

Kentucky Science Assessments Performance Level Descriptors

Science - Grade 7

Distinguished Performance Level

A student performing at the **Distinguished** performance level for grade 7 science has a comprehensive understanding of the three dimensions of the science and engineering concepts and practices incorporated in the Kentucky Academic Standards for science up through grade 7. The student consistently communicates ideas in a sophisticated and complex manner, using thorough supporting detail and explicit examples. The student reasons and solves problems by using appropriate strategies 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 level will demonstrate knowledge, skills, and abilities related to the Kentucky Academic Standards for grade 7 science such as:

- Can develop detailed models that clearly represent the relationships within systems
- Can consistently use, analyze, and evaluate models, data, evidence and claims in insightful ways
- Can make appropriate predictions using patterns within graphical displays
- Can construct and present arguments supported with relevant evidence and reasoning in a sophisticated manner
- Can critique the arguments and reasoning of others
- Can plan a detailed investigation, identifying the appropriate variables and controls
- Can evaluate competing solution designs that meet the criteria and constraints
- Can explain in detail the relationships and interactions between structure and function
- Can understand and apply knowledge and appropriate terminology in a relevant way

Proficient Performance Level

A student performing at the **Proficient** performance level for grade 7 science has a broad understanding of the three dimensions of the science and engineering concepts and practices incorporated in the Kentucky Academic Standards for science up through grade 7. The student usually communicates ideas accurately using clear and appropriate examples, supporting or justifying those ideas with relevant details and evidence. Problem-solving and critical thinking skills are used effectively. Connections between concepts/ideas from different areas of science, when present, are reasonable and appropriate.

The student at the **Proficient** performance level will demonstrate knowledge, skills, and abilities related to the Kentucky Academic Standards for grade 7 science, such as:

- Can develop models that represent most of the relationships within systems
- Can effectively use, analyze, and evaluate models, data, evidence and claims
- Can revise a model to reduce limitations, including correcting errors
- Can identify a pattern within graphical displays to indicate relationships that exist within a system
- Can describe systems in terms of their components, roles, and interactions
- Can construct, use, and present arguments supported with relevant evidence
- Can plan an investigation, identifying the variables and controls
- Can define the problem and design a solution that meets the criteria and constraints
- Can identify the relationship and interaction between structure and function

Apprentice Performance Level

A student performing at the **Apprentice** performance level for grade 7 science has a basic understanding of the three dimensions of the science and engineering concepts and practices incorporated in the Kentucky Academic Standards for science up through grade 7. The student demonstrates some problem-solving and critical thinking skills, but they are not consistently applied. The student communicates ideas in a basic manner, but explanations, solutions or justifications may be unclear or ineffective.

The student at the **Apprentice** performance level will demonstrate knowledge, skills, and abilities related to the Kentucky Academic Standards for grade 7 science such as:

- Can develop models that represent limited or basic relationships within systems
- Can attempt to support claims and/or reasoning, demonstrating inconsistencies and ineffectiveness
- Can identify a basic pattern within graphical displays to indicate limited or partial relationships that exist within a system
- Can partially describe systems in terms of their components, roles, and interactions
- Can construct, use, and present arguments, with partial effectiveness, supported with limited evidence
- Can inconsistently identify variables within a defined investigation
- Can understand constraints and criteria with limited factors

Novice Performance Level

A student performing at the **Novice** performance level for grade 7 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 7. 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.