Psychology Chapter 3 Review

Student identified areas of weakness:

* Reticular Activating System
* “Little Brain” “Big Brain”
* Relationship between the Nervous System and the Endocrine System
* Spinal Reflex
* Specifics of the Endocrine System
* Chromosomes
* Nervous System as a communication system
* Lobes of the Brain
* Synapse
* Extreme heredity view of psychological traits
* Specific brain structure ie. Thalamus, hypothalamus etc.

Specific aspects to focus on for the Chapter 3 Test: (in addition to the identified areas of weakness)

* Structures and functions of the Neuron
  + Cell Body- Provides shape to the cell, surrounds the Nucleus
  + Nucleus- Control center
  + Dendrites- Structures containing receptor sites the receive Neurotransmitters through the synapse from another neuron
  + Axon- Carries the message through the neuron
  + Myelin Sheath- Protects the Axon
  + Nodes of Ranvier- Speeds up the message (Rainbow Road)
  + Schwann Cell- Repairs damaged Myelin
  + Axon Terminals- End of the neuron, release neurotransmitters into the Synapse
* Nervous System
  + Central Nervous System-
    - Brain- Central processing of information
    - Spinal Cord- transmits messages between the brain, muscles and glands
  + Peripheral Nervous system
    - Somatic Nervous system- Voluntary movement
    - Autonomic Nervous System- Automatic movements
      * Sympathetic nervous system- prepares body for action
      * Parasympathetic nervous system- calms the body following stressful situation
* Brain and its Structures (Where + What)
  + Association Areas- located in the cerebral cortex, responsible for shaping information into something useful, also helps in the formation of though and language
  + Medulla- Hindbrain, vital functions such as heart rate, Blood pressure and breathing
  + Cerebrum- Forebrain, 70% of our brain mass
  + Cerebellum- Latin for “little brain”, Responsible for Balance and Coordination
  + Thalamus- Forebrain, acts as a relay station receiving important sensory information and directing it to the appropriate part of the brain
  + EEG- Electroencephalogram, Scanning method that measures the brain activity, can diagnose psychological disorders
  + Limbic System- Forebrain, learning and memory
  + CAT scan- Computerized Axial Tomography, uses X-rays to create 3D view
  + Lobes- Exist in each hemisphere of the cerebral cortex
    - Temporal- hearing
    - Parietal- Skin senses
    - Occipital- sight
    - Frontal- personality and emotion
  + Reticular Activating System- attention, sleep, arousal. Affects arousal by increasing heart rate and blood pressure.
    - Pons is one part of the RAS that helps to regulate sleep and alertness.
  + Hypothalamus- located under the thalamus, hunger, thirst, sexual behavior caring for offspring and aggression.
  + Right Brain Left Brain- Creative vs. logical?- difficult to determine right or left brained because both hemispheres are involve in logic creativity and intuition.
* Endocrine System
  + Hormone- Created by glands, secreted into the blood stream affect behavior and emotions as well as growth and many other biological functions
  + Pituitary Gland- Master Gland, growth as well as lactation and child birth
  + Thyroid- in the neck produces thyroxin which affects the body’s metabolism
  + Adrenal Glands- above the kidneys produce adrenaline and noradrenaline necessary for dealing with stressful situations
  + Testes and Ovaries- Testosterone, Estrogen and Progesterone
* Heredity
  + Genes and Chromosomes- Genes are the basic building blocks of our heredity and are found within our chromosomes
    - Humans have 46 chromosomes that are organized into 23 pairs.
  + Nature Nurture debate- ongoing debate about where our physical and psychological traits come from. Today most agree that they work together to determine most of our traits.
  + Kinship studies- attempt to evaluate people who are related to try to determine the roles of heredity and environment
  + Genetic Contribution
    - Mother-XX
    - Father- XY

