

Kentucky Science Assessments Performance Level Descriptors

Science - Grade 4

Distinguished Performance Level

A student performing at the **Distinguished** performance level for grade 4 science has a comprehensive understanding of science and engineering concepts and practices incorporated in the Kentucky Academic Standards for Science up to grade 4. The student consistently communicates ideas related to foundational concepts in a sophisticated and complex manner, using thorough supporting detail and explicit examples. The student reasons and solves problems by using appropriate strategies by in an insightful way. Connections between concepts/ideas from different areas of science, when appropriate, are justified and insightful.

The student at the **Distinguished** performance will demonstrate knowledge, skills, and abilities related to the Kentucky Academic Standards for grade 4 science such as:

- Can analyze and interpret data to organize information and make sophisticated and complex predictions.
- Can generate and/or analyze a claim, citing relevant evidence, and utilize cause and effect relationships to support a sophisticated design solution.
- Can accurately and insightfully analyze and interpret data and observations about patterns they observe.
- Can construct and analyze an argument, providing insightful and relevant evidence to support a claim.
- Can define and analyze simple design problems, including identifying criteria for success and considering appropriate constraints.
- Can interpret data to identify patterns used as evidence to construct an insightful explanation.
- Can formulate insightful questions to predict insightful outcomes.
- Can accurately develop or use a model that insightfully explains components and relationships within a system.

Proficient Performance Level

A student performing at the Proficient level for grade 4 science has a broad understanding of science and engineering concepts and practice incorporated in the Kentucky Academic Standards for Science up to grade 4. The student usually communicates ideas accurately using clear and appropriate examples of foundational concepts, supporting or justifying those ideas with relevant details and evidence. Problem-solving and critical thinking skills are used effectively and connections between concepts/ideas from different areas of science, when present, are reasonable and appropriate.

The student at the **Proficient** performance will demonstrate knowledge, skills, and abilities related to the Kentucky Academic Standards for grade 4 science such as:

- Can analyze and interpret data to organize information and make predictions.
- Can make and/or analyze a claim, citing relevant evidence and utilizing cause and effect relationships, to support a design solution.
- Can accurately analyze and interpret data and observations about patterns they observe.
- Can construct an argument with reasonable evidence to support a claim.
- Can analyze a simple design problem, including identifying criteria for success and considering appropriate constraints.
- Can interpret data to identify patterns used as evidence to construct a reasonable explanation.

- Can formulate questions to predict reasonable outcomes.
- Can accurately develop or use a model that explains most components and relationships within a system.

Apprentice Performance Level

A student performing at the Apprentice level for grade 4 science has a basic understanding of science and engineering concepts and practices incorporated in the Kentucky Academic Standards for Science up to grade 4. The student communicates ideas about foundational concepts in a basic manner, but explanations, solutions or justifications may be unclear or ineffective. The student demonstrates some problem-solving and critical thinking skills using concepts/ideas from different areas of science, but they are not consistently applied.

The student at the **Apprentice** performance will demonstrate knowledge, skills, and abilities related to the Kentucky Academic Standards for grade 4 science such as:

- Can analyze or interpret data in a limited way to organize information or make predictions.
- Can make and/or analyze a claim, citing little or incomplete evidence.
- Can analyze or interpret data and observations about patterns they observe.
- Can construct an argument with limited evidence to support a claim.
- Can analyze a simple design solution which may include criteria for success and/or appropriate constraints.
- Can interpret data to identify patterns used as evidence to construct a limited explanation.
- Can recognize reasonable questions to make limited predictions.
- Can recognize, develop or use a model that explains some components and relationships within a system.
- Can develop a partial model or use a given model that shows and minimally explains components and relationships.

Novice Performance Level

A student performing at the **Novice** performance level for grade 4 science has a minimal understanding of the three dimensions of the science and engineering concepts and practices incorporated in the Kentucky Academic Standards for science up through grade 4. The student communicates ideas ineffectively or inaccurately, providing little detail and little or no support. Attempts at problem-solving or critical thinking are minimal or inappropriate.

The student at the **Novice** performance level does not demonstrate the knowledge, skills, and abilities to be classified into the **Apprentice** performance level.