nourish neurons, remove wastes, & defend against infection
 - Provide a supporting framework for all nervous-system tissue