

### Excellent

Students at this achievement level generally have exhibited the ability to

1. design an appropriate experiment that includes a hypothesis, variables, and controls;
2. analyze the role of the Sun in living systems and various biological processes;
3. analyze biogeochemical cycles and how components relate to a specific ecosystem;
4. analyze the components and energy flow in food webs and ecosystems, and predict how populations will be impacted by changes;
5. differentiate between prokaryotic and eukaryotic cells using structural and functional differences among organelles;
6. compare active and passive transport;
7. analyze balanced equations of photosynthesis and cellular respiration;
8. create and use a Punnett square to calculate the probabilities of the genotypes and phenotypes of offspring; and
9. evaluate and describe the impact of emerging technologies on society.

### Good

Students at this achievement level generally have exhibited the ability to

1. determine the validity of a conclusion by analyzing experimental data;
2. identify and describe the components of the biogeochemical cycles;
3. use radioactive elements to determine the age of earth materials;
4. calculate the energy transfer between trophic levels of an energy pyramid;
5. analyze and compare the movement of molecules across a cell membrane;
6. explain and evaluate the roles and uses of ATP in a cell;
7. explain and compare the stages of an organism's development, including mitosis and meiosis;
8. compare the structure, function, and interrelationships of organ systems and their components among various organisms and within humans;
9. compare the structures, functions, and cycles of viruses to those of cells;
10. determine the relationship between vaccination and immunity; and
11. evaluate various methods of disease transmission and prevention.

## Fair

Students at this achievement level generally have exhibited the ability to

1. identify appropriate lab safety measures and equipment;
2. interpret data and/or a graph to draw appropriate conclusions;
3. describe how organisms respond to different stimuli;
4. determine and compare ages of rock layers, with and without fossils;
5. apply various evolutionary models and the fossil record to explain relationships between organisms;
6. explain how specific behaviors contribute to various species' survival;
7. describe the role of enzymes in living systems;
8. recognize the basic structure and components of a nucleic acid;
9. describe the relationship between DNA, genes, chromosomes, and proteins;
10. identify and compare organisms using a dichotomous key; and
11. analyze and describe how organisms maintain homeostasis.

## Needs Improvement

Students at this achievement level are generally working toward the ability to

1. identify appropriate lab safety measures and equipment;
2. interpret data and/or a graph to draw appropriate conclusions;
3. describe how organisms respond to different stimuli;
4. explain how specific behaviors contribute to various species' survival; and
5. describe the relationship between DNA, genes, chromosomes, and proteins.