**Chapter 1and 2: Scientific Thinking Process**

1. Aside from observing, list other parts of the scientific thinking and why they are important?
2. What is a scientific theory and how can they change?
3. What is the difference between replication vs. repeated trials?
4. What are these: controlled experiment – Independent, Variable, Dependent Variable, Control Group?
5. What should you do if the results of an experiment are different from the hypothesis?
6. Why is it important for scientists to report their results to the scientific community?
7. What is wrong with having more than one independent variable?

\***Other terms to know:** Scientific Explanation, Empirical (or observable) Evidence, Scientific Law, Scientific Theory, Models

**Chapter 3 – Cells and Life Processes (Lessons 1, 2, 3, 4, & 5)**

1. What are Levels of Organization in order?
2. What are the three parts of the Cell Theory?
3. What is the difference between plant and animal cells?
4. Identify each of these organelles, whether they are found in plants, animals or both and their functions:

|  |  |  |
| --- | --- | --- |
| Cell Organelle  | Functions | Type of Cell-Plant, Animal or Both  |
| Cell Wall,  |  |  |
| Cell Membrane,  |  |  |
| Nucleus,  |  |  |
| Ribosomes,  |  |  |
| Cytoplasm,  |  |  |
| Mitochondria,  |  |  |
| Endoplasmic Reticulum,  |  |  |
| Golgi Apparatus,  |  |  |
| Vacuole,  |  |  |
| Chloroplasts,  |  |  |
| Lysosomes |  |  |

1. What is the difference between unicellular and multicellular organisms?

**Chapter 13 – Energy, Matter, and Living Things (Lessons 1 & 2)**

1. What is the equation for photosynthesis?
2. Where in the plant cell does photosynthesis occur?
3. What is the equation for cellular respiration?
4. Where in the cell does cellular respiration occur?
5. How are these processes related? How do they work together?
6. How do they help maintain homeostasis?

**Chapter 4 – Body Systems 1-Skeletal, Muscular and Integumentary (p. 163-179)**

* Body Organization
* Systems Interaction
* Homeostasis

Skeletal System

1. What are the 5 Functions of the skeletal system?
2. What are movable and immovable joints? Where are they found in the body?
3. What are the four types of joints and where in the body are they located?

**\*Key Words to Know:** Skeleton, vertebrae, joint, ligament, compact bone, spongy bone, marrow, cartilage, osteoporosis

Muscular System

1. What is the purpose of the muscular system?
2. What is the difference between an involuntary muscle and a voluntary muscle?
3. How do muscles work in Pairs?

**\*Key Words to Know**: Skeletal Muscle, Tendon, Smooth Muscle, Cardiac Muscle, Striated Muscle;

Integumentary System (Skin)

1. What are the 5 Functions of the integumentary system?

**\*Key Words to Know:** epidermis, dermis, phosphorus, calcium, melanin,