Biology Sem 2

1. Natural Selection and Evolution
   1. Darwin's Theory
      1. Instruction
         1. What was Charles Darwin’s contribution to the theory of evolution?
      2. Assignment
         1. Explore Darwin’s theory of evolution.
      3. Quiz
   2. Lab: Natural Selection
      1. Instruction
         1. What is the effect of the type of food available on the frequency of different types of bird beaks?
      2. Virtual Lab
         1. Explore natural selection with a virtual experiment.
      3. Assignment: Reflect on the Lab
         1. Reflect on the laboratory experiment.
   3. Factors Affecting Genetic Variation
      1. Instruction
         1. What causes genetic variation to be preserved or eliminated and how does that affect evolution?
      2. Assignment
         1. Practice factors affecting genetic variation.
      3. Quiz
   4. Factors Affecting Biological Diversity
      1. Instruction
         1. What are the types of selection and how do they alter biodiversity?
      2. Assignment
         1. Practice what you have learned about factors that affect biological diversity.
      3. Quiz
   5. Biogeographic Isolation
      1. Instruction
         1. How does isolation affect speciation?
      2. Assignment
         1. Read about geographic isolation.
      3. Quiz
   6. Biological Evidence and the Fossil Record
      1. Instruction
         1. What evidence supports the theory of evolution?
      2. Assignment
         1. Write about the evidence for evolution.
      3. Quiz
   7. Evolutionary Relationships
      1. Instruction
         1. How does the evolutionary history of an organism contribute to its classification?
      2. Assignment
         1. Practice what you have learned about evolutionary relationships.
      3. Quiz
   8. **Unit Test - (Must be taken in Person)**
      1. Unit Test Review
2. Classification and Organisms
   1. Methods of Classification
      1. Instruction
         1. How are organisms classified?
      2. Assignment
         1. Practice methods of classification.
      3. Quiz
   2. The Kingdoms
      1. Instruction
         1. How do the structures and functions of organisms vary in different kingdoms?
      2. Assignment
         1. Practice identifying the six kingdoms.
      3. Quiz
   3. Types of Plants
      1. Instruction
         1. How have plants evolved over time?
      2. Assignment
         1. Practice identifying plants.
      3. Quiz
   4. Protists and Fungi
      1. Instruction
         1. What distinguishes a protist from a fungus?
      2. Assignment
         1. Practice distinguishing between protists and fungi.
      3. Quiz
   5. Bacteria
      1. Instruction
         1. How does a bacterium's structure aid in reproduction and infection?
      2. Assignment
         1. Explore bacteria.
      3. Quiz
   6. Viruses
      1. Instruction
         1. How do viruses differ from cells?
      2. Assignment
         1. Write about viruses.
      3. Assignment
         1. Practice what you have learned about viruses.
      4. Quiz
   7. **Unit Test - (Must be taken in Person)**
      1. Unit Test Review
3. The Human Body: Part 1
   1. Types of Tissue
      1. Instruction
         1. How are the types of tissue found in the human body distinguished?
      2. Assignment
         1. Explore types of tissue.
      3. Quiz
   2. The Human Skeleton
      1. Instruction
         1. What are the major structures and functions of the human skeletal system?
      2. Assignment
         1. Read about the human skeletal system.
      3. Quiz
   3. Muscle Structure and Function
      1. Instruction
         1. How do muscles provide support and mobility?
      2. Assignment
         1. Explore muscle strength and contraction.
      3. Quiz
   4. The Central Nervous System
      1. Instruction
         1. What are the roles of the brain and spinal cord in the central nervous system?
      2. Assignment
         1. Explore the structures and functions of the brain.
      3. Quiz
   5. The Peripheral Nervous System
      1. Instruction
         1. What are the major divisions of the peripheral nervous system, and what are their functions?
      2. Assignment
         1. Practice what you have learned about the peripheral nervous system.
      3. Quiz
   6. The Cardiovascular System
      1. Instruction
         1. What are the roles of the cardiovascular system?
      2. Assignment
         1. Explore information on the heart.
      3. Quiz
   7. The Respiratory System
      1. Instruction
         1. What are the major structures and functions of the respiratory system?
      2. Assignment
         1. Read about the structures and functions of the respiratory system.
      3. Quiz
   8. The Digestive System
      1. Instruction
         1. How is food passed through the body and processed for energy?
      2. Assignment
         1. Explore digestive system disorders.
      3. Quiz
   9. The Excretory System
      1. Instruction
         1. How do the parts of the excretory system help the human body maintain homeostasis?
      2. Assignment
         1. Practice what you have learned about the excretory system.
      3. Quiz
   10. **Unit Test - (Must be taken in Person)**
       1. Unit Test Review
4. The Human Body: Part 2
   1. The Endocrine and Exocrine Systems
      1. Instruction
         1. What are the roles of the endocrine and exocrine systems in maintaining homeostasis in the body?
      2. Assignment
         1. Practice what you have learned about the endocrine and exocrine systems.
      3. Quiz
   2. The Reproductive System
      1. Instruction
         1. What are the major structures and functions of the reproductive system?
      2. Assignment
         1. Explore puberty and the reproductive system.
      3. Quiz
   3. Human Health
      1. Instruction
         1. How are diseases transmitted and what factors influence susceptibility to disease?
      2. Assignment
         1. Explore diseases in the news.
      3. Quiz
   4. The Immune System
      1. Instruction
         1. How does the immune system help the human body combat illness?
      2. Assignment
         1. Practice what you have learned about the immune system.
      3. Quiz
   5. Medicine and the Immune System
      1. Instruction
         1. How does the human body respond to medical treatment?
      2. Assignment
         1. Write about medicine and the immune system.
      3. Quiz
   6. **Unit Test - (Must be taken in Person)**
      1. Unit Test Review
5. Understanding Ecosystems
   1. The Cycles of Matter
      1. Instruction
         1. How does the environment recycle energy and nutrients?
      2. Assignment
         1. Write about biogeochemical cycles.
      3. Assignment
         1. Practice what you have learned about cycles of matter.
      4. Quiz
   2. Relationships Among Organisms
      1. Instruction
         1. How do organisms interact with each other and the environment?
      2. Assignment
         1. Explore interactions among organisms.
      3. Quiz
   3. Lab: Interdependence of Organisms
      1. Instruction
         1. How can the presence of one species benefit another in the same ecosystem?
      2. Virtual Lab
         1. Explore the interdependence of organisms by performing a virtual experiment with lima bean plants and earthworms.
      3. Assignment: Reflect on the Lab
         1. Reflect on the laboratory experiment.
   4. Energy Flow in Ecosystems
      1. Instruction
         1. How is energy stored and transferred among organisms in an ecosystem?
      2. Assignment
         1. Write about energy flow in an ecosystem.
      3. Quiz
   5. Succession and Extinction
      1. Instruction
         1. How do changes in the environment influence ecosystem stability?
      2. Assignment
         1. Explore ecological succession and biodiversity.
      3. Quiz
   6. Populations and the Environment
      1. Instruction
         1. How do living and nonliving factors in the environment interact with each other?
      2. Assignment
         1. Explore biotic and abiotic factors in the environment.
      3. Quiz
   7. Population Size and Structure
      1. Instruction
         1. What factors determine a population's size and structure?
      2. Assignment
         1. Write about population size and structure.
      3. Quiz
   8. Population Growth
      1. Instruction
         1. How do biologists model changes in a population?
      2. Assignment
         1. Practice identifying growth models and factors that influence population growth.
      3. Quiz
   9. Human Impact on the Environment
      1. Instruction
         1. How does human activity benefit or harm the environment?
      2. Assignment
         1. Read the article “Green Building.”
      3. Quiz
   10. **Unit Test - (Must be taken in Person)**
       1. Unit Test Review
6. Cumulative Exam - (Must be taken in Person)
   1. Cumulative Exam Review