

# Health Science 20

## Body System Research Assignment

Choose one of the following topics to research. Be prepared to present your findings to the class in the form of a presentation. (You can work in a group of up to three people to do this assignment.)

### 1. Explain the important parts of the Nervous system. Pay attention to:

- a. Function of nervous system
- b. The basic unit of the nervous system: the nerve cell (neuron) – anatomy and physiology
- c. Types of neurons
- d. How reflexes work (the reflex arc)
- e. The nerve impulse (the action potential)
- f. Importance of synapses
- g. Central Nervous System
  - i. Parts of the Brain
  - ii. Function of the spinal cord
- h. Peripheral nervous system
  - i. Somatic nervous system
  - ii. Autonomic nervous system
- i. Sympathetic vs. Parasympathetic nervous system

### 2. Explain the important parts of the Endocrine system. Pay attention to:

- a. What are hormones?
- b. Jobs of hormones
- c. Classes of hormones
- d. Controlling hormone release
  - i. Negative feedback
- e. Endocrine vs. exocrine glands
- f. Organs in the endocrine system
  - i. Hypothalamus
    1. Hormones it makes: antidiuretic hormone
  - ii. Pituitary gland
    1. Hormones: thyroid-stimulating hormone, adrenocorticotrophic hormone, human growth hormone, gonadotrophic hormones (follicle stimulating hormone and luteinizing hormone), prolactin
  - iii. Thyroid gland
    1. Hormones: thyroxine, triiodothyronine
  - iv. Parathyroid gland
    1. Hormone: parathyroid gland
  - v. Thymus gland
    1. Hormone: thymosin
  - vi. Pancreatic Islets
    1. Alpha and Beta Cells
  - vii. Adrenal glands
  - viii. Gonads
    1. Testes (androgens)
    2. Ovaries (estrogens, progesterone)