Science Performance Level Descriptions

Students demonstrate mastery of science concepts and 21st century skills aligned to the Colorado Academic Standards at various performance levels. The performance level descriptors are organized in a manner that assumes students demonstrating higher levels of command have mastered the concepts and skills within the lower levels. For example, a student who approached expectations has also mastered the concepts and skills included in the partially met expectations performance level.

Students who Exceeded Expectations demonstrated distinguished command of the Colorado Academic Standards and can typically

- Evaluate and provide feedback on scientific evidence and reasoning about the separation of mixtures and how separation affects the total weight/mass
- Develop hypotheses about why similarities and differences exist between the body systems and parts of humans, plants, and animals
- Evaluate scientific claims about natural resources, in terms of reasonability and validity
- Assess and provide feedback, through reasoning based on evidence, on scientific explanations about weather and factors that change Earth's surface

Students who Met Expectations demonstrated strong command of the Colorado Academic Standards and can typically

- Explain why certain procedures that are used to separate simple mixtures work and discuss any unexpected results
- Evaluate evidence and models of the structure and functions of human, plant, and animal organs and organ systems
- Investigate and generate evidence that human systems are interdependent
- Analyze and interpret data to explore concerns associated with natural resources
- Formulate testable questions and scientific explanations around weather and factors that change Earth's surface

Students who Approached Expectations demonstrated moderate command of the Colorado Academic Standards and can typically

- Discuss how the mass/weight of a mixture is a sum of its parts and design a procedure to separate simple mixtures based on physical properties
- Create models of human, plant, and animal organ systems, and compare and contrast similarities and differences between the organisms
- Explore and describe the origins and usage of natural resources in Colorado
- Interpret data about Earth, including weather and changes to Earth's surface

Students who Partially Met Expectations demonstrated limited command of the Colorado Academic Standards and can typically

- Select appropriate tools and follow procedures to separate simple mixtures
- Identify how humans, plants, and animals address basic survival needs
- Identify the functions of human body systems
- Distinguish between renewable and nonrenewable resources
- Use appropriate tools and resources to gather data regarding weather conditions and Earth processes

For more information about the standards included in this assessment, please visit the Colorado Department of Education's website at
http://www.cde.state.co.us/coscience/statestandards

Confidential Student Performance Report

Colorado Measures of Academic Success

Student: **FIRSTNAME C. LASTNAME203**
SASID: **9999990003** Birthdate: **04/12/2008**
School: **SAMPLE SCHOOL1 (0115)**
District: **SAMPLE DISTRICT (0100)**

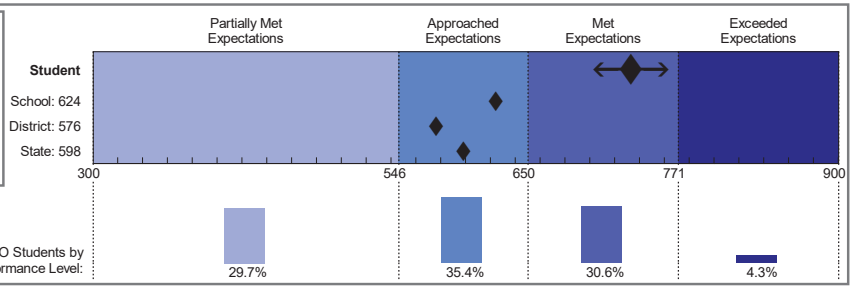
Spring 2019

Science — Grade 5

This score report provides information about your student's performance on the Colorado Measures of Academic Success (CMAS) Science Assessment.

- Your student's performance is represented by a scale score, a performance level, and a percentile rank. Scores are placed on a scale so that student performance can be compared across years.
- On the graph, scale scores are represented by diamonds. The arrows around your student's diamond show the range of scores that your student would likely receive if the assessment was taken multiple times.
- School, district, and state averages are provided so that you can compare your student's performance to the performance of others. The percentage of students in each performance level across the state is reported below the graph.
- Dotted lines show where the range of scores is divided into performance levels. Descriptions of the performance levels can be found at the end of this report.
- You are encouraged to discuss this report with your student's teacher.

Your Student's Score
733
Met Expectations
49th Percentile



Subscale Performance

- The shaded areas in the table below represent approximately 70% of student scores across the state.
- Scores outside of the shaded area indicate a potential weakness or strength compared to the state.

Reporting Category Description	Subscale Score		Potential Relative Weakness / Typical / Potential Relative Strength (300 – 900)
Physical Science			477 – 721
Students know and understand common properties, forms, and changes in matter and energy.	**789**	**Student**	
	574	School	
	550	District	
Life Science			481 – 719
Students know and understand the characteristics and structure of living things, the processes of life, and how living things interact with each other and their environment.	**746**	**Student**	
	561	School	
	567	District	
Earth Systems Science			480 – 717
Students know and understand the processes and interactions of Earth's systems and the structure and dynamics of Earth and other objects in space.	**673**	**Student**	
	590	School	
	587	District	
Scientific Investigations and the Nature of Science			478 – 717
Students understand the processes of scientific investigation and design, conducting and evaluating, as well as communicating about, such investigations. Students understand that the nature of science involves a particular way of building knowledge and making meaning of the natural world.	**762**	**Student**	
	602	School	
	602	District	

Purpose
This report describes your student's mastery of the Colorado Academic Standards in Science.

For more information on the CMAS assessment program, visit: **http://www.cde.state.co.us/assessment/cmas**

Colorado Measures of Academic Success

Science

Confidential

Performance by Prepared Graduate Competencies (PGCs) and Grade Level Expectations (GLEs)

- Within each standard, PGCs are identified. PGCs represent the concepts and skills that students need to master in order to be college and career ready.
- GLEs are grade-specific expectations that indicate a student is making progress toward the PGCs.
- The figure below shows the percent of points that your student earned for each GLE represented in the grade. If there is more than one GLE for a PGC, the PGC is also provided.

Student's performance
District average
State average
Average of students who just crossed into the Met Expectations performance level

Standard, PGC, and GLE	Points Possible	Percent of Points Earned* 0% 25% 50% 75% 100%
Physical Science		
PGC 1 Apply an understanding of atomic and molecular structure to explain the properties of matter, and predict outcomes of chemical and nuclear reactions		
GLE 1: Mixtures of matter can be separated regardless of how they were created; all weight and mass of the mixture are the same as the sum of weight and mass of its parts	20	80%
Life Science		
PGC 1: Analyze how various organisms grow, develop, and differentiate during their lifetimes based on an interplay between genetics and their environment		
GLE 1: All organisms have structures and systems with separate functions	13	85%
PGC 2: Analyze the relationship between structure and function in living systems at a variety of organizational levels, and recognize living systems' dependence on natural selection		
GLE 2: Human body systems have basic structures, functions, and needs	17	76%
Earth Systems Science		
PGC 1: Describe how humans are dependent on the diversity of resources provided by Earth and Sun		
GLE 1: Earth and sun provide a diversity of renewable and nonrenewable resources	10	70%
PGC 2: Evaluate evidence that Earth's geosphere, atmosphere, hydrosphere, and biosphere interact as a complex system	20	80%
GLE 2: Earth's surface changes constantly through a variety of processes and forces	10	70%
GLE 3: Weather conditions change because of the uneven heating of Earth's surface by the Sun's energy. Weather changes are measured by differences in temperature, air pressure, wind, and water in the atmosphere and type of precipitation	10	90%

*Percent of points earned cannot be compared across years because individual items change from year to year. They also cannot be compared across GLEs and PGCs because the number of items and the difficulty of items may not be the same.

Grade 5

Performance by Item Type

CMAS assessments include selected-response and constructed-response items. The figure below shows your student's scale score for each item type in relation to school, district, and state averages.