

Life Science – Grade 7

Structure and Function of Cells - Describe basic units of life (cells). Compare and contrast living plant and animal systems including: transport, support, respiration, and metabolism.

Systems of Living Things - Describe the hierarchical organization of multicellular organisms from cells to organs to tissues to systems to organisms. Identify the general functions of the major systems of the human body (digestion, respiration, reproduction, circulation, excretion, protection from disease, movement, control, and coordination) and describe ways that these systems interact with each other.

Classification of Organisms - Classify organisms into the currently recognized kingdoms according to characteristics that they share. Be familiar with organisms from each kingdom.

Relationships in the Ecosystem / Energy and Living Things

Give examples of ways in which organisms interact and have different functions within an ecosystem that enable it to survive.

Explain the roles and relationships among producers, consumers, and decomposers in the process of energy transfer in a food web.

Explain how dead plants and animals are broken down by other living organisms and how this process contributes to the system as a whole.

Recognize that producers (plants that contain chlorophyll) use energy from sunlight to make sugars from carbon dioxide and water through a process called photosynthesis.

Evolution and Biodiversity - Relate genetic variation and environmental factors to evolution and diversity. Recognize that evidence from fossils, geology, and comparative anatomy, provide the basis for the theory of evolution.

Changes in Ecosystems Over Time - Identify ways in which ecosystems have changed throughout geologic time. Describe how changes may be catastrophic. Recognize that biologic evolution accounts for diversity of species over time.

Reproduction and Heredity - Define heredity as the passage of genetic instructions from one generation to another. Recognize that hereditary information is contained in genes located in chromosomes of each cell. Compare how traits are passed in sexual and asexual reproduction.

Scientific Reasoning - Use the scientific method to design an experiment. Illustrate understanding of variables and controls.

Technology/Engineering - Demonstrate an understanding of the design process by designing and building structures within given constraints. Identify, illustrate, and describe the steps of the design process.