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
Anatomy & Physiology Notes

*Use with A&P Part 1 - Nervous System*

**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.
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.
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?
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,
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.
Anatomy & Physiology Notes

Use with A&P Part 3 - Endocrine System

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.
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.