Biology Descriptions of Achievement Levels

Performance Level	Achievement Level Definitions	Biology
1	Students demonstrate some emerging academic skills and competencies in biology.	Students performing at level 1 should be able to • Identify a possible outcome of a simple scientific investigation; • Recognize tools that could be used in a simple scientific investigation; • Identify a result of a simple investigation based on observations; • Identify appropriate safety instruments when conducting scientific investigations; • Identify things as cellular (living); • Recognize cellular vs. non cellular (living or nonliving) things; • Recognize that cells are the smallest unit of life; • Identify food as a source of protein, carbohydrates, or fat; • Identify food as a source of energy; • Identify what the human body needs for survival; • Identify the offspring produced by parents; • Identify a physical trait; • Identify adaptations that allow animals to survive in their habitat; • Identify a fossil from a non-fossil; • Identify parent/offspring pairs; • Identify natural things in the environment and things made by humans; • Identify natural resources; • Identify the organism being consumed in a food chain.
2	Students performing at level 2 demonstrate foundational academic skills biology.	Students performing at level 2 should be able to • Identify a prediction; • Identify the outcome of a simple controlled scientific investigation; • Identify scientific instruments used to make observations; • Interpret simple scientific data; • Identify parts of a graph; • Identify appropriate safety procedures when conducting scientific investigations; • Recall that cells are the basic unit of life; • Classify things as cellular or non cellular; • Recognize that cells can be further broken down into smaller units; • Recognize that cells form tissues; • Recognize food as protein, carbohydrate or fat; • Identify the flow of energy in a simple food web; • Identify what plants need for survival; • Identify the source of energy in a food chain; • Identify parents as a source of physical traits; • Identify DNA/genes as a source of traits; • Identify a trait passed from parent to offspring; • Identify favorable and unfavorable traits that determine species survival; • Classify an animal as living or extinct; • Identify a phylogenetic tree as a diagram that shows ancestry of organisms; • Identify living and nonliving resources in an ecosystem; • Recognize the relationships among organisms; • Identify environmental changes that can effect a population; • Identify human activities that affect Earth.

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3	Students performing at level 3 demonstrate increasing academic skills and competencies in biology.	Students performing at level 3 should be able to • Identify the hypothesis of a simple investigation; • Recognize which scientific instruments are used to collect and/or record data; • Organize data in a given graph/table/model; • Interpret the results of a scientific data that is displayed in a graph; • Identify the outcome of a simple investigation as the same/different from the original hypothesis; • Identify appropriate safety procedures required when conducting a specific scientific investigation; • Illustrate that all living things are composed of cells; • Identify different types of cells, tissues, and organs; • Illustrate the end product of cell division; • Classify different foods as protein, fat, or carbohydrate; • Summarize the role of protein, carbohydrates, or fat on the body; • Illustrate the flow of energy in a simple food web; • Identify that chromosomes contain DNA; • Identify types of traits passed on from parent to offspring; • Identify offspring based on dominant parent traits; • Identify the structure of DNA; • Identify an organism that is better adapted to a changing habitat; • Identify which organisms are most closely related by using a phylogenetic tree; • Identify predator/prey relationships; • Explain how environmental changes can affect a population; • Identify the sequence of ecological succession; • Classify human activities based on their effect on Earth (beneficial or harmful).
4	Students performing at level 4 demonstrate and apply academic skills and competencies in biology.	Students performing at level 4 should be able to • Analyze the outcome of a simple investigation and compare it to the hypothesis; • Select the appropriate graph for displaying simple scientific data; • Use laboratory instruments and procedures in a safe manner; • Recall that all cells come from other cells; • Identify a nucleus, cell membrane/wall, vacuole, and chloroplast; • Recall different types of cells; • Illustrate that plants and animals have different cell structures; • Identify different types of cells, tissues, organs, and organ systems; • Classify protein, carbohydrate, or fats based on function or description of structure; • Create a food web showing the flow of energy; • Summarize that plants use photosynthesis to make their own food; • Identify that DNA and genes pass on specific traits to offspring; • Predict physical traits of offspring based on dominant or recessive physical traits of parents; • Identify a dominant trait of a given species; • Identify the principal of natural selection; • Explain the effect of a changing habitat on a population; • Explain the relationship of two organisms based on a phylogenetic tree; • Identify living counterparts of extinct organisms; • Classify interrelationships among organisms within ecosystems; • Predict the effect of environmental changes on a population; • Illustrate the changes that occur during succession; • Illustrate how human activities affect the naturally occurring processes on Earth.