Benchmark Study Guide – Quarter 2

A. Introduction Unit:

1. Scientific Method: Know the definitions of the following vocabulary:

variable

controlled variable

control group

controlled experiment

independent variable

dependent variable

experimental group

2. List the 6 steps of the scientific method in order.

3. What is the difference between a controlled variable and a control group?  
4. How are independent variables and dependent variables different?

5. What is the difference between an inference and an observation?

6. What is the difference between a qualitative observation and a quantitative observation?

B. Unit 1 - Classification:

1. Know the definitions of the following vocabulary:

Autotrophic   
 Heterotrophic  
 Eukaryote  
 Prokaryote   
 Multicellular   
 Unicellular   
 Dichotomous key (know how to use it)

2. Know the 6 characteristics of living things.

3. Know the levels of the classification system from largest to smallest. (King Phillip…)

4. What are the 3 parts of the Cell Theory?

5. Know the characteristics of each of the Six Kingdoms of living things. **Circle** the answer for each kingdom regarding the number of cells, presence of a nucleus, and type of nutrition.

Bacteria multicellular/unicellular prokaryotes/eukaryotes autotrophic/heterotrophic

Protista multicellular/unicellular prokaryotes/eukaryotes autotrophic/heterotrophic

Fungi multicellular/unicellular prokaryotes/eukaryotes autotrophic/heterotrophic

Plantae multicellular/unicellular prokaryotes/eukaryotes autotrophic/heterotrophic

Animalia multicellular/unicellular prokaryotes/eukaryotes autotrophic/heterotrophic

C. Unit 2 - Cell Organelles and Processes:

Know the definitions of the following vocabulary:

Cell membrane

Cytoplasm

Nucleus

DNA

Mitochondria

Cellular respiration

Vacuole

Chloroplast

Photosynthesis

D. Unit 2 - Cell Transport:

1. Know the definitions of the following vocabulary:

Diffusion

Endocytosis   
 Exocytosis   
 Osmosis   
 Active Transport   
 Passive Transport

2. From least complex to most complex, know the correct order of the levels of organization of a multicellular organism. Be sure to know the definition of each term.

E. Unit 3 - Organ Systems:

1. Know the functions of the following systems:

Integumentary  
 Muscular  
 Skeletal  
 Excretory

2. Know the definitions of the following terms:

Voluntary muscles  
 Involuntary muscles  
 Skeletal muscles  
 Smooth muscles  
 Cardiac muscles

3. Which organs are involved in the excretory system? How?  
4. What are the three main parts of the brain and their functions?  
5. What is the function of lymph nodes?  
6. What is a virus and why is it not considered to be a living thing?