

Anatomy & Physiology Notes

Use with A&P Part 1 - Nervous System

Name _____ Period _____

Nervous System

A _____ in which your brain _____ and _____

information about what is happening in and around the body.

Main organs are the _____, _____, and _____

(made up of nerve cells or neurons).

Consists of two systems:

1. _____ Nervous System

2. _____ Nervous System

Central Nervous System

Made up of the _____ and _____ cord

The brain is protected by the _____.

The brain controls all body functions by sending and receiving _____ up and down the _____ through the nerves.

Peripheral Nervous System

Carries _____ to and from parts of the body to the central nervous system

through _____

Carries out _____ from the brain

Made up of two systems:

1. _____ Nervous System

2. _____ Nervous System

Somatic Nervous System

Sends _____ through _____ nerves to your _____ nervous system

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Cerebellum

Located under the cerebrum in the _____ of the brain

Controls _____ and complex actions like _____

Brainstem

Connects brain to _____

Controls hunger and _____

Also, the most basic body functions, such as body temperature, blood pressure and _____.

Spinal Cord

Important structure between the brain and the _____
40-50cm long, 1-1.5cm wide

Forms _____ pairs of spinal nerves

Contains _____ and _____ nerve fibers sending information to and from all parts of the body

Neurons (Nerve Cells)

_____ cells that carry messages through an electrochemical process.

Brain has 100 _____ neurons

Messages are carried to and from the central and peripheral nervous systems through _____ (a bundle of neurons).

Anatomy of a Neuron

_____ or cell body

_____ – brings electrical signals towards the soma

_____ – takes information away from the soma

_____ - covers the axon and works like an insulator to keep the signal inside the cell

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Synapse

A _____ that separates the axon of one neuron and the dendrite of the next neuron.

The message carried by neurons is called a _____.

Neurons communicate through an _____ process.

Sensory Neuron (A)

Nerve that carries impulses _____ the brain or spinal cord to a muscle or gland

Interneuron (B)

Motor Neuron (C)

A nerve that carries impulses _____ the brain or spinal cord to a muscle or gland.

Reflex

An _____ response to something, which happens _____.

_____ your body from harm, like putting your hand on a hot stove.

Sneezing and _____.

The doctor might check your knee jerk reaction for _____.

Neurological Disorders

Multiple sclerosis

Parkinson's disease

Epilepsy

Dementia

Head Trauma

All can affect _____ and _____ to perform daily activities.

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Use with A&P Part 2 - Sense Organs

Name _____ Period _____

1.)What are the 5 senses?

2.)What is the sensory system?

3.)What are 5 types of sensory receptors?

4.)How do you feel pain?

5.)What types of senses are taste and smell? _____

6.)How do you smell?

7.)What are the different parts of the ear? What do they do?

8.)How do you see?

9.)What are diseases caused with sense organs?

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Use with A&P Part 3 - Endocrine System

Name _____ Period _____

The Endocrine system

A collection of _____ that produce and secrete _____.

The function of the system is to maintain the correct _____ level in the body through feedback.

Regulates _____, sleep, _____ and development, _____, sexual function and _____ processes.

Glands

A group of cells that monitor (test) the _____ for _____ imbalance.

Produces and releases _____ into the bloodstream to tell _____ cells to balance chemicals.

Types of Glands

_____ - ducted and releases products into ducts.

Ex. _____, tears, digestive juices _____ - ductless and _____ products directly to the bloodstream

Ex. _____

Hormones

Chemical _____ that communicate information from one set of _____ to another.

Many different _____ move through the bloodstream

Each type of hormone is designed to affect only _____ cells.

Cell

The _____ structural and functional unit of an organism,

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Target Cells

Cells in the body that contain receptors that match certain _____.

Hormones that match the target cell receptors _____ with it.

Like keys that have matching _____.

Negative Feedback

When glands receive and detect that a change has happened and the _____ are no longer _____. Like a _____ in our home.

Homeostasis

The endocrine system works to maintain stable internal conditions.

Uses _____ and positive feedback mechanisms

Hypothalamus

Portion of the _____.

Coordinates between the _____ system and the _____ system.

Stimulates the _____ gland

Controls body _____, hunger, thirst, _____, _____, and circadian rhythms.

Pituitary

_____ sized gland found at the base of the _____.

Controls the function of most other _____.

Sometimes called the _____ gland.

Controlled in large part by the _____.

Pineal Gland

Located near the center of the _____.

Looks like a _____ thus its name.

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Produces the hormone _____.

Helps regulate _____ patterns. (circadian rhythms)

Thyroid and Parathyroid

Found in the lower part of the neck wrapped around the _____.

Shaped like a _____.

Thyroid hormones help regulate growth and the rate of chemical _____ (metabolism) in the body.

Thymus

Located behind the _____ between your _____.

Only active until _____.

Stimulates the development of _____ fighting T cells – helping the body protect itself against _____.

Pancreas

Located in the upper _____.

Secretes the hormone _____ (lowers) and glucagon (raises) the control blood sugar levels throughout the day.

Adrenal Gland

Located at the top of each _____.

Helps control blood _____ and regulates reaction to _____.

Also helps regulate your _____, sugar levels, and blood pressure.

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Reproductive Glands

Influence _____ development

_____ - _____ produces the hormone

_____.

_____ - _____ produces the hormone

_____.

Diseases of the Endocrine System

_____ - a condition in which the body does not properly process _____, due to the lack of _____.

Hypothyroidism - occurs when the _____ gland does not produce enough thyroid _____ to meet the body's needs.

Gigantism - Too much _____ production can make a child grow too quickly and too little can make a child _____ growing.

Hypoglycemia - _____ blood glucose or low blood sugar occurs when blood glucose drops below _____ levels.