Science

Grade 4

Advanced

Students scoring at the Advanced level in science generally exhibit the ability to:

- design and carry out scientific investigations by selecting and using appropriate tools, technology, and techniques/methods;
- formulate appropriate questions that demonstrate critical thinking and a broad base of scientific knowledge;
- interpret relationships and make inferences based on data and apply to new situations;
- organize data in graphic form, evaluate validity of data, and draw/justify conclusions based on data;
- develop, elaborate, and modify predictions, models, and explanations;
- use/apply concepts about properties of objects/materials, position/motion of objects, and forms of energy to new ideas/situations;
- use/apply concepts about characteristics, life cycles, and environments of organisms to recognize, and analyze observed phenomena;
- use/apply concepts of properties of Earth materials, weather, and objects in the night sky to predict/justify patterns and relationships; and
- use/apply concepts about interrelationships among the human, biological, chemical, and physical aspects of the environment.

Mastery

Students scoring at the Mastery level in science generally exhibit the ability to:

- design and carry out scientific investigations using appropriate methods, tools, technology, and techniques;
- formulate appropriate questions demonstrating a broad base of scientific knowledge;
- identify relationships based on data and apply to new situations;
- organize data in a graphic form, draw conclusions, justify conclusions, and make predictions based on data;
- explain and connect concepts about properties of objects/materials, position/motion of objects, and formation of energy;
- explain and connect concepts about characteristics, life cycles, and environments of organisms;
- explain and connect concepts about properties of Earth materials, weather, and objects in the night sky; and
- explain and connect concepts about the interrelationships among the human, biological, chemical, and physical aspects of the environment.

Basic

Students scoring at the Basic level in science generally exhibit the ability to:

- perform simple scientific tasks when given clear, sequential directions;
- recognize questions that are appropriate to investigation;
- organize and present data in a graphic form and draw conclusions based on data;
- demonstrate basic knowledge/understanding about properties of objects, motion of objects, and forms of energy as they apply to their everyday life;
- demonstrate basic knowledge/understanding about characteristics, life cycles, and environments of organisms and relationships;
- demonstrate knowledge/understanding about basic concepts of properties of Earth materials, weather, and objects in the night sky; and
- demonstrate knowledge/understanding about basic components of an ecosystem and recognize how change impacts the system.

Approaching Basic

Students scoring at the Approaching Basic level in science generally exhibit the ability to:

- perform portions of simple scientific tasks when given clear, sequential directions;
- read/interpret some data in a graphic form;
- respond to simple directed questions;
- exhibit partial understanding of properties of objects, motion of objects, and forms of energy as they apply to their everyday life;
- exhibit partial understanding of characteristics, life cycles, and environments of organisms and relationships;
- exhibit partial understanding of basic concepts of properties of Earth materials, weather, and objects in the night sky; and
- exhibit partial understanding of basic components of ecosystems and recognize how change impacts systems.

Unsatisfactory

Students scoring at the Unsatisfactory level in science have not demonstrated the fundamental knowledge and skills needed for the next level of schooling. Students at this level generally have *not* exhibited the ability to:

- perform portions of simple scientific tasks when given clear, sequential directions;
- read/interpret some data in a graphic form;
- respond to simple directed questions;
- exhibit partial understanding of properties of objects, motion of objects, and forms of energy as they apply to their everyday life;
- exhibit partial understanding of characteristics, life cycles, and environments of organisms and relationships;
- exhibit partial understanding of basic concepts of properties of Earth materials, weather, and objects in the night sky; and
- exhibit partial understanding of basic components of ecosystems and recognize how change impacts systems.