

Level 5: Advanced

Students who score at this level demonstrate an exceptional understanding of the scientific concepts and inquiry skills described in the Core Science Curriculum Framework for grades 3 – 5. Generally, these students demonstrate superior competency to analyze and evaluate the quality of data and apply content knowledge to effectively communicate their understanding of the natural world.

Content Knowledge

(Students at this level demonstrate a superior degree of knowledge to:)

Life Science

- Describe how organisms can survive and reproduce only in environments that meet their basic needs.
- Describe how organisms depend on the living and non-living features of the environment for survival.
- Describe how perceiving and responding to information about the environment is critical to the survival of organisms.
- Describe how humans have the capacity to build and use tools to advance the quality of their lives.

Physical Science

- Identify properties of materials through the use of simple tests.
- Describe how the position and motion of objects can be changed by pushing or pulling.
- Describe sound and light as forms of energy.
- Describe how electrical and magnetic energy can be transferred and transformed.

Earth Science

- Compare physical and chemical properties of earth materials.
- Describe how earth materials provide resources for all living things, understanding that these resources are limited and should be conserved.
- Describe the major role of water in shaping the earth's surface.
- Describe how objects in the solar system are in a regular and predictable motion.

Scientific Inquiry

(Students at this level demonstrate a superior understanding of how to:)

- Make observations and ask questions about objects, organisms, and the environment.
- Design and conduct simple investigations.
- Employ simple equipment and measuring tools to gather data and extend the senses.
- Use data to construct reasonable explanations.
- Analyze, critique and communicate investigations using words, graphs and drawings.
- Use measurement tools and standard units (e.g., centimeters, meters, grams, kilograms) to describe objects and materials.
- Use mathematics to analyze, interpret and present data.

Level 4: Goal

Students who score at this level demonstrate a strong understanding of the scientific concepts and inquiry skills described in the Core Science Curriculum Framework for grades 3 – 5. Generally, these students demonstrate competency to analyze and evaluate the quality of data and apply content knowledge to effectively communicate their understanding of the natural world.

Content Knowledge

(Students at this level demonstrate a strong degree of knowledge to:)

Life Science

- Describe how organisms can survive and reproduce only in environments that meet their basic needs.
- Describe how organisms depend on the living and non-living features of the environment for survival.
- Describe how perceiving and responding to information about the environment is critical to the survival of organisms.
- Describe how humans have the capacity to build and use tools to advance the quality of their lives.

Physical Science

- Identify properties of materials through the use of simple tests.
- Describe how the position and motion of objects can be changed by pushing or pulling.
- Describe sound and light as forms of energy.
- Describe how electrical and magnetic energy can be transferred and transformed.

Earth Science

- Compare physical and chemical properties of earth materials.
- Describe how earth materials provide resources for all living things, understanding that these resources are limited and should be conserved.
- Describe the major role of water in shaping the earth's surface.
- Describe how objects in the solar system are in a regular and predictable motion.

Scientific Inquiry

(Students at this level demonstrate a strong understanding of how to:)

- Make observations and ask questions about objects, organisms, and the environment.
- Design and conduct simple investigations.
- Employ simple equipment and measuring tools to gather data and extend the senses.
- Use data to construct reasonable explanations.
- Analyze, critique and communicate investigations using words, graphs and drawings.
- Use measurement tools and standard units (e.g., centimeters, meters, grams, kilograms) to describe objects and materials.
- Use mathematics to analyze, interpret and present data.

Level 3: Proficient

Students who score at this level demonstrate an adequate understanding of the scientific concepts and inquiry skills described in the Core Science Curriculum Framework for grades 3 – 5. Generally, these students demonstrate some competency to analyze and evaluate the quality of data and apply content knowledge to communicate their understanding of the natural world.

Content Knowledge

(Students at this level demonstrate an adequate degree of knowledge to:)

Life Science

- Describe how organisms can survive and reproduce only in environments that meet their basic needs.
- Describe how organisms depend on the living and non-living features of the environment for survival.
- Describe how perceiving and responding to information about the environment is critical to the survival of organisms.
- Describe how humans have the capacity to build and use tools to advance the quality of their lives.

Physical Science

- Identify properties of materials through the use of simple tests.
- Describe how the position and motion of objects can be changed by pushing or pulling.
- Describe sound and light as forms of energy.
- Describe how electrical and magnetic energy can be transferred and transformed.

Earth Science

- Compare physical and chemical properties of earth materials.
- Describe how earth materials provide resources for all living things, understanding that these resources are limited and should be conserved.
- Describe the major role of water in shaping the earth's surface.
- Describe how objects in the solar system are in a regular and predictable motion.

Scientific Inquiry

(Students at this level demonstrate an adequate understanding of how to:)

- Make observations and ask questions about objects, organisms, and the environment.
- Design and conduct simple investigations.
- Employ simple equipment and measuring tools to gather data and extend the senses.
- Use data to construct reasonable explanations.
- Analyze, critique and communicate investigations using words, graphs and drawings.
- Use measurement tools and standard units (e.g., centimeters, meters, grams, kilograms) to describe objects and materials.
- Use mathematics to analyze, interpret and present data.

Level 2: Basic

Students who score at this level demonstrate partial understanding of the scientific concepts and inquiry skills described in the Core Science Curriculum Framework for grades 3 – 5. Generally, these students demonstrate limited competency to analyze and evaluate the quality of data and apply content knowledge to communicate their understanding of the natural world.

Content Knowledge

(Students at this level demonstrate a marginal degree of knowledge to:)

Life Science

- Describe how organisms can survive and reproduce only in environments that meet their basic needs.
- Describe how organisms depend on the living and non-living features of the environment for survival.
- Describe how perceiving and responding to information about the environment is critical to the survival of organisms.
- Describe how humans have the capacity to build and use tools to advance the quality of their lives.

Physical Science

- Identify properties of materials through the use of simple tests.
- Describe how the position and motion of objects can be changed by pushing or pulling.
- Describe sound and light as forms of energy.
- Describe how electrical and magnetic energy can be transferred and transformed.

Earth Science

- Compare physical and chemical properties of earth materials.
- Describe how earth materials provide resources for all living things, understanding that these resources are limited and should be conserved.
- Describe the major role of water in shaping the earth's surface.
- Describe how objects in the solar system are in a regular and predictable motion.

Scientific Inquiry

(Students at this level demonstrate a marginal understanding of how to:)

- Make observations and ask questions about objects, organisms, and the environment.
- Design and conduct simple investigations.
- Employ simple equipment and measuring tools to gather data and extend the senses.
- Use data to construct reasonable explanations.
- Analyze, critique and communicate investigations using words, graphs and drawings.
- Use measurement tools and standard units (e.g., centimeters, meters, grams, kilograms) to describe objects and materials.
- Use mathematics to analyze, interpret and present data.

Level 1: Below Basic

Students who score at this level demonstrate a limited understanding of the scientific concepts and inquiry skills described in the Core Science Curriculum Framework for grades 3 – 5. Generally, these students do not demonstrate competency to analyze and evaluate the quality of data and apply content knowledge to communicate their understanding of the natural world.

Content Knowledge

(Students at this level demonstrate a limited degree of knowledge to:)

Life Science

- Describe how organisms can survive and reproduce only in environments that meet their basic needs.
- Describe how organisms depend on the living and non-living features of the environment for survival.
- Describe how perceiving and responding to information about the environment is critical to the survival of organisms.
- Describe how humans have the capacity to build and use tools to advance the quality of their lives.

Physical Science

- Identify properties of materials through the use of simple tests.
- Describe how the position and motion of objects can be changed by pushing or pulling.
- Describe sound and light as forms of energy.
- Describe how electrical and magnetic energy can be transferred and transformed.

Earth Science

- Compare physical and chemical properties of earth materials.
- Describe how earth materials provide resources for all living things, understanding that these resources are limited and should be conserved.
- Describe the major role of water in shaping the earth's surface.
- Describe how objects in the solar system are in a regular and predictable motion.

Scientific Inquiry

(Students at this level demonstrate a limited understanding of how to:)

- Make observations and ask questions about objects, organisms, and the environment.
- Design and conduct simple investigations.
- Employ simple equipment and measuring tools to gather data and extend the senses.
- Use data to construct reasonable explanations.
- Analyze, critique and communicate investigations using words, graphs and drawings.
- Use measurement tools and standard units (e.g., centimeters, meters, grams, kilograms) to describe objects and materials.
- Use mathematics to analyze, interpret and present data.