

ASA Presentation Notes Lesson 4.4 Notes

Unit Name: Unit 4 Cells and Tissues

Lesson Topic: Lesson 4.4 Body Control Centers

Presentation on: Nerves, Hormones, and Kidneys

Notes from Presentation:

The Nervous System.

- Functions.
 - Coordinates and controls all body activity.
 - Detects and processes external and internal information and controls responses.
- Neurons.
 - Nerve cells that transmit information.
 - Three types:
- Sensory – carry impulses to CNS.
- Connecting – carry impulses from one neuron to the next.
- Motor – carry impulses away from CNS.

Central Nervous System.

- Receives signals.
- Coordinates activity.
- **Spinal Cord.**
 - Link between the CNS and PNS.
 - Overall coordination.
- **Cerebrum.**
 - Voluntary and conscious processing.
 - Controls thought, learning, memory, language and personality.

A Closer Look at the Brain Stem.

- Medulla oblongata.
 - Respiration and circulation.
- Mid-brain.
 - Sensory organs, balance, reflexes of eye.
- Thalamus.
 - Process incoming sensory signals.
- Hypothalamus and pituitary gland.
 - Controls water balance, thirst, hunger, and temperature regulation.

Peripheral Nervous System.

- All nerves and neurons outside the brain and spinal cord.
- **Sensory Somatic System.**
 - Operates motor activity.
 - Nerves for sight, sound, and sound.
- **Sympathetic system.**
 - Stimulates organs for fight or flight.
 - Increases BP and heart rate.
 - Directs blood to muscles, brain, and heart.

The Endocrine System.

- Functions.
 - Maintain homeostasis in the body.
 - Release of hormones to target organs.
 - Regulate growth, sexual development, and metabolism.
- Mostly regulated by a negative feedback system.
 - Hormones are secreted in response to a change in the body.

Glands Producing Hormones.

- **Pituitary.**
 - Master gland.
 - Secretes hormones that control other endocrine glands.
- **Adrenal.**
 - Produces epinephrine and norepinephrine which control the fight or flight system.

Glands Producing Hormones.

- **Thyroid.**
- **Parathyroid.**
- **Pancreas.**
- **Thymus.**
- **Pineal.**
- **Gonads.**

The Renal System.

- **Functions.**
 - Filters wastes from blood.
 - Secretes waste from the body.
 - Regulates sodium, chloride, & potassium in blood.
 - Controls the pH of blood.
 - Produces adrenal hormones.
 - Regulates water balance in the body.
 - Maintains homeostasis.

- **Consists of:**
 - **Kidneys** – filter waste from blood.
 - **Ureter** – narrow tube carrying urine from kidney to bladder.
 - **Urinary Bladder** – muscular organ capable of extreme expansion that holds urine.
 - **Urethra** – tube from bladder to exterior of body.

ASA Reflection Page

List 5 key points that are important to remember from this presentation.

- 1.
- 2.
- 3.
- 4.
- 5.

List 3 ideas or concepts that this new information has in common with previous things learned.

- 1.
- 2.
- 3.

List questions or ideas that remain unclear about the information presented that should be asked for clarity at the appropriate time.