Science, Social Studies, Mathematics & English Language Arts/Literacy including Colorado Spanish Language Arts

Colorado Measures of Academic Success
Colorado Alternate Assessment Program

Interpretive Guide to Assessment Reports

A Guide for Parents and Educators

2019

1.0 General Information for Parents and Educators

1.1 Purpose of This Guide

This guide provides information on the individual student performance reports, school reports, and district reports provided for the Colorado Measures of Academic Success (CMAS) and Colorado Alternate (CoAlt) assessment results. Section 2.0 outlines and explains elements of the individual student report and may be shared with parents and educators to help them understand their students' test results. Sections 3.0 through 8.0 outline and explain elements of the school and district reports.

Please note that the sample reports included in this guide are for illustration purposes only. They are provided to show the basic layout of the reports and the information they provide. Sample reports do not include actual data from any administration.

1.2 Background

1.2.1 Colorado Measures of Academic Success (CMAS)

The CMAS assessments are Colorado's standards-based assessments designed to measure the Colorado Academic Standards (CAS) in the content areas of mathematics, English language arts (ELA), science, and social studies. Eligible English learners in grades 3 and 4 may take the Colorado Spanish Language Arts (CSLA) assessment as an accommodation in place of ELA. A small number of students with significant cognitive disabilities who meet specific criteria may demonstrate their content knowledge on the CoAlt assessment which measures the Extended Evidence Outcomes (EEOs) of the CAS. The purpose of the CMAS assessments is to indicate the degree to which students have mastered the expectations of the CAS in each content area at the end of the tested grade level. CMAS results are intended to provide one measure of a student's academic progress relative to the CAS. Aggregated scores may be used by districts and schools to monitor their programs' effectiveness by comparing performance from year to year.

CMAS science and social studies assessments were first administered across Colorado in 2013-2014 and CMAS mathematics and ELA assessments were first administered in 2014-2015. The following table includes the content areas and grade levels that were assessed across Colorado in spring 2019.

Content Area	2019 Grades
ELA	3-8
CSLA*	3 and 4
Mathematics	3-8
Science	5, 8 and 11
Social Studies	4 and 7

*As a requirement of Colorado School Law C.R.S. §22-7-1006.3 (4) (a) and (b), Spanish-speaking students in grades 3 and 4 who meet established eligibility criteria may take the CSLA assessment in place of the ELA assessment.

CMAS Mathematics, ELA, Science and Social Studies

Available in online and paper format, CMAS assessments were developed by Colorado educators, the Colorado Department of Education, and the testing contractor.

CSLA

Available in paper format, CSLA assessments are designed for students with a home language of Spanish who are enrolled in bilingual programs in grades 3 and 4. The CSLA assessments serve as accommodated versions of the CMAS ELA assessments. They are parallel and comparable to CMAS ELA in test design, item type, scoring and reporting. Therefore, separate CSLA reports are not included throughout this guide (please refer to ELA reporting information and examples).

1.2.2 Colorado Alternate (CoAlt)

CoAlt is the standards-based assessment designed specifically for students with the most significant cognitive disabilities who, even with accommodations, are unable to participate in CMAS. CoAlt assesses the performance expectations of the EEOs of the CAS and students must meet participation requirements to take the assessments. CoAlt assessments are administered in a one-on-one setting between teachers and students. Teachers use CoAlt scoring rubrics to evaluate student responses before submitting performance results. For each CMAS assessment there is a corresponding CoAlt assessment; however, this guide only includes the CoAlt science and social studies assessments. The CoAlt mathematics and ELA assessments were developed by the Dynamic Learning Maps (DLM) consortium and reports for those assessments are not included in this guide.

1.3 Reporting Results

1.3.1 Sharing Results with Parents

As a requirement of Colorado School Law C.R.S. §22-7-1006.3 (8) (a), personnel within the district and school must share with and explain to the parent or legal guardian of each student the student's state assessment results.

1.3.2 Confidentiality of Reporting Results

The results of individual student performance on all Colorado assessments are confidential and may be released only in accordance with the Family Educational Rights and Privacy Act of 1974 (20 U.S.C. Section 1232g). When possible, aggregated student performance data representing 16 or more students is made available to the public. Additional data suppression rules are also applied to aggregated reports to protect student privacy. Aggregated reports do not contain the names of individual students or teachers.

2.0 A Parent and Educator Guide to Understanding the Colorado Measures of Academic Success (CMAS) Student Performance Report

2.1 Program Overview

CMAS is Colorado's standards-based assessment designed to measure the Colorado Academic Standards (CAS). The CAS contain the concepts and skills students need to learn in order to be successful in the current grade and to make academic progress from year to year.

In spring 2019, CMAS mathematics and English language arts (ELA)* assessments were given to students in grades 3 through 8, CMAS science assessments were given in grades 5, 8, and 11, and CMAS social studies assessments were given in grades 4 and 7 (social studies assessments are administered on a sampling basis to one-third of the elementary and middle schools each year). The purpose of CMAS is to indicate the degree to which students have mastered the CAS in the assessed content areas at the end of the tested grade level. CMAS results are intended to provide one measure of a student's academic progress relative to the CAS. An individual student performance report is created for each student who takes a CMAS assessment so that parents can understand their student's command over the CAS in the assessed grade level and content area.

As a requirement of Colorado School Law C.R.S. §22-7-1006.3 (4) (a) and (b), Spanish-speaking students in grades 3 and 4 who meet established eligibility criteria may take the Colorado Spanish language arts (CSLA) assessment in place of the ELA assessment. CSLA assessments are parallel and comparable to the CMAS ELA assessments in test design, item type, scoring and reporting. Therefore, separate CSLA reports and descriptions are not included in this guide (refer to ELA reporting information and examples).

2.2 Performance Levels and Types of Scores on the Student Reports

To understand each part of the individual student performance reports, it is important to become familiar with the types of assessment scores included on the reports. Student performance on the Colorado assessments is described at varying levels on the individual student reports using scale scores, performance levels, subclaim performance indicators, and percentile ranking. State, district, and school average results are included in relevant sections of the report to help parents understand how their student's performance compares to that of other students. In some instances, a dash (–) appears in place of average results for a school and/or district. This indicates there are too few students (less than 16) to maintain student privacy, and therefore, results are not reported.

2.2.1 Scale Scores

A scale score is a numerical value that summarizes student performance. When the points a student earns on an assessment are placed on a common scale, the student's score becomes a scale score. Scale scores adjust for slight differences in difficulty on versions of the assessment that can vary slightly from student to student within a year (referred to as forms of the assessment) or between school years (referred to as administrations). Scale scores allow for comparisons of assessment scores, within a particular grade and subject area, across administrations. As an example, a student who receives a score of 700 on one form of the 7th grade mathematics assessment is expected to score a 700 on any form of the assessment. A student who scored 650 on the 8th grade science assessment in 2019 demonstrated the same level of mastery of concepts and skills as an 8th grade student who scored 650 on the science test in 2017. Scale scores cannot be used to compare student performance across grades (e.g., grade 4 to grade 7) or subject areas (e.g., science to mathematics).

Mathematics, ELA, and CSLA scale scores for the overall test range from 650 to 850. ELA and CSLA reports also provide separate scale scores for reading. Reading scale scores range from 110 to 190.

CMAS science and social studies scale scores range from 300 to 900. Science and social studies scale scores are reported for the overall test, content standards and Scientific Inquiry/Nature of Science (referred to as reporting categories), and item type.

CoAlt science and social studies scale scores are reported for the overall test and range from 0 to 250.

2.2.2 Performance Levels

Scale scores are used to determine a student's performance level for the overall assessment. Performance levels describe the concepts and skills students are expected to demonstrate within a certain range of scores at the overall assessment level (i.e., ELA, mathematics, science, or social studies). Descriptors for each grade level and content area are included in **Appendix B** of this document.

CMAS Performance Levels

There are five cross-grade and content area performance levels for CMAS mathematics, ELA, and CSLA assessments. There are four cross-grade and content area performance levels for CMAS science and social studies assessments.

CMAS Performance Levels	
CMAS Mathematics, ELA, and CSLA	**CMAS Science and Social Studies**
Level 5: Exceeded Expectations*	**Level 4:** Exceeded Expectations*
Level 4: Met Expectations*	**Level 3:** Met Expectations*
Level 3: Approached Expectations	**Level 2:** Approached Expectations
Level 2: Partially Met Expectations	**Level 1:** Partially Met Expectations
Level 1: Did Not Yet Meet Expectations	

*Students in the top two performance levels met or exceeded the expectations of the CAS and are considered on track to being college and career ready in the content areas of language arts, mathematics, science, or social studies. Students in the remaining performance levels may need academic support to successfully engage in further studies in the content area.

CoAlt Performance Levels

CoAlt science and social studies assessments include four performance levels.

CoAlt Performance Levels
Science and Social Studies
Advanced*
At Target*
Approaching Target
Emerging

*The top two performance levels indicate that with appropriate supports, the student is prepared for further study in the content area.

2.2.3 Percentile Ranking

A percentile ranking is included on all CMAS individual student performance reports. The percentile ranking shows how well the student performed in comparison to other students in the state. For example, a student in the 75th percentile performed better than 75 percent of students in the state.

2.2.4 Additional Performance Indicators

In addition to scale scores, performance levels, and percentile rankings, individual student performance reports include other indicators to help parents and educators understand their student's performance. These performance indicators are described below for each assessment.

CMAS Mathematics, ELA, and CSLA

CMAS mathematics, ELA, and CSLA student reports include subclaim performance graphics comparing the performance of the student, their district, and the state. ELA student reports include a reading scale score with a proficiency indicator based on the cut score for the overall test.

Subclaim performance on the assessments is reported as the percent of points earned for overall writing and for each of the writing, reading, and mathematics subclaims. Percent earned refers to the number of points earned out of the total number of points possible within a reporting category. The percent earned indicator can only be used to compare performance of the individual student to the average district and average state performance on the specific set of items being considered. Some groups of items may be more difficult than other sets of items, so unlike the scale score, the percent earned indicator cannot be compared across groups of items or across school years.

For the overall writing claim and each subclaim, a marker indicates the average performance on that claim or subclaim of students who just crossed into the Met Expectations performance level on the overall test.

CMAS Science and Social Studies

CMAS science and social studies reports include percent earned indicators for Prepared Graduate Competencies (PGCs) and Grade Level Expectations (GLEs)* in elementary and middle school and for PGCs in high school. Percent earned refers to the number of points earned out of the total number of points possible within a reporting category. The percent earned indicator can only be used to compare performance of the individual student to the average district and average state performance on the specific set of items being considered. Some groups of items may be more difficult than other sets of items, so unlike the scale score, the percent earned indicator cannot be compared across groups of items or across school years.

For each PGC or GLE, a marker indicates the average performance on that subscore of students who just crossed into the Met Expectations performance level on the overall test.

*PGCs and GLEs are described more fully in **Appendix C**.

CoAlt Science and Social Studies

CoAlt science and social studies reports include the percent of points earned. The percent of points earned refers to the number of points a student earned out of the total number of points possible within a reporting category. The percent of points earned indicator can only be used to compare performance of the individual student to the average state performance on the specific set of items being considered. Some groups of items may be more difficult than other sets of items; so unlike the scale score, the percent of points earned indicator cannot be compared across groups of items or across school years. Percent of points earned are provided at the standard level. For social studies, the standards are history, geography, economics, and civics. For science, the standards are physical science, life science, and earth systems science.

2.3 Description of Individual Student Performance Reports for CMAS Mathematics, ELA, and CSLA

Sample CMAS grade 4 ELA and mathematics Student Performance Reports are displayed in Sections 2.4 and 2.5. Each page of the sample report is included individually. The sample report provides the same typeof information that is included on all of the mathematics, ELA, and CLSA reports. To learn more about each part of the Student Performance Report, match the white letters in gray circles from the sample report to the information included with the corresponding letters on the following pages.

2.3.1 General Information

Refer to page 1 of the Student Performance Report.

A. Identification Information
The student's name, state assigned student identification number (SASID), birthdate, school, and district.

B. Test Date
The season and year the student took the assessment.

C. Subject Area
The subject area of the student's assessment (i.e., mathematics, ELA, or CSLA).

D. Grade Level
The grade level of the student's assessment.

E. Explanation of Overall Performance
A brief explanation of the overall assessment results is given to help understand the information provided in the box below the explanation.

2.3.2 Overall Assessment Scores

Refer to page 1 of the Student Performance Report.

F. Overall Scale Score, Performance Level and Percentile Rank
The student's overall scale score (the number between 650 and 850), performance level (Exceeded Expectations, Met Expectations, Approached Expectations, Partially Met Expectations, Did Not Yet Meet Expectations), and percentile ranking are provided. For each content area, students receive an overall scale score and, based on that score, are placed in one of five performance levels, with Level 5 indicating the student exceeded expectations and Level 1 indicating the student did not yet meet expectations (see **Appendix A** for more information on scale scores and **Appendix B** for more information on performance levels). The percentile ranking shows how well the student performed in comparison to other students in the state. For example, a student in the 52nd percentile performed better than 52 percent of students in the state.

G. Graphical Representation of Overall Performance: Overall Scale Score and Performance Level

This graphic provides an illustration of the five performance levels and identifies where the student's overall scale score is positioned along the performance scale. The student's score is indicated by the black diamond positioned along the range of overall scale scores that define each performance level. The arrows represent the probable range, which is based on the standard error of measurement at that scale score and indicates the range of scores the student would likely receive if the assessment were taken multiple times. The probable range of scores differs across forms and across levels of performance within forms. The ranges of overall scale scores are indicated underneath the graphic. For all grade levels in mathematics, ELA, and CSLA, students cross into Partially Met Expectations (performance level 2) when they achieve a scale score of 700, Approached Expectations (performance level 3) when they achieve a scale score of 725, and Met Expectations (performance Level 4) when they achieve a scale score of 750. The scale score needed to reach Exceeded Expectations (performance level 5) varies. Refer to **Appendix A** for the full list of scale score ranges for each performance level.

Average scale scores at the school, district, and state levels are identified to the left of the graph and are indicated by smaller diamonds on the graph. The location of the diamonds can be compared to see how the student performed in comparison to the average student in their school, district, or the state. If the student's score diamond is to the right of the school, district, or state average diamond, then the student performed better than that group's average. If the student's diamond is to the left of the school, district, or state diamond, then on average, that group performed better than the student.

The dotted lines on the graph show the lowest scores needed to achieve Partially Met Expectations, Approached Expectations, Met Expectations, and Exceeded Expectations performance levels. The scale scores representing each of those scores are indicated on the bottom of the graph.

H. Percentage of Students at Each Performance Level

The bars beneath the overall performance graphic show the percentage of students within Colorado who performed at each of the five performance levels and gives a sense of how the student's performance compares to other students' performance in Colorado.

I. Performance Level Description (PLD)

PLDs provide details about the specific grade-level content area concepts and skills typically demonstrated by students within a performance level. The PLD that corresponds to the student's performance level is included on the report. The full list of performance level descriptors for each grade level and content area is included in **Appendix B** of this document.

2.3.3 Performance by Sub-Reporting Category

Refer to page 2 of the Student Performance Report.

J. Graph Key

Explanatory text for the bars in the Percent of Points Earned graph: student's performance, district average, state average, and average of students who just crossed into the Met Expectations overall performance level.

K. Graphical Representation of Reading Scale Score

ELA and CSLA student reports include the student's scale score for reading (refer to Section 2.2.1). The student's reading scale score is indicated by the top black diamond. Arrows around the student's diamond represent the probable range, which is based on the standard error of

measurement and indicates the range of scores the student would likely receive if the assessment were taken multiple times. Reading scale scores range from 110 to 190. A single cut score at 150 indicates a level of performance comparable to the Met Expectations cut on the overall ELA assessment.

The average scale scores at the school, district, and state levels are identified to the left of the graph and are indicated by smaller diamonds on the graph. The location of the diamonds can be compared to see how the student performed in comparison to the average student in their school, district, or the state. If the student's score diamond is to the right of the school, district, or state average diamond, then the student performed better than that group's average. If the student's diamond is to the left of the school, district, or state diamond, then on average, that group performed better than the student.

L. Writing Claim and ELA/Math Subclaim Category and Performance Indicators

Students demonstrate specific skill sets (subclaims) on the assessments that are identified within each reporting category for ELA and CSLA (e.g., Literary Text within Reading and Written Expression within Writing) and mathematics (e.g., Expressing Mathematical Reasoning). Each subclaim category includes the header identifying the subclaim and a graph showing the percent of points earned for each subclaim and the overall Writing claim.

M. Subclaim Performance Indicator Graphics

The graph shows the percent of points earned for each reading, writing, or mathematics subclaim. The top bar in each of the figures represents the percent of points earned by the student for each of the subclaim categories and the overall Writing claim. Bars representing district and state averages appear below for comparison. The dark vertical line indicates the average percent of points earned by students who just crossed into the Met Expectations performance level on the overall test.

<u>The percent of points earned cannot be compared across years because individual items change from year to year. They also cannot be compared across subclaims because the number of items and the difficulty of items may not be the same.</u>

N. QR Code

The Colorado Academic Standards website can be accessed via the QR Code on the report.

2.4 Sample Individual Student Performance Report – CMAS ELA and CSLA

Page 1

Confidential Student Performance Report

Colorado Measures of Academic Success

Student: **FIRSTNAME018 LASTNAME018** (A)

SASID: **2019040834** Birthdate: **01/09/2006**
School: **SAMPLE SCHOOL NAME (4444)**
District: **SAMPLE DISTRICT NAME (5555)**

(B) **Spring 2019**

English Language Arts/Literacy (C) (D) Grade 4

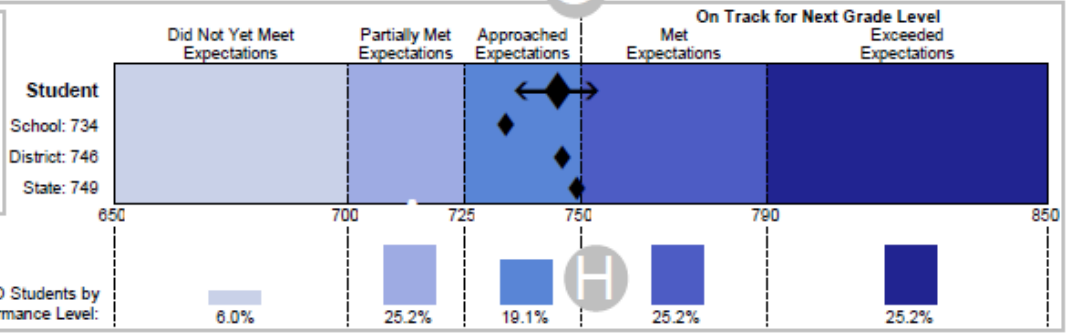
This score report provides information about your student's performance on the Colorado Measures of Academic Success (CMAS) English Language Arts/Literacy test.

- 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 your student would likely receive if the assessment was taken multiple times. (E)
- School, district, and state information is 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.
- You are encouraged to discuss this report with your student's teacher.

(G)

Your Student's Score
745
Approached Expectations
49th Percentile

(F)



(H)

Performance Level Descriptor - Approached Expectations

Students who **Approached Expectations** may benefit from additional support to meet expectations at the next grade level and they typically demonstrate the following:

In **Reading**, the pattern exhibited by student responses indicates:

- With very complex text: the ability to ask and/or answer questions with minimal accuracy, showing minimal understanding of the text when referring to explicit details and examples in the text.
- With moderately complex text: the ability to be generally accurate when asking and/or answering questions, showing basic understanding of the text when referring to explicit details and examples in the text.
- With readily accessible text: the ability to be mostly accurate when asking and/or answering questions, showing understanding of the text when referring to explicit details and examples in the text and when explaining inferences drawn from the text.

(I)

In **Written Expression**, students typically address the prompts and provide basic development of ideas, including when drawing evidence from multiple sources, while in the majority of instances demonstrating organization that sometimes is controlled. Students typically:

- Develop topic and/or narrative elements in a manner that is general in its appropriateness to the task and purpose.
- Demonstrate some organization.
- Include some linking words and phrases, descriptive words, and/or temporal words, limiting the clarity with which ideas are expressed.

In **Knowledge and use of Language Conventions**, students typically demonstrate basic command of the conventions of Standard English consistent with edited writing. There are few patterns of errors in grammar and usage that impede understanding, demonstrating partial control over language.

To view the full version of the performance level descriptors (PLDs), visit:
http://www.cde.state.co.us/assessment/grade_4_english_language_arts_plds.

Purpose

This report describes your student's mastery of the Colorado Academic Standards in Reading and Writing.

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

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Page 2

FIRSTNAME018 LASTNAME018

English Language Arts/Literacy

Confidential

Subclaim Performance

- Your student's overall performance in Reading is represented by the top diamond in the figure below.
- The percent of points your student earned for overall Writing and for each of the Reading and Writing subclaims is represented by the top bar in each of the other figures.
- District and state averages are provided for comparison.
- The dark vertical line indicates the average percent of points earned by students who just crossed into the Met Expectations performance level on the overall English Language Arts/Literacy test.

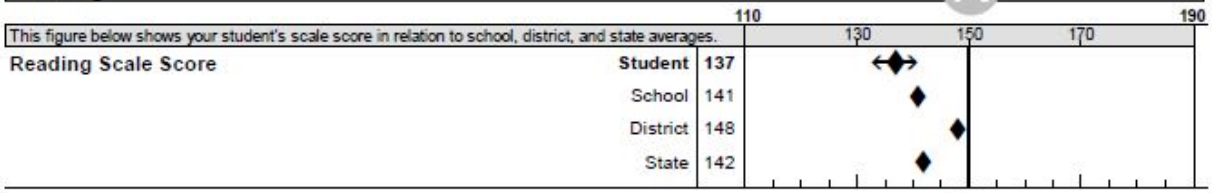
J

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

Reading

K

This figure below shows your student's scale score in relation to school, district, and state averages.



	Points Possible	Percent of Points Earned* (0% 25% 50% 75% 100%)
Literary Text Students read and analyze fiction, drama, and poetry. L	18	56%
Informational Text Students read and analyze nonfiction, history, science, and the arts.	18	0%
Vocabulary Students use context to determine what words and phrases mean.	8	25%

M

	Points Possible	Percent of Points Earned* (0% 25% 50% 75% 100%)
Writing		
Overall Writing Overall is calculated from Written Expression points multiplied by three plus Language and Conventions points.	27	56%
Written Expression Students compose well-developed writing, using details from what they have read.	7	43%
Language and Conventions Students demonstrate knowledge of conventions and other important elements of language.	6	100%

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

N

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/coreadingwriting/statestandards

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2.5 Sample Individual Student Performance Report – CMAS Mathematics

Page 1

Confidential Student Performance Report

Colorado Measures of Academic Success

Student: **FIRSTNAME023 Z. LASTNAME023** (A)

SASID: **2019201816** Birthdate: **11/24/2007**
School: **SAMPLE SCHOOL NAME (4444)**
District: **SAMPLE DISTRICT NAME (5555)**

(B) **Spring 2019**

Mathematics (C) (D) Grade 4

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

- 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 your student would likely receive if the assessment was taken multiple times.

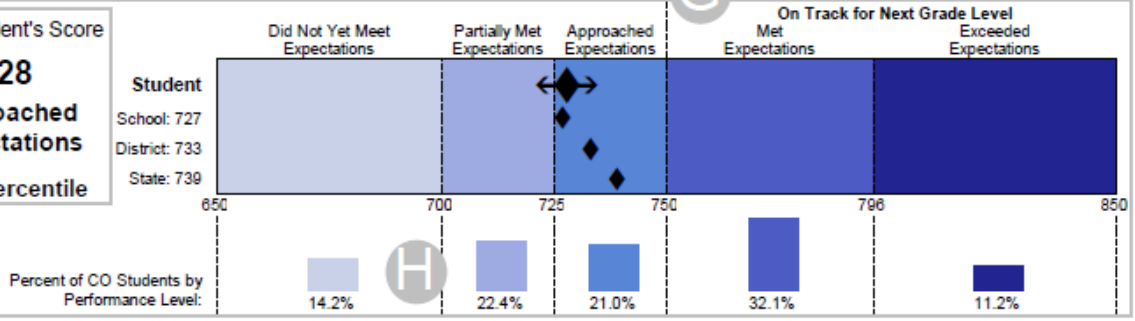
(E) School, district, and state information is provided so that you can compare your student's performance to the performance of others. The percentage of students in each performance level across the state is reported below the graph.

- Dotted lines show where the range of scores is divided into performance levels.
- You are encouraged to discuss this report with your student's teacher.

(G)

Your Student's Score
728
Approached Expectations
43rd Percentile

(F)



(H)

Performance Level Descriptor* - Approached Expectations

(I)

Students who **Approached Expectations** may benefit from additional support to meet expectations at the next grade level and they typically demonstrate the following:

Major, Additional & Supporting Content

- Solve scaffolded problems involving comparison using multiplication.
- Solve two-step word problems with at least one two- or three-digit number. Generate a pattern from a given rule. With scaffolding, read, write and compare three-digit whole numbers and round to any place. Determine whether a whole number in the range of 1-100 is prime or composite with scaffolding.
- Recognize that decimals and fractions must refer to the same whole in order to compare.
- Given a model, compare fractions using benchmarks. Solve simple fraction comparison word problems. Use decimal notations for fractions. Multiply a fraction by a whole number using models, decompose a fraction into a sum of fractions with like denominators, and record using an equation.
- Convert units from larger to smaller units within the same system. Make a line plot to display data of measurements with like denominators of 2 or 4. Use a protractor to measure angles. Use criteria to classify quadrilaterals and triangles.
- Recognize that a whole number is a multiple of each of its factors, and find factor pairs or determine multiples of whole numbers.

Expressing Mathematical Reasoning

- Communicate reasoning that may include minor calculation errors. Provide a numerically complete response with partial justification, and evaluate the validity of claims made by others.

Modeling & Application

- Draw conclusions by illustrating the relationship between important quantities, modifying a model, or interpreting mathematical results in a simplified context.

Performance level descriptors (PLDs) are organized in a manner that assumes students demonstrating higher levels of command have mastered the concepts and skills within lower levels. To view the full version of the PLDs, visit:
http://www.cde.state.co.us/assessment/grade_4_math_plds.

*Adapted from ilClassroom in Action's Performance Level Summaries

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

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

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FIRSTNAME023 Z. LASTNAME023

Mathematics

Confidential

Subclaim Performance

- The percent of points your student earned for each of the four mathematics assessment subclaims is represented by the top bar in each of the figures below.
- District and state averages are provided for comparison.
- The dark vertical line indicates the average percent of points earned by students who just crossed into the Met Expectations performance level on the overall math test.

J

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

	Points Possible	Percent of Points Earned* 0% 25% 50% 75% 100%
Mathematics		
Major Content Students solve problems involving addition, subtraction, multiplication and division, place value, fraction comparisons, and addition and subtraction of fractions with same denominators. L	23	17% M
Additional & Supporting Content Students solve problems involving number and shape patterns, simple measurement conversions, angle measurements, geometric shapes classification, and representations of data.	7	0%
Expressing Mathematical Reasoning Students create and justify logical mathematical solutions and analyze and correct the reasoning of others.	11	64%
Modeling & Application Students solve real-world problems, represent and solve problems with symbols, reason quantitatively, and strategically use appropriate tools.	9	67%

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

N

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/comath/statestandards

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2.6 Description of Individual Student Performance Report – CMAS Science and Social Studies

A sample grade 5 science student performance report is displayed in Section 2.7. Each page of the sample report is included individually. The sample report includes the same type of information included on every science and social studies report. To learn more about each part of the student performance report, match the white letters in gray circles from the sample report to the information included with the corresponding letters on the following pages.

2.6.1 General Information

Refer to page 1 of the Student Performance Report.

A. Identification Information
The student's name, state assigned student identification number (SASID), birthdate, school, and district.

B. Test Date
The season and year the student took the assessment.

C. Subject Area
The subject area of the student's assessment (either science or social studies).

D. Grade Level
The grade level of the student's assessment.

2.6.2 Overall Assessment Scores

Refer to page 1 of the Student Performance Report.

E. Explanation of Overall Performance
A brief explanation of the overall assessment results is given to help understand the information provided in the box below the explanation.

F. Student's Overall Scale Score, Performance Level and Percentile Rank
The student's overall scale score (the number between 300 and 900), performance level (Exceeded Expectations, Met Expectations, Approached Expectations, Partially Met Expectations), and percentile ranking are provided. The scale score and performance level included in this part of the report represent the student's overall performance on the assessment in the content area (science or social studies). The percentile ranking shows how well the student performed in comparison to other students in the state. For example, a student in the 75th percentile performed better than 75 percent of students in the state. Grade level and content area specific performance level descriptors providing the concepts and skills students are typically able to demonstrate at each level are found on the last page of the report.

G. Graphical Representation of Overall Performance: Scale Score and Performance Level by Student, School, District, and State
The student's scale score is indicated by a large diamond on the graph. The arrows to the left and right of the diamond indicate the range of scores the student would likely receive if the assessment were taken multiple times.

The average scale scores at the school, district, and state levels are identified to the left of the graph and are indicated by smaller diamonds on the graph. The location of the diamonds can be compared

to see how the student performed in comparison to the average student in their school, district, or the state. If the student's score diamond is to the right of the school, district, or state average diamond, then the student performed better than that group's average. If the student's diamond is to the left of the school, district, or state diamond, then on average, that group performed better than the student.

The dotted lines on the graph show the lowest scores needed to achieve Approached Expectations, Met Expectations, and Exceeded Expectations performance levels. The scale scores representing each of those scores are indicated on the bottom of the graph.

H. Percentage of Students at Each Performance Level

The bars beneath the overall performance graphic show the percentage of students within Colorado who performed at each of the four performance levels and gives a sense of how the student's performance compares to other students' performance in Colorado.

2.6.3 Subscale Performance

Refer to page 1 of the Student Performance Report.

I. Explanation of Subscale Performance

In this part of the report, the student's performance is presented by individual reporting categories. Information to help understand the graphical representation in this section is included.

J. Subscale Scores

Subscale scores indicate how the student performed in each reporting category. Like the overall science and social studies scale scores, subscale scores range from 300 to 900 and can be compared across school years. Average subscale scores are also provided for the student's school and district

K. Reporting Category Descriptions

Reporting categories include the standards for social studies (history, geography, economics, and civics) and science (physical science, life science, and earth systems science). Science also includes Scientific Investigation and the Nature of Science as a reporting category. Descriptions of the reporting categories from the CAS are included in this section of the report.

L. Graphical Representation of Subscale Performance by Student, School, and District

The graphical representation of subscale performance shows how the student performed in each reporting category. The student's performance is represented by a large diamond on the graph. The arrows around the student's diamond show the range of scores that the student would likely receive if the assessment was taken multiple times.

The graphical representation also shows how the student performed in comparison to other students in the student's school or district. Smaller diamonds represent performance of students in the school and district. If the student's score diamond is to the right of the school or district average diamond, the student's subscale score was higher than the school or district average scale score. If the student's diamond is to the left, then the student's subscale score was lower than the school or district average.

The shaded areas of the graph represent the performance of about 70% of students in the state. If the student's score diamond is to the right of the shaded area, the student's performance is considered relatively strong in that area in comparison to other students in the state. If the student's score diamond is to the left of the shaded area, the student's performance is considered relatively weak in that area in comparison to other students in the state. These categories are based on the state performance for the current year and can change from year to year.

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

Refer to page 2 of the Student Performance Report.

M. Explanation of PGCs and GLEs

PGCs and GLEs are important parts of the CAS. PGCs represent the concepts and skills students need to master in order to be college and career ready by the time of graduation. GLEs are grade-specific expectations that indicate that students are making progress toward the PGCs. This section of the report describes performance with percent earned indicators for PGCs and GLEs at the elementary and middle school levels and for PGCs at the high school level.

N. Graph Key

The graph key includes the explanatory text for the bars in the percent earned graph: student's performance, district average, and state average.

O. Standard, PGC, and GLE

Descriptions of the PGCs and GLEs that were included on the assessment are listed under each standard. **Note:** The high school science report does not include GLE-level information.

P. Points Possible

This number shows the total points possible for each PGC and GLE on the assessment. **Note:** Information is not reported at the GLE level on the high school science report.

Q. Graphical Representation of Percent Earned

The graph shows the percentage of items that were answered correctly out of the total number of items for each PGC and GLE. When looking at the shaded bars in the graph, the student's performance can be compared to the average district and state performance. The dark vertical line indicates the average percent of points earned by students who just crossed into the Met Expectations performance level on the overall test.

Note: There are relatively few points associated with each PGC or GLE. A student's bar can look much longer or much shorter based on a single correct or incorrect item response. Remember that percent earned score information cannot be compared across PGCs, GLEs, or years. Information is not reported at the GLE level on the high school science report. On elementary and middle school reports, the graph for the PGCs is blank when a PGC has only one associated GLE.

2.6.5 Performance by Item Type

Refer to page 3 of the Student Performance Report.

CMAS assessments include selected-response and constructed-response items. Selected-response items require students to choose the correct answer(s) from provided options. Sometimes these are referred to as multiple choice, multiple select, and matching items. Constructed-response items require students to develop their own answers to questions.

R. Selected-Response Scale Score

The student's selected-response scale score can be compared to the average scale scores for selected-response items for the student's school, district, and the state. The student's school and district can compare next year's groups of students to this year's students by looking at selected-response scale scores. This information can be used to support school and district program and instructional improvement decisions.

S. Constructed-Response Scale Score

The student's constructed-response scale score can be compared to the average scale scores for constructed-response items for the student's school, district, and the state. The student's school and district can look at next year's groups of students and compare them to this year on the constructed-response scale score. This information can be used to support school and district program and instructional improvement decisions.

T. Graphical Representation of Selected-Response and Constructed-Response Scale Scores

The large diamond on the graph represents the student's scale score. The arrows around the student's score diamond show the range of scores that the student would likely receive if the assessment was taken multiple times. The smaller diamonds represent the average scale scores of the student's school, district, and the state. If the student's score diamond is to the right of the school, district, or state average diamond, then the student performed better than that group's average. If the student's diamond is to the left of the school, district, or state diamond, then that group performed better than the student on average.

2.6.6 Performance Level Descriptions

Refer to page 4 of the Student Performance Report.

U. Performance Level Descriptions (PLDs)

PLDs are provided for each of the four performance levels:

- Exceeded Expectations
- Met Expectations
- Approached Expectations
- Partially Met Expectations

The student's report reflects the PLDs specific to the assessed grade and content area. PLDs discuss the specific concepts and skills students in each performance level typically demonstrate for the student's assessed grade level and content area. PLDs are included in **Appendix B** of this document.

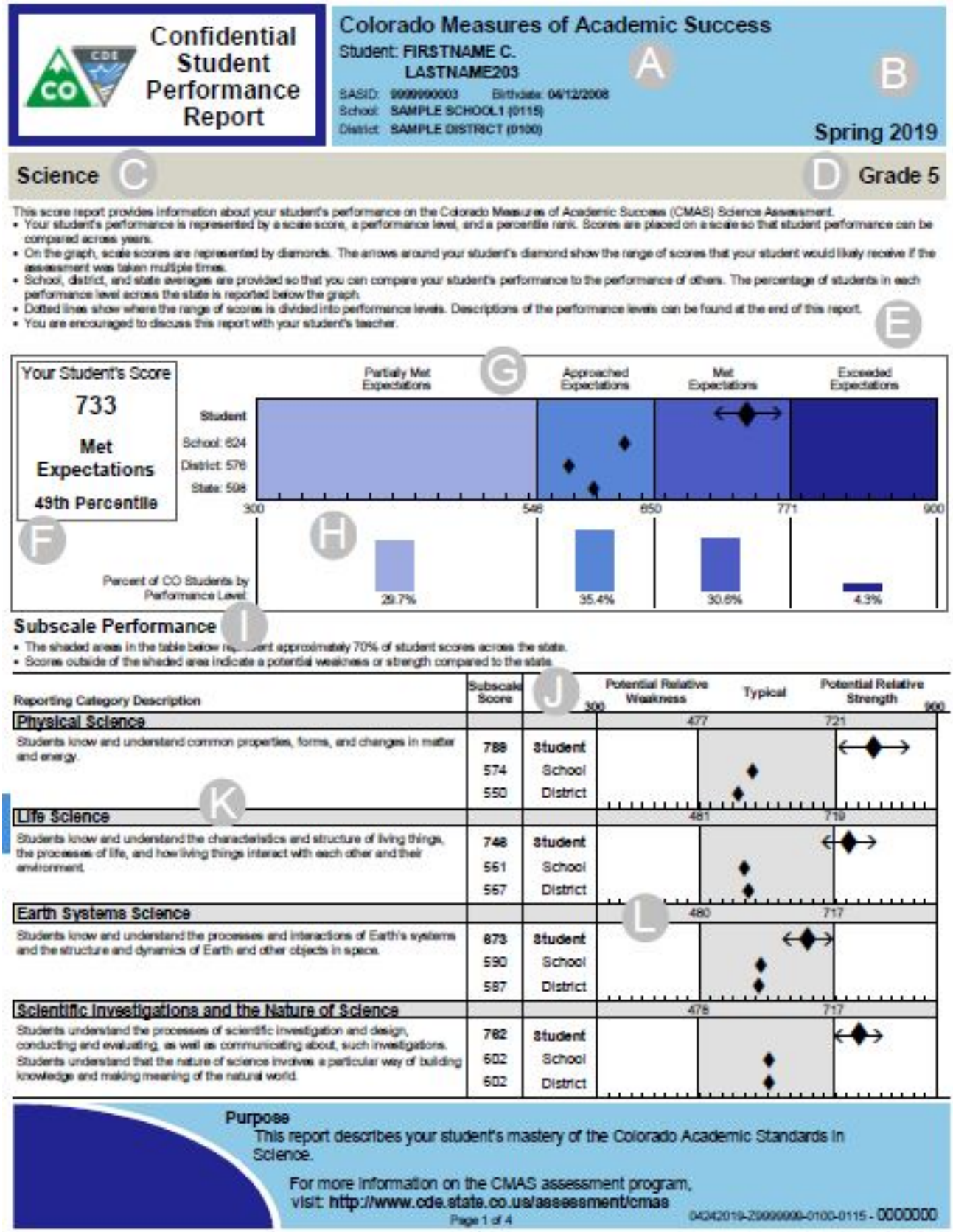
Elementary and middle school students in the top two performance levels, Exceeded Expectations and Met Expectations, are considered on track to being college and career ready in science or social studies; high school students in the top two performance levels are considered ready.

V. QR Code

The Colorado Academic Standards website can be accessed via the QR Code on the report.

2.7 Sample Individual Student Performance Report – CMAS Science and Social Studies

Page 1



Confidential Student Performance Report

Colorado Measures of Academic Success

Student: FIRSTNAME C. LASTNAME203 (A)

SASID: 9999990003 Birthdate: 04/12/2008
School: SAMPLE SCHOOL1 (0115)
District: SAMPLE DISTRICT (0100)

(B) Spring 2019

Science (C) (D) 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.

(E)

Your Student's Score
733
Met Expectations
49th Percentile

(F)

(G)

(H)

Subscale Performance (I)

- 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		(J) Potential Relative Weakness / Typical / Potential Relative Strength (300 – 477 – 721 – 900)
Physical Science			
Students know and understand common properties, forms, and changes in matter and energy.	788	Student	
	574	School	
	550	District	
Life Science (K)			(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.	748	Student	
	561	School	
	567	District	
Earth Systems Science			(480 – 717) (L)
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.	782	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

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Colorado Measures of Academic Success

Science M 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.

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

Standard, PGC, and GLE (O)	Points Possible (P)	Percent of Points Earned* (Q) 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	78%
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.

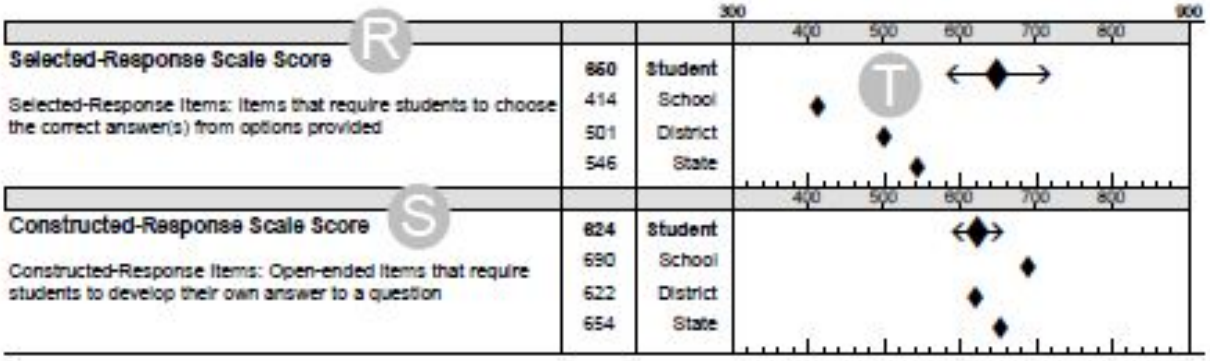
Page 3

FIRSTNAME C. LASTNAME203

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.



Page 4

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

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2.8 Description of Individual Student Performance Report – CoAlt Science and Social Studies

A Student Performance Report is created for each student who takes a CoAlt assessment. This section of the guide explains the elements of the Student Performance Report. A sample CoAlt Student Performance Report is displayed in Section 2.9.

2.8.1 General Information

Refer to page 1 of the Student Performance Report.

A. Identification Information
The student's name, state assigned student identifier (SASID), birthdate, school, and district.

B. Test Date
The season and year the student took the assessment.

C. Subject Area
The subject area of the student's assessment (either science or social studies).

D. Grade Level
The grade level of the student's assessment.

2.8.2 Overall Assessment Scores

Refer to page 1 of the Student Performance Report.

E. Explanation of Overall Performance
A brief explanation of the overall assessment results to help understand the reported information.

F. Student's Overall Scale Score and Performance Level
The student's overall scale score (the number between 0 and 250) and performance level (Emerging, Approaching Target, At Target, or Advanced) are provided. An inconclusive designation is given to students who did not respond to any items on the assessment. The scale score and performance level included in this part of the report represent the student's overall performance on the assessment in the content area (science or social studies). Grade level and content area-specific performance level descriptors providing the concepts and skills students are typically able to demonstrate at each level are found on page 2 of the report.

G. Graphical Representation of Overall Performance by Student and State
The student's scale score is indicated by a large diamond on the graph. The arrows to the left and right of the diamond indicate the range of scores the student would likely receive if the assessment were taken multiple times.

The average scale score at the state level is identified to the left of the graph and is indicated by a smaller diamond on the graph. The location of the diamonds can be compared to see how the student performed in comparison to the average student at the state level. If the student's score diamond is to the right of the state average diamond, the student performed better than the state average. If the student's diamond is to the left of the state diamond, on average, the state performed better than the student.

The dotted lines on the graph show the lowest scores needed to achieve Approaching Target, At Target, and Advanced performance levels. The scale scores representing each of those scores are

indicated on the bottom of the graph.

H. Percentage of Students at Each Performance Level
The bars beneath the overall performance graphic show the percentage of students within Colorado who performed at each of the four performance levels and gives a sense of how the student's performance compares to other students' performance in Colorado.

2.8.3 Content Standard Performance

Refer to page 1 of the Student Performance Report.

I. Content Standard Descriptions
Descriptions for social studies standards (history, geography, economics, and civics) and science standards (physical science, life science, and earth systems science).

J. Points Earned
Points earned indicates how many points the student earned for each content standard.

K. Points Possible
Points possible indicates the total number of points possible for each content standard.

L. Graphical Representation of Content Standard Performance by Student and State
The graphical representation of content standard performance shows how the student performed in each standard. The student's performance is represented by a bar graph. The average percent of points earned for each content standard at the state level is identified by a second bar graph. The bar graphs show the student's percent of points earned as compared to the state average percent of points earned. If the student's bar ends to the right of the state average bar, then the student's percent of points earned was higher than the state average. If the student's bar ends to the left of the state average bar, then the student's percent of points earned was lower than the state average.

M. Graph Key
Indicates the student's percent of points earned and the state average percent of points earned.

2.8.4 Performance Level Descriptions

Refer to page 2 of the Student Performance Report.

N. Performance Level Descriptions
Specific grade level and content area descriptions are available for each of the four CoAlt performance levels:

- Advanced
- At Target
- Approaching Target
- Emerging

The student's report reflects the performance level descriptions specific to the assessed grade level and content area. These performance level descriptions discuss the specific concepts and skills that students in each performance level typically demonstrate in the assessed grade level and content area. Performance level descriptions for each grade level and content area are located in **Appendix B.**

O. QR Code
The Colorado Academic Standards website can be accessed via the QR Code on the report.

2.9 Sample Individual Student Performance Report – CoAlt Science and Social Studies

Page 1

Confidential Student Performance Report

Colorado Alternate Assessment

Student: FIRSTNAME02 CLASTNAME02 (A)

SASID: 2018045013 Birthdate: 01/13/2007
School: SAMPLE SCHOOL1 (0214)
District: SAMPLE DISTRICT (0180)

(B) Spring 2019

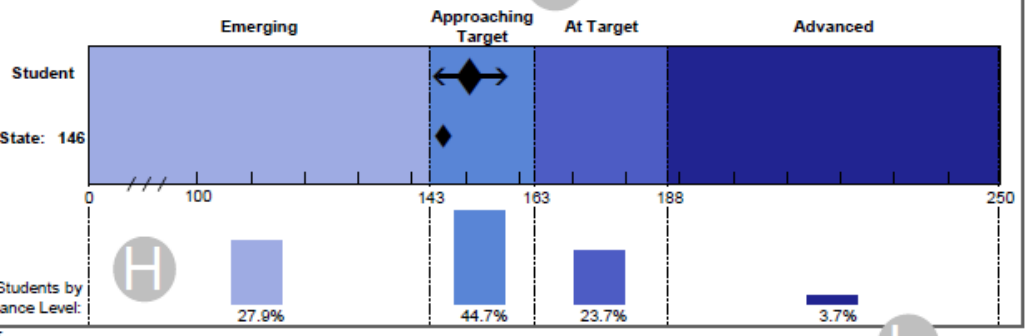
Social Studies (C) (D) **Grade 4**

This score report provides information about your student's performance on the Colorado Alternate (CoAlt) Social Studies Assessment.

- Your student's performance is represented by a scale score. Scores are placed on a scale so that student performance can be compared across years.
- State averages are provided so that you can compare your student's performance to the performance of others. The percentage of students in each performan(E) across the state is reported below the graph.
- Scores are repre(E) 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.
- 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.

(G)

Your Student's Score
151
Approaching Target
(F)



Content Standard Performance

(L)

(I) Reporting Category Description	Points Earned (J)	Points Possible (K)	Percent of Points Earned* (0% 25% 50% 75% 100%)
History			
History develops moral understanding, defines identity and creates an appreciation of how things change while building skills in judgment and decision-making. History enhances the ability to read varied sources and develop the skills to analyze, interpret and communicate.	13	16	81% / 64%
Geography			
Geography provides students with an understanding of spatial perspectives and technologies for spatial analysis, awareness of interdependence of world regions and resources and how places are connected at local, national and global scales.	12	16	75% / 68%
Economics			
Economics teaches how society manages its scarce resources, how people make decisions, how people interact in the domestic and international markets, and how forces and trends affect the economy as a whole. Personal financial literacy applies the economic way of thinking to help individuals understand how to manage their own scarce resources.	16	22	73% / 68%
Civics			
Civics teaches the complexity of the origins, structure, and functions of governments; the rights, roles and responsibilities of ethical citizenship; the importance of law; and the skills necessary to participate in all levels of government.	11	18	61% / 70%

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

(M) Student's Score | State Average

Purpose

This report describes your student's mastery of the Extended Evidence Outcomes of the Colorado Academic Standards in Social Studies.

For more information on the CoAlt assessment program, visit:
www.cde.state.co.us/assessment

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Social Studies Performance Level Descriptions

Students demonstrate social studies concepts and skills aligned to the Grade Level Expectations and Extended Evidence Outcomes contained in the Colorado Academic Standards.

With appropriate support, Advanced students can typically:

- Identify historical eras, groups (e.g., miners, settlers and farmers), ideas, and themes in Colorado history
- Identify the cause and effect of growth in Colorado during various key events in U.S. history
- Integrate historical knowledge with geographical skills
- Recognize that particular dwellings, tools, and modes of transportation are specific to certain geographic areas and cultures in Colorado's history
- Identify regions and activities of Colorado based on specific physical features and label a map
- Identify choice and opportunity cost and compare the difference between the two
- Identify a specific perspective on an issue
- Identify the origins and structures of government

With appropriate support, At Target students can typically:

- Sequence Colorado historical events
- Identify the locations of specific activities or events in Colorado's history
- Identify specific factors that affected the growth of Colorado
- Match tools, modes of transportation, and products to natural resources or locations in Colorado
- Label a map using given map symbols
- Identify ways in which Colorado communities and markets were (and are) connected
- Identify the approximate value of goods
- Identify the functions of different levels of government
- Identify how people respond to positive and negative consequences

With appropriate support, Approaching Target students can typically:

- Match historical Colorado cultures with related artifacts, modes of transportation, and resources
- Match physical, natural, and geographic features on a map to their appropriate symbols
- Identify types of goods, services and resources native to Colorado
- Recognize that items vary in their value
- Recognize that there are different levels of governance

With appropriate support, Emerging students can typically:

- Identify artifacts (e.g., tools, housing, modes of transportation and clothing) related to Colorado history
- Identify features on a map of Colorado
- Recognize that items have value
- Recognize emergency situations and appropriate responses that affect members of the Colorado community
- Recognize that there are laws and rules

An Inconclusive designation is given to students who did not respond to any items on the assessment.

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/coextendedeo**

3.0 Understanding the Colorado School and District Reports

3.1 Purpose and Use of Colorado Assessment Results

The primary purpose of CMAS and CoAlt is to provide high-quality assessments that align to the Colorado Academic Standards (CAS). Assessment results are a helpful tool in evaluating educational programs and student progress. These reports:

- Summarize and report on the status and progress of student achievement
- Describe student performance relative to meeting standards
- Gauge school, district, and state year-to-year progress
- Support improvement planning (e.g., prioritize professional learning and resource decisions, advise program alignment with academic standards, reflect on the effectiveness of school initiatives)

Standardized assessments are a valuable tool for evaluating programs. However, any assessment can provide only one part of the picture. CMAS and CoAlt assessment results are not able to identify, let alone measure, every factor that contributes to the success or failure of a program. Assessment results can be most helpful if considered as one component of an evaluation system.

3.2 School and District Reports

In addition to individual Student Performance Reports, schools and districts receive the following reports:

School and District Reports	
All content areas	Performance Level Summaries, Content Standards Rosters (school level only), District Summary of Schools (district level only)
CMAS Science and Social Studies	Item Analysis Reports
CMAS Mathematics, ELA, and CSLA	Evidence Statement Analysis Reports

These reports summarize how students in the school or district performed and are described later in this section. School and district reports are not for public distribution and are only to be viewed by individuals authorized to access student level data.

Note: Sample reports included in this guide are for illustration purposes only. They are provided to show the basic layout and information on the reports. Sample reports do not include actual data from any administration.

3.2.1 Types of Scores on the Colorado School and District Reports

To understand each part of the Colorado assessment school and district reports, it is important to become familiar with the types of assessment scores that are included on the report. At varying levels, student performance is described by scale scores, performance levels, subclaim performance indicators, and percent earned. State, district, and school level information is provided in relevant sections of the reports so that performance at these levels can be compared. A dash (–) appears on the report when there are too few students in a school or district to maintain student privacy, therefore, results are not reported. Information about appropriate comparisons of scores appears in Section 3.3.

3.2.2 Scale Scores

A scale score is a numerical value that summarizes student performance. When the points a student earns on an assessment are placed on a common scale, the student's score becomes a scale score. Scale scores adjust for slight differences in difficulty on versions of the assessment that can vary slightly from student to student within a year (referred to as forms of the assessment) or between school years (referred to as administrations). Scale scores allow for comparisons of assessment scores, within a particular grade and subject area, across administrations. As an example, a student who receives a score of 700 on one form of the 7th grade mathematics assessment is expected to score a 700 on any form of the assessment. A student who scored 650 on the 8th grade science assessment in 2019 demonstrated the same level of mastery of concepts and skills as an 8th grade student who scored 650 on the science test in 2017. Scale scores cannot be used to compare student performance across grades (e.g., grade 4 to grade 7) or subject areas (e.g., science to mathematics).

Mathematics, ELA, and CSLA scale scores for the overall test range from 650 to 850. ELA and CSLA reports also provide separate scale scores for reading. Reading scale scores range from 110 to 190.

CMAS science and social studies scale scores range from 300 to 900. Science and social studies scale scores are reported for the overall test, content standards and Scientific Inquiry/Nature of Science (referred to as reporting categories), and item type.

CoAlt science and social studies scale scores are reported for the overall test and range from 0 to 250.

3.2.3 Performance Levels

Scale scores are used to determine a student's performance level for the overall assessment. Performance levels describe the concepts and skills students are expected to demonstrate within a certain range of scores at the overall assessment level (i.e., ELA, mathematics, science, or social studies). Descriptors for each grade level and content area are included in **Appendix B** of this document.

CMAS Performance Levels

There are five cross-grade and content area performance levels for CMAS mathematics, ELA, and CSLA assessments. There are four cross-grade and content area performance levels for CMAS science and social studies assessments.

CMAS Performance Levels	
CMAS Mathematics, ELA, and CSLA	**CMAS Science and Social Studies**
Level 5: Exceeded Expectations*	**Level 4:** Exceeded Expectations*
Level 4: Met Expectations*	**Level 3:** Met Expectations*
Level 3: Approached Expectations	**Level 2:** Approached Expectations
Level 2: Partially Met Expectations	**Level 1:** Partially Met Expectations
Level 1: Did Not Yet Meet Expectations	

*Students in the top two performance levels met or exceeded the expectations of the CAS and are considered on track to being college and career ready in the content areas of language arts, mathematics, science, or social studies. Students in the remaining performance levels may need academic support to successfully engage in further studies in the content area.

CoAlt Performance Levels

CoAlt science and social studies assessments include four performance levels.

CoAlt Performance Levels
Science and Social Studies
Advanced*
At Target*
Approaching Target
Emerging

*The top two performance levels indicate that with appropriate supports, the student is prepared for further study in the content area.

3.2.4 Percentile Ranking

A percentile ranking is included on all CMAS individual student performance reports. The percentile ranking shows how well the student performed in comparison to other students in the state. For example, a student in the 75th percentile performed better than 75 percent of students in the state.

3.2.5 Additional Performance Indicators

In addition to scale scores, performance levels, and percentile rankings, individual student performance reports include other indicators to help parents and educators understand their student's performance. These performance indicators are described below for each assessment.

CMAS Mathematics, ELA, and CSLA

CMAS mathematics, ELA, and CSLA student reports include subclaim performance graphics comparing the performance of the student, their district, and the state. ELA student reports include a reading scale score with a proficiency indicator based on the cut score for the overall test.

Subclaim performance on the assessments is reported as the percent of points earned for overall writing and for each of the writing, reading, and mathematics subclaims. Percent earned refers to the number of points earned out of the total number of points possible within a reporting category. The percent earned indicator can only be used to compare performance of the individual student to the average district and average state performance on the specific set of items being considered. Some groups of items may be more difficult than other sets of items, so unlike the scale score, the percent earned indicator cannot be compared across groups of items or across school years.

For the overall writing claim and each subclaim, a marker indicates the average performance on that claim or subclaim of students who just crossed into the Met Expectations performance level on the overall test.

CMAS Science and Social Studies

CMAS science and social studies reports include percent earned indicators for Prepared Graduate Competencies (PGCs) and Grade Level Expectations (GLEs)* in elementary and middle school and for PGCs in high school. Percent earned refers to the number of points earned out of the total number of points possible within a reporting category. The percent earned indicator can only be used to compare performance of the individual student to the average district and average state performance on the specific set of items being considered. Some groups of items may be more difficult than other sets of items, so unlike the scale score, the percent earned indicator cannot be compared across groups of items or across school years.

For each PGC or GLE, a marker indicates the average performance on that subscore of students who just crossed into the Met Expectations performance level on the overall test.

*PGCs and GLEs are described more fully in **Appendix C**.

CoAlt Science and Social Studies

CoAlt science and social studies reports include the percent of points earned. The percent of points earned refers to the number of points a student earned out of the total number of points possible within a reporting category. The percent of points earned indicator can only be used to compare performance of the individual student to the average state performance on the specific set of items being considered. Some groups of items may be more difficult than other sets of items; so unlike the scale score, the percent of points earned indicator cannot be compared across groups of items or across school years. Percent of points earned are provided at the standard level. For social studies, the standards are history, geography, economics, and civics. For science, the standards are physical science, life science, and earth systems science.

3.3 Appropriate Score Comparisons and Uses

The types of comparisons that can be made differ by the scores being compared. Some scores (e.g., performance levels and scale scores) allow for cross year comparisons, while some (e.g., percent earned) do not. In addition, the reliability of the comparisons or conclusions made vary depending on the size of the group (i.e., number of points contributing to a particular score or the number of students included in a comparison group). In general, the larger the group, the more reliable the comparison or conclusions made will be. The smaller the group, the less reliable the comparison or conclusions made will be. High-stakes decisions should not be based on scores of small groups of students or on scores with a low number of points contributing to them. The following table provides some of the comparisons that can and cannot be made by particular types of scores.

Score Comparisons

	Compare an individual student's performance to a target group's performance (e.g., student to school, district, or state) within the same year	Compare a group's performance to another group's performance (e.g., one school to another school, a district to the state, students of one race/ethnicity group to students in another race/ethnicity group) within the same year	Compare an individual student's performance to a target group's performance (e.g., school, district, or state) across years	Compare a group's performance to the same group's performance across years	Compare to other scores of the same type in a different subject or grade
Performance Levels	YES	YES	YES	YES	NO (These are content and grade specific.)
Scale Scores	YES	YES	YES	YES	NO (These are content and grade specific.)
Percent Earned	YES	YES	NO (These are specific to the year of the assessment.)	NO (These are specific to the year of the assessment.)	NO (These are specific to the PGC/GLE or subclaim.)
Relative Strengths and Weaknesses (Subscale Reporting Categories)*	YES	YES	NO (These are specific to the year of the assessment.)	NO (These are specific to the year of the assessment.)	NO (These are specific to the reporting category.)

*Potential relative strengths or weaknesses provide information about a student's performance in the reporting category compared to all students in the state. The potential relative strengths and weaknesses are based on the state average performance. They are not based on the standards and should not be interpreted in the same way as the overall performance levels.

Some assessment scores can be used to compare the performance of different demographic or program groups. All CMAS scores can be analyzed within the same grade and subject area for any single administration to determine which demographic or program group had the highest average scale score, the lowest percentage achieving Exceeded Expectations, the highest percentage achieving Approached Expectations, etc.

Other scores can be used to help evaluate the academic performance of demographic or program groups. For example, aggregations of reporting category data can help districts and schools identify areas of potential academic weakness for a group of students. This same methodology can be applied to an entire school or district.

In addition, all assessment scores can be compared to district and statewide performance within the same subject area for any administration.

4.0 Content Standards Roster Report

4.1 Description of Content Standards Roster Report – CMAS Mathematics, ELA, and CSLA

Comparing student performance on Colorado assessments to a variety of reference points can be valuable. The top rows on the Content Standards Roster Report contain state, district, and school averages. Quickly compare student scores to the averages by reviewing each column on the report.

The back page of the Content Standards Roster Report analyzes student performance on the spring 2019 assessment operational items. Reports are available by grade and subject at the school level. Score information is only included for students with valid scores (i.e., not invalidated or suppressed and met test attemptedness criteria). This report provides the percent earned by domain and standard for each student. It also provides the same information aggregated at the state, district, and school levels. Sample reports are included in Sections 4.2 and 4.3.

Note: The District Summary of Schools provides aggregated information for each school within a district.

4.1.1 General Information

Refer to page 1 of the Content Standards Roster Report.

A. Assessment Information
The administration season and year, and school and district names and codes.

B. Identification Information
The assessed content area (mathematics, ELA, or CSLA) and grade level.

C. Roster of Students
The list of all the students in the school who took the specified assessment.

4.1.2 Overall Assessment Scores

D. Overall Scale Score
The student's overall scale score. Students receive a numerical score and, based on that score, are placed in one of five performance levels (see **Appendix A** for more information on scale scores and **Appendix B** for more information on performance levels). The rows at the top of the report include state, district, and school averages.

E. Overall SEM Range
The standard error of measurement (SEM) is related to the reliability of the assessment. It can vary across the range of scale scores, especially at the very high and low ends where there typically are fewer items measuring that level of achievement. The SEM represents the range of overall scores the student would likely earn if the assessment were taken again.

F. Percentile
The percentile ranking shows how well the student performed in comparison to other students in the state. For example, a student in the 75th percentile performed better than 75 percent of students in the state.

G. Performance Level

The performance level for each student is listed. Performance levels are determined by the student's overall scale score. Performance level descriptions (PLDs) for each of the five performance levels are included in **Appendix B** of this document:

- Exceeded Expectations
- Met Expectations
- Approached Expectations
- Partially Met Expectations
- Did Not Yet Meet Expectations

Students in the top two performance levels, Exceeded Expectations and Met Expectations, are considered on track to being college and career ready in the assessed content area

4.1.3 Performance by Reporting Category

H. Reporting Category

For ELA and CSLA, there are two reporting categories, Reading and Writing, separated by a bold, vertical line. (Not included on mathematics reports.)

I. Performance by Reporting Category Scale Score

For ELA and CSLA, student performance for Reading is provided as a scale score on a different scale from the overall scale score. Reading scale scores range from 110 to 190. (Not included on mathematics reports.)

4.1.4 Performance by Subclaim Category

J. Subclaim Category

Within each reporting category for ELA (including CSLA) and mathematics are specific skill sets (subclaims) students demonstrate on the assessment. Each subclaim category includes the header identifying the subclaim; state, district, and school averages; and the percent of points earned by each student for each subclaim.

4.1.5 Content Standards Information

Refer to page 2 of the Content Standards Roster Report.

K. Domain and Standard

All operational items are combined into the domain and standard group to which they apply. Some items represent multiple standards and may therefore be included in multiple groups on this report.

A full list of the assessed standards by grade and content area is found in **Appendix D** and at http://www.cde.state.co.us/standardsandinstruction/standardsresourcesk12.

L. Average Points Possible and Percent Earned

Within all domains and standards, this report provides the total points possible for that group based on the items in that group and the maximum points possible for those items.

For example, a standard might have four items aligned to it. Three of those items might be worth 2 points each and one item worth 4 points, meaning that group would have a maximum points possible of 10 points ((3x2)+4).

The state average provides the average percent earned for all students in the state with valid scores for each domain and standard group for each form combination.

M. Student Information

Students are listed in alphabetical order by last name, first name. Students only have score information if a valid score is available. Students who were indicated as home schooled, expelled, withdrew before/during testing, medical exemption, or records indicated as duplicate do not appear on this report.

The form taken by each student is listed. Percent earned information is for the student's specific operational form and comparisons cannot be made for students across domains unless both students took the same operational form of the assessment.

N. Student Percent Achieved

The percent of the total points possible each listed student achieved in each domain and standard group. There is a minimum number of total points possible for reporting. Domains that do not meet the minimum are not reported. . For domains with multiple standard groups, this amount is still included in the total.

O. Document Process Number

A number unique to each administration, found in the bottom-right corner of the report, assigned by the testing contractor.

4.2 Sample Content Standards Roster Report – CMAS ELA and CSLA

Content Standards Roster

Colorado Measures of Academic Success — **Spring 2019**

A

School: SCHOOL NAME (9999)
District: DISTRICT NAME (9999)

English Language Arts/Literacy B CONFIDENTIAL - DO NOT DISTRIBUTE **Grade 7**

Purpose: This report shows the overall English Language Arts and Reading scale scores for each student in the school. This page includes the percent of points earned for each Reading and Writing subclaim and the following page includes the percent of points earned for each Reading and Writing domain. School, district, and state averages are provided for comparison.

Performance Levels	Scale Score Ranges
Exceeded Expectations	785 - 850
Met Expectations	750 - 784
Approached Expectations	725 - 749
Partially Met Expectations	700 - 724
Did Not Yet Meet Expectations	650 - 699

Student	Form	Performance Level	D Overall Scale Score	Overall SEM Range	Percentile	I Reading Scale Score	H Reading Literary	Reading Information	Reading Vocabulary	Writing* Overall	Written Expression	Language and Conventions
							Points Possible					
							24	26	10	30	8	6
							Percent of Points Earned					
State Average Form A:			**746**			**128**	45%	54%	65%	46%	46%	52%
District Average Form A:			**750**			**145**	48%	41%	75%	55%	55%	53%
School Average Form A:			**734**			**137**	45%	53%	81%	62%	62%	56%
State Average Form B:			**743**			**137**	45%	53%	81%	62%	62%	56%
1 ALASTNAME, FIRSTNAME M.	A	Met Expectations	**751**	741-761	55	**156**	23%	41%	66%	24%	24%	37%
2 BLASTNAME, FIRSTNAME M.	B	Partially Met Expectations	**706**	701-711	18	**136**	27%	44%	51%	38%	38%	56%
3 BRLASTNAME, FIRSTNAME M.	A	Approached Expectations	**746**	736-756	50	**142**	33%	42%	36%	26%	26%	46%
4 CLASTNAME, FIRSTNAME M.	A	Partially Met Expectations	**713**	703-723	22	**127**	44%	15%	29%	16%	16%	21%
5 DLASTNAME, FIRSTNAME M.	A	Exceeded Expectations	**806**	801-815	95	**126**	31%	27%	43%	39%	39%	41%
6 ELASTNAME, FIRSTNAME M.	A	Did Not Yet Meet Expectations	**698**	688-710	14	**138**	51%	42%	31%	28%	28%	41%
7 FLASTNAME, FIRSTNAME M.	A	Partially Met Expectations	**724**	712-736	30	**127**	16%	35%	19%	24%	24%	26%
8 FTLASTNAME, FIRSTNAME M.	-	No Score	**-**	-	-	**-**	-	-	-	-	-	-
9 GLASTNAME, FIRSTNAME M.	A	Exceeded Expectations	**830**	825-835	99	**138**	27%	51%	38%	53%	53%	17%
10 HLASTNAME, FIRSTNAME M.	A	Did Not Yet Meet Expectations	**661**	656-666	2	**141**	40%	39%	25%	45%	45%	39%
11 JBLASTNAME, FIRSTNAME M.	A	Partially Met Expectations	**722**	712-732	28	**134**	24%	43%	39%	45%	45%	41%
12 JLASTNAME, FIRSTNAME M.	A	Approached Expectations	**726**	716-736	31	**143**	24%	43%	39%	45%	45%	41%

*Writing Overall is calculated from Written Expression points multiplied by three plus Language and Conventions points.
Students taking different forms should not be compared to each other for percent of points earned.

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Content Standards Roster

Colorado Measures of Academic Success — Spring 2019

School: SCHOOL NAME (9999)
District: DISTRICT NAME (9999)

English Language Arts/Literacy — CONFIDENTIAL - DO NOT DISTRIBUTE — Grade 7

		Reading				Vocabulary	Content Area Reading		Prose Constructed Response	
		Key Ideas: Literary Text	Key Ideas: Informational Text	Integration of Knowledge & Ideas	Craft & Structure	Vocabulary Acquisition & Use	Literacy in History / Social Studies	Literacy in Science & Technical Subjects	Prose Constructed Response 1	Prose Constructed Response 2
		Points Possible								
		24	26	16	24	10	12	10	15	19
		Percent of Points Earned								
State Average Form A:		43%	43%	43%	41%	45%	36%	43%	49%	53%
District Average Form A:		44%	46%	42%	44%	49%	35%	47%	44%	48%
School Average Form A:		65%	63%	63%	63%	68%	59%	60%	71%	67%
State Average Form B:		47%	52%	39%	44%	46%	39%	45%	47%	51%
Student	Form									
1 ALASTNAME, FIRSTNAME M.	A	67%	68%	75%	67%	81%	56%	87%	63%	45%
2 BLASTNAME, FIRSTNAME M.	B	53%	57%	48%	56%	65%	47%	61%	64%	59%
3 BRLASTNAME, FIRSTNAME M.	A	68%	71%	74%	67%	78%	81%	59%	69%	73%
4 CLASTNAME, FIRSTNAME M.	A	40%	46%	51%	43%	48%	53%	38%	63%	45%
5 DLASTNAME, FIRSTNAME M.	A	81%	89%	93%	100%	100%	96%	93%	91%	100%
6 ELASTNAME, FIRSTNAME M.	A	12%	11%	19%	15%	23%	14%	16%	21%	12%
7 FLASTNAME, FIRSTNAME M.	A	22%	39%	45%	39%	41%	23%	18%	28%	31%
8 FTLASTNAME, FIRSTNAME M.	-	-	-	-	-	-	-	-	-	-
9 GLASTNAME, FIRSTNAME M.	A	100%	100%	96%	97%	98%	100%	86%	89%	100%
10 HLASTNAME, FIRSTNAME M.	A	5%	5%	59%	9%	6%	7%	19%	21%	5%
11 JBLASTNAME, FIRSTNAME M.	A	32%	41%	53%	35%	51%	24%	27%	31%	34%
12 JLASTNAME, FIRSTNAME M.	A	32%	47%	29%	42%	36%	41%	24%	33%	35%

Students taking different forms should not be compared to each other for percent of points earned.
For more information about the Colorado Academic Standards go to http://www.cde.state.co.us/coreadingwriting/statestandards

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4.3 Sample Content Standards Roster Report – CMAS Mathematics

Content Standards Roster

Colorado Measures of Academic Success — **Spring 2019**

A

School: SCHOOL NAME (9999)
District: DISTRICT NAME (9999)

Mathematics — B — CONFIDENTIAL - DO NOT DISTRIBUTE — **Grade 7**

Purpose: This report shows the overall Mathematics scale score for each student in the school. This page includes the percent of points earned for each Mathematics subclaim and the following page includes the percent of points earned for each Mathematics domain. School, district, and state averages are provided for comparison.

Performance Levels	Scale Score Ranges
Exceeded Expectations	786 - 850
Met Expectations	750 - 785
Approached Expectations	725 - 749
Partially Met Expectations	700 - 724
Did Not Yet Meet Expectations	650 - 699

D

	Overall Scale Score	Overall SEM Range	Percentile	Mathematics: Major Content	Mathematics: Supporting Content	Mathematics: Reasoning	Mathematics: Modeling
				Points Possible			
				23	8	11	9
				Percent of Points Earned			
State Average Form A:	746			45%	54%	46%	52%
District Average Form A:	750			48%	41%	55%	53%
School Average Form A:	734			45%	53%	62%	56%
State Average Form B:	743			45%	53%	62%	56%

Student (C)		Performance Level (G)	Overall Scale Score (D)	Overall SEM Range (E)	Percentile (F)	Mathematics: Major Content	Mathematics: Supporting Content	Mathematics: Reasoning	Mathematics: Modeling
1 ALASTNAME, FIRSTNAME M.	A	Met E[illegible]ons	751	741-761	73	23%	41%	24%	37%
2 BLASTNAME, FIRSTNAME M.	B	Par[illegible]et Expectations	706	701-711	17	27%	44%	38%	56%
3 BRLASTNAME, FIRSTNAME M.	A	Approached Expectations	746	736-756	67	33%	42%	26%	46%
4 CLASTNAME, FIRSTNAME M.	A	Partially Met Expectations	713	703-723	24	44%	15%	16%	21%
5 DLASTNAME, FIRSTNAME M.	A	Exceeded Expectations	806	801-815	99	31%	27%	39%	41%
6 ELASTNAME, FIRSTNAME M.	A	Did Not Yet Meet Expectations	698	688-710	11	51%	42%	28%	41%
7 FLASTNAME, FIRSTNAME M.	A	Partially Met Expectations	724	712-736	36	16%	35%	24%	26%
8 FTLASTNAME, FIRSTNAME M.	-	No Score	-	-	-	-	-	-	-
9 GLASTNAME, FIRSTNAME M.	A	Exceeded Expectations	830	825-835	99	27%	51%	53%	17%
10 HLASTNAME, FIRSTNAME M.	A	Did Not Yet Meet Expectations	661	656-666	1	40%	39%	45%	39%
11 JBLASTNAME, FIRSTNAME M.	A	Partially Met Expectations	722	712-732	34	24%	43%	45%	41%
12 JLASTNAME, FIRSTNAME M.	A	Approached Expectations	726	716-736	39	24%	43%	45%	41%

Students taking different forms should not be compared to each other for percent of points earned.

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Content Standards Roster

Colorado Measures of Academic Success — Spring 2019

School: SCHOOL NAME (9999)
District: DISTRICT NAME (9999)

Mathematics — CONFIDENTIAL - DO NOT DISTRIBUTE — Grade 7

		Major, Additional & Supporting Content				Modeling & Reasoning	
		Ratios & Proportional Relationships	The Number System	Expressions & Equations	Statistics & Probability	On Grade Level	Securely Held Knowledge
		Points Possible					
		11	5	7	5	10	10
		Percent of Points Earned					
State Average Form A:		43%	43%	43%	41%	49%	53%
District Average Form A:		44%	46%	42%	44%	44%	48%
School Average Form A:		65%	63%	63%	63%	71%	67%
State Average Form B:		47%	52%	39%	44%	47%	51%
Student	Form						
1 ALASTNAME, FIRSTNAME M.	A	67%	68%	75%	67%	63%	45%
2 BLASTNAME, FIRSTNAME M.	B	53%	57%	48%	56%	64%	59%
3 BRLASTNAME, FIRSTNAME M.	A	68%	71%	74%	67%	69%	73%
4 CLASTNAME, FIRSTNAME M.	A	40%	46%	51%	43%	63%	45%
5 DLASTNAME, FIRSTNAME M.	A	81%	89%	93%	100%	91%	100%
6 ELASTNAME, FIRSTNAME M.	A	12%	11%	19%	15%	21%	12%
7 FLASTNAME, FIRSTNAME M.	A	22%	39%	45%	39%	28%	31%
8 FTLASTNAME, FIRSTNAME M.	-	-	-	-	-	-	-
9 GLASTNAME, FIRSTNAME M.	A	100%	100%	96%	97%	89%	100%
10 HLASTNAME, FIRSTNAME M.	A	5%	5%	59%	9%	21%	5%
11 JBLASTNAME, FIRSTNAME M.	A	32%	41%	53%	35%	31%	34%
12 JLASTNAME, FIRSTNAME M.	A	32%	47%	29%	42%	33%	35%

Students taking different forms should not be compared to each other for percent of points earned.
For more information about the Colorado Academic Standards go to http://www.cde.state.co.us/comath/statestandards

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4.4 Description of Content Standards Roster Report – CMAS Science and Social Studies

The Content Standards Roster is available for each grade and subject assessed at each school. It lists every student who should have tested in the school. Score information is only included for students with valid scores (i.e., not invalidated or suppressed and met attemptedness criteria). This report provides the overall performance level, reporting category, and Prepared Graduate Competencies (PGC) and Grade Level Expectations (GLE) data for each student. It also provides the same information aggregated at the state, district, and school levels. A sample report is included in Section 4.5.

Note: The District Summary of Schools provides aggregated information for each school within a district.

4.4.1 General Information

Refer to page 1 of the Content Standards Roster.

A. Test Date
The administration season and year.

B. Identification Information
The school and district name and code.

C. Subject Area
The assessed content area (science or social studies)

D. Grade
The grade level of the assessment.

The general information is repeated on page 2 of the report.

4.4.2 Performance Level and Content Standards Information

Refer to page 1 of the Content Standards Roster.

E. Key
The ranges of scale scores for each performance level for the overall test. It also explains the symbols used to identify the performance indicators for content standard performance (Potential Relative Strength, Typical, or Potential Relative Weakness).

F. Student Information
Students are identified by last name, first name, and middle initial. Students who were indicated as home schooled, expelled, withdrew before/during testing, medical exemption, or records indicated as duplicate do not appear on this report.

G. Content Standards Performance School Summary
The number and percentage of students in a school who show Potential Relative Strength (filled circle), Typical Performance (half-filled circle), and Potential Relative Weakness (empty circle) for the reporting categories are provided for each standard. At the state level, the distribution is approximately 15%/70%/15%.

H. State, District, and School Average
For comparison purposes, the average overall scale score and content standard (reporting category) scale score are shown for the state, district, and school.

I. **Overall Performance Level**
The overall performance level for each student on the roster.

J. **Overall Scale Score**
The overall scale score for each student on the roster.

K. **SEM Range**
The standard error of measurement (SEM) is related to the reliability of the assessment. It can vary across the range of scale scores, especially at the very high and low ends where there typically are fewer items measuring that level of achievement. The SEM represents the range of overall scores the student would likely earn if the assessment were taken again.

L. **Percentile**
The percentile ranking shows how well the student performed in comparison to other students in the state. For example, a student in the 75th percentile performed better than 75 percent of students in the state.

M. **Results for Each Content Standard (Reporting Category): Scale Score and Performance Indicator**
The student's scale score (SS) and performance indicator (PI) of Potential Relative Strength, Typical Performance, or Potential Relative Weakness for each content standard (reporting category).

N. **Document Process Number**
A number unique to each administration, found in the bottom-right corner of the report, assigned by the testing contractor.

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

Refer to page 2 of the Content Standards Roster.

O. **Student Information**
Students are identified by last name, first name, and middle initial.

P. **State, District, and School Average**
For comparison purposes, the average percent earned is shown for the PGCs at the state, district, and school levels. If there are two or more GLEs under a PGC in an elementary or middle school report, percent earned is shown for these as well.

Q. **Prepared Graduate Competencies and Grade Level Expectations**
PGCs and GLEs are important parts of the CAS. PGCs represent the concepts and skills students need to master in order to be college and career ready by the time of graduation. The GLEs are grade-specific expectations that indicate that students are making progress toward the PGCs.

R. **Points Possible**
The number of points possible for each PGC and GLE.

S. **Performance for Prepared Graduate Competencies and Grade Level Expectations**
This section of the report describes performance with percent earned for PGCs and GLEs. If there is more than one GLE within a PGC on elementary and middle school reports, then this information is also provided by PGC. The PGCs and GLEs are listed in the same order using the same number references as they appear on page 2 of the Student Performance Report. The order and text for each PGC and GLE is included in **Appendix C**.

Note: Information is not provided at the GLE level on the high school science report.

4.5 Sample Content Standards Roster Report – CMAS Science and Social Studies

Page 1

Content Standards Roster

Colorado Measures of Academic Success — **Spring 2019**

School: SCHOOL NAME (9999)
District: DISTRICT NAME (9999)

Social Studies — CONFIDENTIAL - DO NOT DISTRIBUTE — **Grade 4**

Purpose: This report shows performance on the overall test, content standards, prepared graduate competencies (PGCs), and grade level expectations (GLEs) for each student in the school. The percent of points earned for each GLE is presented on the following page of the report. If there is more than one GLE within a PGC, the percent of points earned is provided separately at the PGC and GLE levels. School, district, and s averages are provided for comparison.

Performance Levels	Scale Score Ranges
Exceeded Expectations	793 - 900
Met Expectations	699 - 792
Approached Expectations	557 - 698
Partially Met Expectations	300 - 556

● = Potential Relative Strength (PRS)
◒ = Typical
○ = Potential Relative Weakness (PRW)

Content Standards Performance School Summary

	History			Geography			Economics			Civics		
	●	◒	○	●	◒	○	●	◒	○	●	◒	○
# of students in school:	6	4	4	8	3	3	7	4	3	5	5	5
% of students in school:	43%	28%	29%	57%	21%	22%	50%	28%	21%	33%	33%	33%

	Overall Scale Score	SEM Range	Percentile	Content Standard Scale Score (SS) and Performance Indicator (PI)							
				SS	PI	SS	PI	S	PI	SS	PI
State Average:	599			619		643		640		638	
District Average:	595			603		627		626		623	
School Average:	595			584		589		606		597	

Student	Performance Level	Overall Scale Score	SEM Range	Percentile	History SS	History PI	Geography SS	Geography PI	Economics SS	Economics PI	Civics SS	Civics PI
1 ALASTNAMEWWWWWW, FIRST NAME A.	Partially [illegible]pectations	509	482-536	18	497	○	567	○	614	○	534	○
2 BLAST, FIRST	Met [illegible]ations	708	685-731	81	717	●	731	●	686	●	713	●
3 CLASTNAME, FIRSTNAME A.	Partially Met Expectations	519	482-536	20	567	●	474	●	485	○	536	○
4 DLAST, FIRSTNAME C.	Exceeded Expectations	793	761-818	97	821	●	834	●	799	●	831	●
5 ELAST, FIRST X.	Partially Met Expectations	467	437-497	12	578	◒	521	○	498	○	468	○
6 FLASTNAME, FIRST B.	Approached Expectations	649	624-674	60	567	○	621	○	589	○	601	○
7 GLAST, FIRST X.	No Score	-	-	-	-	-	-	-	-	-	-	-
8 HLASTNAME, FIRST B.	Approached Expectations	672	631-713	68	601	○	677	◒	597	○	613	○
9 ILASTNAMEWWWWWW, FIRSTWWABCDWWWW B.	Partially Met Expectations	569	545-593	32	489	○	521	○	561	○	486	◒
10 JLASTNAME, FIRST B.	Met Expectations	750	727-773	91	821	●	778	●	743	◒	849	●
11 KLASTNAME, FIRST B.	Exceeded Expectations	821	796-844	99	844	●	783	●	750	◒	869	●
12 LLASTNAME, FIRST B.	No Score	-	-	-	-	-	-	-	-	-	-	-
13 MLASTNAME, FIRST B.	Approached Expectations	611	589-633	46	489	○	533	○	621	●	547	○
14 NLAST, FIRSTNAME C.	Exceeded Expectations	842	823-865	99	844	●	851	●	889	●	798	●
15 OLAST, FIRST X.	Approached Expectations	581	558-604	36	573	◒	468	○	539	○	541	○
16 PLASTNAME, FIRST B.	Approached Expectations	649	627-671	60	621	○	586	○	633	○	633	○

Note: Students without scores are not included in summary calculations.

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Content Standards Roster

Colorado Measures of Academic Success — Spring 2019

School: **SCHOOL NAME (9999)**
District: **DISTRICT NAME (9999)**

Social Studies

CONFIDENTIAL - DO NOT DISTRIBUTE

Grade 4

Student	Prepared Graduate Competencies (PGC) and Grade Level Expectations (GLE) Performance							
	History		Geography		Economics		Civics	
	PGC1 GLE1	PGC2 GLE2	PGC1 GLE1	PGC2 GLE2	PGC1 GLE1	PGC2 GLE2	PGC1 GLE1	PGC2 GLE2
	Points Possible							
	9-10	9-10	10-11	9-10	8-9	8-9	8-9	10-11
	Percent of Points Earned							
State Average:	49%	55%	48%	46%	52%	52%	49%	52%
District Average:	50%	53%	52%	44%	48%	49%	42%	53%
School Average:	50%	54%	59%	43%	49%	48%	49%	53%
1 ALASTNAMEWWWWWW, FIRST NAME A.	30%	71%	68%	73%	61%	67%	58%	55%
2 BLAST, FIRST	70%	35%	83%	54%	53%	58%	58%	64%
3 CLASTNAME, FIRSTNAME A.	40%	44%	56%	39%	43%	48%	51%	73%
4 DLAST, FIRSTNAME C.	49%	53%	58%	46%	48%	53%	56%	63%
5 ELAST, FIRST X.	51%	49%	45%	49%	63%	67%	61%	49%
6 FLASTNAME, FIRST B.	42%	63%	68%	74%	68%	78%	69%	69%
7 GLAST, FIRST X.	-	-	-	-	-	-	-	-
8 HLASTNAME, FIRST B.	55%	49%	39%	59%	45%	48%	47%	38%
9 ILASTNAMEWWWWWW, FIRSTWWABCDWWWW B.	38%	61%	72%	63%	79%	48%	73%	57%
10 JLASTNAME, FIRST B.	62%	65%	64%	64%	65%	67%	63%	63%
11 KLASTNAME, FIRST B.	63%	62%	79%	72%	78%	74%	76%	71%
12 LLASTNAME, FIRST B.	-	-	-	-	-	-	-	-
13 MLASTNAME, FIRST B.	42%	57%	64%	48%	69%	57%	58%	48%
14 NLAST, FIRSTNAME C.	66%	69%	75%	74%	81%	76%	57%	73%
15 OLAST, FIRST X.	61%	73%	78%	81%	73%	88%	76%	69%
16 PLASTNAME, FIRST B.	56%	39%	45%	44%	47%	47%	41%	45%

Note: Students without scores are not included in summary calculations.

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4.6 Description of Content Standards Roster Report – CoAlt Science and Social Studies

The CoAlt Science and Social Studies Content Standards Roster Report is available for each grade and subject assessed at each school. It lists every student who should have tested in the school. Score information is only included for students with valid scores (i.e., not invalidated or suppressed). This report provides the overall and standards-level data for each student. A sample CoAlt Science and Social Studies Content Standards Roster Report is included in Section 4.7.

Note: The District Summary of Schools provides this information for each school within a district.

4.6.1 General Information

Refer to page 1 of the Content Standards Roster.

A. Test Date

The administration season and year.

B. Identification Information

The school and district name and code.

C. Subject Area

The subject area of the report (either science or social studies).

D. Grade

The grade level of the assessment.

4.6.2 Performance Level and Content Standards Information

Refer to page 1 of the Content Standards Roster.

E. Key

The ranges of scale scores for each performance level for the overall test.

F. Student Information

Students are identified by last name, first name, and middle initial. Students who were indicated as home schooled, expelled, withdrew before/during testing, medical exemption, or records indicated as duplicate do not appear on this report.

G. Overall Performance Level

The overall performance level for each student on the roster.

H. State, District, and School Average Scale Score

The average scale score for the state, district, and school followed by the scale score for each student. Students with an Inconclusive designation do not have a scale score.

I. Points Possible

The number of points possible for each content standard.

J. Percent of Points Earned

Describes performance with percent of points earned by content standard for the state, district, and school, followed by the percent of points earned by each student. These fields are blank for students with an Inconclusive designation.

K. Document Process Number

A number unique to each administration, found in the bottom-right corner of the report, assigned by the testing contractor.

4.7 Sample Content Standards Roster Report – CoAlt Science and Social Studies

Content Standards Roster

Colorado Alternate Assessment — **Spring 2019** (A)

(B)

School SCHOOL NAME (9999)

District: DISTRICT NAME (9999)

Social Studies (C) CONFIDENTIAL - DO NOT DISTRIBUTE (D) **Grade 4**

Purpose: This report shows performance on the overall test and content standards for each student in the school. School, district, and state averages are provided for comparison.

Performance Levels	Scale Score Ranges
Advanced	188 - 250
At Target	163 - 187
Approaching Target	143 - 162
Emerging	0 - 142

(E)

		Content Standards Performance			
		History	Geography	Economics	Civics
		Points Possible (I)			
		16	16 or 22	16 or 22	18
	Overall Scale Score	Percent of Points Earned (J)			
State Average: (H)	159	52%	45%	33%	37%
District Average:	163	51%	44%	32%	35%
School Average:	154	59%	55%	49%	47%
Student	Performance Level (G)				
1 ALASTNAME, FIRSTNAME A.	At Target	176	65%	69%	84%	75%
2 BLAST, FIRST	Advanced	195	82%	81%	84%	76%
3 BBLAST, FIRST (F)	Advanced	205	83%	82%	67%	81%
4 BDLAST, FIRST	Advanced	213	87%	84%	91%	100%
5 CLASTNAME, FIRST E.	At Target	166	79%	73%	81%	58%
6 DLAST, FIRSTNAME M.	Approaching Target	158	64%	67%	58%	73%
7 ELAST, FIRST C.	Emerging	110	56%	38%	18%	50%
8 FLASTNAME, FIRSTNAME A.	At Target	174	73%	64%	73%	69%
9 GLAST, FIRST X.	Inconclusive	-	-	-	-	-
10 HLASTNAME, FIRST E.	Advanced	212	100%	100%	91%	93%
11 JLASTNAME, FIRST E.	Advanced	225	100%	91%	100%	89%
12 KLAST, FIRST C.	No Score	-	-	-	-	-
13 LLASTNAME, FIRSTNAME A.	At Target	185	68%	54%	67%	82%
14 MLAST, FIRSTNAME C.	Approaching Target	156	51%	57%	73%	41%
15 NLAST, FIRST X.	At Target	168	65%	72%	77%	65%
16 OLASTNAME, FIRST B.	Emerging	84	38%	13%	0%	22%

Note: Students without scores are not included in summary calculations.

Page 1 (K) mmddccyy-Z9999999-9999-9999-9999999

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5.0 District Summary of Schools Report

5.1 Description of District Summary of Schools Report – CMAS Mathematics, ELA, CSLA, Science, and Social Studies

Using the District Summary of Schools Report, school data can quickly be compared to the district and state averages by reviewing the average overall scale score column. Refer to Sections 5.2 and 5.3 for sample District Summary of Schools Reports.

5.1.1 General Information

A. Assessment Information
The administration season and year, district name, and district number.

B. Identification Information
The assessed content area (mathematics, ELA, CSLA, Science, or Social Studies) and grade level.

C. Number of Valid Scores
The first two rows contain the number of valid scores included in reporting at the district level for Mathematics and ELA, and at the state and district levels for Science and Social Studies. Subsequent rows contain the number of valid scores included in reporting at each school within the district.

5.1.2 Overall Assessment Scores

D. Percentage of Students at Each Performance Level
The first column of the report shows the distribution of students achieving each performance level— indicated both graphically and numerically. Each colored section of the graph represents a performance level, beginning with Did Not Yet Meet Expectations (level 1) on the left through Exceeded Expectations (level 5) on the right. The numerical values appearing on the graph indicate the percentage of students in each performance level. Due to rounding, percentages may not total 100%. The name of the school is listed in each row above the graph.

E. Description of Performance Level Graphics
This graphic provides a key of the colors used to represent the five performance levels. Scale score ranges for each performance level are included in this key.

F. Overall Mean Scale Score
This column of the report provides the average overall scale score (refer to Section 3.2.2) for all students assessed at the school for the specified assessment on the report. The first two rows contain state and district averages.

5.1.3 Performance by Reporting Category

Note: There are no markers for G or H on the sample Mathematics, Science, or Social Studies District Summary of Schools Reports.

G. Reporting Category
For ELA and CSLA, there are two reporting categories, Reading and Writing, separated by a bold, vertical line.

H. Reading Mean Scale Score

For ELA and CSLA, student performance for reading is provided as a scale score (refer to Section 3.2.2) on a different scale from the overall scale score. Reading scale scores range from 110 to 190. The first two rows contain state and district averages. The remaining rows contain the school averages.

5.1.4 Performance by Subclaim or Reporting Category

I. Subclaim/Reporting Category

Within each reporting category for ELA and CSLA are specific skill sets (subclaims) students demonstrate on the assessment. Subclaims are also provided for mathematics but are not listed under reporting categories as they are for ELA and CSLA. Each subclaim category includes the column header identifying the subclaim, as well as state, district, and school percentages.

Scale Score (SS) and Performance Indicator (PI) results for Each Content Standard (Reporting Category), with icons for Potential Relative Strength, Typical Performance, or Potential Relative Weakness, are shown for Science and Social Studies, as well as state, district, and school percentages.

J. Subclaim Performance Indicators

On Mathematics and ELA District Summary of Schools Reports, subclaim performance for the state, district, and schools is reported by the average percent of points earned for each subclaim.

5.1.5 Content Standards Information

Refer to page 2 of the District Summary of Schools Report.

K. Domain and Standard/Prepared Graduate Competencies and Grade Level Expectations

For Mathematics and ELA, all operational items are combined into the domain and standard group to which they apply. Some items represent multiple standards and may therefore be included in multiple groups on this report.

A full list of the assessed standards by grade and content area is found in **Appendix D** and at http://www.cde.state.co.us/standardsandinstruction/standardsresourcesk12.

For Science and Social Studies, operational items are combined into their PGCs, which represent the concepts and skills students need to master in order to be college and career ready by the time of graduation. The GLEs are grade-specific expectations that indicate that students are making progress toward the PGCs.

L. Average Points Possible and Percent Earned

This report provides the total points possible for that domain and standard or PGC/GLE group based on the items in that group and the maximum points possible for those items.

For example, a standard might have four items aligned to it. Three of those items might be worth 2 points each and one item worth 4 points, meaning that group would have a maximum points possible of 10 points ((3x2)+4).

The state average percent achieved provides the average percent achieved for all students in the state with valid scores for each domain and standard group for each form combination.

M. School Information

Schools are listed in alphabetical order.

N. Percent of Points Earned

For each listed school, the average percent of points earned in each domain and standard or PGC/GLE group is provided. There is a minimum number of total points possible for reporting. Domains that do not meet the minimum are not reported. For domains with multiple standard groups, this amount is still included in the total.

O. Document Process Number

A number unique to each administration, found in the bottom-right corner of the report, assigned by the testing contractor.

5.2 Sample of District Summary of Schools Report – CMAS ELA and CSLA

Page 1

District Summary of Schools

Colorado Measures of Academic Success — **Spring 2019**

A

District: **DISTRICT NAME (9999)**

English Language Arts/Literacy - Form A B ONFIDENTIAL - DO NOT DISTRIBUTE — **Grade 7**

Purpose: This report shows the overall English Language Arts and Reading mean scale scores for each school in the district. This page includes the average percent of points earned for each Reading and Writing subclaim and the following page includes the average percent of points earned f Reading iting do istrict and state averages are provided for comparison.

C F H G

Performance Distribution By % (All Students) D	Number of Valid Scores	Overall Mean Scale Score	Reading Mean Scale Score	Reading Literary	Reading Information	Reading Vocabulary	Writing* Overall	Written Expression	Language and Conventions
STATE 8 21 26 28 17		751	128	35%	42%	43%	56%	56%	29%
DISTRICT 10 17 21 37 15	5,664	738	144	41%	37%	28%	35%	35%	47%
ABRAHAM LINCOLN MIDDLE SCHOOL 13 19 28 18 22	204	742	137	34%	51%	25%	46%	46%	62%
ADA LOVELACE MIDDLE SCHOOL 10 13 42 35	198	730	128	36%	48%	53%	22%	22%	47%
BENJAMIN FRANKLIN MIDDLE SCHOOL 6 29 33 21 11	177	727	144	47%	36%	53%	28%	28%	22%
BOOKER T. WASHINGTON MIDDLE SCHOOL 2 28 29 17 24	204	724	137	53%	25%	44%	34%	34%	56%
CHARLOTTE HAWKINS BROWN MIDDLE SCHOOL 23 24 17 25 11	198	762	128	43%	41%	45%	48%	48%	51%
ELEANOR ROOSEVELT MIDDLE SCHOOL 14 9 25 37 15	177	743	144	34%	66%	35%	49%	49%	32%
ELMILY HANSON MIDDLE SCHOOL 18 21 29 15 17	171	783	147	49%	53%	22%	38%	38%	45%

I J

Did Not Yet Meet Expectations (650-699) | Partially Met Expectations (700-724) | Approached Expectations (725-749) | Met Expectations (750-784) | Exceeded Expectations (785-850)

E

* Writing Overall is calculated from Written Expression points multiplied by three plus Language and Conventions points.

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District Summary of Schools

Colorado Measures of Academic Success — Spring 2019

District: **DISTRICT NAME (9999)**

English Language Arts/Literacy - Form A — CONFIDENTIAL - DO NOT DISTRIBUTE — Grade 7

	Reading				Vocabulary	Content Area Reading		Prose Constructed Response	
	Key Ideas: Literary Text	Key Ideas: Informational Text	Integration of Knowledge & Ideas	Craft & Structure	Vocabulary Acquisition & Use	Literacy in History / Social Studies	Literacy in Science & Technical Subjects	Prose Constructed Response 1	Prose Constructed Response 2
	Points Possible								
	24	26	16	24	10	12	10	15	19
	Average Percent of Points Earned								
State Average Form A:	43%	43%	43%	45%	36%	41%	43%	49%	53%
District Average Form A:	44%	46%	42%	49%	35%	44%	47%	44%	48%
ABRAHAM LINCOLN MIDDLE SCHOOL	5%	61%	81%	68%	81%	53%	62%	65%	57%
ADA LOVELACE MIDDLE SCHOOL	5%	57%	28%	46%	57%	66%	73%	49%	48%
BENJAMIN FRANKLIN MIDDLE SCHOOL	18%	46%	34%	72%	54%	68%	39%	57%	63%
BOOKER T. WASHINGTON MIDDLE SCHOOL	36%	38%	51%	63%	29%	54%	47%	58%	67%
CHARLOTTE HAWKINS BROWN MIDDLE SCHOOL	43%	71%	72%	45%	57%	35%	69%	64%	68%
ELEANOR ROOSEVELT MIDDLE SCHOOL	17%	45%	39%	78%	65%	69%	31%	67%	74%
EMILY HANSON MIDDLE SCHOOL	35%	67%	52%	61%	73%	61%	45%	55%	61%

For more information about the Colorado Academic Standards go to http://www.cde.state.co.us/coreadingwriting/statestandards

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5.3 Sample of District Summary of Schools Report – CMAS Mathematics

Page 1

District Summary of Schools

Colorado Measures of Academic Success — **Spring 2019**

A

District: **DISTRICT NAME (9999)**

Mathematics - Form A B CONFIDENTIAL - DO NOT DISTRIBUTE **Grade 7**

Purpose: This report shows the overall Mathematics mean scale score for each school in the district. This page includes the average percent of points earned for each Mathematics subclaim and the following page includes the average percent of points earned for each Mathematics domain. C and state a[illegible] are provided for comparison. F

Performance Distribution By % (All Students) D	Number of Valid Scores	Overall Mean Scale Score	Major Content	Supporting Content	Reasoning	Modeling
STATE 8 21 26 28 17		751	35%	42% I	43%	56%
DISTRICT 10 17 21 37 15	5,664	738	41%	48% J	52%	39%
ABRAHAM LINCOLN MIDDLE SCHOOL 13 19 28 18 22	204	742	47%	59%	61%	39%
ADA LOVELACE MIDDLE SCHOOL 10 13 42 35	198	730	51%	36%	43%	57%
BENJAMIN FRANKLIN MIDDLE SCHOOL 6 29 33 21 11	177	727	45%	29%	51%	39%
BOOKER T. WASHINGTON MIDDLE SCHOOL 2 28 29 17 24	204	724	48%	49%	54%	52%
CHARLOTTE HAWKINS BROWN MIDDLE SCHOOL 23 24 17 25 11	198	762	37%	56%	46%	52%
ELEANOR ROOSEVELT MIDDLE SCHOOL 14 9 25 37 15	177	743	35%	49%	50%	57%
ELMILY HANSON MIDDLE SCHOOL 18 21 29 15 17	163	743	45%	53%	54%	49%

Did Not Yet Meet Expectations (650-699) | Partially Met Expectations (700-724) | Approached Expectations (725-749) | Met Expectations (750-785) | Exceeded Expectations (786-850) E

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District Summary of Schools

Colorado Measures of Academic Success **Spring 2019**

District: **DISTRICT NAME (9999)**

Mathematics - Form A CONFIDENTIAL - DO NOT DISTRIBUTE **Grade 7**

	Ratios & Proportional Relationships	The Number System	Expressions & Equations	Statistics & Probability	Modeling & Reasoning	
					On Grade Level	Securely Held Knowledge
	Points Possible					
	11	5	7	5	10	10
	Average Percent of Points Earned					
State Average Form A:	46%	38%	38%	39%	49%	44%
District Average Form A:	37%	30%	31%	33%	39%	38%
ABRAHAM LINCOLN MIDDLE SCHOOL	82%	31%	61%	48%	58%	61%
ADA LOVELACE MIDDLE SCHOOL	9%	43%	45%	57%	53%	63%
BENJAMIN FRANKLIN MIDDLE SCHOOL	10%	63%	71%	64%	49%	71%
BOOKER T. WASHINGTON MIDDLE SCHOOL	56%	51%	54%	48%	61%	35%
CHARLOTTE HAWKINS BROWN MIDDLE SCHOOL	73%	64%	55%	68%	55%	64%
ELEANOR RIVERDALE MIDDLE SCHOOL	57%	61%	64%	61%	49%	71%
ELEANOR ROOSEVELT MIDDLE SCHOOL	43%	57%	63%	39%	51%	35%

For more information about the Colorado Academic Standards go to http://www.cde.state.co.us/comath/statestandards

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5.4 Sample of District Summary of Schools Report – CMAS Science and Social Studies

District Summary of Schools

Colorado Measures of Academic Success — **Spring 2019**

A

District: **DISTRICT NAME (9999)**

Science B CONFIDENTIAL - DO NOT DISTRIBUTE **Grade 5**

Purpose: This report shows performance on the overall test, content standards, prepared graduate competencies (PGCs), and grade level expectations (GLEs) for each school in the district. The average percent of points earned for each GLE is presented on the following page of the report. If there is more than one GLE within a PGC, the percent of points earned is provided separately at the PGC and GLE levels. District and state averages are provided for comparison.

● = Potential Relative Strength (PRS)
◒ = Typical
○ = Potential Relative Weakness (PRW)

Content Standards Performance District Summary

	Physical Science				Life Science				Earth Systems Science				Scientific Investigations/ Nature of Science			
		●	◒	○		●	◒	○		●	◒	○		●	◒	○
# of students in district:		308	201	208		409	151	15		358	201	151		201	258	258
% of students in district:		43%	28%	29%		57%	21%	22		50%	28%	21%		28%	36%	36%

I

Performance Distribution By % D	Number of Valid Scores C	Overall Mean Scale Score F	Content Standard Scale Score (SS)													
			SS	●	◒	○	SS	●	◒	○	SS	●	◒	○	SS	●	◒	○
STATE 29 / 21 / 37 / 13			602	19%	66%	16%	585	19%	63%	17%	609	18%	66%	16%	620	18%	68%	15%
DISTRICT 29 / 36 / 26 / 9	717	589	591	44%	8%	48%	589	44%	10%	46%	589	44%	8%	48%	591	44%	8%	48%
SCHOOL A 32 / 28 / 18 / 22	145	669	665	61%	0%	39%	671	61%	4%	36%	668	61%	0%	39%	670	61%	0%	39%
SCHOOL B 23 / 35 / 28 / 14	161	525	549	0%	75%	25%	500	38%	0%	63%	530	38%	0%	63%	537	61%	4%	35%
SCHOOL C 35 / 33 / 21 / 11	123	561	525	0%	0%	100%	525	0%	0%	100%	529	0%	20%	80%	532	38%	0%	63%
SCHOOL D 13 / 29 / 39 / 19	110	525	525	0%	0%	100%	525	0%	0%	100%	529	0%	20%	80%	532	38%	0%	63%
SCHOOL E 12 / 27 / 36 / 25	178	433	441	20%	0%	80%	438	33%	33%	34%	410	12%	38%	50%	439	20%	0%	80%

Partially Met Expectations (300-545) | **Approached** Expectations (546-649) | **Met** Expectations (650-770) | **Exceeded** Expectations (771-900) E

Note: Students without scores are not included in summary calculations.

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District Summary of Schools

Colorado Measures of Academic Success — Spring 2019

District: DISTRICT NAME (9999)

Science — CONFIDENTIAL - DO NOT DISTRIBUTE — Grade 5

	Prepared Graduate Competencies (PGC) and Grade Level Expectations (GLE) Performance						
	Physical Science	Life Science		Earth Systems Science			
	PGC1 GLE1	PGC1 GLE1	PGC2 GLE2	PGC1 GLE1	PGC2	GLE2	GLE3
	Points Possible						
	20	12-15	15-18	9-12	18-21	8-11	9-12
	Average Percent of Points Earned						
STATE	50%	51%	53%	54%	55%	59%	52%
DISTRICT	58%	50%	51%	49%	48%	52%	51%
SCHOOL A	61%	62%	63%	63%	63%	64%	62%
SCHOOL B	44%	63%	38%	30%	38%	30%	45%
SCHOOL C	38%	33%	38%	38%	39%	39%	40%
SCHOOL D	35%	56%	43%	51%	25%	36%	41%
SCHOOL E	18%	23%	21%	40%	18%	10%	25%

Note: Students without scores are not included in summary calculations.

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6.0 Performance Level Summary Report

6.1 Description of Performance Level Summary Report – All Assessments

The Performance Level Summary Report is available for each grade and content area assessed at each school or district. It contains aggregated performance level information across the school, district and state. It also contains disaggregated performance level data by student demographic and program categories and subgroups for either the school or district. Refer to Sections 6.2 and 6.3 for sample Performance Level Summary Reports.

At the district level, Performance Level Summaries are also provided by grade band for mathematics and ELA (grades 3-5 and 6-8) as well as by content area, which includes all grades aggregated together for a subject (provided for CMAS mathematics, ELA, CSLA, science, and social studies).

6.1.1 General Information

A. Test Date
The administration season and year.

B. Identification Information
The names and codes of the school and district.

C. Content Area/Subject
The content area/subject of the report (mathematics, ELA, CSLA, science, or social studies).

D. Grade
The grade level of the assessment.

6.1.2 Performance Level Distribution Data

E. Demographic and Program Categories and Subgroups
Demographic and program categories with subgroups are listed on the left side of the table. The "Not Indicated" subgroups contain results of students for whom no demographic or program information was coded.

F. Number of Valid Scores
Reportable or valid scores are records that met attemptedness, are non-voided, and are without suppression codes that excluded them from aggregations (e.g., expelled and home-schooled students or when a misadministration or irregularity occurred during testing). The number of valid scores does not include students with "no score" on the assessment.

G. Overall Mean Scale Score
The average scale score for state, district, school, and each demographic or program subgroup. The average does not include students with "no score" on the assessment.

H. Performance Level Results
The number and percentage of students who achieved Did Not Yet Meet Expectations (mathematics, ELA, and CSLA only), Partially Met Expectations, Approached Expectations, Met

Expectations, and Exceeded Expectations, as well as aggregated (combined) Met and Exceeded Expectations, are displayed for each demographic or program subgroup.

I. No Scores Reported

The number of students registered to take the assessment who did not receive scores. "No scores" are not included in the denominator for the performance level percentages.

J. Total Number of Students

The number of students registered to take the assessment.

K. Document Process Number

A number unique to each administration, found in the bottom-right corner of the report, assigned by the testing contractor.

6.2 Sample Performance Level Summary Report – CMAS ELA, CSLA, and Mathematics

School Performance Level Summary

Colorado Measures of Academic Success (A) **Spring 2019**

School: **SCHOOL NAME (9999)** (B)
District: **DISTRICT NAME (9999)**

(D)

English Language Arts/Literacy (C) CONFIDENTIAL - DO NOT DISTRIBUTE **Grade 7**

Purpose: This report describes group achievement in terms of mean scale scores and performance levels.

	Number of Valid Scores (E)	Overall Mean Scale Score (F)	Performance Levels (H)										Met and Exceeded		No Scores Reported (I)	Total Number of Students (J)
		(G)	Did Not Yet Meet Expectations		Partially Met Expectations		Approached Expectations		Met Expectations		Exceeded Expectations					
			#	%	#	%	#	%	#	%	#	%	#	%		
State	7		8,793	14.4%	9,563	15.7%	14,184	23.3%	19,192	31.5%	9,175	15.1%	28,367	46.6%	[illegible]	[illegible]
District	75	[illegible]	5	6.7%	12	16.0%	20	26.7%	23	30.7%	15	20.0%	38	50.7%	0	75
School	25	718	5	20.0%	8	32.0%	12	48.0%	0	0.0%	0	0.0%	0	0.0%	0	25
Gender																
Female	12	728	0	0.0%	5	41.7%	7	58.3%	0	0.0%	0	0.0%	0	0.0%	0	12
Male	13	708	5	38.5%	3	23.1%	5	38.5%	0	0.0%	0	0.0%	0	0.0%	0	13
Ethnicity/Race																
Hispanic or Latino	2	734	0	0.0%	0	0.0%	2	100.0%	0	0.0%	0	0.0%	0	0.0%	0	2
American Indian or Alaska Native	2	725	0	0.0%	1	50.0%	1	50.0%	0	0.0%	0	0.0%	0	0.0%	0	2
Asian	2	716	1	50.0%	0	0.0%	1	50.0%	0	0.0%	0	0.0%	0	0.0%	0	2
Black or African American	2	731	0	0.0%	1	50.0%	1	50.0%	0	0.0%	0	0.0%	0	0.0%	0	2
Native Hawaiian or Other Pacific Islander	2	735	0	0.0%	0	0.0%	2	100.0%	0	0.0%	0	0.0%	0	0.0%	0	2
White	2	706	1	50.0%	0	0.0%	1	50.0%	0	0.0%	0	0.0%	0	0.0%	0	2
Two or more races	0	0	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0
Not Indicated	13	712	3	23.1%	6	46.2%	4	30.8%	0	0.0%	0	0.0%	0	0.0%	0	13
Gifted and Talented																
Yes	1	749	0	0.0%	0	0.0%	1	100.0%	0	0.0%	0	0.0%	0	0.0%	0	1
No	24	716	5	20.8%	8	33.3%	11	45.8%	0	0.0%	0	0.0%	0	0.0%	0	24
Migrant																
No	24	717	5	20.8%	8	33.3%	11	45.8%	0	0.0%	0	0.0%	0	0.0%	0	24
Yes	1	742	0	0.0%	0	0.0%	1	100.0%	0	0.0%	0	0.0%	0	0.0%	0	1
Economic Disadvantage																
Free/Reduced Lunch Eligible	1	730	0	0.0%	0	0.0%	1	100.0%	0	0.0%	0	0.0%	0	0.0%	0	1
Not Eligible for Free/Reduced Lunch	24	717	5	20.8%	8	33.3%	11	45.8%	0	0.0%	0	0.0%	0	0.0%	0	24

This report is NOT for public review. Distribution within your school/district must be in accordance with state and federal privacy laws, and local school board policy.

Page 1 of 6 (K) mmddyyyy-Batch-1234-5678-1234567

6.3 Sample Performance Level Summary Report – CMAS Science and Social Studies

School Performance Level Summary

Colorado Measures of Academic Success (A) **Spring 2019**

School: **SCHOOL NAME (9999)** (B)
District: **DISTRICT NAME (9999)**

(D)

Social Studies (C) CONFIDENTIAL - DO NOT DISTRIBUTE **Grade 4**

Purpose: This report describes group achievement in terms of mean scale scores and performance levels.

	(E)	(F) Number of Valid Scores	(G) Overall Mean Scale Score	(H) Performance Levels: Partially Met Expectations #	Partially Met Expectations %	Approached Expectations #	Approached Expectations %	Met Expectations #	Met Expectations %	Exceeded Expectations #	Exceeded Expectations %	Met and Exceeded #	Met and Exceeded %	(I) No Scores Reported	(J) Total Number of Students
State		[illegible]		6,163	28.7%	10,469	48.8%	4,160	19.4%	649	3.0%	4,809	22.4%	[illegible]	[illegible]
District		46	590	17	37.0%	18	39.1%	0	0.0%	11	23.9%	11	23.9%	104	150
School		16	638	7	43.8%	0	0.0%	0	0.0%	9	56.3%	9	56.3%	17	33
Gender															
Female		7	643	3	42.9%	0	0.0%	0	0.0%	4	57.1%	4	57.1%	7	14
Male		9	633	4	44.4%	0	0.0%	0	0.0%	5	55.6%	5	55.6%	10	19
Ethnicity/Race															
Hispanic or Latino		3	700	1	33.3%	0	0.0%	0	0.0%	2	66.7%	2	66.7%	0	3
American Indian or Alaska Native		0	0	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	1
Asian		2	900	0	0.0%	0	0.0%	0	0.0%	2	100.0%	2	100.0%	3	5
Black or African American		2	300	2	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	2	4
Native Hawaiian or Other Pacific Islander		0	0	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	1
White		1	900	0	0.0%	0	0.0%	0	0.0%	1	100.0%	1	100.0%	0	1
Two or more races		0	0	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0
Not Indicated		8	600	4	50.0%	0	0.0%	0	0.0%	4	50.0%	4	50.0%	10	18
Gifted and Talented															
Yes		2	600	1	50.0%	0	0.0%	0	0.0%	1	50.0%	1	50.0%	2	4
No		14	643	6	42.9%	0	0.0%	0	0.0%	8	57.1%	8	57.1%	15	29
Migrant															
No		16	638	7	43.8%	0	0.0%	0	0.0%	9	56.3%	9	56.3%	15	31
Yes		0	0	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	2	2
Economic Disadvantage															
Free/Reduced Lunch Eligible		1	300	1	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	2
Not Eligible for Free/Reduced Lunch		15	660	6	40.0%	0	0.0%	0	0.0%	9	60.0%	9	60.0%	16	31

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(K) mmddyyyy-Batch-1234-5678-1234567

7.0 Evidence Statement Analysis Report

7.1 Description of Evidence Statement Analysis Report – CMAS Mathematics, ELA, and CSLA

An Evidence Statement Analysis Report is available at the school and district levels for each grade level and content area assessment (ELA grades 3 through 8; CSLA grades 3 and 4; mathematics grades 3 through 8). The report includes item level score information at the school, district, and state levels. The second page of the report includes item map information related to the Colorado Academic Standards (CAS). Sample Evidence Statement Analysis Reports are displayed in Sections 7.2 and 7.3.

Information included on the Evidence Statement Analysis Report can be used to identify patterns of evidence statements where a school is performing better or worse than the district or state or where a district is performing better or worse than the state. For example, within a particular evidence statement, a school within a district may be out-performing the district and the state while the school may be performing worse than the district and the state in another evidence statement. In combination with other evidence and data, schools and districts can use the information in this report to identify patterns across evidence statements that may be indicative of potential areas of strength or weakness.

7.1.1 General Information

Refer to page 1 of the Evidence Statement Analysis Report.

A. Test Date
The administration season and year.

B. Identification Information
The names and codes of the school and district.

C. Content Area /Subject
The content area/subject of the report (mathematics, ELA, or CSLA).

D. Grade
The grade level of the assessment.

7.1.2 Evidence Statement Analysis Information

Refer to page 1 of the Evidence Statement Analysis. **Note:** For mathematics, writing tasks are not included. For this reason, there are no markers for J and K on the sample Mathematics Evidence Statement Analysis Reports.

E. Number of Students with Valid Scores
Reportable or valid scores are records that met attemptedness, are non-voided, and are without suppression codes that excluded them from aggregations (e.g., expelled and home-schooled students or when a misadministration or irregularity occurred during testing). The number of valid scores does not include students with “no score” on the assessment.

F. Graph Key
Explanatory text for the symbols and lines in the graph: state and district for the district level report and state, district, and school for the school level report.

G. Average Percent of Points Earned

The average percent of points earned is included to the left of the graphical representation of state, district, and school performance by evidence statement. Evidence statements that were more difficult for students across the state have a lower average percent of points earned.

H. Evidence Statement and Difficulty Order

Items on the mathematics, ELA (including CSLA) assessments are written to evidence statements that are mapped to the CAS. Each operational item on the assessment is combined into an evidence statement group. Items may be aligned to more than one evidence statement. This means that one item could be represented on the report multiple times depending on its alignment.

The evidence statements on the graph are placed in order with most to least difficult appearing from left to right. This difficulty order is determined by student performance on the items at the state level.

I. Graphical Representation of State, District, and School Level Performance by Evidence Statement

The graphical representation shows how the state, district, and school performed on each operational evidence statement. The state is represented as a blue line with squares, the district is represented as green circles, and the school is represented by orange triangles on school level reports.

The points on the graph represent at each level (state, district and school) the average points earned compared to the points possible for the group of valid scores in that category. A school can then compare how those students performed on each evidence statement compared to other students in the district or state.

For ELA and CSLA, this comparison can also be used to evaluate school or district performance on the writing tasks as shown in the charts represented by letters J and K.

J. Writing Tasks

Charted information related to the performance of the writing tasks included on the ELA and CSLA assessments.

K. Prose Constructed Response (PCR)

This section breaks down the writing tasks by the PCR items included on the ELA and CSLA assessments. The PCRs ask for an extended student response that analyzes literary works in the categories of Literary Analysis and Narrative Writing and informational texts in the category of a Research Simulation Task. Score distributions for the state, district, and school (where applicable) are included.

7.1.3 Evidence Statement Map Information

Refer to page 2 of the Evidence Statement Analysis.

L. Evidence Statement

Evidence statements are listed from most to least difficult based on the state level. This ordering corresponds to the graphed data on the page 1 of the report.

M. Colorado Academic Standard(s)

The evidence statement-linked CAS is listed in the third column. An evidence statement can be connected to multiple standards. For statements that are considered Modeling or Modeling & Reasoning, SHK (Securely Held Knowledge) or OGL (On Grade Level) verbiage is indicated in place of a CAS. Additionally, some integrated mathematics evidence statements cross multiple domains and are not linked to only a single CAS. Multiple CAS are listed for integrated mathematics evidence statements.

N. Domain

The domain level (e.g., Reading: Informational Text, Reading: Literature, Operations and Algebraic Thinking) is listed in this column.

O. Additional Information

Links to more detailed information on the evidence statements and CAS are provided at the bottom of the report.

- Evidence Statements: http://www.cde.state.co.us/assessment/cmas
- Colorado Academic Standards: http://www.cde.state.co.us/coreadingwriting/statestandards

7.2 Sample Evidence Statement Analysis – CMAS ELA and CSLA

Page 1

School Evidence Statement Analysis

Colorado Measures of Academic Success (A) **Spring 2019**

School: SAMPLE SCHOOL NAME (4444) (B)
District: SAMPLE DISTRICT NAME (5555)

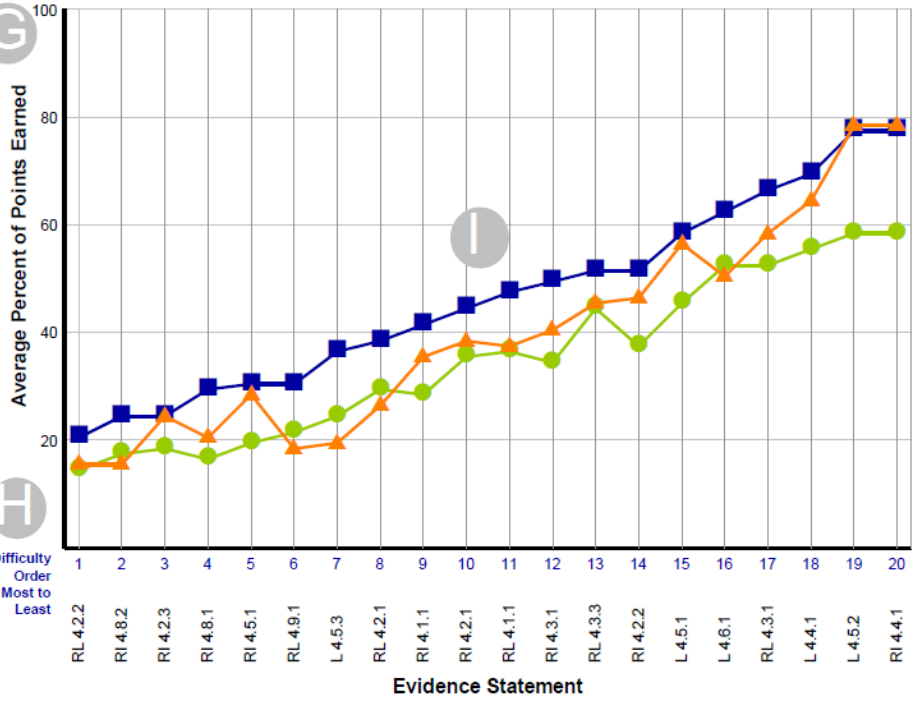
English Language Arts/Literacy (C) CONFIDENTIAL - DO NOT DISTRIBUTE (D) **Grade 4**

Purpose: This report presents the average percent of points earned by Evidence Statement for the school, district, and state. It also presents the Prose Constructed Response score point distributions for the school, district, and state.

Students with Valid Scores (49) (E)

(F) State District School

(G) Average Percent of Points Earned



Evidence Statement

(J) **Prose Constructed Response Score Point Distribution**

(K)

Bar graph segments without a value have a percentage of less than two, where applicable.

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Evidence Statement Analysis Report Detail

Colorado Measures of Academic Success **Spring 2019**

This report shows the operational items for the given grade and subject sorted by difficulty.

English Language Arts/Literacy **Grade 4**

Difficulty Order Most to Least	Evidence Statement	Colorado Academic Standard(s)	Domain
1	RL 4.2.2	4.2.1.a.iii	Reading: Literature
2	RI 4.8.2	4.2.2.c.ii	Reading: Informational Text
3	RI 4.2.3	4.2.2.a.ii	Reading: Informational Text
4	RI 4.8.1	4.2.2.c.ii	Reading: Informational Text
5	RI 4.5.1	4.2.2.b.ii	Reading: Informational Text
6	RL 4.9.1	4.2.1.c.ii	Reading: Literature
7	L 4.5.3	4.2.3.d	Language
8	RL 4.2.1	4.2.1.a.iii	Reading: Literature
9	RI 4.1.1	4.2.2.a.i	Reading: Informational Text
10	RI 4.2.1	4.2.2.a.ii	Reading: Informational Text
11	RL 4.1.1	4.2.1.a.i	Reading: Literature
12	RI 4.3.1	4.2.2.a.iii	Reading: Informational Text
13	RL 4.3.3	4.2.1.a.iv	Reading: Literature
14	RI 4.2.2	4.2.2.a.ii	Reading: Informational Text
15	L 4.5.1	4.2.3.d	Language
16	L 4.6.1	4.2.3.e	Language
17	RL 4.3.1	4.2.1.a.iv	Reading: Literature
18	L 4.4.1	4.2.3.c.i	Language
19	L 4.5.2	4.2.3.d	Language
20	RI 4.4.1	4.2.2.b.i	Reading: Informational Text

Evidence Statements: http://www.cde.state.co.us/assessment/cmas

Grade 4: http://www.cde.state.co.us/assessment/gr4read-writees060418

Colorado Academic Standards: http://www.cde.state.co.us/coreadingwriting/statestandards

7.3 Sample Evidence Statement Analysis – CMAS Mathematics

Page 1

School Evidence Statement Analysis

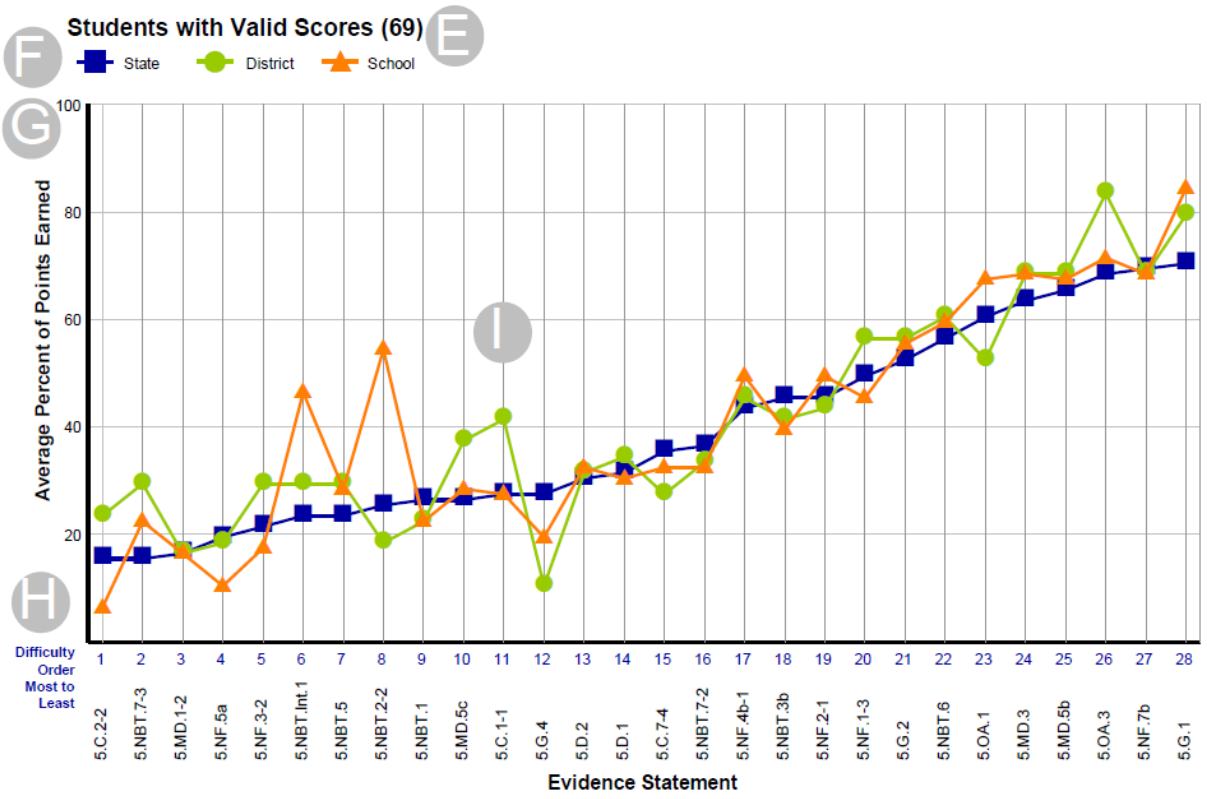
Colorado Measures of Academic Success (A) **Spring 2019**

School: **SAMPLE SCHOOL NAME (4444)** (B)
District: **SAMPLE DISTRICT NAME (5555)**

Mathematics (C) CONFIDENTIAL - DO NOT DISTRIBUTE (D) **Grade 5**

Purpose: This report presents the average percent of points earned by Evidence Statement for the school, district, and state.

Students with Valid Scores (69) (E)



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Page 1 01022019-Z9999999-5555-4444 - 0000017

Evidence Statement Analysis Report Detail

Colorado Measures of Academic Success Spring 2019

This report shows the operational items for the given grade and subject sorted by difficulty.

Mathematics Grade 5

Difficulty Order Most to Least	Evidence Statement	Colorado Academic Standard(s)	Domain
1	5.C.2-2	OGL	Modeling and Reasoning
2	5.NBT.7-3	5.1.2.c	Number & Operations in Base Ten
3	5.MD.1-2	5.1.1.d.i 5.1.1.d.ii	Measurement & Data
4	5.NF.5a	5.1.4.e.i	Number & Operations--Fractions
5	5.NF.3-2	5.1.4.a 5.1.4.b	Number & Operations--Fractions
6	5.NBT.Int.1	5.1.1.a.i 5.1.1.a.ii 5.1.2.c	Number & Operations in Base Ten
7	5.NBT.5	5.1.2.a	Number & Operations in Base Ten
8	5.NBT.2-2	5.1.1.a.i 5.1.1.a.ii	Number & Operations in Base Ten
9	5.NBT.1	5.1.1.a	Number & Operations in Base Ten
10	5.MD.5c	5.4.1.b.iii	Measurement & Data
11	5.C.1-1	OGL	Modeling and Reasoning
12	5.G.4	5.4.2.c.ii	Geometry
13	5.D.2	SHK	Modeling and Reasoning
14	5.D.1	OGL	Modeling and Reasoning
15	5.C.7-4	SHK	Modeling and Reasoning
16	5.NBT.7-2	5.1.2.c	Number & Operations in Base Ten
17	5.NF.4b-1	5.1.4.d	Number & Operations--Fractions
18	5.NBT.3b	5.1.1.b.ii	Number & Operations in Base Ten
19	5.NF.2-1	5.1.3.a.i 5.1.3.a.iii	Number & Operations--Fractions
20	5.NF.1-3	5.1.3.a.ii	Number & Operations--Fractions
21	5.G.2	5.4.2.b	Geometry
22	5.NBT.6	5.1.2.b 5.1.2.b.i 5.1.2.b.ii	Number & Operations in Base Ten
23	5.OA.1	5.1.2.d.i	Operations & Algebraic Thinking
24	5.MD.3	5.4.1.a	Measurement & Data
25	5.MD.5b	5.4.1.b.ii	Measurement & Data
26	5.OA.3	5.2.1.a 5.2.1.b 5.2.1.c 5.2.1.d	Operations & Algebraic Thinking
27	5.NF.7b	5.1.4.h	Number & Operations--Fractions
28	5.G.1	5.4.2.a	Geometry

Evidence Statements: http://www.cde.state.co.us/assessment/cmas

Grade 5: http://www.cde.state.co.us/assessment/gr5mathes060418

Colorado Academic Standards: http://www.cde.state.co.us/comath/statestandards

8.0 Item Analysis Report

8.1 Description of Item Analysis Report – CMAS Science and Social Studies

An Item Analysis Report is available at the school and district level for CMAS science and social studies for each assessed grade level and content area. The report includes item level score information at the school, district, and state levels. The back of the report includes item map information.

Information included on the Item Analysis Report can be used to identify patterns of items (and aligned CAS) where a school is performing better or worse than the district or state or where a district is performing better or worse than the state. For example, within a particular Grade Level Expectation (GLE), a school within a district may be out-performing the district and the state while the school may be performing worse than the district and the state in another GLE. In combination with other evidence and data, schools and districts can use the information in the Item Analysis Report to identify patterns across standards, GLEs, and PGCs that may be indicative of potential areas of strength or weakness. A sample Item Analysis Report is in Section 8.2.

8.1.1 General Information

Refer to page 1 of the Item Analysis Report.

A. Test Date
The administration season and year.

B. Identification Information
The school and district name and code.

C. Subject Area
The subject area of the report (either science or social studies).

D. Grade
The grade level of the assessment.

8.1.2 Item Analysis Information

Refer to page 1 of the Item Analysis Report.

E. Number of Students with Valid Scores
Reportable or valid scores are records that met attemptedness, are non-voided, and are without suppression codes that excluded them from aggregations (e.g., expelled and home schooled students or when a misadministration or irregularity occurred during testing). The number of valid scores does not include students with “no score” on the assessment.

F. Graph Key
Explanatory text for the symbols and lines in the graph: state and district for the district level report and state, district, and school for the school level report.

G. Average Percent of Points Earned
The average percent of points earned is graphed by state, district, and school to show performance by item in order from most to least difficult. Items that were more difficult for students across the

state have a lower average percent of points earned. For 1-point selected response items, the percent of students who correctly responded is recorded. For 2- and 3-point constructed response items, the average of points earned is divided by 2 or 3, respectively, in creating the percentage.

H. Numbered Items

Items are identified by numbers in blue text at the bottom of the graph and are ordered from most difficult to least difficult based on the state level, such that the most difficult item is labeled as 1.

I. Standard and Grade Level Expectation (GLE)/Prepared Graduate Competency (PGC)

On elementary and middle school item analysis reports, the corresponding standard and GLE are listed below each item. On the high school item analysis report, the corresponding standard and PGC are listed below each item.

J. Graphical Representation of State, District, and School Level Performance by Item

The graphical representation shows how the state, district, and school performed on each operational item. The state is represented as a blue line with squares, the district is represented as a green line with circles, and the school is represented by an orange line with triangles.

K. Document Process Number

A number unique to each administration, found in the bottom-right corner of the report, assigned by the testing contractor.

8.1.3 Item Map Information

Refer to page 2 of the Item Analysis Report.

L. Item Map Information

Page 2 of the Item Analysis Report includes information for all the operational items included on the assessment. Items are ordered from most to least difficult, as they were on page 1 of the report. For each item, the following information is included:

- Difficulty order from most to least (matches page 1)
- Standard and GLE numbers (for grades 4, 5, 7, and 8 only—high school has Standard and PGC number)
- Location on the test (unit number and item number)
- Standard by name
- Prepared Graduate Competency (PGC)
- Grade Level Expectation (GLE) (elementary and middle school only)
- Item type (Selected Response (SR); 2-point Constructed Response (CR-2); 3-point Constructed Response (CR-3))

8.2 Sample Item Analysis Report – CMAS Science and Social Studies

Page 1

School Item Analysis Report

Colorado Measures of Academic Success (A) **Spring 2019**

School: **SAMPLE SCHOOL NAME (4444)**
District: **SAMPLE DISTRICT NAME (5555)** (B)

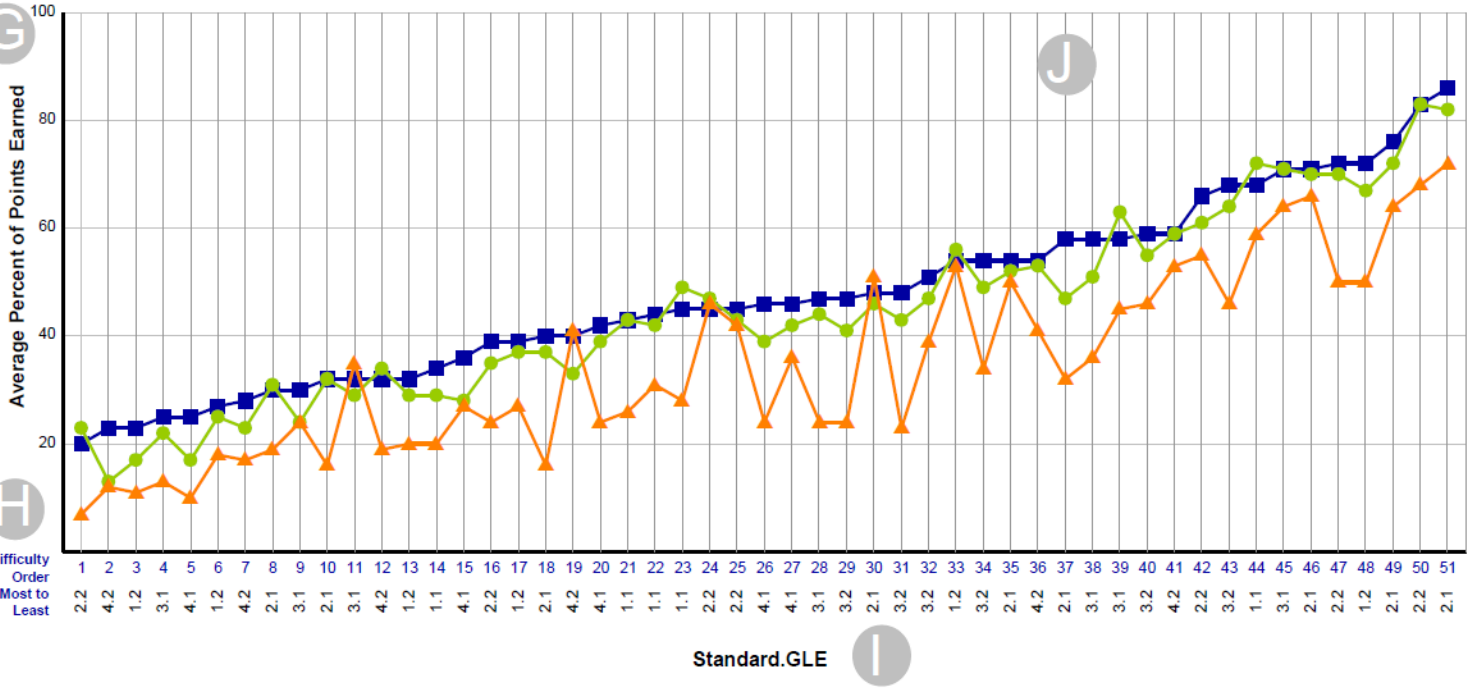
Social Studies (C) CONFIDENTIAL - DO NOT DISTRIBUTE (D) **Grade 4**

Purpose: This report presents the average percent of points earned by item for the school, district, and state.

Students with Valid Scores (54) (E)

(F) State District School

(G) Average Percent of Points Earned



(H) Difficulty Order Most to Least

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51
2.2	4.2	1.2	3.1	4.1	1.2	4.2	2.1	3.1	2.1	3.1	4.2	1.2	1.1	4.1	2.2	1.2	2.1	4.2	4.1	1.1	1.1	1.1	2.2	2.2	4.1	4.1	3.1	3.2	2.1	3.2	3.2	1.2	3.2	2.1	4.2	2.1	3.1	3.1	3.2	4.2	2.2	3.2	1.1	3.1	2.1	2.2	1.2	2.1	2.2	2.1

Standard.GLE (I)

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Item Analysis Report Detail

Colorado Measures of Academic Success Spring 2019

This report shows the operational items for the given grade and subject sorted by difficulty.

Social Studies

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Grade 4

Difficulty Order Most to Least	Standard.GLE	Unit-Item Number	Standard	Prepared Graduate Competency (PGC)	Grade Level Expectation (GLE)	Item Type Selected Response (SR) Constructed Response (CR)
1	2.2	1-008	Geography	PGC2	GLE2	SR
2	4.2	1-006	Civics	PGC2	GLE2	CR-3
3	1.2	1-010	History	PGC2	GLE2	SR
4	3.1	1-014	Economics	PGC1	GLE1	CR-3
5	4.1	3-019	Civics	PGC1	GLE1	CR-3
6	1.2	3-012	History	PGC2	GLE2	CR-3
7	4.2	2-019	Civics	PGC2	GLE2	CR-3
8	2.1	3-009	Geography	PGC1	GLE1	SR
9	3.1	3-017	Economics	PGC1	GLE1	SR
10	2.1	1-012	Geography	PGC1	GLE1	CR-3
11	3.1	2-020	Economics	PGC1	GLE1	SR
12	4.2	3-007	Civics	PGC2	GLE2	SR
13	1.2	3-014	History	PGC2	GLE2	CR-3
14	1.1	3-013	History	PGC1	GLE1	CR-3
15	4.1	2-002	Civics	PGC1	GLE1	SR
16	2.2	1-013	Geography	PGC2	GLE2	CR-3
17	1.2	2-007	History	PGC2	GLE2	SR
18	2.1	1-011	Geography	PGC1	GLE1	SR
19	4.2	3-015	Civics	PGC2	GLE2	SR
20	4.1	1-019	Civics	PGC1	GLE1	CR-3
21	1.1	1-009	History	PGC1	GLE1	SR
22	1.1	3-006	History	PGC1	GLE1	CR-3
23	1.1	1-015	History	PGC1	GLE1	SR
24	2.2	2-021	Geography	PGC2	GLE2	SR
25	2.2	3-018	Geography	PGC2	GLE2	SR
26	4.1	1-021	Civics	PGC1	GLE1	SR
27	4.1	3-023	Civics	PGC1	GLE1	SR
28	3.1	2-005	Economics	PGC1	GLE1	SR
29	3.2	3-001	Economics	PGC2	GLE2	SR
30	2.1	2-017	Geography	PGC1	GLE1	SR
31	3.2	3-008	Economics	PGC2	GLE2	SR
32	3.2	3-021	Economics	PGC2	GLE2	SR
33	1.2	2-001	History	PGC2	GLE2	SR
34	3.2	2-006	Economics	PGC2	GLE2	CR-3
35	2.1	3-010	Geography	PGC1	GLE1	SR
36	4.2	3-016	Civics	PGC2	GLE2	SR
37	2.1	1-020	Geography	PGC1	GLE1	SR
38	3.1	3-011	Economics	PGC1	GLE1	SR
39	3.1	3-022	Economics	PGC1	GLE1	SR
40	3.2	1-001	Economics	PGC2	GLE2	SR
41	4.2	1-002	Civics	PGC2	GLE2	SR
42	2.2	3-003	Geography	PGC2	GLE2	SR
43	3.2	1-016	Economics	PGC2	GLE2	SR
44	1.1	1-017	History	PGC1	GLE1	SR
45	3.1	1-007	Economics	PGC1	GLE1	SR
46	2.1	3-004	Geography	PGC1	GLE1	SR
47	2.2	2-004	Geography	PGC2	GLE2	SR
48	1.2	2-018	History	PGC2	GLE2	SR
49	2.1	1-003	Geography	PGC1	GLE1	SR
50	2.2	1-005	Geography	PGC2	GLE2	SR
51	2.1	3-002	Geography	PGC1	GLE1	SR

Appendix A

Scale Score Ranges

CMAS Mathematics
Overall Scale Score Ranges

Grade Level/Content	Does Not Yet Meet	Partially Met Expectations	Approached Expectations	Met Expectations	Exceeded Expectations
	Level 1	Level 2	Level 3	Level 4	Level 5
Grade 3	650-699	700-724	725-749	750-789	790-850
Grade 4				750-795	796-850
Grade 5				750-789	790-850
Grade 6				750-787	788-850
Grade 7				750-785	786-850
Grade 8				750-800	801-850

CMAS English Language Arts
Overall Scale Score Ranges

Grade Level	Does Not Yet Meet	Partially Met Expectations	Approached Expectations	Met Expectations	Exceeded Expectations
	Level 1	Level 2	Level 3	Level 4	Level 5
Grade 3	650-699	700-724	725-749	750-809	810-850
Grade 4				750-789	790-850
Grade 5				750-798	799-850
Grade 6				750-789	790-850
Grade 7				750-784	785-850
Grade 8				750-793	794-850

Colorado Spanish Language Arts
Overall Scale Score Ranges

Grade Level	Does Not Yet Meet	Partially Met Expectations	Approached Expectations	Met Expectations	Exceeded Expectations
	Level 1	Level 2	Level 3	Level 4	Level 5
Grade 3	650-699	700-724	725-749	750-778	779-850
Grade 4				750-771	772-850

CMAS Science
Overall Scale Score Ranges

Grade Level	Partially Met Expectations	Approached Expectations	Met Expectations	Exceeded Expectations
	Level 1	Level 2	Level 3	Level 4
Grade 5	300-545	546-649	650-770	771-900
Grade 8	300-555	556-651	652-784	785-900
High School	300-542	543-672	673-773	774-900

CMAS Science
2019 Content Standards Performance Indicator Ranges*

Grade Level	Physical Science	Life Science	Earth Systems Science	Scientific Inquiry and Nature of Science
Grade 5	475-725	481-722	482-722	479-721
Grade 8	444-715	439-714	440-716	441-718
High School	436-697	447-696	432-701	410-703

CMAS Social Studies
Overall Scale Score Ranges

Grade Level	Partially Met Expectations	Approached Expectations	Met Expectations	Exceeded Expectations
	Level 1	Level 2	Level 3	Level 4
Grade 4	300-556	557-698	699-792	793-900
Grade 7	300-591	592-700	701-769	770-900

CMAS Social Studies
2019 Content Standards Performance Indicator Ranges*

Grade Level	History	Geography	Economics	Civics
Grade 4	461-751	489-741	486-744	449-750
Grade 7	447-720	443-720	451-726	458-722

*At the content standards level there are performance indicators based on the overall state performance. These levels are not for accountability use and are not set in relation to the content or the overall performance levels. The cut scores are set using one standard deviation around the mean scale score for the state. They change from year to year. Students within this range have "Typical" performance for the state. Students with scores below this range have a "Potential Relative Weakness" in this area and students above the range have a "Potential Relative Strength".

CoAlt Science
Overall Scale Score Ranges

Grade Level	Emerging	Approaching Target	At Target	Advanced
	Level 1	Level 2	Level 3	Level 4
Grade 5	0-134	135-159	160-183	184-250
Grade 8	0-127	128-163	164-189	190-250
High School	0-139	140-163	164-192	193-250

CoAlt Social Studies
Overall Scale Score Ranges

Grade Level	Emerging	Approaching Target	At Target	Advanced
	Level 1	Level 2	Level 3	Level 4
Grade 4	0-142	143-162	163-187	188-250
Grade 7	0-133	134-162	163-190	191-250

Appendix B

Performance Level Descriptors

Grade 4 CMAS Social Studies
Performance Level Descriptors

Students demonstrate mastery of social studies concepts and 21st century skills aligned to the Colorado Academic Standards (CAS) 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 CAS and can typically

- Analyze primary source documents and connect the various eras and events in Colorado history to events in U.S. and World History
- Use geographic tools to investigate and analyze settlement patterns, how people adapt to and modify the physical environment, and how places in Colorado have changed over time
- Analyze opportunity costs and ways to reduce financial risk to make financial decisions
- Analyze multiple perspectives on an issue and provide solutions

Student who Met Expectations demonstrated strong command of the CAS and can typically

- Explain cause-and-effect relationships present in Colorado history using historical tools such as organizing and sequencing events and reading primary sources
- Create and investigate questions about Colorado in relation to other places and examine the connections between the physical environment and human activities such as migration
- Explain how the natural, human, and capital resources of Colorado have influenced the types of goods and services provided
- Analyze opportunity costs and risks to make financial decisions
- Compare arguments for both sides of a public policy debate
- Explain the origins, structure, and functions of the Colorado government and its relationship with local and federal governments

Student who Approached Expectations demonstrated moderate command of the CAS and can typically

- Describe how the people and cultures who have lived in Colorado have interacted with each other and have affected the development of Colorado
- Describe how Colorado's political structure developed, including the Colorado Constitution and the relationship between state and national government
- Compare the physical geography of Colorado with that of neighboring states and describe how places in Colorado are connected by technology and the movement of goods and services
- Identify and define types of economic incentives, choices, opportunity costs, and risks that individuals face
- Connect goods and services produced throughout Colorado's history to economic incentives
- Provide examples of civic and political issues faced by the state

Students who Partially Met Expectations demonstrated limited command of the CAS and can typically

- Recognize that major political and cultural groups have affected the development of Colorado
- Use maps, grids, and other geographic tools to answer questions about Colorado
- Describe various technological developments, including those that affect Colorado industries
- Identify goods and services produced in Colorado
- Identify the structure and functions of the Colorado government and the services it provides

Grade 7 CMAS Social Studies
Performance Level Descriptors

Students demonstrate mastery of social studies concepts and 21st century skills aligned to the Colorado Academic Standards (CAS) 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 CAS and can typically

- Analyze historical sources while formulating historical questions and defending a thesis
- Use geographic tools to investigate and analyze data to make inferences and predictions regarding regional issues and perspectives in the Eastern Hemisphere
- Demonstrate how supply and demand influence changes in equilibrium price and quantity
- Evaluate how various governments interact and investigate examples of global collaboration
- Apply various definitions of good government to evaluate the actions of different governments

Students who Met Expectations demonstrated strong command of the CAS and can typically

- Explain the historical time periods, individuals, groups, ideas, perspectives, themes, and how people are interconnected within regions of the Eastern Hemisphere
- Summarize the development of early civilizations, including Greece, Rome, China, Africa, and the medieval world
- Describe how the physical environment influences economy, culture, and trade patterns
- Explain how resources, production, choices, supply, demand, price, profit, and taxes are related
- Analyze how national and international government policies influence the global community
- Compare the rights, roles, and responsibilities of citizens in various governments

Students who Approached Expectations demonstrated moderate command of the CAS and can typically

- Describe the contributions of various peoples and cultures in the Eastern Hemisphere
- Compare different physical systems and cultural patterns to describe how different regions and places are interconnected
- Examine multiple points of view and issues in various regions in the Eastern Hemisphere
- Recognize how supply and demand influence price, profit, and production in a market economy
- Compare how taxes affect individual income and spending
- Compare different forms of government in the world and their sources of authority
- Explain the rights and roles of citizens in various governments

Students who Partially Met Expectations demonstrated limited command of the CAS and can typically

- Recognize the contributions of various peoples and cultures to the Eastern Hemisphere
- Use geographic tools to answer questions and identify patterns in the Eastern Hemisphere
- Identify factors that cause changes in supply, demand, and price
- Define resources and identify trade patterns based on the distribution of resources
- List the responsibilities and roles of citizens in various governments

Grade 5 CMAS Science
Performance Level Descriptors

Students demonstrate mastery of science concepts and 21st century skills aligned to the Colorado Academic Standards (CAS) 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 CAS 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 CAS 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 CAS 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 CAS 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

Grade 8 CMAS Science
Performance Level Descriptors

Students demonstrate mastery of science concepts and 21st century skills aligned to the Colorado Academic Standards (CAS) 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 CAS and can typically

- Design an investigation to predict the movement of an object by examining the forces applied to it
- Use models to predict amounts of energy transferred
- Analyze data and models to support claims about genetic reproduction and traits of individuals
- Use observations and models to develop and communicate a weather prediction
- Evaluate scientific theories and investigations that explain how the solar system was formed

Students who Met Expectations demonstrated strong command of the CAS and can typically

- Use mathematical expressions and appropriate information from sources to describe the movement of an object
- Analyze different forms of energy and energy transfer using tools
- Construct an experiment to show mass is conserved
- Investigate the characteristics and behaviors of waves using models, technology, and basic rules of waves
- Analyze human impact on local ecosystems
- Use mathematics to predict the physical traits and genetic makeup of offspring
- Relate tides, eclipses, lunar phases, and seasons to the motion and positions of the Sun, Earth, and the Moon, using the basic rules of the solar system

Students who Approached Expectations demonstrated moderate command of the CAS and can typically

- Analyze speed and acceleration of moving objects
- Describe different forms of energy and energy transfer
- Use a variety of sources, including popular media and peer-generated explanations, to investigate and describe an environmental issue
- Analyze data and historical research for various weather conditions and compare to historical data for that date and location
- Investigate and ask testable questions about Earth's different climates using various techniques

Students who Partially Met Expectations demonstrated limited command of the CAS and can typically

- Distinguish between physical and chemical changes
- Recognize the relationship between pitch and frequency in sound
- Identify human activities that alter the ecosystem
- Recognize that genetic information is passed from one generation to the next
- Compare basic and severe weather conditions and develop an action plan for safety
- Use tools and simulations to explore the solar system

High School CMAS Science
Performance Level Descriptors

Students demonstrate mastery of science concepts and 21st century skills aligned to the Colorado Academic Standards (CAS) 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 CAS and can typically

- Justify and predict the effects of force and mass on an object's motion, discuss conflicting results, and identify force pairs in interacting objects
- Using historical models, justify an evidence-based explanation for the current model of the atom and predict the amount of product formed in a nuclear or chemical reaction
- Justify an evidence-based explanation that demonstrates how ecosystems follow the laws of conservation of matter and energy
- Use evidence to develop a logical argument explaining how specialized tissues are formed, cloning occurs, and how environmental toxins cause genetic mutations
- Explain how genetic changes over time are the result of interactions within populations, heritability, genetic variation, and differential survival and reproduction
- Use data to analyze how forces and energies beyond Earth's have influenced the history of the universe and provide feedback on the validity of alternative explanations
- Analyze evidence to answer questions regarding changes to Earth, including those that result in shifts in climate and natural hazards
- Predict impacts of resource exploration, development, and consumption and design a plan to reduce resource use

Students who Met Expectations demonstrated strong command of the CAS and can typically

- Explain how force and mass affect the acceleration of an object
- Identify reactants, predict products, and balance equations in chemical and nuclear reactions
- Analyze evidence to describe energy transformations and conservation
- Evaluate scenarios regarding human population growth and sustainability
- Differentiate between conditions for optimal enzyme and photosynthetic activity
- Model and describe how homeostasis is maintained in cells, organs, and organisms
- Analyze how organisms use passive and active transport
- Explain the processes of DNA replication, transcription, translation, and gene regulation
- Model relationships among organisms demonstrating common ancestry
- Infer the history of the universe, solar system, and Earth using evidence from past events
- Explain the historical development of the theory of plate tectonics
- Use data to evaluate impacts of resource exploration, development, and consumption, and draw conclusions about sustainable use

Students who Approached Expectations demonstrated moderate command of the CAS and can typically

- Use evidence to demonstrate how mass and distance affect the force of gravity between objects
- Develop models of atoms, molecules, elements, compounds, pure substances, and mixtures and identify the types of bonds that occur in molecules and compounds
- Use data to measure and compare energy transformations and efficiency
- Model how carbon, nitrogen, phosphorus, and water cycle in an ecosystem
- Recognize the importance of keystone and non-native species in an ecosystem
- Identify the relationship between photosynthesis, cellular respiration, and energy

- Differentiate between and give examples of passive and active transport
- Explain the relationship between genes and proteins and provide examples of how mutations can affect organisms
- Describe how changes in genetic traits lead to population adaptations
- Explain how external forces and energies influence Earth
- Recognize the interactions within Earth's geosphere, atmosphere, hydrosphere, and biosphere, including those that result in shifts in climate and natural hazards
- Compare and contrast the costs and benefits of using resources provided by Earth and the Sun

Students who Partially Met Expectations demonstrated limited command of the CAS and can typically

- Use Newton's laws to describe the relationship among forces, masses, and the motion of objects
- Identify the properties of matter and understand that mass and energy are conserved
- Investigate energy transformations and the conservation of energy
- Describe how energy flows through trophic levels
- Identify primary and secondary succession in an ecosystem
- Identify biomolecules, their building blocks, and their functions
- Interpret data to identify transport mechanisms
- Recognize that DNA controls traits
- Identify how genetic traits can be passed down through generations
- Use media and technology to investigate the universe, solar system, and Earth
- Use data to describe the theory of plate tectonics
- Identify how factors interact to determine climate

Grade 4 CoAlt Social Studies
Performance Level Descriptors

Students demonstrate social studies concepts and skills aligned to the Grade Level Expectations and Extended Evidence Outcomes contained in the Colorado Academic Standards.

With appropriate support, Advanced students can typically:

- Identify historical eras, groups (e.g., miners, settlers and farmers), ideas, and themes in Colorado history
- Identify the cause and effect of growth in Colorado during various key events in U.S. history
- Integrate historical knowledge with geographical skills
- Recognize that particular dwellings, tools, and modes of transportation are specific to certain geographic areas and cultures in Colorado's history
- Identify regions and activities of Colorado based on specific physical features and label a map
- Identify choice and opportunity cost and compare the difference between the two
- Identify a specific perspective on an issue
- Identify the origins and structures of government

With appropriate support, At Target students can typically:

- Sequence Colorado historical events
- Identify the locations of specific activities or events in Colorado's history
- Identify specific factors that affected the growth of Colorado
- Match tools, modes of transportation, and products to natural resources or locations in Colorado
- Label a map using given map symbols
- Identify ways in which Colorado communities and markets were (and are) connected
- Identify the approximate value of goods
- Identify the functions of different levels of government
- Identify how people respond to positive and negative consequences

With appropriate support, Approaching Target students can typically:

- Match historical Colorado cultures with related artifacts, modes of transportation, and resources
- Match physical, natural, and geographic features on a map to their appropriate symbols
- Identify types of goods, services and resources native to Colorado
- Recognize that items vary in their value
- Recognize that there are different levels of governance

With appropriate support, Emerging students can typically:

- Identify artifacts (e.g., tools, housing, modes of transportation, and clothing) related to Colorado history
- Identify features on a map of Colorado
- Recognize that items have value
- Recognize emergency situations and appropriate responses that affect members of the Colorado community
- Recognize that there are laws and rules

An Inconclusive designation is given to students who did not respond to any items on the assessment.

Grade 7 CoAlt Social Studies
Performance Level Descriptors

Students demonstrate social studies concepts and skills aligned to the Grade Level Expectations and Extended Evidence Outcomes contained in the Colorado Academic Standards.

With appropriate support, Advanced students can typically:

- Determine appropriate questions to ask in order to learn about specific historical events
- Compare information from multiple sources related to a significant historical event
- Identify the best source of information regarding a historical event and use a historical event to match a source with a particular perspective
- Match natural resources with ancient communities and their dwellings
- Use a map to determine where to go for a specific purpose and to determine the direction in which to travel from one point to another
- Estimate the total purchase price of an item with sales tax included
- Recognize how supply and demand can affect price
- Recognize rights and responsibilities of citizens

With appropriate support, At Target students can typically:

- Match artifacts with their ancient culture or location within the Eastern Hemisphere
- Select the appropriate source of information to answer questions surrounding historical events
- Recognize that sources have different purposes
- Use map symbols and directionality words to locate places on a map
- Recognize that communities were built near natural resources
- Identify the environmental resources that influenced settlement in the Eastern Hemisphere
- Recognize that the total purchase price of an item will increase because of sales tax
- Identify community needs or services that are paid for by taxes
- Differentiate between laws and rules
- Identify the positive and negative consequences of obeying laws and rules

With appropriate support, Approaching Target students can typically:

- Recognize significant artifacts related to ancient civilizations of the Eastern Hemisphere
- Select the appropriate source of information to answer social studies questions
- Identify the appropriate questions to ask in order to learn more about an event or era
- Use symbols to identify a location on a map
- Identify reasons goods and services might go on sale
- Identify ways in which countries and nations resolve differences
- Recognize local laws, state laws, and federal laws and identify examples of following these laws/rules

With appropriate support, Emerging students can typically:

- Recognize artifacts
- Identify part(s) of a map (e.g., title, key, compass rose, scale)
- Recognize there are different types of informational resources
- Recognize that areas have different natural resources
- Recognize that many items have a sales tax
- Recognize that all countries have laws

An Inconclusive designation is given to students who did not respond to any items on the assessment.

Grade 5 CoAlt Science
Performance Level Descriptors

Students demonstrate science concepts and skills aligned to the Grade Level Expectations and Extended Evidence Outcomes contained in the Colorado Academic Standards.

With appropriate support, Advanced students can typically:

- Demonstrate that the weight of a mixture is the same before and after separation
- Distinguish between healthy choices and unhealthy choices for the human body
- Compare and contrast characteristics between groups of plants and groups of animals
- Sort animals by observable characteristics
- Identify ways to conserve resources
- Identify landforms that are created by Earth's forces
- Identify forms of precipitation by physical characteristics

With appropriate support, At Target students can typically:

- Determine the weight of an individual component of a mixture after separation
- Identify the function of the internal organs of the human body
- Recognize a relationship between healthy choices and a healthy body
- Understand how plants and animals get the food they need to survive
- Compare the physical characteristics of plants to plants and animals to animals
- Distinguish between renewable and nonrenewable resources
- Identify forces that create common landforms
- Use weather condition symbols to recognize different types of weather based on observable characteristics

With appropriate support, Approaching Target students can typically:

- Identify physical properties of matter
- Select appropriate tools to separate simple mixtures based on physical properties
- Separate simple mixtures based on physical properties
- Identify the functions of the sensory organs, stomach, lungs, and heart
- List ways to maintain a healthy body
- List observable characteristics of animals
- Match animals to animals and plants to plants based on similar physical characteristics
- List basic survival needs for plants and animals
- List Earth's resources
- Identify a source of energy as renewable or nonrenewable
- Label basic landforms of Earth
- Compare forms of precipitation

With appropriate support, Emerging students can typically:

- Recognize physical properties of matter
- Identify observable parts of the human body
- Recognize basic survival needs for plants and animals
- Identify basic Earth resources
- Recognize basic landforms of Earth
- Identify common forms of precipitation (e.g., rain and snow)
- Recognize sources of daily/weekly weather information

An Inconclusive designation is given to students who did not respond to any items on the assessment.

Grade 8 CoAlt Science
Performance Level Descriptors

Students demonstrate science concepts and skills aligned to the Grade Level Expectations and Extended Evidence Outcomes contained in the Colorado Academic Standards.

With appropriate support, Advanced students can typically:

- Match an object to itself before and after a physical or chemical change
- Compare and contrast different water or sound waves using wave characteristics
- Determine if different materials can absorb, reflect, or refract light
- Predict the effect of a human activity on a local ecosystem
- Identify why the appearances of the Sun and the moon change in the sky, including phases of the moon and eclipses

With appropriate support, At Target students can typically:

- Determine an object's directionality and compare the speeds of moving objects
- Determine sources for light and heat
- Determine if an object has undergone a physical or chemical change
- Identify sources of waves
- Identify human activities that have an effect on local ecosystems
- Identify traits that are passed down from parent to child
- Compare safe and unsafe practices during severe weather conditions
- Use models and simulations to explore the motions of Earth, the moon, and the Sun

With appropriate support, Approaching Target students can typically:

- Recognize that the speed and direction of a force can change moving objects
- Compare different forms of energy
- Label chemical and physical changes
- Label different types of waves
- Recognize the effect of human activity on the local ecosystem
- Identify similarities and differences in parents and children
- Identify severe weather conditions and follow a simple action plan for severe weather
- Recognize facts and fiction in regard to space exploration

With appropriate support, Emerging students can typically:

- Identify objects changing speed while moving
- Recognize that heat, light, and electricity are forms of energy
- Identify different types of waves
- Recognize stages of human aging
- Recognize different weather conditions
- Identify different climates
- Identify scientific tools related to weather and space exploration
- Acknowledge that celestial objects have patterns of movement

An Inconclusive designation is given to students who did not respond to any items on the assessment.

High School CoAlt Science
Performance Level Descriptors

Students demonstrate science concepts and skills aligned to the Grade Level Expectations and Extended Evidence Outcomes contained in the Colorado Academic Standards.

With appropriate support, Advanced students can typically:

- Predict the direction or relative speed of an object as a result of an unbalanced force
- Group items based on physical properties
- Identify products in a chemical reaction
- Determine types of energy associated with common objects
- Compare characteristics of different types of animals
- Recognize how cells group together and how body systems work together
- Recognize how organism populations have adapted to change
- Identify the factors that affect climate

With appropriate support, At Target students can typically:

- Compare objects and the forces required to move them
- Identify item characteristics as physical or chemical
- Compare elements and compounds
- Identify the chemical reaction in an object that causes an observable change
- Identify an element present in a compound
- Distinguish between different types of energy transformations
- Compare positive and negative effects of human activities on ecosystems
- Compare healthy and unhealthy lifestyle choices
- Distinguish between inherited traits and learned behaviors
- Recognize how the earth has changed over time

With appropriate support, Approaching Target students can typically:

- Identify the fastest object in a group
- Use ratios to determine a type of physical change in a mixture
- Identify chemical reactions in household items and common organisms
- Identify sources of energy
- Identify similarities and differences in parents and children
- List basic needs for space travel
- Identify severe weather conditions and follow a simple action plan for severe weather

With appropriate support, Emerging students can typically:

- Understand that force is required to move
- Identify the result of a chemical reaction
- Identify parts of plant and animal cells
- Recognize how ecosystems are affected by human activities
- Identify different climates
- Match scientific tools to their use in weather and space exploration

An Inconclusive designation is given to students who did not respond to any items on the assessment.

About ELA and CSLA Performance Level Descriptors

Performance Level	Level of Text Complexity[1]	Range of Accuracy[2]	Quality of Evidence[3]	
			Grade 3	Grades 4-8
5	Very Complex Moderately Complex Readily Accessible	Mostly Accurate Mostly Accurate Accurate	Explicit Explicit Explicit	Explicit & Inferential Explicit & Inferential Explicit & Inferential
4	Very Complex Moderately Complex Readily Accessible	Generally Accurate Generally Accurate Mostly Accurate	Explicit Explicit Explicit	Explicit & Inferential Explicit & Inferential Explicit & Inferential
3	Very Complex Moderately Complex Readily Accessible	Minimally Accurate Generally Accurate Mostly Accurate	Explicit Explicit Explicit	Explicit & Inferential Explicit & Inferential Explicit & Inferential
2	Very Complex Moderately Complex Readily Accessible	Inaccurate Minimally Accurate Partially Accurate	Explicit Explicit Explicit	Explicit & Inferential Explicit & Inferential Explicit & Inferential

1. **Text Complexity**
   The complexity framework reflects the importance of text complexity as it relates to the CCSS, which indicates that 50 percent of an item's complexity is linked to the complexity of the text(s) used as the stimulus for that item. Consequently, to determine students' performance levels, it is critical to identify the pattern of responses when students respond to items linked to passages with distinct text complexities. To this end, a clear and consistent model was developed to define text complexity and has determined to use three text complexity levels: readily accessible, moderately complex, or very complex. For more information on text complexity, refer to the CCSS Appendix A (http://www.corestandards.org/ELA-Literacy) and Appendix B (http://www.corestandards.org/ELA-Literacy).

   Two components are used for determining text complexity for **all** passages:

   - Two quantitative text complexity measures (Reading Maturity Metric and Lexile) will be used to analyze all reading passages to determine **an initial** recommendation for placement of a text into a grade band and subsequently a grade level.
   - Text Analysis Worksheets (https://parcc-assessment.org/ela-literacy), one for informational text and one for literary text, are then used to determine qualitative measures. Trained evaluators use these worksheets to determine a recommendation for qualitative text complexity within the grade level, with each text defined as readily accessible, moderately complex, or very complex.

   For multimedia texts, qualitative judgments from one or both of the "optional" categories in the Complexity Analysis Worksheet will be combined with judgments in the other categories to make a holistic determination of the complexity of the material.

2. **Range of Accuracy**
   There are three types of items on the assessments. For Evidence-Based Selected Response (EBSR) and Technology-Enhanced Constructed Response (TECR) items, the design is such that the items help contribute to an understanding of how accurately students comprehend text (demonstrate mastery of CCSS Reading Standards 2-10). Some of these items offer opportunities for students to receive partial credit based on the range of accuracy. For Prose-Constructed Response (PCR) items, draft scoring rubrics were developed (refer to *CMAS Test Design: Scoring Rubrics* available at

http://www.cde.state.co.us/assessment/cmas) that include a Reading dimension to measure comprehension. Scores on the PCR items contribute to an evaluation of the degree to which a student can accurately comprehend a text. The Performance Level Descriptors (PLDs) describe five levels of accuracy at grades 3-8 that are determined using the reading data collected through EBSR, TECR, and PCR items:

Accurate – The student is able to accurately state both the general ideas expressed in the text(s) and the key and supporting details. The response is complete, and the student demonstrates full understanding.

Mostly accurate – The student is able to accurately state most of the general ideas expressed in the text(s) and the key and supporting details, but the response is incomplete or contains minor inaccuracies. The student demonstrates understanding.

Generally accurate – The student is able to accurately state the gist of the text(s) but fails to accurately state the key and supporting details in the text or to connect such details to the overarching meaning of the text(s). The student demonstrates basic understanding.

Partially accurate – The student is able to accurately state the gist of the text(s) but is unable to state some of the key or supporting details with accuracy. The student is partially able to connect the specific details of the text to the overarching meaning(s) of the text. The student demonstrates partial understanding**.**

Minimally accurate – The student is unable to accurately state the gist of the text(s) but is able to minimally state some of the key or supporting details with accuracy. The student does not connect the specific details of the text to the overarching meaning(s) of the text. The student demonstrates minimal understanding.

Inaccurate – The student is unable to accurately state either the gist of the text or the key and supporting details evident in the text. The student demonstrates limited understanding.

3. **Quality of Evidence**

All items are designed to contribute to an understanding of how students "read closely to determine what the text says explicitly and to make logical inferences from it" and "cite specific textual evidence when writing or speaking to support conclusions drawn from the text" (CCSS Anchor Reading Standard 1). Some items offer opportunities for students to receive partial credit based on the quality of evidence provided. Students support their comprehension with explicit and/or inferential evidence:

Explicit evidence – Students show how the explicit words and phrases (details) from the text support statements made about the meaning of the text.

Inferential evidence – Students show how inferences drawn from the text support statements made about the meaning of the text.

Grade 3 ELA and CSLA Performance Level Descriptors

Reading

Level 5	Level 4	Level 3	Level 2
A student who achieves at **Level 5 exceeds expectations** for the assessed standards.	A student who achieves at **Level 4 meets expectations** for the assessed standards.	A student who achieves at **Level 3 approaches expectations** for the assessed standards.	A student who achieves at **Level 2 partially meets expectations** for the assessed standards.
In **reading**, the pattern exhibited by student responses indicates: ● With very complex text, students demonstrate the ability to be mostly accurate when asking and/or answering questions, showing understanding of the text when referring to explicit details and examples in the text. ● With moderately complex text, students demonstrate the ability to be mostly accurate when asking and/or answering questions, showing understanding of the text when referring to explicit details and examples in the text. ● With readily accessible text, students demonstrate the ability to be accurate when asking and/or answering questions, showing full understanding of the text when referring to explicit details and examples in the text.	In **reading**, the pattern exhibited by student responses indicates: ● With very complex text, students demonstrate the ability to be generally accurate when asking and/or answering questions, showing general understanding of the text when referring to explicit details and examples in the text. ● With moderately complex text, students demonstrate the ability to be generally accurate when asking and/or answering questions, showing general understanding of the text when referring to explicit details and examples in the text. ● With readily accessible text, students demonstrate the ability to be mostly accurate when asking and/or answering questions, showing understanding of the text when referring to explicit details and examples in the text.	In **reading**, the pattern exhibited by student responses indicates: ● With very complex text, students demonstrate the ability to be minimally accurate when asking and/or answering questions, showing minimal understanding of the text when referring to explicit details and examples in the text. ● With moderately complex text, students demonstrate the ability to be generally accurate when asking and/or answering questions, showing basic understanding of the text when referring to explicit details and examples in the text. ● With readily accessible text, students demonstrate the ability to be mostly accurate when asking and/or answering questions, showing understanding of the text when referring to explicit details and examples in the text.	In **reading**, the pattern exhibited by student responses indicates: ● With very complex text, students demonstrate the inability to ask or answer questions, showing limited understanding of the text when referring to explicit details and examples in the text. ● With moderately complex text, students demonstrate the ability to be minimally accurate when asking and/or answering questions, showing minimal understanding of the text when referring to explicit details and examples in the text. ● With readily accessible text, students demonstrate the ability to be partially accurate when asking and/or answering questions, showing partial understanding of the text when referring to explicit details and examples in the text.

Writing - Written Expression

Level 5	Level 4	Level 3	Level 2
A student who achieves at **Level 5 exceeds expectations** for the assessed standards.	A student who achieves at **Level 4 meets expectations** for the assessed standards.	A student who achieves at **Level 3 approaches expectations** for the assessed standards.	A student who achieves at **Level 2 partially meets expectations** for the assessed standards.
In **writing**, students address the prompts and provide effective development of ideas, including when drawing evidence from multiple sources, in the majority of instances	In **writing**, students address the prompts and provide development of ideas, including when drawing evidence from multiple sources, while in the majority of instances demonstrating purposeful and	In **writing**, students address the prompts and provide basic development of ideas, including when drawing evidence from multiple sources, while in the majority of	In **writing**, students address the prompts and provide minimal development of ideas, including when drawing evidence from multiple sources, while in the

demonstrating purposeful and controlled organization. The student: ● Provides effective development of the topic and/or narrative elements, using reasoning, details, text-based evidence, and/or description. ● Develops topic and/or narrative elements in a manner that is appropriate to the task and purpose. ● Demonstrates purposeful organization that includes an introduction and/or conclusion. ● Effectively uses linking words and phrases, descriptive words, and/or temporal words to express ideas with clarity.	mostly controlled organization. The student: ● Develops the topic and/or narrative elements using reasoning, details, text- based evidence, and/or description. ● Develops topic and/or narrative elements in a manner that is mostly appropriate to the task and purpose. ● Demonstrates purposeful organization that is mostly controlled and may include an introduction and/or conclusion. ● Uses linking words and phrases, descriptive words, and/or temporal words to express ideas with clarity.	instances demonstrating organization that sometimes is controlled. The student: ● Develops the topic and/or narrative elements using some reasoning, details, text- based evidence, and/or description. ● Demonstrates some organization. ● Includes some linking words and phrases, descriptive words, and/or temporal words, limiting the clarity with which ideas are expressed.	majority of instances demonstrating organization that often is not controlled. The student: ● Minimal development of the topic and/or narrative elements and is, therefore, inappropriate to the task and purpose. ● Demonstrates minimal organization. ● Includes minimal linking words and phrases, descriptive words, and/or temporal words, limiting the clarity with which ideas are expressed.

Writing - Knowledge of Language and Conventions

Level 5	Level 4	Level 3	Level 2
A student who achieves at **Level 5 exceeds expectations** for the assessed standards.	A student who achieves at **Level 4 meets expectations** for the assessed standards.	A student who achieves at **Level 3 approaches expectations** for the assessed standards.	A student who achieves at **Level 2 partially meets expectations** for the assessed standards.
In **writing**, students demonstrate full command of the conventions of Standard English consistent with edited writing. There may be some errors in grammar and usage, but overall meaning is clear.	In **writing**, students demonstrate command of the conventions of Standard English consistent with edited writing. There are errors in grammar and usage that may occasionally impede understanding.	In **writing**, students demonstrate basic command of the conventions of Standard English consistent with edited writing. There are few patterns of errors in grammar and usage that impede understanding, demonstrating partial control over language.	In **writing**, students demonstrate minimal command of the conventions of Standard English consistent with edited writing. There are patterns of errors in grammar and usage that impede understanding, demonstrating minimal control over language.

Grade 4 ELA and CSLA Performance Level Descriptors

Reading

Level 5	Level 4	Level 3	Level 2
A student who achieves at **Level 5 exceeds expectations** for the assessed standards.	A student who achieves at **Level 4 meets expectations** for the assessed standards.	A student who achieves at **Level 3 approaches expectations** for the assessed standards.	A student who achieves at **Level 2 partially meets expectations** for the assessed standards.
In **reading**, the pattern exhibited by student responses indicates: • With very complex text, students demonstrate the ability to be mostly accurate when asking and/or answering questions, showing understanding of the text when referring to explicit details and examples in the text and when explaining inferences drawn from the text. • With moderately complex text, students demonstrate the ability to be mostly accurate when asking and/or answering questions, showing understanding of the text when referring to explicit details and examples in the text and when explaining inferences drawn from the text. • With readily accessible text, students demonstrate the ability to be accurate when asking and/or answering questions, showing full understanding of the text when referring to explicit details and examples in the text and when explaining inferences drawn from the text.	In **reading**, the pattern exhibited by student responses indicates: • With very complex text, students demonstrate the ability to be generally accurate when asking and/or answering questions, showing general understanding of the text when referring to explicit details and examples in the text and when explaining inferences drawn from the text. • With moderately complex text, students demonstrate the ability to be generally accurate when asking and/or answering questions, showing general understanding of the text when referring to explicit details and examples in the text and when explaining inferences drawn from the text. • With readily accessible text, students demonstrate the ability to be mostly accurate when asking and/or answering questions, showing understanding of the text when referring to explicit details and examples in the text and when explaining inferences drawn from the text.	In **reading**, the pattern exhibited by student responses indicates: • With very complex text, students demonstrate the ability to ask and/or answer questions with minimal accuracy, showing minimal understanding of the text when referring to explicit details and examples in the text. • With moderately complex text, students demonstrate the ability to be generally accurate when asking and/or answering questions, showing basic understanding of the text when referring to explicit details and examples in the text. • With readily accessible text, students demonstrate the ability to be mostly accurate when asking and/or answering questions, showing understanding of the text when referring to explicit details and examples in the text and when explaining inferences drawn from the text.	In **reading**, the pattern exhibited by student responses indicates: • With very complex text, students demonstrate the inability to be accurate when asking and/or answering questions, showing limited understanding of the text when referring to explicit details and examples in the text. • With moderately complex text, students demonstrate the ability to ask and/or answer questions with minimal accuracy, showing minimal understanding of the text when referring to explicit details and examples in the text. • With readily accessible text, students demonstrate the ability to be partially accurate when asking and/or answering questions, showing partial understanding of the text when referring to explicit details and examples in the text and when explaining inferences drawn from the text.

Writing - Written Expression

Level 5	Level 4	Level 3	Level 2
A student who achieves at **Level 5 exceeds expectations** for the assessed standards.	A student who achieves at **Level 4 meets expectations** for the assessed standards.	A student who achieves at **Level 3 approaches expectations** for the assessed standards.	A student who achieves at **Level 2 partially meets expectations** for the assessed standards.
In **writing**, students address the prompts and provide effective development of ideas, including when drawing evidence from multiple sources, in the majority of instances demonstrating purposeful and controlled organization. The student: • Provides effective development of the topic and/or narrative elements, using reasoning, details, text-based evidence, and/or description. • Develops topic and/or narrative elements in a manner that is appropriate to the task and purpose. • Demonstrates purposeful organization that includes an introduction and/or conclusion. • Correctly uses linking words and phrases, descriptive words, and/or temporal words to express ideas with clarity.	In **writing**, students address the prompts and provide development of ideas, including when drawing evidence from multiple sources, while in the majority of instances demonstrating purposeful and mostly controlled organization. The student: ● Develops the topic and/or narrative elements using reasoning, details, text-based evidence, and/or description. ● Develops topic and/or narrative elements in a manner that is mostly appropriate to the task and purpose. ● Demonstrates purposeful organization that is mostly controlled and may include an introduction and/or conclusion. ● Uses linking words and phrases, descriptive words, and/or temporal words to express ideas with clarity.	In **writing**, students address the prompts and provide basic development of ideas, including when drawing evidence from multiple sources, while in the majority of instances demonstrating organization that sometimes is controlled. The student: ● Develops topic and/or narrative elements in manner that is general in its appropriateness to the task and purpose. ● Demonstrates some organization. ● Includes some linking words and phrases, descriptive words, and/or temporal words, limiting the clarity with which ideas are expressed.	In **writing**, students address the prompts and provide minimal development of ideas, including when drawing evidence from multiple sources, while in the majority of instances demonstrating organization that often is not controlled. The student: ● Provides minimal development of the topic and/or narrative elements and is, therefore, inappropriate to the task and purpose. ● Demonstrates minimal organization. ● Includes minimal linking words and phrases, descriptive words, and/or temporal words, limiting the clarity with which ideas are expressed.

Writing - Knowledge of Language and Conventions

Level 5	Level 4	Level 3	Level 2
A student who achieves at **Level 5 exceeds expectations** for the assessed standards.	A student who achieves at **Level 4 meets expectations** for the assessed standards.	A student who achieves at **Level 3 approaches expectations** for the assessed standards.	A student who achieves at **Level 2 partially meets expectations** for the assessed standards.
In **writing**, students demonstrate full command of the conventions of Standard English consistent with edited writing. There may be some errors in grammar and usage, but overall meaning is clear.	In **writing**, students demonstrate command of the conventions of Standard English consistent with edited writing. There are errors in grammar and usage that may occasionally impede understanding.	In **writing**, students demonstrate basic command of the conventions of Standard English consistent with edited writing. There are few patterns of errors in grammar and usage that impede understanding, demonstrating partial control over language.	In **writing**, students demonstrate minimal command of the conventions of Standard English consistent with edited writing. There are patterns of errors in grammar and usage that impede understanding, demonstrating minimal control over language.

Grade 5 ELA Performance Level Descriptors

Reading

Level 5	Level 4	Level 3	Level 2
A student who achieves at **Level 5 exceeds expectations** for the assessed standards.	A student who achieves at **Level 4 meets expectations** for the assessed standards.	A student who achieves at **Level 3 approaches expectations** for the assessed standards.	A student who achieves at **Level 2 partially meets expectations** for the assessed standards.
In **reading**, the pattern exhibited by student responses indicates: • With very complex text, students demonstrate the ability to be mostly accurate when quoting or referencing, showing understanding of the text when referring to explicit details and examples in the text and when explaining inferences drawn from the text. • With moderately complex text, students demonstrate the ability to be mostly accurate when quoting or referencing, showing understanding of the text when referring to explicit details and examples in the text and when explaining inferences drawn from the text. • With readily accessible text, students demonstrate the ability to be accurate when quoting or referencing, showing full understanding of the text when referring to explicit details and examples in the text and when explaining inferences drawn from the text.	In **reading**, the pattern exhibited by student responses indicates: • With very complex text, students demonstrate the ability to be generally accurate when quoting or referencing, showing general understanding of the text when referring to explicit details and examples in the text and when explaining inferences drawn from the text. • With moderately complex text, students demonstrate the ability to be generally accurate when quoting or referencing, showing general understanding of the text when referring to explicit details and examples in the text and when explaining inferences drawn from the text. • With readily accessible text, students demonstrate the ability to be mostly accurate when quoting or referencing, showing understanding of the text when referring to explicit details and examples in the text and when explaining inferences drawn from the text.	In **reading**, the pattern exhibited by student responses indicates: • With very complex text, students demonstrate the ability to be minimally accurate when quoting or referencing, showing minimal understanding of the text when referring to explicit details and examples in the text. • With moderately complex text, students demonstrate the ability to be generally accurate when quoting or referencing, showing basic understanding of the text when referring to explicit details and examples in the text and when explaining inferences drawn from the text. • With readily accessible text, students demonstrate the ability to be mostly accurate when quoting or referencing, showing understanding of the text when referring to explicit details and examples in the text and when explaining inferences drawn from the text.	In **reading**, the pattern exhibited by student responses indicates: • With very complex text, students demonstrate the inability to be accurate when quoting or referencing, showing limited understanding of the text when referring to explicit details and examples in the text. • With moderately complex text, students demonstrate the ability to be minimally accurate when quoting or referencing, showing minimal understanding of the text when referring to explicit details and examples in the text. • With readily accessible text, students demonstrate the ability to be partially accurate when quoting or referencing, showing partial understanding of the text when referring to explicit details and examples in the text and when explaining inferences drawn from the text.

Writing - Written Expression

Level 5	Level 4	Level 3	Level 2
A student who achieves at **Level 5 exceeds expectations** for the assessed standards.	A student who achieves at **Level 4 meets expectations** for the assessed standards.	A student who achieves at **Level 3 approaches expectations** for the assessed standards.	A student who achieves at **Level 2 partially meets expectations** for the assessed standards.
In **writing**, students address the prompts and provide effective development of ideas, including when drawing evidence from multiple sources, in the majority of instances demonstrating purposeful and controlled organization. The student: ● Provides effective development of the topic and/or narrative elements, using reasoning, details, and/or description. ● Develops topic and/or narrative elements in a manner that is appropriate to the task, purpose, and audience. ● Demonstrates coherence, clarity, and cohesion and includes an introduction and/or conclusion. ● Attends to the norms and conventions of the discipline. ● Effectively draws evidence from literary or informational texts to support analysis, reflection, and research. ● Effectively uses concrete words and phrases, sensory details, linking and transitional words, and/or domain-specific vocabulary to clarify ideas.	In **writing**, students address the prompts and provide development of ideas, including when drawing evidence from multiple sources, while in the majority of instances demonstrating purposeful and mostly controlled organization. The student: ● Develops the topic and/or narrative elements using reasoning, details, and/or description. ● Develops topic and/or narrative elements in a manner that is mostly appropriate to the task, purpose, and audience. ● Demonstrates general coherence, clarity, and cohesion and may or may not include an introduction and/or conclusion. ● Demonstrates general awareness of the norms and conventions of the discipline. ● Draws evidence from literary or informational texts to support analysis, reflection, and research. ● Uses concrete words and phrases, sensory details, linking and transitional words, and/or domain-specific vocabulary to clarify ideas.	In **writing**, students address the prompts and provide basic development of ideas, including when drawing evidence from multiple sources, while in the majority of instances demonstrating organization that sometimes is controlled. The student: ● Develops the topic and/or narrative elements minimally by using some reasoning, details, and/or description. ● Develops topic and/or narrative elements in manner that is general in its appropriateness to the task, purpose, and audience. ● Demonstrates some coherence, clarity, and cohesion, omitting the introduction or conclusion. ● Demonstrates some awareness of the norms of the discipline. ● Draws partial evidence from literary or informational texts to support analysis, reflection, and research. ● Includes some descriptions, sensory details, linking and transitional words, or domain-specific vocabulary to clarify ideas.	In **writing**, students address the prompts and provide minimal development of ideas, including when drawing evidence from multiple sources, while in the majority of instances demonstrating organization that often is not controlled. The student: ● Minimal development of the topic and/or narrative elements and is, therefore, inappropriate to the task and purpose. ● Demonstrates minimal coherence, clarity, and cohesion. ● Demonstrates minimal awareness of the norms of the discipline. ● Draws minimal evidence from literary or informational texts to support analysis, reflection, and research. ● Includes minimal descriptions, sensory details, linking and transitional words, or domain-specific vocabulary, limiting the overall clarity with which ideas are expressed.

Writing – Knowledge of Language and Conventions

Level 5	Level 4	Level 3	Level 2
A student who achieves at **Level 5 exceeds expectations** for the assessed standards.	A student who achieves at **Level 4 meets expectations** for the assessed standards.	A student who achieves at **Level 3 approaches expectations** for the assessed standards.	A student who achieves at **Level 2 partially meets expectations** for the assessed standards.
In **writing**, students demonstrate full command of the conventions of Standard English consistent with edited writing. There may be some errors in grammar and usage, but overall meaning is clear.	In **writing**, students demonstrate command of the conventions of Standard English consistent with edited writing. There are errors in grammar and usage that may occasionally impede understanding.	In **writing**, students demonstrate basic command of the conventions of Standard English consistent with edited writing. There are few patterns of errors in grammar and usage that impede understanding, demonstrating partial control over language.	In **writing**, students demonstrate minimal command of the conventions of Standard English consistent with edited writing. There are patterns of errors in grammar and usage that impede understanding, demonstrating minimal control over language.

Grade 6 ELA Performance Level Descriptors

Reading

Level 5	Level 4	Level 3	Level 2
A student who achieves at **Level 5 exceeds expectations** for the assessed standards.	A student who achieves at **Level 4 meets expectations** for the assessed standards.	A student who achieves at **Level 3 approaches expectations** for the assessed standards.	A student who achieves at **Level 2 partially meets expectations** for the assessed standards.
In **reading**, the pattern exhibited by student responses indicates: • With very complex text, students demonstrate the ability to do mostly accurate analyses of the text, showing understanding of the text when referring to explicit details and examples in the text and when supporting sound inferences drawn from the text • With moderately complex text, students demonstrate the ability to do mostly accurate analyses of the text, showing understanding of the text when referring to explicit details and examples in the text and when supporting sound inferences drawn from the text. • With readily accessible text, students demonstrate the ability to do accurate analyses of the text, showing full understanding of the text when referring to explicit details and examples in the text and when supporting sound inferences drawn from the text.	In **reading**, the pattern exhibited by student responses indicates: • With very complex text, students demonstrate the ability to do generally accurate analyses of the text, showing general understanding of the text when referring to explicit details and examples in the text and when supporting sound inferences drawn from the text. • With moderately complex text, students demonstrate the ability to do generally accurate analyses of the text, showing general understanding of the text when referring to explicit details and examples in the text and when supporting sound inferences drawn from the text. • With readily accessible text, students demonstrate the ability to do mostly accurate analyses of the text, showing understanding of the text when referring to explicit details and examples in the text and when supporting sound inferences drawn from the text.	In **reading**, the pattern exhibited by student responses indicates: • With very complex text, students demonstrate the ability to do minimally accurate analyses of the text, showing minimal understanding of the text when referring to explicit details and examples in the text and when supporting sound inferences drawn from the text. • With moderately complex text, students demonstrate the ability to do generally accurate analyses of the text, showing basic understanding of the text when referring to explicit details and examples in the text and when supporting sound inferences drawn from the text. • With readily accessible text, students demonstrate the ability to do mostly accurate analyses of the text, showing understanding of the text when referring to explicit details and examples in the text and when supporting sound inferences drawn from the text and when supporting sound inferences drawn from the text.	In **reading**, the pattern exhibited by student responses indicates: • With very complex text, students demonstrate the inability to do an accurate analysis of the text, showing limited understanding of the text when referring to explicit details and examples in the text and when supporting sound inferences drawn from the text. • With moderately complex text, students demonstrate the ability to do minimally accurate analyses of the text, showing minimal understanding of the text when referring to explicit details and examples in the text and when supporting sound inferences drawn from the text. • With readily accessible text, students demonstrate the ability to do partially accurate analyses of the text, showing partial understanding of the text when referring to explicit details and examples in the text and when supporting sound inferences drawn from the text.

Writing – Written Expression

Level 5	Level 4	Level 3	Level 2
A student who achieves at **Level 5 exceeds expectations** for the assessed standards.	A student who achieves at **Level 4 meets expectations** for the assessed standards.	A student who achieves at **Level 3 approaches expectations** for the assessed standards.	A student who achieves at **Level 2 partially meets expectations** for the assessed standards.
In **writing,** students address the prompts and provide effective development of ideas, including when drawing evidence from multiple sources, while demonstrating effective coherence, clarity, and/or cohesion. The student: ● Provides effective development of the claim, topic, and/or narrative elements, using clear reasoning, details, text-based evidence, and/or description. ● Develops claim, topic, and/or narrative elements in a manner that is appropriate to the task, purpose, and audience. ● Demonstrates coherence, clarity, and cohesion and includes an introduction, conclusion, and a logical progression of ideas. ● Establishes and maintains an effective style, while attending to the norms and conventions of the discipline. ● Effectively draws evidence from literary or informational texts to support analysis, reflection, and research. ● Includes precise language including descriptive words and phrases, sensory details, linking and transitional words, words to indicate tone, and/or domain-specific vocabulary.	In **writing**, students address the prompts and provide development of ideas, including when drawing evidence from multiple sources, while demonstrating coherence, clarity, and/or cohesion. The student: ● Provides development of the claim, topic, and/or narrative elements, using reasoning, details, text-based evidence, and/or description. ● Develops claim, topic, and/or narrative elements in a manner that is mostly appropriate to the task, purpose, and audience. ● Demonstrates general coherence, clarity, and cohesion and includes an introduction, conclusion, and logically grouped ideas. ● Establishes and maintains a mostly effective style, while attending to the norms and conventions of the discipline. ● Draws evidence from literary or informational texts to support analysis, reflection, and research. ● Includes mostly precise language, including descriptive words and phrases, sensory details, linking and transitional words, words to indicate tone, and/or domain-specific vocabulary.	In **writing**, students address the prompts and provide basic development of ideas, including when drawing evidence from multiple sources, while generally demonstrating basic coherence, clarity, and/or cohesion. The student: ● Provides some development of the claim, topic, and/or narrative elements, using basic reasoning, details, text-based evidence, and/or description. ● Develops claim, topic, and/or narrative elements in a manner that is somewhat appropriate to the task, purpose, and audience. ● Demonstrates some coherence, clarity, and/or cohesion, making the writer's progression of ideas somewhat unclear. ● Employs a style that is generally effective, with basic awareness of the norms of the discipline. ● Draws some evidence from literary or informational texts to support analysis, reflection, and research. ● Includes some descriptions, sensory details, linking or transitional words, words to indicate tone, or domain-specific vocabulary.	In **writing**, students address the prompts and provide minimal development of ideas, including when drawing evidence from multiple sources, while demonstrating minimal coherence, clarity, and/or cohesion. The student: ● Provides minimal development of the claim, topic, and/or narrative elements, using minimal reasoning, details, text-based evidence, and/or description. ● Minimal development of the claim, topic and/or narrative elements that is minimally appropriate to the task, purpose, and audience. ● Demonstrates minimal coherence, clarity, and/or cohesion, making the writer's progression of ideas unclear. ● Employs a minimally effective style, and minimal awareness of the norms of the discipline. ● Draws minimal evidence from literary or informational texts to support analysis, reflection, and research. ● Includes minimal descriptions, sensory details, linking or transitional words, words to indicate tone, or domain-specific vocabulary.

Writing – Knowledge of Language and Conventions

Level 5	Level 4	Level 3	Level 2
A student who achieves at **Level 5 exceeds expectations** for the assessed standards.	A student who achieves at **Level 4 meets expectations** for the assessed standards.	A student who achieves at **Level 3 approaches expectations** for the assessed standards.	A student who achieves at **Level 2 partially meets expectations** for the assessed standards.
In **writing**, students demonstrate full command of the conventions of Standard English consistent with edited writing. There may be some errors in grammar and usage, but overall meaning is clear.	In **writing**, students demonstrate command of the conventions of Standard English consistent with edited writing. There are errors in grammar and usage that may occasionally impede understanding.	In **writing**, students demonstrate basic command of the conventions of Standard English consistent with edited writing. There are few patterns of errors in grammar and usage that impede understanding, demonstrating partial control over language.	In **writing**, students demonstrate minimal command of the conventions of Standard English consistent with edited writing. There are patterns of errors in grammar and usage that impede understanding, demonstrating minimal control over language.

Grade 7 ELA Performance Level Descriptors

Reading

Level 5	Level 4	Level 3	Level 2
A student who achieves at **Level 5 exceeds expectations** for the assessed standards.	A student who achieves at **Level 4 meets expectations** for the assessed standards.	A student who achieves at **Level 3 approaches expectations** for the assessed standards.	A student who achieves at **Level 2 partially meets expectations** for the assessed standards.
In **reading**, the pattern exhibited by student responses indicates: ● With very complex text, students demonstrate the ability to do mostly accurate analyses of the text, showing understanding of the text when referring to explicit details and examples in the text and when supporting sound inferences drawn from the text. ● With moderately complex text, students demonstrate the ability to do mostly accurate analyses of the text, showing understanding of the text when referring to explicit details and examples in the text and when supporting sound inferences drawn from the text. ● With readily accessible text, students demonstrate the ability to do accurate analyses of the text, showing full understanding of the text when referring to explicit details and examples in the text and when supporting sound inferences drawn from the text.	In **reading**, the pattern exhibited by student responses indicates: ● With very complex text, students demonstrate the ability to do generally accurate analyses of the text, showing general understanding of the text when referring to explicit details and examples in the text and when supporting sound inferences drawn from the text. ● With moderately complex text, students demonstrate the ability to do generally accurate analyses of the text, showing general understanding of the text when referring to explicit details and examples in the text and when supporting sound inferences drawn from the text. ● With readily accessible text, students demonstrate the ability to do mostly accurate analyses of the text, showing understanding of the text when referring to explicit details and examples in the text and when supporting sound inferences drawn from the text.	In **reading**, the pattern exhibited by student responses indicates: ● With very complex text, students demonstrate the ability to do minimally accurate analyses of the text, showing minimal understanding of the text when referring to explicit details and examples in the text and when supporting sound inferences drawn from the text. ● With moderately complex text, students demonstrate the ability to do generally accurate analyses of the text, showing basic understanding of the text when referring to explicit details and examples in the text and when supporting sound inferences drawn from the text. ● With readily accessible text, students demonstrate the ability to do mostly accurate analyses of the text, showing understanding of the text when referring to explicit details and examples in the text and when supporting sound inferences drawn from the text.	In **reading**, the pattern exhibited by student responses indicates: ● With very complex text, students demonstrate the inability to do an accurate analysis of the text, showing limited understanding of the text when referring to explicit details and examples in the text and when supporting sound inferences drawn from the text. ● With moderately complex text, students demonstrate the ability to do minimally accurate analyses of the text, showing minimal understanding of the text when referring to explicit details and examples in the text and when supporting sound inferences drawn from the text. ● With readily accessible text, students demonstrate the ability to do partially accurate analyses of the text, showing partial understanding of the text when referring to explicit details and examples in the text and when supporting sound inferences drawn from the text.

Writing – Written Expression

Level 5	Level 4	Level 3	Level 2
A student who achieves at **Level 5 exceeds expectations** for the assessed standards.	A student who achieves at **Level 4 meets expectations** for the assessed standards.	A student who achieves at **Level 3 approaches expectations** for the assessed standards.	A student who achieves at **Level 2 partially meets expectations** for the assessed standards.
In **writing**, students address the prompts and provide effective development of ideas, including when drawing evidence from multiple sources, while demonstrating effective coherence, clarity, and/or cohesion. The student: ● Provides effective development of the claim, topic, and/or narrative elements, using clear reasoning, details, text-based evidence, and/or description. ● Develops claim, topic, and/or narrative elements in a manner that is appropriate to the task, purpose, and audience. ● Demonstrates coherence, clarity, and cohesion and includes an introduction, conclusion, and a logical progression of ideas. ● Establishes and maintains an effective style, while attending to the norms and conventions of the discipline. ● Effectively draws evidence from literary or informational texts to support analysis, reflection, and research. ● Includes precise language including descriptive words and phrases, sensory details, linking and transitional words, words to indicate tone, and/or domain-specific vocabulary.	In **writing**, students address the prompts and provide development of ideas, including when drawing evidence from multiple sources, while demonstrating coherence, clarity, and/or cohesion. The student: ● Provides development of the claim, topic, and/or narrative elements, using reasoning, details, text-based evidence, and/or description. ● Develops claim, topic, and/or narrative elements in a manner that is mostly appropriate to the task, purpose, and audience. ● Demonstrates general coherence, clarity, and cohesion and includes an introduction, conclusion, and logically grouped ideas. ● Establishes and maintains a mostly effective style, while attending to the norms and conventions of the discipline. ● Draws evidence from literary or informational texts to support analysis, reflection, and research. ● Includes mostly precise language, including descriptive words and phrases, sensory details, linking and transitional words, words to indicate tone, and/or domain-specific vocabulary.	In **writing**, students address the prompts and provide basic development of ideas, including when drawing evidence from multiple sources, while generally demonstrating basic coherence, clarity, and/or cohesion. The student: ● Provides some development of the claim, topic, and/or narrative elements, using basic reasoning, details, text-based evidence, and/or description. ● Develops claim, topic, and/or narrative elements in a manner that is somewhat appropriate to the task, purpose, and audience. ● Demonstrates some coherence, clarity, and/or cohesion, making the writer's progression of ideas somewhat unclear. ● Employs a style that is generally effective, with basic awareness of the norms of the discipline. ● Draws some evidence from literary or informational texts to support analysis, reflection, and research. ● Includes some descriptions, sensory details, linking or transitional words, words to indicate tone, or domain-specific vocabulary.	In **writing**, students address the prompts and provide minimal development of ideas, including when drawing evidence from multiple sources, while demonstrating minimal coherence, clarity, and/or cohesion. The student: ● Provides minimal development of the claim, topic, and/or narrative elements, using minimal reasoning, details, text-based evidence, and/or description. ● Minimal development of the claim, topic and/or narrative elements that is minimally appropriate to the task, purpose, and audience. ● Demonstrates minimal coherence, clarity, and/or cohesion, making the writer's progression of ideas unclear. ● Employs a minimally effective style, and minimal awareness of the norms of the discipline. ● Draws minimal evidence from literary or informational texts to support analysis, reflection, and research. ● Includes minimal descriptions, sensory details, linking or transitional words, words to indicate tone, or domain-specific vocabulary.

Writing – Knowledge of Language and Conventions

Level 5	Level 4	Level 3	Level 2
A student who achieves at **Level 5 exceeds expectations** for the assessed standards.	A student who achieves at **Level 4 meets expectations** for the assessed standards.	A student who achieves at **Level 3 approaches expectations** for the assessed standards.	A student who achieves at **Level 2 partially meets expectations** for the assessed standards.
In **writing**, students demonstrate full command of the conventions of Standard English consistent with edited writing. There may be some errors in grammar and usage, but overall meaning is clear.	In **writing**, students demonstrate command of the conventions of Standard English consistent with edited writing. There are errors in grammar and usage that may occasionally impede understanding.	In **writing**, students demonstrate basic command of the conventions of Standard English consistent with edited writing. There are few patterns of errors in grammar and usage that impede understanding, demonstrating partial control over language.	In **writing**, students demonstrate minimal command of the conventions of Standard English consistent with edited writing. There are patterns of errors in grammar and usage that impede understanding, demonstrating minimal control over language

Grade 8 ELA Performance Level Descriptors

Reading

Level 5	Level 4	Level 3	Level 2
A student who achieves at **Level 5 exceeds expectations** for the assessed standards.	A student who achieves at **Level 4 meets expectations** for the assessed standards.	A student who achieves at **Level 3 approaches expectations** for the assessed standards.	A student who achieves at **Level 2 partially meets expectations** for the assessed standards.
In **reading**, the pattern exhibited by student responses indicates: ● With very complex text, students demonstrate the ability to do mostly accurate analyses of text, showing understanding of the text when referring to explicit details and examples in the text and when supporting sound inferences drawn from the text. ● With moderately complex text, students demonstrate the ability to do mostly accurate analyses of the text, showing understanding of the text when referring to explicit details and examples in the text and when supporting sound inferences drawn from the text. ● With readily accessible text, students demonstrate the ability to do accurate analyses of the text, showing full understanding of the text when referring to explicit details and examples in the text and when supporting sound inferences drawn from the text.	In **reading**, the pattern exhibited by student responses indicates: ● With very complex text, students demonstrate the ability to do generally accurate analyses of the text, showing general understanding of the text when referring to explicit details and examples in the text and when supporting sound inferences drawn from the text. ● With moderately complex text, students demonstrate the ability to do generally accurate analyses of the text, showing general understanding of the text when referring to explicit details and examples in the text and when supporting sound inferences drawn from the text. ● With readily accessible text, students demonstrate the ability to do mostly accurate analyses of the text, showing understanding of the text when referring to explicit details and examples in the text and when supporting sound inferences drawn from the text.	In **reading**, the pattern exhibited by student responses indicates: ● With very complex text, students demonstrate the ability to do minimally accurate analyses of the text, showing minimal understanding of the text when referring to explicit details and examples in the text and when supporting sound inferences drawn from the text. ● With moderately complex text, students demonstrate the ability to do generally accurate analyses of the text, showing basic understanding of the text when referring to explicit details and examples in the text and when supporting sound inferences drawn from the text. ● With readily accessible text, students demonstrate the ability to do mostly accurate analyses of the text, showing understanding of the text when referring to explicit details and examples in the text and when supporting sound inferences drawn from the text.	In **reading**, the pattern exhibited by student responses indicates: ● With very complex text, students demonstrate the inability to do an accurate analysis of the text, showing limited understanding of the text when referring to explicit details and examples in the text and when supporting sound inferences drawn from the text. ● With moderately complex text, students demonstrate the ability to do minimally accurate analyses of the text, showing minimal understanding of the text when referring to explicit details and examples in the text and when supporting sound inferences drawn from the text. ● With readily accessible text, students demonstrate the ability to do partially accurate analyses of the text, showing partial understanding of the text when referring to explicit details and examples in the text and when supporting sound inferences drawn from the text.

Writing – Written Expression

Level 5	Level 4	Level 3	Level 2
A student who achieves at **Level 5 exceeds expectations** for the assessed standards.	A student who achieves at **Level 4 meets expectations** for the assessed standards.	A student who achieves at **Level 3 approaches expectations** for the assessed standards.	A student who achieves at **Level 2 partially meets expectations** for the assessed standards.
In **writing**, students address the prompts and provide effective development of ideas, including when drawing evidence from multiple sources, while demonstrating effective coherence, clarity, and/or cohesion. The student: ● Provides effective development of the claim, topic, and/or narrative elements, using clear reasoning, details, text-based evidence, and/or description. ● Develops claim, topic, and/or narrative elements in a manner that is appropriate to the task, purpose, and audience. ● Demonstrates coherence, clarity, and cohesion and includes an introduction, conclusion, and a logical progression of ideas. ● Establishes and maintains an effective style, while attending to the norms and conventions of the discipline. ● Effectively draws evidence from literary or informational texts to support analysis, reflection, and research. ● Includes precise language including descriptive words and phrases, sensory details, linking and transitional words, words to indicate tone, and/or domain-specific vocabulary.	In **writing**, students address the prompts and provide development of ideas, including when drawing evidence from multiple sources, while demonstrating coherence, clarity, and/or cohesion. The student: ● Provides development of the claim, topic, and/or narrative elements, using reasoning, details, text-based evidence, and/or description. ● Develops claim, topic, and/or narrative elements in a manner that is mostly appropriate to the task, purpose, and audience. ● Demonstrates general coherence, clarity, and cohesion and includes an introduction, conclusion, and logically grouped ideas. ● Establishes and maintains a mostly effective style, while attending to the norms and conventions of the discipline. ● Draws evidence from literary or informational texts to support analysis, reflection, and research. ● Includes mostly precise language, including descriptive words and phrases, sensory details, linking and transitional words, words to indicate tone, and/or domain-specific vocabulary.	In **writing**, students address the prompts and provide basic development of ideas, including when drawing evidence from multiple sources, while generally demonstrating basic coherence, clarity, and/or cohesion. The student: ● Provides some development of the claim, topic, and/or narrative elements, using basic reasoning, details, text-based evidence, and/or description. ● Develops claim, topic, and/or narrative elements in a manner that is somewhat appropriate to the task, purpose, and audience. ● Demonstrates some coherence, clarity, and/or cohesion, making the writer's progression of ideas somewhat unclear. ● Employs a style that is generally effective, with basic awareness of the norms of the discipline. ● Draws some evidence from literary or informational texts to support analysis, reflection, and research. ● Includes some descriptions, sensory details, linking or transitional words, words to indicate tone, or domain-specific vocabulary.	In **writing**, students address the prompts and provide minimal development of ideas, including when drawing evidence from multiple sources, while demonstrating minimal coherence, clarity, and/or cohesion. The student: ● Provides minimal development of the claim, topic, and/or narrative elements, using minimal reasoning, details, text-based evidence, and/or description. ● Minimal development of the claim, topic and/or narrative elements that is minimally appropriate to the task, purpose, and audience. ● Demonstrates minimal coherence, clarity, and/or cohesion, making the writer's progression of ideas unclear. ● Employs a minimally effective style, and minimal awareness of the norms of the discipline. ● Draws minimal evidence from literary or informational texts to support analysis, reflection, and research. ● Includes minimal descriptions, sensory details, linking or transitional words, words to indicate tone, or domain-specific vocabulary.

Writing – Knowledge of Language and Conventions

Level 5	Level 4	Level 3	Level 2
A student who achieves at **Level 5 exceeds expectations** for the assessed standards.	A student who achieves at **Level 4 meets expectations** for the assessed standards.	A student who achieves at **Level 3 approaches expectations** for the assessed standards.	A student who achieves at **Level 2 partially meets expectations** for the assessed standards.
In **writing**, students demonstrate full command of the conventions of Standard English consistent with edited writing. There may be some errors in grammar and usage, but overall meaning is clear.	In **writing**, students demonstrate command of the conventions of Standard English consistent with edited writing. There are errors in grammar and usage that may occasionally impede understanding.	In **writing**, students demonstrate basic command of the conventions of Standard English consistent with edited writing. There are few patterns of errors in grammar and usage that impede understanding, demonstrating partial control over language.	In **writing**, students demonstrate minimal command of the conventions of Standard English consistent with edited writing. There are patterns of errors in grammar and usage that impede understanding, demonstrating minimal control over language.

Grade 3 Mathematics Performance Level Descriptors

	Grade 3 Math : Sub-Claim A The student solves problems involving Major Content for Grade 3 with connections to the Standards for Mathematical Practice.			
	Level 5: Exceeds Expectations	**Level 4: Meets Expectations**	**Level 3: Approaches Expectations**	**Level 2: Partially Meets Expectations**
Products and Quotients 3.OA.1 3.OA .2 3.OA .4 3.OA .6 3.OA.7-1 3.OA.7-2	**Understands** and interprets products and quotients of whole numbers. Determines the unknown whole number in a multiplication or division problem by relating multiplication and division. **Both factors are greater than 5 and less than or equal 10.** **Represents a multiplication or division situation as an equation.** Accurately multiplies and divides within 100, using strategies relating multiplication and division or properties of operations.	Interprets products and quotients of whole numbers. Determines the unknown whole number in a multiplication or division problem by relating multiplication and division. **One factor** is **greater than or equal** to 5. **Accurately** multiplies and divides within 100, using strategies relating multiplication and division or properties of operations.	**Interprets** products and quotients of whole numbers. Determines the unknown whole number in a multiplication or division problem by relating multiplication and division, with both factors less than or equal to 5, or with one factor of 10. Multiplies and divides within 100, **using strategies relating multiplication and division or properties of operations.**	Determines products and quotients of whole numbers within 100. Determines the unknown whole number in a multiplication or division problem by relating multiplication and division, with both factors less than or equal to 5, or with one factor of 10.
Multiplication and Division 3.OA.3-1 3.OA.3-2 3.OA.3-3 3.OA.3-4	Uses multiplication and division within 100 to solve word problems involving equal groups, arrays, **area, and measurement quantities other than area. Both factors are > 5 and < or = to 10.** **Identifies multiple contexts given a numerical expression involving multiplication and division.**	**Uses multiplication and division within 100 to solve word problems** involving equal groups and arrays. **One factor** is **> or =** to 5.	Given a visual aid, uses multiplication and division within 100 to solve word problems involving equal groups **and arrays**, with both factors < or = to 5, or with one factor of 10.	Given a visual aid, uses multiplication and division within 100 to solve word problems involving equal groups. Both factors are < or = to 5, with both factors < or = to 5, or with one factor of 10.
Two-Step Problems 3.OA.8 3.Int.1 3.Int.2	Solves two-step **unscaffolded** word problems using the four operations, **including rounding where appropriate**, in which the unknown is in a variety of positions. **Both values** for each operation performed is substantial (towards the upper limits as defined by the standard assessed).	Solves two-step scaffolded word problems using the four operations **in which the unknown is in a variety of positions.** One of the values for each operation performed is substantial (towards the upper limits as defined by the standard assessed).	Solves two-step scaffolded word problems using the four operations and in which the sum, difference, product or quotient is always the unknown. **One of the values for each operation performed is substantial (towards the upper limits as defined by the standard assessed).**	Solves two-step scaffolded word problems using the four operations and in which the sum, difference, product or quotient is always the unknown.
Fraction Equivalence 3.NF.3a-1 3.NF.3a-2 3.NF.3b-1 3.NF-3c 3.NF-3d 3.NF.A.Int.1	Understands, recognizes and generates equivalent fractions with denominators of 2, 3, 4, 6 and 8. Expresses whole numbers as fractions and recognize fractions that are equivalent to whole numbers.	**Understands, recognizes and generates equivalent fractions using denominators of 2, 4, and 8.** Expresses whole numbers as fractions.	Given a visual model, **understands,** recognizes and **generates** equivalent fractions with denominators of 2, 4 and 8. Expresses **whole numbers** as fractions.	Given a visual model recognizes equivalent fractions with denominators of 2, 4 and 8. Expresses the number 1 as a fraction.

	Grade 3 Math : Sub-Claim A The student solves problems involving Major Content for Grade 3 with connections to the Standards for Mathematical Practice.			
	Level 5: Exceeds Expectations	**Level 4: Meets Expectations**	**evel 3: Approaches Expectations**	**Level 2: Partially Meets Expectations**
	Compares two fractions that have the same numerator or same denominator using symbols to justify conclusions. **Plots the location of equivalent fractions on a number line.** The student must recognize that two fractions must refer to the same whole in order to compare. **Given a whole number and two fractions in a real-world situation, plots all three numbers on a number line and determines which fraction is closest to the whole number. Justifies the comparison by plotting points on a number line.**	Compares two fractions that have the same numerator or same denominator using symbols **and justifies conclusions by using a visual model.** The student must recognize that two fractions must refer to the same whole in order to compare.	**Compares two fractions that have the same numerator or same denominator using symbols. The student must recognize that two fractions must refer to the same whole in order to compare.**	
Fractions as Numbers 3.NF.1 3.NF.2 3.NF.A.Int.1	Understands 1/*b* is equal to one whole partitioned into *b* equal parts–limiting the denominators to 2, **3**, 4, **6** and 8. Represents 1/*b* on a number line diagram by partitioning the number line between 0-1 into *b* equal parts recognizing that *b* is the total number of parts. Demonstrates understanding of the quantity *a*/*b* by marking off *a* parts of 1/*b* from 0 on the number line and **states that the endpoint locates the number *a*/*b*.** **Applies the concepts of 1/*b* and *a*/*b* in real-world situations.** **Describes the number line that best fits the context.**	Understands 1/*b* is equal to one whole partitioned into *b* equal parts–limiting the denominators to 2, 4 and **8**. Represents 1/*b* on a number line diagram by partitioning the number line between 0-1 into *b* equal parts recognizing that *b* is the total number of parts. **Demonstrates the understanding of the quantity *a*/*b* by marking off *a* parts of 1/*b* from 0 on the number line.**	Understands 1/*b* is equal to one whole partitioned into *b* equal parts–limiting the denominators to 2 and 4. **Represents 1/*b* on a number line diagram by partitioning the number line between 0-1 into *b* equal parts recognizing that *b* is the total number of parts.** **Represents fractions in the form *a*/*b* using a visual model.**	Understands 1/*b* is equal to one whole partitioned into *b* equal parts–limiting the denominators to 2 and 4. Identifies 1/*b* on a number line diagram when partitioned between 0 and 1 into *b* equal parts.
Time 3.MD.1-1 3.MD.1-2	Tells, writes and measures time to the nearest minute. Solves **two–step** word problems involving addition **and** subtraction of time intervals in minutes.	Tells, writes and measures time to the nearest minute. **Solves one-step word problems involving addition or subtraction of time intervals in minutes.**	Tells, writes and measures time to the nearest minute. **Solves one-step word problems involving addition or subtraction of time intervals in minutes, with scaffolding, such as a number line diagram.**	Tells, writes and measures time to the nearest minute.
Volumes and Masses	Using grams, kilograms or liters, measures, estimates and **solves**	**Using grams, kilograms or liters, measures and estimates**	Using grams, kilograms or liters, measures **and estimates** liquid	Using grams, kilograms or liters, measures liquid volumes and

	Grade 3 Math : Sub-Claim A The student solves problems involving Major Content for Grade 3 with connections to the Standards for Mathematical Practice.			
	Level 5: Exceeds Expectations	**Level 4: Meets Expectations**	**evel 3: Approaches Expectations**	**Level 2: Partially Meets Expectations**
3.MD.2-1 3.MD.2-2 3.MD.2-3 3.Int.5	**multi-step word problems** involving liquid volumes and masses of objects using any of the four basic operations. **Number values should be towards the higher end of the acceptable values for each operation.** Uses estimated measurements **to compare answers** to one-step word problems. **Evaluates usefulness and accuracy of estimations.**	**liquid volumes and masses of objects using any of the four basic operations.** **Uses estimated measurements, when indicated, to answer one-step word problems.**	volumes and masses of objects **using concrete objects** (beakers, measuring cups, scales) **to develop estimates.**	masses of concrete objects (beakers, measuring cups, scales).
Geometric Measurement 3.MD.5 3.MD.6 3.MD.7b-1 3.MD.7d	Recognizes area as an attribute of plane figures. Understands area is measured using square units. **Describes a visual model to show understanding that** area that can be found by covering a plane figure without gaps or overlaps by unit squares and counting them. **Connects counting squares to multiplication when finding area.** Represents the area of a plane figure as "n" square units.	Recognizes area as an attribute of plane figures. With a visual model, understands area is measured using square units. Determines area by covering a plane figure without gaps or overlaps by unit squares and counting them. **Represents the area of a plane figure as "n" square units.**	Recognizes area as an attribute of plane figures. With a visual model, understands area is measured using square units. **Determines area by covering a plane figure without gaps or overlaps by unit squares and counting them.**	Recognizes area as an attribute of plane figures. With a visual model, understands area is measured using square units. Determines area by counting unit squares.

	Grade 3 Math: Sub-Claim B The student solves problems involving Additional and Supporting Content for Grade 3 with connections to the Standards for Mathematical Practice.			
	Level 5: Exceeds Expectations	**Level 4: Meets Expectations**	**evel 3: Approaches Expectations**	**Level 2: Partially Meets Expectations**
Multi-Digit Arithmetic 3.NBT.2 3.NBT.3	Accurately adds and subtracts within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction. Multiplies one-digit whole numbers by multiples of 10 in the range 10-90 using strategies based on place value	**Accurately** adds and subtracts within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction. Uses repeated addition to multiply one-digit whole numbers by multiples of 10 in the range 10-90 **using strategies based on place value and properties of operations.**	Adds and subtracts within 1000, using strategies and algorithms based on place value, properties of operations with scaffolding, and/or the relationship between addition and subtraction. **Uses repeated addition to multiply one-digit whole numbers by multiples of 10 in the range 10-90 using strategies based on place value and properties of operations.**	Adds and subtracts within 1000, using strategies and algorithms based on place value, properties of operations with scaffolding, and/or the relationship between addition and subtraction.

	Grade 3 Math: Sub-Claim B The student solves problems involving Additional and Supporting Content for Grade 3 with connections to the Standards for Mathematical Practice.			
	Level 5: Exceeds Expectations	**Level 4: Meets Expectations**	**Level 3: Approaches Expectations**	**Level 2: Partially Meets Expectations**
Scaled Graphs 3.MD.3-1 3.MD.3-3 3.Int.4	Completes a scaled picture graph and a scaled bar graph to represent a data set. Solves one-and two-step "how many more" and "how many less" problems, **requiring a substantial addition, subtraction or multiplication step,** using information presented in scaled bar graphs.	**Completes a scaled picture graph and a scaled bar graph to represent a data set**. Solves one- and two-step "how many more" and "how many less" problems using information presented in scaled bar graphs.	**Completes a scaled picture graph and a scaled bar graph to represent a data set, with scaffolding, such as using a model as a guide.** Solves one-step "how many more" and "how many less" problems using information presented in scaled bar graphs.	Identifies a correctly scaled picture graph and a correctly scaled bar graph to represent a data set. Solves one-step "how many more" and "how many less" problems using information presented in scaled bar graphs.
Measurement Data 3.MD.4	Generates measurement data by measuring lengths to the nearest half and **fourth** inch. Shows the data by making a line plot, where the horizontal scale is marked in appropriate units of whole numbers, halves **or quarters**. **Uses the line plot to answer questions or solve problems.**	Generates measurement data by measuring lengths to the nearest half inch. Shows the data by making a line plot, where the horizontal scale is marked in appropriate units of whole numbers or halves.	**Generates measurement data by measuring lengths to the nearest half inch.** **Shows the data by making a line plot, where the horizontal scale is marked in appropriate units of whole numbers or halves, with scaffolding.**	Identifies correct measurement from figures with appropriate scale provided.
Understanding Shapes 3.G.1	Understands the properties of quadrilaterals and the subcategories of quadrilaterals. Recognizes **and sorts** examples of quadrilaterals that have shared attributes and **shows** that the shared attributes can define a larger category. Draws examples and **non-examples** of quadrilaterals with specific attributes.	**Understands the properties** of quadrilaterals and the subcategories of quadrilaterals. Recognizes examples of quadrilaterals that have shared attributes and that the shared attributes can define a larger category. **Draws examples of quadrilaterals with specific attributes.**	Identifies examples of quadrilaterals and the subcategories of quadrilaterals. **Recognizes examples of quadrilaterals that have shared attributes and that the shared attributes can define a larger category.**	Identifies examples of quadrilaterals and the subcategories of quadrilaterals.
Perimeter and Area 3.G.2 3.MD.8 3.Int.3	Solves real-world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and provides examples of rectangles with **the same perimeter and different areas** or with the same area and different perimeters**.** **A substantial addition, subtraction, or multiplication step with number values towards the higher end of the**	Solves mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, **finding an unknown side length**, and **provides examples of** rectangles with the same area and different perimeters.	Solves mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, **and identifying rectangles with the same area and different perimeters.**	Solves mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths.

	Grade 3 Math: Sub-Claim B The student solves problems involving Additional and Supporting Content for Grade 3 with connections to the Standards for Mathematical Practice.			
	Level 5: Exceeds Expectations	**Level 4: Meets Expectations**	**evel 3: Approaches Expectations**	**Level 2: Partially Meets Expectations**
	acceptable values for each operation Partitions shapes into parts with equal areas and expresses the area as a unit fraction of the whole.			

	Grade 3 Math: Sub-Claim C In connection with content, the student expresses Grade 3 appropriate mathematical reasoning by constructing viable arguments, critiquing the reasoning of others and/or attending to precision when making mathematical statements.			
	Level 5: Exceeds Expectations	**Level 4: Meets Expectations**	**evel 3: Approaches Expectations**	**Level 2: Partially Meets Expectations**
Properties of Operations 3.C.1-1 3.C.1-2 3.C.1-3 3.C.2	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student clearly constructs and communicates a complete written response based on explanations/reasoning using: • properties of operations • relationship between addition and subtraction • relationship between multiplication and division • identification of arithmetic patterns Response may include: • a logical/defensible approach based on a conjecture and/or stated assumptions, utilizing mathematical connections (when appropriate) • an efficient and logical progression of steps **with appropriate justification** • precision of calculation • correct use of grade-level vocabulary, symbols, labels • justification of a conclusion • **determination of whether an argument or conclusion is generalizable** • evaluating, interpreting and critiquing the validity of other's responses, reasonings, and approaches, utilizing mathematical connections (when appropriate). **Provides a counter-example where applicable.**	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student clearly constructs and communicates a complete written response based on explanations/reasoning using: • properties of operations • relationship between addition and subtraction • relationship between multiplication and division • identification of arithmetic patterns Response may include: • a logical/**defensible** approach based on a conjecture and/or stated assumptions, **utilizing mathematical connections (when appropriate)** • a logical progression of steps • precision of calculation • **correct** use of grade-level vocabulary, symbols and labels • justification of a conclusion • evaluating**, interpreting and critiquing** the validity of other's responses, r**easonings, and approaches, utilizing mathematical connections (when appropriate)**.	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student constructs and communicates a written response based on explanations/reasoning using: • properties of operations • relationship between addition and subtraction • relationship between multiplication and division • identification of arithmetic patterns Response may include: • a **logical** approach based on a conjecture and/or stated assumptions • a **logical**, but incomplete, progression of steps • **minor** calculation errors • limited use of grade-level vocabulary, symbols and labels • partial justification of a conclusion based on own calculations • **evaluating the validity of other's responses, approaches and conclusions.**	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student constructs and communicates an incomplete written response based on explanations/reasoning using: • properties of operations • relationship between addition and subtraction • relationship between multiplication and division • identification of arithmetic patterns Response may include: • an approach based on a conjecture and/or stated or faulty assumptions • an incomplete or illogical progression of steps • an intrusive calculation error • limited use of grade-level vocabulary, symbols and labels • partial justification of a conclusion based on own calculations

	Grade 3 Math: Sub-Claim C In connection with content, the student expresses Grade 3 appropriate mathematical reasoning by constructing viable arguments, critiquing the reasoning of others and/or attending to precision when making mathematical statements.			
	Level 5: Exceeds Expectations	**Level 4: Meets Expectations**	**Level 3: Approaches Expectations**	**Level 2: Partially Meets Expectations**
Concrete Referents and Diagrams 3.C.3-1 3.C.3-2 3.C.6-1 3.C.6-2	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student clearly constructs and communicates a well-organized and complete response based on operations using concrete referents such as diagrams--including number lines (whether provided in the prompt or constructed by the student) and connecting the diagrams to a written (symbolic) method, which may include: • a logical approach based on a conjecture and/or stated assumptions, utilizing mathematical connections (when appropriate) • an **efficient** and logical progression of steps **with appropriate justification** • precision of calculation • correct use of grade-level vocabulary, symbols and labels • justification of a conclusion • **determination of whether an argument or conclusion is generalizable** • evaluating, interpreting, and critiquing the validity of other's responses, approaches, and reasoning**, and providing a counter-example where applicable**	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student clearly constructs and communicates a well-**organized and complete** response based on operations using concrete referents such as diagrams--including number lines (**whether provided in the prompt or constructed by the student**) and connecting the diagrams to a written (symbolic) method, which may include: • a logical approach based on a conjecture and/or stated assumptions, **utilizing mathematical connections (when appropriate)** • a logical progression of steps • **precision of calculation** • **correct** use of grade-level vocabulary, symbols and labels • justification of a conclusion • evaluating, **interpreting, and critiquing** the validity of other's responses, approaches, and **reasoning.**	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student constructs and communicates **a response** based on operations using concrete referents such as diagrams – including number lines (provided in the prompt) – connecting the diagrams to a written (symbolic) method, which may include: • **a logical approach based on a conjecture and/or stated assumptions** • a **logical**, but incomplete, progression of steps • **minor** calculation errors • **some** use of grade-level vocabulary, symbols and labels • partial justification of a conclusion based on own calculations. • **evaluating** the validity of other's responses, **approaches and conclusions**	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student constructs and communicates **an** incomplete response based on operations using concrete referents such as diagrams – including number lines (provided in the prompt) – connecting the diagrams to a written (symbolic) method, which may include: • a conjecture and/or stated or faulty assumptions • an incomplete or illogical progression of steps • an intrusive calculation error • limited use of grade-level vocabulary, symbols and labels • partial justification of a conclusion based on own calculations • accepting the validity of other's responses
Distinguish Correct Explanation/ Reasoning from that which is Flawed 3.C.4-1 3.C.4-2 3.C.4-3 3.C.4-4 3.C.4-5 3.C.4-6 3.C.5-1 3.C.5-2	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student clearly constructs and communicates a well-organized and complete response by: • presenting and defending solutions to multi-step problems in the form of valid chains of reasoning, using symbols such as equal signs appropriately • **evaluating** explanation/reasoning; if	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student **clearly** constructs and communicates **a well-organized** and complete response by: • presenting and **defending** solutions to multi-step problems in the form of valid chains of reasoning, using symbols such as equal signs appropriately • distinguishing correct explanation/reasoning from	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student constructs and communicates a **complete** response by**:** • presenting solutions to **multi-step** problems in the form of valid chains of reasoning**,** using symbols such as equal signs appropriately • distinguishing correct explanation/reasoning from that which is flawed	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student constructs and communicates an incomplete response by: • presenting solutions to scaffolded two-step problems in the form of valid chains of reasoning, sometimes using symbols such as equal signs appropriately • distinguishing correct explanation/reasoning from that which is flawed

	Grade 3 Math: Sub-Claim C In connection with content, the student expresses Grade 3 appropriate mathematical reasoning by constructing viable arguments, critiquing the reasoning of others and/or attending to precision when making mathematical statements.			
	Level 5: Exceeds Expectations	**Level 4: Meets Expectations**	**Level 3: Approaches Expectations**	**Level 2: Partially Meets Expectations**
3.C.4-7	there is a flaw in the argument • presenting **and defending** corrected reasoning Response may include: • a logical approach based on a conjecture and/or stated assumptions, utilizing mathematical connections (when appropriate) • **an efficient** and logical progression of steps **with appropriate justification** • **precision of calculation**	that which is flawed • identifying and describing the flaw in reasoning or describing errors in solutions to multi-step problems • presenting corrected reasoning Response may include: • a logical approach based on a conjecture and/or stated assumptions, **utilizing mathematical connections (when appropriate)** • **a logical progression of steps** • **precision of calculation**	• identifying and **describing the flaw in reasoning or describing errors in solutions to multi-step problems** • **presenting corrected reasoning** Response may include: • **a logical approach based on a conjecture and/or stated assumptions** • **a logical**, but incomplete, progression of steps • **minor** calculation errors	• identifying an error in reasoning Response may include: • a conjecture based on faulty assumptions • an incomplete or illogical progression of steps • an intrusive calculation error
	• correct use of grade-level vocabulary, symbols and labels • justification of a conclusion • **evaluation of whether an argument or conclusion is generalizable** • evaluating, interpreting, and critiquing the validity of other's responses, approaches and reasoning, and **providing a counter-example where applicable.**	• **correct** use of grade-level vocabulary, symbols and labels • **justification of a conclusion** • evaluating**, interpreting and critiquing** the validity of other's responses, approaches and **reasoning**.	• **some** use of grade-level vocabulary, symbols and labels • partial justification of a conclusion based on own calculations • **evaluating** the validity of other's responses, **approaches and conclusions.**	• limited use of grade-level vocabulary, symbols and labels • partial justification of a conclusion based on own calculations • accepting the validity of other's responses

	Grade 3 Math: Sub-Claim D In connection with content, the student solves real-world problems with a degree of difficulty appropriate to Grade 3 by applying knowledge and skills articulated in the standards for Grade 3 (or for more complex problems, knowledge and skills articulated in the standards for previous grades/courses), engaging particularly in the Modeling practice, and where helpful making sense of problems and persevering to solve them, reasoning abstractly and quantitatively, using appropriate tools strategically, looking for the making use of structure, and/or looking for and expressing regularity in repeated reasoning.			
	Level 5: Exceeds Expectations	**Level 4: Meets Expectations**	**Level 3: Approaches Expectations**	**Level 2: Partially Meets Expectations**
Modeling 3.D.1 3.D.2	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student devises a plan and applies mathematics to solve multi-step, real-world contextual word problems by: • using stated assumptions or making assumptions and using approximations to simplify a real-world situation • **analyzing and/or creating constraints, relationships and goals**	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student devises a plan and applies mathematics to solve multi-step, real-world contextual word problems by: • using stated assumptions or **making assumptions and using** approximations to simplify a real-world situation • **mapping relationships** between important quantities by selecting	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student devises a plan and applies mathematics to solve multi-step, real-world contextual word problems by • using stated assumptions and approximations to simplify a real-world situation • **illustrating relationships between important quantities by using provided**	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student devises a plan and applies mathematics to solve multi-step, real-world contextual word problems by: • using stated assumptions and approximations to simplify a real-world situation • identifying important quantities by using provided tools to create models • analyzing relationships

	Grade 3 Math: Sub-Claim D In connection with content, the student solves real-world problems with a degree of difficulty appropriate to Grade 3 by applying knowledge and skills articulated in the standards for Grade 3 (or for more complex problems, knowledge and skills articulated in the standards for previous grades/courses), engaging particularly in the Modeling practice, and where helpful making sense of problems and persevering to solve them, reasoning abstractly and quantitatively, using appropriate tools strategically, looking for the making use of structure, and/or looking for and expressing regularity in repeated reasoning.			
	Level 5: Exceeds Expectations	**Level 4: Meets Expectations**	**Level 3: Approaches Expectations**	**Level 2: Partially Meets Expectations**
	• mapping relationships between important quantities by selecting appropriate tools to create models • analyzing relationships mathematically between important quantities to draw conclusions • **justifying and defending models which lead to a conclusion** • interpreting mathematical results in the context of the situation • reflecting on whether the results make sense • improving the model if it has not served its purpose • writing a concise arithmetic expression or equation to describe a situation	appropriate tools to create models • analyzing relationships mathematically between important quantities to draw conclusions • interpreting mathematical results in the context **of the situation** • reflecting on whether the results make sense • modifying **and/or improving** the model if it has not served its purpose • writing an arithmetic expression or equation to describe a situation	**tools to create models** • analyzing relationships mathematically **between important quantities** to draw conclusions • **interpreting mathematical results in a simplified context** • **reflecting on whether the results make sense** • **modifying the model if it has not served its purpose** • writing an arithmetic expression or equation to describe a situation	mathematically to draw conclusions • writing an arithmetic expression or equation to describe a situation

Grade 4 Mathematics Performance Level Descriptors

	Grade 4 Math : Sub-Claim A The student solves problems involving Major Content for Grade 4 with connections to the Standards for Mathematical Practice.			
	Level 5: Exceeds Expectations	**Level 4: Meets Expectations**	**Level 3: Approaches Expectations**	**Level 2: Partially Meets Expectations**
Fractions and Decimals 4.NF.1-2 4.NF.2-1 4.NF.A.Int.1 4.NF.5 4.NF.6 4.NF.7 4.NF.Int.1 4.NF.Int.2	Compares decimals to hundredths; uses decimal notations for fractions with denominators 10 or 100. Compares fractions, with like or unlike numerators and denominators, by creating equivalent fractions with common denominators, comparing to a benchmark fraction and **generating equivalent fractions.** Recognizes that decimals and fractions must refer to the same whole in order to compare. Shows results using symbols. **Demonstrates the use of conceptual understanding of fractional equivalence and ordering when solving** simple word problems requiring fraction comparison. **Converts a simple fraction to a denominator of 10 or 100 and writes as a decimal (e.g.,1/2 = 5/10 = .5, ¼ = 25/100 = 0.25, 1/20 = 5/100 = 0.05).** **Adds fractions with denominators of 10 and 100.**	Given a visual model and/or manipulatives, compares decimals to hundredths: **Expresses a fraction with denominator 10 as an equivalent fraction with denominator 100. Uses decimal notation for fractions with denominators 10 or 100.** Compares fractions, with like or unlike numerators and denominators, by **creating equivalent fractions with common denominators** and comparing to a benchmark fraction. Recognizes that decimals and fractions must refer to the same whole in order to compare. Shows results using symbols. **Solves simple word problems requiring fraction comparison**.	Given a visual model and/or manipulatives, compares decimals to hundredths; uses decimal notations for fractions (tenths and hundredths); compares fractions, with like **or unlike numerators and denominators by comparing to a benchmark fraction.** **Recognizes that decimals and fractions must refer to the same whole in order to compare.** **Shows results using symbols.** **Solves simple word problems requiring fraction comparison with scaffolding**.	Given a visual model and/or manipulatives, compares decimals to hundredths; uses decimal notations for fractions (tenths and hundredths); compares fractions with like denominators.
Building Fractions 4.NF.3a 4.NF.3b-1 4.NF.3c 4.NF.3d 4.NF.Int.1	**Understands** and solves mathematical and real-world problems involving the addition and subtraction of fractions and mixed numbers with like denominators by joining and separating parts referring to the same whole, and **justifying the solution by using a visual model.** Decomposes a fraction into a sum of fractions with the same denominator in more than one way and records the decomposition using an equation.	Using visual models and/or manipulatives, solves mathematical and **word problems** involving the addition and subtraction of fractions and **mixed numbers** with like denominators by joining and separating parts referring to the same whole. Decomposes a fraction into a sum of fractions with the same denominator in more than one way and records the decomposition using an equation.	Using visual models and/or manipulatives, solves mathematical problems involving the addition and subtraction of fractions with like denominators by joining and separating parts referring to the same whole. **Decomposes a fraction into a sum of fractions with the same denominator in more than one way and records the decomposition using an equation.**	Using visual models and/or manipulatives, solves mathematical problems involving the addition and subtraction of fractions with like denominators by joining and separating parts referring to the same whole.

	Grade 4 Math : Sub-Claim A The student solves problems involving Major Content for Grade 4 with connections to the Standards for Mathematical Practice.			
	Level 5: Exceeds Expectations	**Level 4: Meets Expectations**	**Level 3: Approaches Expectations**	**Level 2: Partially Meets Expectations**
Multiplying Fractions 4.NF.4a 4.NF.4b-1 4.NF.4b-2 4.NF.4c 4.NF.Int.1	**Describes a visual fraction model** and solves mathematical and real-world problems by recognizing that fraction *a*/*b* is a multiple of 1/*b* and uses that construct to multiply a fraction by a whole number.	Using visual models and/or manipulatives, solves mathematical and **real- world problems** by recognizing that fraction *a*/*b* is a multiple of 1/*b* and uses that construct to multiply a fraction by a whole number.	Using visual models and/or manipulatives, solves mathematical problems by recognizing that fraction *a*/*b* is a multiple of 1/*b* **and uses that construct to multiply a fraction by a whole number.**	Using visual models and/or manipulatives, solves mathematical problems by recognizing that fraction *a*/*b* is a multiple of 1/*b*.
Solving with Multiplication 4.OA.1-1 4.OA. 1-2 4.OA.2	Interprets multiplication equations as comparisons and represents statements of multiplicative comparisons as multiplicative equations. **Distinguishes multiplicative comparisons.** Uses multiplication or division to solve **multi-step** word problems involving multiplicative comparisons. Uses a symbol for the unknown number.	Interprets multiplication equations as comparisons or represents statements of multiplicative comparisons as multiplicative equations. Uses multiplication or division to solve **one- or two-step word problems** involving multiplicative comparisons.	Interprets multiplication equations as comparisons or represents statements of multiplicative comparisons as multiplicative equations. **Uses multiplication or division to solve scaffolded word problems involving multiplicative comparisons.**	Interprets multiplication equations as comparisons or represents statements of multiplicative comparisons as multiplicative equations.
Multi-step Problems 4.OA.3-1 4.OA.3-2 4.NBT.5-1 4.NBT.5-2 4.NBT.6-1 4.NBT.6-2 4.Int.2 4.Int.3 4.Int.4 4.Int.5	Solves multi-step word problems using the four operations with whole numbers: in multiplying a three- or four-digit by a one-digit number or two two-digit numbers. Finds whole number quotients and remainders with up to **four**-digit dividends and one-digit divisors and interprets remainders as appropriate. Chooses from a variety of strategies to solve these problems and **selects an appropriate context for the task.**	Solves two-step word and other problems using the four operations with whole numbers: in multiplying a three-digit by a one-digit number or two two-digit numbers Finds whole number quotients and remainders with up to three-digit dividends and one-digit divisors and **interprets remainders as appropriate**. **Chooses from a variety of strategies to solve these problems.**	Solves one- or two-step **word** problems using the four operations with whole numbers: in multiplying a three-digit by a one-digit number or two two-digit numbers. Finds whole number quotients and remainders with up to three-digit dividends and one-digit divisors. **Chooses from a variety of strategies to solve these problems. Can only solve two-step problems when scaffolding is provided for each step.**	Solves one-step mathematical problems using the four operations with whole numbers: in multiplying a three-digit by a one-digit number or two two-digit numbers. Finds whole number quotients and remainders with up to three-digit dividends and one-digit divisors.
Place Value 4.NBT.1 4.NBT.2 4.NBT.3 4.NBT.Int.1	In any **multi**-digit whole number, recognizes a digit in one place represents 10 times as much as it represents in the place to its right. Reads, writes and compares multi-digit whole numbers using base-10 numerals, number names in expanded form and	In any **four-digit** whole number, recognizes a digit in one place represents 10 times as much as it represents in the place to its right. Reads, writes and compares **four-digit** whole numbers using base-10 numerals, number names in expanded form and	In any three-digit whole number, recognizes a digit in one place represents 10 times as much as it represents in the place to its right. **Reads, writes and compares three-digit whole numbers using base-10 numerals, number names in expanded**	In any three-digit whole number, recognizes a digit in one place represents 10 times as much as it represents in the place to its right.

	Grade 4 Math : Sub-Claim A The student solves problems involving Major Content for Grade 4 with connections to the Standards for Mathematical Practice.			
	Level 5: Exceeds Expectations	**Level 4: Meets Expectations**	**Level 3: Approaches Expectations**	**Level 2: Partially Meets Expectations**
	inequality symbols (>, <, =), rounds to any place **and chooses appropriate context given a rounded number.** **Performs computations by applying conceptual understanding of place value, rather than by applying multi-digit algorithms.**	inequality symbols (>, <, =), and **rounds to any place.**	**form and inequality symbols (>, <, =), and rounds to any place with scaffolding.**	
Addition and Subtraction 4.NBT.4-1 4.NBT.4-2 4.Int.7 4.Int.8	Solves **multiple**-step word and other problems by adding or subtracting multi-digit whole numbers using the standard algorithm.	Solves **two**-step word problems and other problems by adding and subtracting multi-digit whole numbers using the standard algorithm.	Solves one-step word problems and other problems by adding and subtracting multi-digit whole numbers using the standard algorithm with accuracy.	Solves one-step word problems and other problems by adding and subtracting multi-digit whole numbers using the standard algorithm with limited accuracy.

	Grade 4 Math: Sub-Claim B The student solves problems involving Additional and Supporting Content for Grade 4 with connections to the Standards for Mathematical Practice.			
	Level 5: Exceeds Expectations	**Level 4: Meets Expectations**	**Level 3: Approaches Expectations**	**Level 2: Partially Meets Expectations**
Operations and Factors 4.OA.4-1 4.OA.4-2 4.OA.4-3 4.OA.4-4	Recognizes that a whole number is a multiple of each of its factors, and within the range of 1-100, finds **all** factor pairs and determines multiples of whole numbers. Determines whether a whole number in the range 1-100 is prime or composite.	Recognizes that a whole number is a multiple of each of its factors, and within the range of 1-100 finds factor pairs or determines multiples of whole numbers. Determines whether a whole number in the range 1-100 is prime or composite.	Recognizes that a whole number is a multiple of each of its factors, and within the range of 1-100 finds factor pairs or determines multiples of whole numbers. **Determines, with scaffolding, whether a whole number in the range 1-100 is prime or composite.**	Recognizes that a whole number is a multiple of each of its factors, and within the range of 1-100 identifies factor pairs or multiples of whole numbers.
Measurement and Conversion 4.MD.1 4.MD.2-1 4.MD.2-2 4.MD.3 4.Int.6	Solves measurement word problems involving whole numbers which include calculation of area and perimeter – including those in which **side lengths are missing** – using all four operations. Solves measurement word problems which include calculation of area and perimeter–including those in which **side lengths are missing**–using addition, subtraction, multiplication of simple fractions. Records measurement equiv-----	**Solves measurement word problems involving whole numbers which include calculation of area and perimeter – when information about side lengths is provided –** using all four operations. Solves measurement word problems **which include calculation of area and perimeter–when information about side lengths is provided–** using addition, subtraction, multiplication of simple fractions. Records measurement	Solves mathematical measurement problems involving whole numbers using all four operations**.** Solves mathematical measurement problems using addition, subtraction, **and multiplication** of simple fractions. **Records measurement equivalents in a two-column table.** **Uses knowledge of measurement units within one system to convert from larger units to smaller units.**	Solves mathematical measurement problems involving whole numbers using all four operations**.** Solves mathematical measurement problems using addition and subtraction of simple fractions.

	Grade 4 Math: Sub-Claim B The student solves problems involving Additional and Supporting Content for Grade 4 with connections to the Standards for Mathematical Practice.			
	Level 5: Exceeds Expectations	**Level 4: Meets Expectations**	**Level 3: Approaches Expectations**	**Level 2: Partially Meets Expectations**
	-alents in a two-column table. Uses knowledge of measurement units within one system to solve word problems, real-world problems, and mathematical problems involving converting from larger units to smaller units. Represents measurement quantities using diagrams such as number line diagrams **that require students to provide the appropriate measurement scale given the context.**	equivalents in a two-column table. Uses knowledge of measurement units within one system to **solve word problems, real-world problems and mathematical problems** involving converting from larger units to smaller units. **Represents measurement quantities using diagrams such as number line diagrams that feature a measurement scale**.		
Represent and Interpret Data 4.MD.4-1 4.MD.4-2	Makes a line plot to display a data set of measurements in fractions of a unit with like denominators limited to 2, 4 and 8, **(including mixed numbers)** and uses addition and subtraction of fractions to solve problems involving information in the line plots and **evaluates the solution in relation to the data.**	Makes a line plot to display a data set of measurements in fractions of a unit with like denominators of 2 or 4 and **uses addition and subtraction of fractions to solve problems involving information in the line plot.**	**Makes** a line plot to display a data set of measurements in fractions of a unit with like denominators of 2 or 4.	Identifies a correct line plot that displays a data set of measurements in fractions of a unit with like denominators of 2 or 4.
Geometric Measurement 4.MD.5 4.MD.6 4.MD.7	Recognizes how angles are formed and that angle measures are additive. Understands and applies concepts of angle measurement **recognizing that angles are measured in reference to a circle.** Uses a protractor to measure and sketch angles. Solves mathematical and real-world problems by composing and decomposing angles**.** Solves mathematical and real-world angle problems, **including problems that require the use of equations with a symbol for the unknown angle measure.**	Understands and applies concepts of angle measurement**.** Uses a protractor to measure and **sketch angles.** **Solves mathematical and real-world problems by composing and decomposing angles.**	Understands and **applies** concepts of angle measurement. **Uses a protractor to measure angles.**	Understands and identifies concepts of angle measurement.
Lines, Angles and Shapes 4.G 1	Draws and identifies points, lines, line segments, rays, angles (right, obtuse and acute),	**Draws** and identifies points, lines, line segments, rays, angles (right, obtuse and	Identifies points, lines, line segments, rays, angles (right, obtuse and acute),	Identifies points, lines, line segments, rays, angles (right, obtuse and acute),

	Grade 4 Math: Sub-Claim B The student solves problems involving Additional and Supporting Content for Grade 4 with connections to the Standards for Mathematical Practice.			
	Level 5: Exceeds Expectations	**Level 4: Meets Expectations**	**Level 3: Approaches Expectations**	**Level 2: Partially Meets Expectations**
4.G.2 4.G.3	perpendicular lines, parallel lines, lines of symmetry and right triangles, and use **any of these** to classify **or describe** two-dimensional figures.	acute), perpendicular lines, parallel lines, lines of symmetry and right triangles, and use some of these to classify **two-dimensional figures.**	perpendicular lines, parallel lines, lines of symmetry and right triangles, and **use some of these to classify quadrilaterals and triangles.**	perpendicular lines, parallel lines, lines of symmetry and right triangles.
Generate and Analyze Patterns 4.OA.5	Generates a number or shape pattern that follows a given rule and identifies apparent features of the pattern that were not explicit in the rule itself **and describes the rule for generating the number or shape pattern.**	Generates a number or shape pattern that follows a given rule and **identifies explicit features of the pattern.**	**Generates** a number or shape pattern that follows a given rule.	Identifies a number or shape pattern that follows a given rule.

	Grade 4 Math: Sub-Claim C In connection with content, the student expresses Grade 4 appropriate mathematical reasoning by constructing viable arguments, critiquing the reasoning of others and/or attending to precision when making mathematical statements.			
	Level 5: Exceeds Expectations	**Level 4: Meets Expectations**	**Level 3: Approaches Expectations**	**Level 2: Partially Meets Expectations**
Properties of Operations 4.C.1-1 4.C.1-2 4.C.2 4.C.3	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student clearly constructs and communicates a complete written response based on explanations/reasoning using the: • properties of operations • relationship between addition and subtraction • relationship between multiplication and division • identification of arithmetic patterns Response may include: • a logical/defensible approach based on a conjecture and/or stated assumptions, utilizing mathematical connections (when appropriate) • an **efficient** and logical progression of steps **with appropriate justification** • precision of calculation • correct use of grade-level vocabulary, symbols and labels • justification of a conclusion • evaluation of whether an	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student clearly constructs and communicates a complete written response based on explanations/reasoning using the: • properties of operations • relationship between addition and subtraction • relationship between multiplication and division • identification of arithmetic patterns Response may include: • a logical/**defensible** approach based on a conjecture and/or stated assumptions, **utilizing mathematical connections (when appropriate)** • a logical progression of steps • **precision of calculation** • **correct** use of grade-level vocabulary, symbols and labels • justification of a conclusion • **evaluation of whether an argument or conclusion is generalizable** • evaluating**, interpreting and critiquing** the validity of other's responses,	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student constructs and communicates a written response based on explanations/reasoning using the: • properties of operations • relationship between addition and subtraction • relationship between multiplication and division • identification of arithmetic patterns Response may include: • a **logical** approach based on a conjecture and/or stated assumptions • a **logical**, but incomplete, progression of steps • **minor** calculation errors • **some** use of grade-level vocabulary, symbols and labels • partial justification of a conclusion based on own calculations • **evaluating the validity of other's responses, approaches and conclusions.**	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student constructs and communicates an incomplete written response based on explanations/reasoning using the: • properties of operations • relationship between addition and subtraction • relationship between multiplication and division • identification of arithmetic patterns Response may include: • an approach based on a conjecture and/or stated or faulty assumptions • an incomplete or illogical progression of steps • an intrusive calculation error • limited use of grade-level vocabulary, symbols and labels • partial justification of a conclusion based on own calculations

	Grade 4 Math: Sub-Claim C In connection with content, the student expresses Grade 4 appropriate mathematical reasoning by constructing viable arguments, critiquing the reasoning of others and/or attending to precision when making mathematical statements.			
	Level 5: Exceeds Expectations	**Level 4: Meets Expectations**	**Level 3: Approaches Expectations**	**Level 2: Partially Meets Expectations**
	argument or conclusion is generalizable • evaluating, interpreting and critiquing the validity of other's responses, reasonings, and approaches, utilizing mathematical connections (when appropriate). **Provides a counter-example where applicable.**	**reasonings, and approaches, utilizing mathematical connections (when appropriate).**		
Concrete Referents and Diagrams 4.C.4-1 4.C.4-2 4.C.4-3 4.C.4-4 4.C.4-5 4.C.7-1 4.C.7-2 4.C.7-3 4.C.7-4	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student clearly constructs and communicates a well-organized and complete response based on operations using concrete referents such as diagrams--including number lines (whether provided in the prompt or constructed by the student) and connecting the diagrams to a written (symbolic) method, which may include: • a logical approach based on a conjecture and/or stated assumptions, utilizing mathematical connections (when appropriate) • an **efficient** and logical progression of steps **with appropriate justification** • precision of calculation • correct use of grade-level vocabulary, symbols and labels • justification of a conclusion • evaluation of whether an argument or conclusion is generalizable • evaluating, interpreting, and critiquing the validity of other's responses, approaches, and reasoning, and **providing a counter-example where applicable.**	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student clearly constructs and communicates a well-**organized** and complete response based on operations using concrete referents such as diagrams--including number lines (**whether provided in the prompt or constructed by the student**) and connecting the diagrams to a written (symbolic) method, which may include: • a logical approach based on a conjecture and/or stated assumptions, **utilizing mathematical connections (when appropriate)** • a logical progression of steps • **precision of calculation** • **correct** use of grade-level vocabulary, symbols and labels • **justification of a conclusion** • **evaluation of whether an argument or conclusion is generalizable** • evaluating, **interpreting, and critiquing** the validity of other's responses, approaches, and **reasoning.**	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student constructs and communicates **a complete response** based on operations using concrete referents such as diagrams--including number lines (provided in the prompt) – connecting the diagrams to a written (symbolic) method, which may include: • **a logical approach based on a conjecture and/or stated assumptions** • a **logical**, but incomplete, progression of steps • **minor** calculation errors • **some** use of grade-level vocabulary, symbols and labels • partial justification of a conclusion based on own calculations. • **evaluating** the validity of other's responses, **approaches and conclusions**	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student constructs and communicates **an incomplete** response based on operations using concrete referents such as diagrams – including number lines (provided in the prompt) – connecting the diagrams to a written (symbolic) method, which may include: • a conjecture and/or stated or faulty assumptions • an incomplete or illogical progression of steps • an intrusive calculation error • limited use of grade-level vocabulary, symbols and labels • partial justification of a conclusion based on own calculations • accepting the validity of other's responses.
Distinguish	In connection with the content	In connection with the content	In connection with the content	In connection with the content

	Grade 4 Math: Sub-Claim C In connection with content, the student expresses Grade 4 appropriate mathematical reasoning by constructing viable arguments, critiquing the reasoning of others and/or attending to precision when making mathematical statements.			
	Level 5: Exceeds Expectations	**Level 4: Meets Expectations**	**Level 3: Approaches Expectations**	**Level 2: Partially Meets Expectations**
Correct Explanation/ Reasoning from that which is Flawed 4.C.5-1 4.C.5-2 4.C.5-3 4.C.5-4 4.C.5-5 4.C.5-6 4.C.6-1 4.C.6-2 4.C.6-3	knowledge, skills, and abilities described in Sub-claims A and B, the student clearly constructs and communicates a well-organized and complete response by: • presenting and defending solutions to multi-step problems in the form of valid chains of reasoning, using symbols such as equal signs appropriately • **evaluating** explanation/reasoning; if there is a flaw in the argument • presenting **and defending** corrected reasoning Response may include: • a logical approach based on a conjecture and/or stated assumptions, utilizing mathematical connections (when appropriate) • **an efficient** and logical progression of steps **with appropriate justification** • precision of calculation • correct use of grade-level vocabulary, symbols and labels • justification of a conclusion • evaluation of whether an argument or conclusion is generalizable • evaluating, interpreting and critiquing the validity of other's responses, approaches and reasoning, and **providing a counter-example where applicable.**	knowledge, skills, and abilities described in Sub-claims A and B, the student **clearly** constructs and communicates **a well-organized** and complete response by: • presenting and **defending** solutions to multi-step problems in the form of valid chains of reasoning, using symbols such as equal signs appropriately • distinguishing correct explanation/reasoning from that which is flawed • identifying and describing the flaw in reasoning or describing errors in solutions to multi-step problems • presenting corrected reasoning Response may include: • a logical approach based on a conjecture and/or stated assumptions, **utilizing mathematical connections (when appropriate)** • **a logical progression of steps** • **precision of calculation** • **correct** use of grade-level vocabulary, symbols and labels • **justification of a conclusion** • **evaluation of whether an argument or conclusion is generalizable** • evaluating**, interpreting and critiquing** the validity of other's responses, approaches and **reasoning**.	knowledge, skills, and abilities described in Sub-claims A and B, the student constructs and communicates a **complete** response by**:** • presenting solutions to **multi-step** problems in the form of valid chains of reasoning**,** using symbols such as equal signs appropriately • distinguishing correct explanation/reasoning from that which is flawed • identifying and **describing the flaw in reasoning or describing errors in solutions to multi-step problems** • **presenting corrected reasoning** Response may include: • **a logical approach based on a conjecture and/or stated assumptions** • **a logical**, but incomplete, progression of steps • **minor** calculation errors • **some** use of grade-level vocabulary, symbols and labels • partial justification of a conclusion based on own calculations • **evaluating** the validity of other's responses, **approaches and conclusions.**	knowledge, skills, and abilities described in Sub-claims A and B, the student constructs and communicates an incomplete response by: • presenting solutions to scaffolded two-step problems in the form of valid chains of reasoning, sometimes using symbols such as equal signs appropriately • distinguishing correct explanation/reasoning from that which is flawed • identifying an error in reasoning Response may include: • a conjecture based on faulty assumptions • an incomplete or illogical progression of steps • an intrusive calculation error • limited use of grade-level vocabulary, symbols and labels • partial justification of a conclusion based on own calculations • accepting the validity of other's responses.

	Grade 4 Math: Sub-Claim D In connection with content, the student solves real-world problems with a degree of difficulty appropriate to Grade 4 by applying knowledge and skills articulated in the standards for Grade 4 (or for more complex problems, knowledge and skills articulated in the standards for previous grades/courses), engaging particularly in the Modeling practice, and where helpful making sense of problems and persevering to solve them, reasoning abstractly and quantitatively, using appropriate tools strategically, looking for the making use of structure, and/or looking for and expressing regularity in repeated reasoning.			
	Level 5: Exceeds Expectations	**Level 4: Meets Expectations**	**Level 3: Approaches Expectations**	**Level 2: Partially Meets Expectations**
Modeling 4.D.1 4.D.2	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student devises a plan and applies mathematics to solve multi-step, real-world contextual word problems by: • using stated assumptions or making assumptions and using approximations to simplify a real-world situation • **analyzing and/or creating constraints, relationships and goals** • mapping relationships between important quantities by selecting appropriate tools to create models • analyzing relationships mathematically between important quantities to draw conclusions • **justifying and defending models which lead to a conclusion** • interpreting mathematical results in the context of the situation • reflecting on whether the results make sense • improving the model if it has not served its purpose • writing **a concise** arithmetic expression or equation to describe a situation	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student devises a plan and applies mathematics to solve multi-step, real-world contextual word problems by: • using stated assumptions or **making assumptions** and using approximations to simplify a real-world situation • **mapping relationships between important quantities by selecting appropriate tools to create models** • analyzing relationships mathematically between important quantities to draw conclusions • interpreting mathematical results in the context **of the** situation • reflecting on whether the results make sense • modifying **and/or improving** the model if it has not served its purpose • writing an arithmetic expression or equation to describe a situation	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student devises a plan and applies mathematics to solve multi-step, real-world contextual word problems by: • using stated assumptions and approximations to simplify a real-world situation • **illustrating relationships between important quantities by using provided tools to create models** • analyzing relationships mathematically **between important quantities** to draw conclusions • **interpreting mathematical results in a simplified context reflecting on whether the results make sense** • **modifying the model if it has not served its purpose** • writing an arithmetic expression or equation to describe a situation	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student devises a plan and applies mathematics to solve multi-step, real-world contextual word problems by: • using stated assumptions and approximations to simplify a real-world situation • identifying important quantities • using provided tools to create models • analyzing relationships mathematically to draw conclusions • writing an arithmetic expression or equation to describe a situation

Grade 5 Mathematics Performance Level Descriptors

	Grade 5 Math : Sub-Claim A The student solves problems involving Major Content for Grade 5 with connections to the Standards for Mathematical Practice.			
	Level 5: Exceeds Expectations	**Level 4: Meets Expectations**	**Level 3: Approaches Expectations**	**Level 2: Partially Meets Expectations**
Addition and Subtraction Operations with Decimals 5.NBT.7-1 5.NBT.7-2	Adds or subtracts two decimals to hundredths using concrete models, drawings or strategies based on place value, properties of operations and/or the relationship between addition and subtraction. **Applies this concept to a real-world context**, and relates the strategy to a written method and explain the reasoning used.	**Adds or subtracts two decimals to hundredths using concrete models, drawings or strategies based on place value**, properties of operations and/or the relationship between addition and subtraction.	Adds or subtracts (without regrouping) two decimals to hundredths using concrete models, drawings or strategies based on place value and/or the relationship between addition and subtraction.	Adds or subtracts (without regrouping) two decimals to hundredths **(both decimals presented with the same number of decimal places)** using concrete models, drawings or strategies based on place value and/or the relationship between addition and subtraction.
Adding and Subtracting in Context with Fractions 5.NF.2-1 5.NF.2-2 5.NF.A.Int.1	**Describes a model to represent** word problems involving addition and subtraction of fractions and mixed numbers referring to the same whole in cases of unlike denominators by using visual fraction models or equations. **Assesses and justifies reasonableness using benchmark fractions and number sense of fractions**.	Solves word problems involving addition and subtraction of fractions and mixed numbers referring to the same whole **in cases of unlike denominators** by using visual fraction models or equations.	Solves word problems involving addition and subtraction of fractions **and mixed numbers** using only denominators of 2, 4, 5 or 10 **or benchmark fractions with unlike denominators, referring to the same whole by using visual fraction models or equations.**	Solves word problems involving addition and subtraction of fractions using only denominators of 2, 4, 5 or 10.
Fractions with Unlike Denominators 5.NF.1-1 5.NF.1-2 5.NF.1-3 5.NF.1-4 5.NF.1-5	Adds and subtracts **three or more** fractions and adds and subtracts two mixed numbers with unlike denominators in such a way as to produce an equivalent sum or difference with like denominators.	Adds and subtracts two fractions or mixed numbers with unlike denominators **in such a way as to produce an equivalent sum or difference with like denominators.**	Adds or subtracts two fractions or **mixed numbers** with unlike denominators using only fractions with denominators of 2, 4, 5 or 10 in such a way as to produce an equivalent sum or difference with like denominators.* *below grade level.	Adds or subtracts two fractions with unlike denominators using only fractions with denominators of 2, 4, 5 or 10 in such a way as to produce an equivalent sum or difference with like denominators.* *below grade level.
Multiplication and Division Operations with Decimals 5.NBT.7-3 5.NBT.7-4 5.NBT.Int.1	Multiplies tenths by tenths or tenths by hundredths and divides in problems involving tenths and/or hundredths using concrete models or drawings and strategies based on place value, properties of operations and/or the relationship between addition and subtraction. **Performs exact and approximate multiplications and divisions by mentally applying place value strategies when appropriate.**	Multiplies tenths by tenths **or tenths by hundredths** and divides in problems involving tenths **and/or hundredths** using concrete models or drawings and strategies based on place value, properties of operations and/or the relationship between addition and subtraction. **Relates the strategy to a written method.**	Multiplies tenths by tenths **and divides** in problems involving tenths using concrete models or drawings and strategies based on place value, properties of operations and/or the relationship between addition and subtraction.	Multiplies tenths by tenths in problems involving tenths using concrete models or drawings and strategies based on place value, properties of operations and/or the relationship between addition and subtraction.

	Grade 5 Math : Sub-Claim A The student solves problems involving Major Content for Grade 5 with connections to the Standards for Mathematical Practice.			
	Level 5: Exceeds Expectations	**Level 4: Meets Expectations**	**Level 3: Approaches Expectations**	**Level 2: Partially Meets Expectations**
	Relates the strategy to a written method.			
Multiply with Whole Numbers 5.NBT.5 5.Int.1 5.Int.2	Solves two-step **unscaffolded** word problems involving multiplication and multiplies **four**-digit by **two-digit** whole numbers **using the standard algorithm.** **Performs exact and approximate multiplications and divisions by mentally applying place value strategies when appropriate.** Accurately multiplies multi-digit whole numbers using the standard algorithm **and assesses reasonableness of the product.**	Solves two-step scaffolded word problems involving multiplication **of a three-digit by a one-digit whole number.** **Accurately** multiplies multi-digit whole numbers using the standard algorithm.	Solves one-step word problems involving multiplication **of a three-digit by a one-digit whole number**. **Multiplies multi-digit whole numbers using the standard algorithm with limited accuracy.**	Solves one-step word problems involving multiplication.
Quotients and Dividends 5.NBT.6	Divides whole numbers up to four-digit dividends and **two-digit** divisors using strategies based on place value, the properties of operations and/or the relationship between multiplication and division. **Illustrates and explains the calculations by using equations, rectangular arrays, and area models.** **Checks reasonableness of answers by using multiplication or estimation.**	Divides whole numbers up to **four-digit** dividends and one-digit divisors which are multiples of ten using strategies based on place value, the properties of operations and/or the relationship between multiplication and division.	**Divides** whole numbers up to three-digit dividends and one-digit divisors which are multiples of ten **using strategies based on place value, the properties of operations and/or the relationship between multiplication and division.**	Correctly identifies the quotient of whole numbers up to three-digit dividends and one-digit divisors which are multiples of ten.
Multiplying and Dividing with Fractions 5.NF.4a-1 5.NF.4a-2 5.NF.4b-1 5.NF.6-1 5.NF.6-2 5.NF.7a 5.NF.7b 5.NF.7c	**Describes a model to represent and/**or solve real-world problem**s,** by multiplying a mixed number by a fraction, a fraction by a fraction and a whole number by a fraction; dividing a fraction by a whole number and a whole number by a fraction using visual fraction models and creating context for the mathematics **and equations**, including rectangular areas; and interpreting the product and/or quotient.	Multiplies a fraction or a whole number by a fraction and divides a fraction by a whole number – or whole number by a fraction – using visual fraction models and **creating context for the mathematics, including rectangular areas.**	Multiplies a fraction or a whole number by a fraction **and divide a fraction by a whole number or whole number by a fraction** using visual fraction models.	Multiplies a fraction or a whole number by a fraction using visual fraction models.

	Grade 5 Math : Sub-Claim A The student solves problems involving Major Content for Grade 5 with connections to the Standards for Mathematical Practice.			
	Level 5: Exceeds Expectations	**Level 4: Meets Expectations**	**Level 3: Approaches Expectations**	**Level 2: Partially Meets Expectations**
Interpreting Fractions 5.NF.3-1 5.NF.3-2	Solves word problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers. Interprets the fraction as division of the numerator by the denominator. **Identifies a simple model representing the** situation**.** **Describes a model to represent the situation.**	Solves word problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers. **Interprets the fraction as division of the numerator by the denominator.**	Solves word problems involving division of whole numbers leading to answers in the form of fractions **or mixed numbers** by using manipulatives or visual models to identify between which two whole numbers the answer lies.	Solves word problems involving division of whole numbers leading to answers in the form of fractions by using manipulatives or visual models to identify between which two whole numbers the answer lies.
Recognizing Volume 5.MD.3 5.MD.4	Recognizes volume as an attribute of solid figures and understands volume is measured using cubic units and can be found by packing a solid figure with unit cubes and counting them. **Represents the volume of a solid figure as "n" cubic units. Writes an equation that illustrates the unit cube pattern.**	Recognizes volume as an attribute of solid figures and understands volume is measured using cubic units and can be found by packing a solid figure with unit cubes and counting them.	Recognizes volume as an attribute of solid figures **and with a visual model understands that volume is measured using cubic units and can be found by packing a solid figure with unit cubes and counting them.**	Recognizes volume as an attribute of solid figures.
Finding Volume 5.MD.5b 5.MD.5c	Solves real-world and mathematical problems by applying the formulas for volume, relating volume to the operations of multiplication and addition, and recognizing volume is additive by finding the volume of solid figures of two **or more** non-overlapping parts.	Given a visual model, solves real-world and mathematical problems by applying the formulas for volume, **relating volume to the operations of multiplication and addition, and recognizing volume is additive by finding the volume of solid figures of two non-overlapping parts.**	Given a visual model **and the formulas for finding volume**, **solves real-world and mathematical problems by applying the formulas for volume (*V* = *l* x *w* x *h* and *V* = *B* x *h*).**	Given a visual model, solves volume problems by counting unit cubes.
Read, Write and Compare Decimals 5.NBT.3a 5.NBT.3b 5.NBT.4	Reads, writes and compares decimals **to any place** using numerals, number names, expanded form and symbols (>, <, =); rounds to any place and **chooses appropriate context given a rounded number.**	Reads, writes and compares decimals to the **hundredths** using numerals, number names, expanded form and symbols (>, <, =), and **rounds to any place.**	**Reads, writes and compares** decimals to the hundredths using numerals, number names, expanded form and symbols (>, <, =), **and rounds to any place with scaffolding**.	Identifies the correct comparison of decimals to the hundredths using numerals, number names, expanded form and symbols (>, <, =).
Place Value 5.NBT.1 5.NBT.2-2 5.NBT.A.Int.1	In any multi-digit number, recognizes a digit in one place represents 10 times as much as it represents in the place to its right and 1/10 of what it represents in the place to its left and uses whole number exponents to denote powers of 10 and **uses symbols to**	In any multi-digit number, recognizes a digit in one place represents 10 times as much as it represents in the place to its right or 1/10 of what it represents in the place to its left and **uses whole number exponents to denote powers of 10.**	In any multi-digit number, recognizes a digit in one place represents 10 times as much as it represents in the place to its right or **1/10 of what it represents in the place to its left** by using manipulatives or visual models.	In any multi-digit number, recognizes a digit in one place represents 10 times as much as it represents in the place to its right by using manipulatives or visual models.

	Grade 5 Math : Sub-Claim A The student solves problems involving Major Content for Grade 5 with connections to the Standards for Mathematical Practice.			
	Level 5: Exceeds Expectations	**Level 4: Meets Expectations**	**Level 3: Approaches Expectations**	**Level 2: Partially Meets Expectations**
	compare two powers of 10 expressed exponentially (compare 10^2 to 10^5).			
Multiplication Scaling 5.NF.5a	Interprets multiplication scaling by comparing the size of the product to the size of one factor on the basis of the size of the second factor without performing the indicated multiplication, **focusing on one factor being a fraction greater than or less than one.**	Interprets multiplication scaling by comparing the size of a product to the size of one factor on the basis of the size of the second factor without performing the indicated multiplication **where one factor is a fraction less than one.**	**Interprets** multiplication scaling by comparing the size of a product to the size of one factor on the basis of the size of the second factor by performing the indicated multiplication where one factor is a fraction less than one using manipulatives or visual models.	Identifies multiplication scaling by comparing the size of a product to the size of one factor on the basis of the size of the second factor by performing the indicated multiplication where one factor is a fraction less than one using manipulatives or visual models.
Write and Interpret Numerical Expressions 5.OA.1 5.OA.2-1 5.OA.2-2	Uses parentheses, brackets, or braces **with no greater depth than two,** to write and **evaluate** numerical expressions. **Interprets numerical expressions without evaluating them.**	Uses parentheses, brackets, or braces to **write numerical expressions.** Interprets simple numerical expressions without evaluating them.	Uses parentheses, **brackets, or braces** to write simple numerical expressions.	Uses parentheses to write simple numerical expressions.

	Grade 5 Math: Sub-Claim B The student solves problems involving Additional and Supporting Content for Grade 5 with connections to the Standards for Mathematical Practice.			
	Level 5: Exceeds Expectations	**Level 4: Meets Expectations**	**Level 3: Approaches Expectations**	**Level 2: Partially Meets Expectations**
Graphing on the Coordinate Plane 5.G.1 5.G.2 5.OA.3	Represents real-world and mathematical problems by locating and graphing points in the first quadrant of a coordinate plane and interprets coordinate values of points in the context of the situation**.**	Represents real-world and mathematical problems by locating **and** graphing points in the first quadrant of a coordinate plane.	Represents real-world and mathematical problems by locating **or graphing** points in the first quadrant of a coordinate plane.	Represents real-world mathematical problems by locating points in the first quadrant of a coordinate plane.
Two-Dimensional Figures 5.G.3 5.G.4	Classifies two-dimensional figures in a hierarchy based on properties. Understands that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category. **Uses appropriate tools to determine similarities and differences between categories and subcategories.**	Classifies two-dimensional figures in a **hierarchy** based on properties. Understands that shared attributes categorize two-dimensional figures.	**Classifies** two-dimensional figures based on properties. **Understands that shared attributes categorize two-dimensional figures.**	Identifies two-dimensional figures based on properties.
Conversions 5.MD.1-1 5.MD.1-2	Converts among different-sized standard measurement units within a given measurement system and uses these conversions to solve real-world, **multi-step** problems.	Converts among different-sized standard measurement units within a given measurement system **and uses these conversions to solve real-world**, single-step problems.	**Converts** among different-sized standard measurement units within a given measurement system **and solves single-step problems by using manipulatives or visual models.**	Identifies the correct conversion among different-sized standard units within a given measurement system.

	Grade 5 Math: Sub-Claim B The student solves problems involving Additional and Supporting Content for Grade 5 with connections to the Standards for Mathematical Practice.			
	Level 5: Exceeds Expectations	**Level 4: Meets Expectations**	**Level 3: Approaches Expectations**	**Level 2: Partially Meets Expectations**
	Chooses the appropriate measurement unit based on the given context.			
Data Displays 5.MD.2-2	Uses operations on fractions with denominators of 2, 4, and 8 to solve problems involving information in line plots and **interprets the solution in relation to the data.**	Uses operations on fractions with denominators of 2 and 4 to solve problems involving information in line plots.	Uses operations on fractions with like denominators of 2 **and 4** to solve problems involving information in line plots.	Uses operations on fractions with like denominators of 2 to solve problems involving information in line plots.

	Grade 5 Math: Sub-Claim C In connection with content, the student expresses Grade 5 appropriate mathematical reasoning by constructing viable arguments, critiquing the reasoning of others and/or attending to precision when making mathematical statements.			
	Level 5: Exceeds Expectations	**Level 4: Meets Expectations**	**Level 3: Approaches Expectations**	**Level 2: Partially Meets Expectations**
Properties of Operations 5.C.1-1 5.C.1-2 5.C.1-3 5.C.2-1 5.C.2-2 5.C.2-3 5.C.2-4	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student constructs and communicates a well-organized and complete written response based on explanations/reasoning using: • properties of operations • relationship between addition and subtraction • relationship between multiplication and division Response may include: • a logical/defensible approach based on a conjecture and/or stated assumptions, utilizing mathematical connections (when appropriate) • an **efficient** and logical progression of steps with appropriate justification • precision of calculation • correct use of grade-level vocabulary, symbols and labels • justification of a conclusion • evaluation of whether an argument or conclusion is generalizable • evaluating, interpreting and critiquing the validity of other's responses, reasonings, and approaches, utilizing mathematical	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student constructs and communicates a **well-organized** and complete written response based on explanations/reasoning using: • properties of operations • relationship between addition and subtraction • relationship between multiplication and division Response may include: • a logical/**defensible** approach based on a conjecture and/or stated assumptions, **utilizing mathematical connections (when appropriate)** • a logical progression of steps • **precision of calculation** • **correct** use of grade-level vocabulary, symbols and labels • **justification of a conclusion** • **evaluation of whether an argument or conclusion is generalizable** • evaluating, **interpreting and critiquing** the validity of other's responses, **reasonings, and approaches, utilizing mathematical connections (when appropriate).**	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student constructs and communicates a complete written response based on explanations/reasoning using: • properties of operations • relationship between addition and subtraction • relationship between multiplication and division Response may include: • a **logical** approach based on a conjecture and/or stated assumptions • a logical, but incomplete, progression of steps • **minor** calculation errors • **some** use of grade-level vocabulary, symbols and labels • partial justification of a conclusion based on own calculations • **evaluating the validity of other's responses, approaches and conclusions.**	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student constructs and communicates an **incomplete** written response based on explanations/reasoning using: • properties of operations • relationship between addition and subtraction • relationship between multiplication and division Response may include: • an approach based on a conjecture and/or stated or faulty assumptions • an incomplete or illogical progression of steps • an intrusive calculation error • limited use of grade-level vocabulary, symbols and labels • partial justification of a conclusion based on own calculations

	Grade 5 Math: Sub-Claim C In connection with content, the student expresses Grade 5 appropriate mathematical reasoning by constructing viable arguments, critiquing the reasoning of others and/or attending to precision when making mathematical statements.			
	Level 5: Exceeds Expectations	**Level 4: Meets Expectations**	**Level 3: Approaches Expectations**	**Level 2: Partially Meets Expectations**
	connections (when appropriate). **Provides a counter-example where applicable.**			
Place Value 5.C.3	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student clearly constructs and communicates a well-organized and complete response based on place value system including: • a logical approach based on a conjecture and/or stated assumptions, utilizing mathematical connections (when appropriate) • an efficient and logical progression of steps with appropriate justification • precision of calculation • correct use of grade-level vocabulary, symbols and labels • justification of a conclusion • evaluation of whether an argument or conclusion is generalizable • evaluating, interpreting and critiquing the validity of other's responses, approaches and reasoning, and **providing a counter-example where applicable.**	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student **clearly** constructs and communicates a **well-organized** and complete response based on place value system including: • a logical approach based on a conjecture and/or stated assumptions, utilizing mathematical connections (when appropriate) • a logical progression of steps • precision of calculation • correct use of grade-level vocabulary, symbols and labels • **justification of a conclusion** • **evaluation of whether an argument or conclusion is generalizable** • evaluating**,** interpreting and critiquing the validity of other's responses, approaches and reasoning.	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student constructs and communicates a **complete response** based on place value system including: • a logical approach based on a conjecture and/or stated assumptions • a logical, but incomplete, progression of steps • minor calculation errors • some use of grade-level vocabulary, symbols and labels • partial justification of a conclusion based on own calculations • **evaluating the validity of other's responses, approaches and conclusions.**	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student constructs and communicates an incomplete response based on place value system which may include: • an approach based on a conjecture and/or stated or faulty assumptions • an incomplete or illogical progression of steps • an intrusive calculation error • limited use of grade-level vocabulary, symbols and labels • partial justification of a conclusion based on own calculations
Concrete Referents and Diagrams 5.C.4-1 5.C.4-2 5.C.4-3 5.C.4-4 5.C.5-1 5.C.5-2 5.C.5-3 5.C.6	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student clearly constructs and communicates a well-organized and complete response based on operations using concrete referents such as diagrams--including number lines (whether provided in the prompt or constructed by the student) and connecting the diagrams to a written (symbolic) method, which may include: • a logical approach based on a conjecture and/or stated assumptions, utilizing	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student **clearly** constructs and communicates a **well-organized a**nd complete response based on operations using concrete referents such as diagrams--including number lines (**whether provided in the prompt or constructed by the student**) and connecting the diagrams to a written (symbolic) method, which may include: • a logical approach based on a conjecture and/or stated assumptions, **utilizing**	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student constructs and communicates **a complete response** based on operations using concrete referents such as diagrams--including number lines (provided in the prompt) – connecting the diagrams to a written (symbolic) method, which may include: • **a logical approach based on a conjecture and/or stated assumptions** • a **logical**, but incomplete, progression of steps	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student constructs and communicates an incomplete response based on operations using concrete referents such as diagrams – including number lines (provided in the prompt) – connecting the diagrams to a written (symbolic) method, which may include: • a conjecture and/or stated or faulty assumptions • an incomplete or illogical progression of steps • an intrusive calculation error

	Grade 5 Math: Sub-Claim C In connection with content, the student expresses Grade 5 appropriate mathematical reasoning by constructing viable arguments, critiquing the reasoning of others and/or attending to precision when making mathematical statements.			
	Level 5: Exceeds Expectations	**Level 4: Meets Expectations**	**Level 3: Approaches Expectations**	**Level 2: Partially Meets Expectations**
	mathematical connections (when appropriate) • an **efficient** and logical progression of steps **with appropriate justification** • precision of calculation • correct use of grade-level vocabulary, symbols and labels • justification of a conclusion • evaluation of whether an argument or conclusion is generalizable • evaluating, interpreting, and critiquing the validity of other's responses, approaches, and reasoning, and **providing a counterexample where applicable**	**mathematical connections (when appropriate)** • a logical progression of steps • **precision of calculation** • **correct** use of grade-level vocabulary, symbols and labels • **justification of a conclusion** • **evaluation of whether an argument or conclusion is generalizable** • evaluating, **interpreting, and critiquing** the validity of other's responses, approaches, and **reasoning.**	• **minor** calculation errors • **some** use of grade-level vocabulary, symbols and labels • partial justification of a conclusion based on own calculations. • **evaluating** the validity of other's responses, **approaches and conclusions.**	• limited use of grade-level vocabulary, symbols and labels • partial justification of a conclusion based on own calculations • accepting the validity of other's responses
Distinguish Correct Explanation/ Reasoning from that which is Flawed 5.C.7-1 5.C.7-2 5.C.7-3 5.C.7-4 5.C.8-2	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student clearly constructs and communicates a well-organized and complete response by: • analyzing and defending solutions to multi-step problems in the form of valid chains of reasoning, using symbols such as equal signs appropriately • **evaluating** explanation/ reasoning if there is a flaw in the argument • presenting **and defending** corrected reasoning Response may include: • a logical approach based on a conjecture and/or stated assumptions, utilizing mathematical connections (when appropriate) • **an efficient** and logical progression of steps **with appropriate justification** • precision of calculation • correct use of grade-level vocabulary, symbols and labels	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student **clearly** constructs and communicates **a well-organized** and complete response by: • analyzing and **defending** solutions to multi-step problems in the form of valid chains of reasoning, using symbols such as equal signs appropriately • distinguishing correct explanation/reasoning from that which is flawed • identifying and describing the flaw in reasoning or describing errors in solutions to multi-step problems • presenting corrected reasoning Response may include: • a logical approach based on a conjecture and/or stated assumptions, **utilizing mathematical connections (when appropriate)** • **a logical progression of steps** • **precision of calculation** • **correct** use of grade-level	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student constructs and communicates a **complete** response by**:** • analyzing solutions to **multi-step** problems in the form of valid chains of reasoning**,** using symbols such as equal signs appropriately • distinguishing correct explanation/reasoning from that which is flawed • identifying and **describing the flaw in reasoning or describing errors in solutions to multi-step problems** • **presenting corrected reasoning** Response may include: • **a logical approach based on a conjecture and/or stated assumptions** • **a logical**, but incomplete, progression of steps • **minor** calculation errors • **some** use of grade-level vocabulary, symbols and labels	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student constructs and communicates an incomplete response by: • analyzing solutions to scaffolded two-step problems in the form of valid chains of reasoning, sometimes using symbols such as equal signs appropriately • distinguishing correct explanation/reasoning from that which is flawed • identifying an error in reasoning Response may include: • a conjecture based on faulty assumptions • an incomplete or illogical progression of steps • an intrusive calculation error • limited use of grade-level vocabulary, symbols and labels • partial justification of a conclusion based on own calculations • accepting the validity of other's responses

	Grade 5 Math: Sub-Claim C In connection with content, the student expresses Grade 5 appropriate mathematical reasoning by constructing viable arguments, critiquing the reasoning of others and/or attending to precision when making mathematical statements.			
	Level 5: Exceeds Expectations	**Level 4: Meets Expectations**	**Level 3: Approaches Expectations**	**Level 2: Partially Meets Expectations**
	• justification of a conclusion • evaluation of whether an argument or conclusion is generalizable • evaluating, interpreting and critiquing the validity of other's responses, approaches and reasoning, and **providing a counter-example where applicable**	vocabulary, symbols and labels • **justification of a conclusion** • **evaluation of whether an argument or conclusion is generalizable** • evaluating**, interpreting and critiquing** the validity of other's responses, approaches and **reasoning**	• partial justification of a conclusion based on own calculations • **evaluating** the validity of other's responses, **approaches and conclusions.**	

	Grade 5 Math: Sub-Claim D In connection with content, the student solves real-world problems with a degree of difficulty appropriate to Grade 5 by applying knowledge and skills articulated in the standards for Grade 5 (or for more complex problems, knowledge and skills articulated in the standards for previous grades/courses), engaging particularly in the Modeling practice, and where helpful making sense of problems and persevering to solve them, reasoning abstractly, and quantitatively, using appropriate tools strategically, looking for the making use of structure and/or looking for and expressing regularity in repeated reasoning.			
	Level 5: Exceeds Expectations	**Level 4: Meets Expectations**	**Level 3: Approaches Expectations**	**Level 2: Partially Meets Expectations**
Modeling 5.D.1 5.D.2	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student devises a plan and applies mathematics to solve multi-step, real-world contextual word problems by: • using stated assumptions or making assumptions and using approximations to simplify a real-world situation • analyzing and/or creating constraints, relationships and goals • mapping relationships between important quantities by selecting appropriate tools to create models • analyzing relationships mathematically between important quantities to draw conclusions • justifying and defending models which lead to a conclusion • interpreting mathematical results in the context of the situation • reflecting on whether the results make sense	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student devises a plan and applies mathematics to solve multi-step, real-world contextual word problems by: • using stated assumptions or **making assumptions** and using approximations to simplify a real-world situation • mapping relationships between important quantities by selecting appropriate tools to create models • analyzing relationships mathematically between important quantities to draw conclusions • interpreting mathematical results in the context of the situation • reflecting on whether the results make sense • modifying and/or improving the model if it has not served its purpose • writing an arithmetic expression or equation to describe a situation	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student devises a plan and applies mathematics to solve multi-step, real-world contextual word problems by: • using stated assumptions and approximations to simplify a real-world situation • illustrating relationships between important quantities by using provided tools to create models • analyzing relationships mathematically between important quantities to draw conclusions • interpreting mathematical results in a simplified context • reflecting on whether the results make sense • modifying the model if it has not served its purpose • writing an arithmetic expression or equation to describe a situation	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student devises a plan and applies mathematics to solve multi-step, real-world contextual word problems by: • using stated assumptions and approximations to simplify a real-world situation • identifying important quantities • using provided tools to create models • analyzing relationships mathematically to draw conclusions • writing an arithmetic expression or equation to describe a situation

	Grade 5 Math: Sub-Claim D In connection with content, the student solves real-world problems with a degree of difficulty appropriate to Grade 5 by applying knowledge and skills articulated in the standards for Grade 5 (or for more complex problems, knowledge and skills articulated in the standards for previous grades/courses), engaging particularly in the Modeling practice, and where helpful making sense of problems and persevering to solve them, reasoning abstractly, and quantitatively, using appropriate tools strategically, looking for the making use of structure and/or looking for and expressing regularity in repeated reasoning.			
	Level 5: Exceeds Expectations	**Level 4: Meets Expectations**	**Level 3: Approaches Expectations**	**Level 2: Partially Meets Expectations**
	• improving the model if it has not served its purpose • writing **a concise** arithmetic expression or equation to describe a situation			

Grade 6 Mathematics Performance Level Descriptors

	Grade 6 Math : Sub-Claim A The student solves problems involving Major Content for Grade 6 with connections to the Standards for Mathematical Practice.			
	Level 5: Exceeds Expectations	**Level 4: Meets Expectations**	**Level 3: Approaches Expectations**	**Level 2: Partially Meets Expectations**
Multiplying and Dividing with Fractions 6.NS.1-2	Solves word problems involving **division of fractions by fractions.**	Divides fractions **with unlike denominators** and solves word problems with prompting embedded within the problem.	Divides fractions with common denominators **and solves word problems with prompting embedded within the problem.**	Divides fractions with common denominators.
Ratios 6.RP.1 6.RP.2 6.RP.3a 6.RP.3b 6.RP.3c-1 6.RP.3c-2 6.RP.3d	Uses ratio and rate reasoning to solve real-world and mathematical problems, including ratio, unit rate, percent and unit conversion problems. Uses **and connects a variety of representations** and strategies to solve these problems. Finds missing values in tables and plots values on the coordinate plane.	Uses ratio and rate reasoning to solve **real-world** and mathematical problems, including ratio, unit rate, percent and unit conversion problems using a limited variety of representations and strategies. Finds missing values in tables and locates **and** plots values on the coordinate plane.	**Uses ratio and rate reasoning** to solve mathematical problems, including ratio, unit rate, percent and unit conversion problems using a limited variety of representations and strategies. **Finds missing values in tables and locates or plots values on the coordinate plane.**	Solves problems including ratio, unit rate, percent and unit conversion problems using a limited variety of representations and strategies.
Rational Numbers 6.NS.5 6.NS.6a 6.NS.6b-1 6.NS.6b-2 6.NS.6c-1 6.NS.6c-2 6.NS.7a 6.NS.7b 6.NS.7c-1 6.NS.7c-2 6.NS.7d 6.NS.8	Understands that positive and negative numbers describe mathematical or real-world quantities which have opposite values or directions and can be represented on a number line and compared with or without the use of a number line. Understands **and interprets** the absolute value of a rational number. Plots ordered pairs on a coordinate plane to solve real-world and mathematical problems. Understands **(or recognizes) that when two ordered pairs differ only by signs, the locations of the points are related by reflections across one or both axes.** **Distinguishes comparisons of absolute value from statements about order.**	Understands that positive and negative numbers describe mathematical or real-world quantities which have opposite values or directions and can be represented on a number line **and compared with or without the use of a number line.** **Understands** the absolute value of a rational number. Plots ordered pairs on a coordinate plane to solve **real-world and** mathematical problems.	Understands that positive and negative numbers describe mathematical or real-world quantities which have opposite values or directions and can be represented on a number line. Determines the absolute value of a rational number. **Locates or plots ordered pairs on a coordinate plane to solve mathematical problems.**	Understands that positive and negative numbers describe mathematical or real-world quantities which have opposite values or directions and can be represented on a number line. Determines the absolute value of a rational number.
Expressions and	**Writes,** reads and evaluates numerical and algebraic	Reads and **evaluates** numerical and algebraic expressions,	**Reads numerical and algebraic expressions including those**	

	Grade 6 Math : Sub-Claim A The student solves problems involving Major Content for Grade 6 with connections to the Standards for Mathematical Practice.			
	Level 5: Exceeds Expectations	**Level 4: Meets Expectations**	**evel 3: Approaches Expectations**	**Level 2: Partially Meets Expectations**
Inequalities 6.EE.1-1 6.EE.1-2 6.EE.2a 6.EE.2b 6.EE.2c-1 6.EE.2c-2 6.EE.4	expressions, including those that contain whole number exponents. Identifies parts of algebraic and numerical expressions using mathematical terms **and views one or more parts of an expression as a single entity**. Identifies equivalent expressions using properties of operations.	including those that contain whole number exponents. **Writes numerical expressions and some algebraic expressions, including those that contain whole number exponents.** Identifies parts of algebraic and numerical expressions using mathematical terms. **Identifies equivalent expressions using properties of operations.**	**that contain whole number exponents**. Identifies parts of algebraic **and** numerical expressions using mathematical terms.	Identifies parts of an algebraic or numerical expression using mathematical terms.
Equations and Inequalities 6.EE.5-1 6.EE.5-2 6.EE.6 6.EE.7 6.EE.8 6.EE.9	Uses variables to represent numbers and writes expressions and single-step equations to solve real-world and mathematical problems **and understand their solutions.** **Expresses a relationship between dependent and independent variables** and relates tables and graphs to equations. Writes and graphs inequalities to represent a constraint or condition in a real-world or mathematical problem. **Understands that there are an infinite number of solutions for an inequality.**	Uses variables to represent numbers and writes expressions and single-step equations to solve **real-world** or mathematical problems. Relates tables and graphs to the equations. **Writes** and graphs inequalities to represent a constraint or condition in a **real-world** or mathematical problem.	Uses variables to represent numbers and writes expressions without exponents, and single-step equations to solve mathematical problems. **Relates tables and graphs to the equations.** **Graphs inequalities to represent a constraint or condition in a mathematical problem.**	Uses variables to represent numbers and writes expressions without exponents, and single-step equations to solve mathematical problems

	Grade 6 Math: Sub-Claim B The student solves problems involving Additional and Supporting Content for Grade 6 with connections to the Standards for Mathematical Practice.			
	Level 5: Exceeds Expectations	**Level 4: Meets Expectations**	**evel 3: Approaches Expectations**	**Level 2: Partially Meets Expectations**
Factors and Multiples 6.NS.4-1 6.NS.4-2	Finds greatest common factors and least common multiples. Uses the distributive property to **express** a sum of two whole numbers 1-100 with a common factor as a multiple of a sum of two whole numbers with no common factor.	Finds greatest common factors and least common multiples. **Uses the distributive property to rewrite a sum of two whole numbers 1-100 with a common factor as a multiple of a sum of two whole numbers with no common factor.**	Identifies greatest common factors **and** least common multiples.	Identifies greatest common factors or least common multiples.

	Grade 6 Math: Sub-Claim B The student solves problems involving Additional and Supporting Content for Grade 6 with connections to the Standards for Mathematical Practice.			
	Level 5: Exceeds Expectations	**Level 4: Meets Expectations**	**Level 3: Approaches Expectations**	**Level 2: Partially Meets Expectations**
Geometry 6.G.1 6.G.2-1 6.G.2-2 6.G.3 6.G.4	Solves real-world and mathematical problems involving area of polygons by composing into rectangles or decomposing into triangles and other shapes. Determines measurements of polygons in the coordinate plane. Determines and uses nets of three-dimensional figures to find surface area. Determines volume of right rectangular prisms with fractional edge lengths by packing them with unit cubes and using formulas. **Uses volume formulas to find unknown measurements.** **Understands the concepts of area and volume to solve unscaffolded problems.**	Solves **real-world** and mathematical problems involving area of polygons by either composing into rectangles or decomposing into triangles and other shapes. Determines measurements of polygons in the coordinate plane. **Determines** and uses nets of three-dimensional figures to find surface area. Determines volume of right rectangular prisms with fractional edge lengths by packing them with unit cubes and using formulas.	Solves mathematical problems involving area of polygons by either composing into rectangles **or decomposing into triangles and other shapes.** **Determines measurements of polygons in the coordinate plane.** **Uses nets of three-dimensional figures to find surface area.** **Determines volume of right rectangular prisms with fractional edge lengths by packing them with unit cubes and using formulas.**	Solves mathematical problems involving area of polygons by composing into rectangles.
Statistics and Probability 6.SP.1 6.SP.2 6.SP.3 6.SP.4 6.SP.5	Recognizes a statistical question and understands that a set of collected data has a distribution which can be described by its center, spread and overall shape. Understands the purpose of center and variability and that it can be summarized with a single number. **Displays** numerical data in plots on a number line, including dot plots, histograms and box plots, and **determines which display is the most appropriate.** **Summarizes numerical data sets in relation to their context, such as by reporting the number of observations, describing the nature of the attributes under investigation and using measures of center**	Recognizes a statistical question and understands that a set of collected data has a distribution which can be described by its center, spread and overall shape. Understands the purpose of center and that it can be summarized with a single number.	**Recognizes a statistical question** and understands that a set of collected data has a distribution which can be described by its center, spread and overall shape. Understands **the purpose of center** and that it can be summarized with a single number.	Understands that a set of collected data has a distribution which can be described by its center, spread and overall shape. Understands that the center of a set of data can be summarized with a single number.

	Grade 6 Math: Sub-Claim B The student solves problems involving Additional and Supporting Content for Grade 6 with connections to the Standards for Mathematical Practice.			
	Level 5: Exceeds Expectations	**Level 4: Meets Expectations**	**Level 3: Approaches Expectations**	**Level 2: Partially Meets Expectations**
	and variability. **Determines which measures of center and variability are the most appropriate for a set of data.**			
Operations with Multi-Digit Numbers 6.NS.2 6.NS.3-1 6.NS.3-2 6.NS.3-3 6.NS.3-4 6.Int.1	Solves **two**-step word problems and other problems by dividing multi-digit numbers and adding, subtracting, multiplying and dividing multi-digit decimals **and assesses reasonableness of the result using different methods.**	Solves one-step **word** problems and other problems with some level of accuracy by dividing multi-digit numbers and adding, subtracting, multiplying and dividing multi-digit decimals.	Solves one-step problems by dividing multi-digit numbers and adding, subtracting, multiplying and dividing multi-digit decimals.	Solves one-step problems with **limited accuracy** by dividing multi-digit numbers and adding, subtracting, multiplying and dividing multi-digit decimals.

	Grade 6: Sub-Claim C In connection with content, the student expresses Grade 6 appropriate mathematical reasoning by constructing viable arguments, critiquing the reasoning of others and/or attending to precision when making mathematical statements.			
	Level 5: Exceeds Expectations	**Level 4: Meets Expectations**	**Level 3: Approaches Expectations**	**Level 2: Partially Meets Expectations**
Properties of Operations 6.C.1.1 6.C.2	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student clearly constructs and communicates a complete response based on the properties of operations and the relationship between addition and subtraction or between multiplication and division, including: • a logical approach based on a conjecture and/or stated assumptions • a logical and complete progression of steps • precision of calculation • correct use of grade-level vocabulary, symbols and labels • complete justification of a conclusion • **generalization of an argument or conclusion** • evaluating, interpreting, and critiquing the validity and **efficiency** of other's responses, approaches and reasoning, and **providing**	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student **clearly** constructs and communicates a complete response based on the properties of operations and the relationship between addition and subtraction or between multiplication and division, including: • a logical approach based on a conjecture and/or stated assumptions • a logical and **complete** progression of steps • **precision** of calculation • **correct** use of grade-level vocabulary, symbols and labels • **complete** justification of a conclusion • evaluating, **interpreting and critiquing** the validity of other's responses, approaches and reasoning.	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student constructs and communicates a **complete** response based on the properties of operations and the relationship between addition and subtraction or between multiplication and division, including: • **a logical** approach based on a conjecture and/or stated assumptions • **a logical**, but incomplete, progression of steps • **minor** calculation errors • **some** use of grade-level vocabulary, symbols and labels • partial justification of a conclusion • **evaluating the validity of other's approaches and conclusions.**	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student constructs and communicates an incomplete response based on the properties of operations and the relationship between addition and subtraction or between multiplication and division, which may include: • a faulty approach based on a conjecture and/or stated assumptions • an incomplete or illogical progression of steps • major calculation errors • limited use of grade-level vocabulary, symbols and labels • partial justification of a conclusion

	Grade 6: Sub-Claim C In connection with content, the student expresses Grade 6 appropriate mathematical reasoning by constructing viable arguments, critiquing the reasoning of others and/or attending to precision when making mathematical statements.			
	Level 5: Exceeds Expectations	**Level 4: Meets Expectations**	**Level 3: Approaches Expectations**	**Level 2: Partially Meets Expectations**
	counter-examples where applicable.			
Concrete Referents and Diagrams 6.C.3 6.C.4 6.C.5	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student clearly constructs and communicates a complete response based on concrete referents provided in the prompt or constructed by the student such as: diagrams that are connected to a written (symbolic) method, number line diagrams or coordinate plane diagrams, including: • a logical approach based on a conjecture and/or stated assumptions • a logical and complete progression of steps • precision of calculation • correct use of grade-level vocabulary, symbols, labels • complete justification of a conclusion • **generalization of an argument or conclusion** • evaluating, interpreting and critiquing the validity and efficiency of other's responses, approaches and reasoning, and **provides a counter-example where applicable.**	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student **clearly** constructs and communicates a complete response based on concrete referents provided in the prompt or constructed by the student such as: diagrams that are connected to a written (symbolic) method, number line diagrams or coordinate plane diagrams, including: • a logical approach based on a conjecture and/or stated assumptions • a logical and **complete** progression of steps • **precision** of calculation • **correct** use of grade-level vocabulary, symbols and labels • **complete justification of a conclusion** • **evaluating**, interpreting and critiquing **the validity of other's** responses, **approaches and** reasoning	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student constructs and communicates a **complete** response based on concrete referents provided in the prompt or **in simple cases, constructed by the student** such as: diagrams **that are connected to a written (symbolic) method**, number line diagrams or coordinate plane diagrams, including: • a **logical** approach based on a conjecture and/or stated assumptions • a **logical**, but incomplete, progression of steps • **minor** calculation errors • **some use** of grade-level vocabulary, symbols and labels • partial justification of a conclusion • **evaluating the validity of other's approaches and conclusions.**	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student constructs and communicates an incomplete response based on concrete referents provided in the prompt such as: diagrams, number line diagrams or coordinate plane diagrams, which may include: • a faulty approach based on a conjecture and/or stated or faulty assumptions • an incomplete or illogical progression of steps • major calculation errors • limited use of grade-level vocabulary, symbols and labels • partial justification of a conclusion
Distinguish Correct Explanation/ Reasoning from that which is Flawed 6.C.6 6.C.7 6.C.8.1 6.C.8.2 6.C.9	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student clearly constructs and communicates a complete response to a given equation, multi-step problem, proposition or conjecture, including: • a logical approach based on a conjecture and/or stated assumptions • a logical and complete progression of steps • precision of calculation • correct use of grade-level vocabulary, symbols and labels	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student clearly constructs and communicates a complete response to a given equation, multi-step problem, proposition or conjecture, including: • a logical approach based on a conjecture and/or stated assumptions • a logical and **complete** progression of steps • **precision** of calculation • **correct** use of grade-level vocabulary, symbols and labels	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student constructs and communicates a **complete** response to a given equation, multi-step problem, proposition or conjecture, including: • a **logical** approach based on a conjecture and/or stated assumptions • **a logical, but incomplete, progression of steps** • minor calculation errors • **some** use of grade-level vocabulary, symbols and labels	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student constructs and communicates an incomplete response to a given equation, multi-step problem, proposition or conjecture, including: • an approach based on a conjecture and/or stated or faulty assumptions • an incomplete or illogical progression of steps • major calculation errors • limited use of grade-level vocabulary, symbols and labels

	Grade 6: Sub-Claim C In connection with content, the student expresses Grade 6 appropriate mathematical reasoning by constructing viable arguments, critiquing the reasoning of others and/or attending to precision when making mathematical statements.			
	Level 5: Exceeds Expectations	**Level 4: Meets Expectations**	**Level 3: Approaches Expectations**	**Level 2: Partially Meets Expectations**
	• complete justification of a conclusion • **generalization of an argument or conclusion** • evaluating, interpreting and critiquing the validity and efficiency of other's responses, approaches and reasoning, and **providing a counter-example where applicable.** • identifying and describing errors in solutions and presents correct solutions. • **distinguishing correct explanation/reasoning from that which is flawed. If there is a flaw, presents correct reasoning.**	• **complete** justification of a conclusion • evaluating**, interpreting and critiquing** the validity of other's responses, approaches and **reasoning.** • identifying and describing error in solutions and **presents correct solutions.**	• partial justification of a conclusion • **evaluating the validity of other's approaches and conclusion.** • **identifying and describing errors in solutions.**	• partial justification of a conclusion

	Grade 6: Sub-Claim D In connection with content, the student solves real-world problems with a degree of difficulty appropriate to Grade 6 by applying knowledge and skills articulated in the standards for Grade 6 (or for more complex problems, knowledge and skills articulated in the standards for previous grades/courses), engaging particularly in the Modeling practice, and where helpful making sense of problems and persevering to solve them, reasoning abstractly, and quantitatively, using appropriate tools strategically, making use of structure and/or looking for and expressing regularity in repeated reasoning.			
	Level 5: Exceeds Expectations	**Level 4: Meets Expectations**	**Level 3: Approaches Expectations**	**Level 2: Partially Meets Expectations**
Modeling 6.D.1 6.D.2 6.D.3	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student **d**evises a plan to apply mathematics in solving problems arising in everyday life, society and the workplace by: • using stated assumptions and making assumptions and approximations to simplify a real-world situation • mapping relationships between important quantities by selecting appropriate tools to create models • analyzing relationships mathematically between important quantities to draw conclusions • writing a complete, clear and correct algebraic expression	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student devises a plan to apply mathematics in solving problems arising in everyday life, society and the workplace by: • using stated assumptions and **making assumptions** and **approximations** to simplify a real-world situation • **mapping relationships** between important quantities by **selecting appropriate** tools to create models • analyzing relationships mathematically between important quantities to draw conclusions • writing **a complete, clear, and correct** algebraic expression	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student devises a plan to apply mathematics in solving problems arising in everyday life, society and the workplace by: • using stated assumptions and approximations to simplify a real-world situation • **illustrating relationships** between important quantities by using provided tools to create models • analyzing relationships mathematically **between important quantities** to draw conclusions • writing an incomplete algebraic expression or equation to describe a situation	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student devises a plan to apply mathematics in solving problems arising in everyday life, society and the workplace by: • using stated assumptions and approximations to simplify a real-world situation • identifying important quantities by using provided tools to create models • analyzing relationships mathematically to draw conclusions • writing an incomplete algebraic expression or equation to describe a situation

	Grade 6: Sub-Claim D In connection with content, the student solves real-world problems with a degree of difficulty appropriate to Grade 6 by applying knowledge and skills articulated in the standards for Grade 6 (or for more complex problems, knowledge and skills articulated in the standards for previous grades/courses), engaging particularly in the Modeling practice, and where helpful making sense of problems and persevering to solve them, reasoning abstractly, and quantitatively, using appropriate tools strategically, making use of structure and/or looking for and expressing regularity in repeated reasoning.			
	Level 5: Exceeds Expectations	**Level 4: Meets Expectations**	**Level 3: Approaches Expectations**	**Level 2: Partially Meets Expectations**
	or equation to describe a situation • applying proportional reasoning • writing/using functions to describe how one quantity of interest depends on another • using reasonable estimates of known quantities in a chain of reasoning that yields an estimate of an unknown quantity • reflecting on whether the results make sense • improving the model if it has not served its purpose • interpreting mathematical results in the context of the situation • **analyzing and/or creating limitations, relationships and interpreting goals within the model** • **analyzing, justifying and defending models which lead to a conclusion**	or equation to describe a situation • applying proportional reasoning • writing/using functions to describe how one quantity of interest depends on another • using reasonable estimates of known quantities in a chain of reasoning that yields an estimate of an unknown quantity • reflecting on whether the results make sense • **improving** the model if it has not served its purpose • interpreting mathematical results in **the context of the situation**	• applying proportional reasoning • **writing/**using functions to describe how one quantity of interest depends on another • using **reasonable** estimates of known quantities in a chain of reasoning that yields an estimate of an unknown quantity • **reflecting on whether the results make sense** • **modifying the model if it has not served its purpose** • **interpreting mathematical results in a simplified context**	• applying proportional reasoning • using functions to describe how one quantity of interest depends on another • using unreasonable estimates of known quantities in a chain of reasoning that yields an estimate of an unknown quantity

Grade 7 Mathematics Performance Level Descriptors

	Grade 7 Math : Sub-Claim A The student solves problems involving Major Content for Grade 7 with connections to the Standards for Mathematical Practice.			
	Level 5: Exceeds Expectations	**Level 4: Meets Expectations**	**Level 3: Approaches Expectations**	**Level 2: Partially Meets Expectations**
Proportional Relationships 7.RP.1 7.RP.2a 7.RP.2b 7.RP.2c 7.RP.2d 7.RP.3-1 7.RP.3-2	**Analyzes** and uses proportional relationships to solve real-world and mathematical problems, including **multi-step** ratio/percent problems. Computes unit rates of quantities associated with ratios of fractions. Decides whether two quantities are in a proportional relationship and identifies the constant of proportionality (unit rate) in tables, equations, diagrams, verbal descriptions and graphs. Interprets a point (*x, y*) on the graph of a proportional relationship in terms of the situation, with special attention to the points (0, 0) and (1, *r*) where *r* is the unit rate. Represents proportional relationships by equations and uses them to solve mathematical and real-world problems, including multi-step ratio and percent problems. **Determines when it is appropriate to use unit rates and understands its limitations.**	**Analyzes** and uses proportional relationships to solve real-world and mathematical problems, including simple ratio/percent problems. Computes unit rates of quantities associated with ratios of fractions. Decides whether two quantities are in a proportional relationship and identifies the constant of proportionality (unit rate) in tables, equations, diagrams, verbal descriptions and graphs. **Interprets a point (*x, y*) on the graph** of a proportional relationship **in terms of the situation, with special attention to the points (0, 0) and (1, *r*) where *r* is the unit rate.** **Represents proportional relationships by equations** and uses them to solve mathematical and real-world problems, including simple ratio and percent problems.	**Uses** proportional relationships to solve **real-world** and mathematical problems, including simple ratio/percent problems. **Computes unit rates of quantities associated with ratios of fractions.** **Decides** whether two quantities are in a proportional relationship and **identifies the constant of proportionality (unit rate) in tables, equations, diagrams, verbal descriptions and graphs.** **Uses equations representing a proportional relationship to solve mathematical and real-world problems, including ratio and percent problems.**	Identifies proportional relationships to solve mathematical problems, including ratio/percent problems. Identifies whether two quantities are in a proportional relationship.
Operations with Fractions 7.NS.1a 7.NS.1b-1 7.NS.1b-2 7.NS.1c-1 7.NS.1d 7.NS.2a-1 7.NS.2a-2 7.NS.2b-1 7.NS.2b-2 7.NS.2c 7.NS.3 7.EE.3	Performs operations on positive and negative rational numbers in multi-step mathematical and real-world problems. Represents addition and subtraction on a horizontal or vertical number line and recognizes situations in which opposite quantities combine to make zero. Determines reasonableness of a solution and **interprets solutions in real-world contexts.**	Performs operations on positive and negative rational numbers in **multi-step** mathematical and real-world problems. Represents addition and subtraction on a horizontal or vertical number line and recognizes situations in which opposite quantities combine to make zero. **Determines reasonableness of a solution.**	Performs operations on positive and negative rational numbers in mathematical and **real-world** problems. Represents addition and subtraction on a horizontal or vertical number line **and recognizes situations in which opposite quantities combine to make zero.**	Performs operations on positive and negative rational numbers in mathematical problems. Represents addition and subtraction on a horizontal or vertical number line.

	Grade 7 Math : Sub-Claim A The student solves problems involving Major Content for Grade 7 with connections to the Standards for Mathematical Practice.			
	Level 5: Exceeds Expectations	**Level 4: Meets Expectations**	**Level 3: Approaches Expectations**	**Level 2: Partially Meets Expectations**
	Using the properties of operations, justifies the steps taken to solve multi-step mathematical and real-world problems involving rational numbers.			
Expressions, Equations and Inequalities 7.EE.1 7.EE.2 7.EE.4a-1 7.EE.4a-2 7.EE.4b	Applies properties of operations as strategies to add, subtract, factor and expand linear expressions. Solves **multi-step** linear equations with rational coefficients. In mathematical or real-world contexts, uses variables to represent quantities, construct and solve equations and inequalities, and graph **and interpret** solution sets. **Rewrites an expression in different forms.** **Describes the relationship between equivalent quantities that are expressed algebraically in different forms in a problem context and explains their equivalence in light of the context of the problem.**	Applies properties of operations as strategies to add, subtract, **factor** and expand linear expressions. Solves two-step linear equations with rational coefficients. In a mathematical or **real-world** context, uses variables to represent quantities, construct and solve equations and inequalities, and graph solution sets.	Applies properties of operations as strategies to add, subtract **and expand** linear expressions. Solves **two-step** linear equations with rational coefficients. **In a mathematical context, uses variables to represent quantities, construct and solve equations and inequalities, and graph solution sets.**	Applies properties of operations as strategies to add and subtract linear expressions. Solves one-step linear equations with rational coefficients.

	Grade 7 Math: Sub-Claim B The student solves problems involving Additional and Supporting Content for Grade 7 with connections to the Standards for Mathematical Practice.			
	Level 5: Exceeds Expectations	**Level 4: Meets Expectations**	**Level 3: Approaches Expectations**	**Level 2: Partially Meets Expectations**
Representing Geometric Figures 7.G.2 7.G.3	Draws geometric figures – freehand, with a ruler and protractor or with technology – and describes their attributes. Constructs triangles with given angle and side conditions and notices when those conditions determine a unique triangle, >1 triangle or no triangle. Describes two-dimensional figures that result from slicing three-dimensional figures by a	Draws geometric figures – freehand, with a ruler and protractor or with technology – and describes their attributes. Constructs triangles with given angle and side conditions. **Describes the two-dimensional figures that result from slicing three-dimensional figures by a plane parallel or perpendicular to a base or face.**	Draws geometric figures – freehand, with a ruler and protractor, or with technology – and describes some of their attributes. **Constructs triangles with given angle and side conditions.**	Draws geometric figures – freehand, with a ruler and protractor, or with technology – and describes some of their attributes.

	Grade 7 Math: Sub-Claim B The student solves problems involving Additional and Supporting Content for Grade 7 with connections to the Standards for Mathematical Practice.			
	Level 5: Exceeds Expectations	**Level 4: Meets Expectations**	**Level 3: Approaches Expectations**	**Level 2: Partially Meets Expectations**
	plane **which may or may not be** parallel or perpendicular to a base or face.			
Drawings and Measurement 7.G.1 7.G.4-1 7.G.4-2 7.G.5 7.G.6	Solves mathematical and real-world problems involving circumference, area, surface area and volume of two-and three-dimensional objects, **including composite objects.** Solves problems involving scale drawings of geometric figures, including reproducing a scale drawing at a different scale. Represents angle relationships using equations to solve for unknown angles. **Produces a logical conclusion** about the relationship between circle circumference and area.	Solves mathematical and **real-world** problems involving circumference, area, surface area and volume of two-and three-dimensional objects. Solves problems involving scale drawings of geometric figures, **including reproducing a scale drawing at a different scale.** **Represents** angle relationships **using equations to solve** for unknown angles.	Solves mathematical problems involving circumference, area, **surface area and volume** of two-**and three-**dimensional objects. Solves problems involving scale drawings of geometric figures. **Uses facts about angle relationships to determine the measure of unknown angles**.	Solves mathematical problems involving circumference and area of two-dimensional objects. Solves problems involving scale drawings of geometric figures.
Random Sampling and Comparative Inferences 7.SP.1 7.SP.2 7.SP.3 7.SP.4	Understands and uses random sampling to draw inferences about a population. Draws relevant informal comparative inferences about 2 populations, including assessing the degree of visual overlap of 2 numerical data distributions with similar variabilities. **Generates multiple samples of the same size to gauge the variation in estimates or predictions.** **Analyzes whether a sample is representative of a population.**	**Understands and uses random sampling** to draw inferences about a population. Draws **relevant** informal comparative inferences about two populations.	**Draws inferences about a population from a table or graph of random samples.** **Draws informal comparative inferences about two populations.**	Compares two populations based on measures of center and measures of variability.
Chance Processes and Probability Models 7.SP.5 7.SP.6 7.SP.7a 7.SP.7b 7.SP.8a 7.SP.8b 7.SP.8c	Understands that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. **Generates a sample space to determine** the probability of simple or compound events using methods such as organized lists, tables, tree diagrams or **simulations.**	Understands that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Finds probabilities when given sample spaces for simple **and compound** events using methods such as organized lists, tables and **tree diagrams.**	Understands that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. **Finds probabilities when given sample spaces for simple events using methods such as organized lists and tables.**	Understands that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring.

	Grade 7 Math: Sub-Claim B The student solves problems involving Additional and Supporting Content for Grade 7 with connections to the Standards for Mathematical Practice.			
	Level 5: Exceeds Expectations	**Level 4: Meets Expectations**	**Level 3: Approaches Expectations**	**Level 2: Partially Meets Expectations**
	Approximates the probability of a chance event by collecting data. Develops probability models to determine the probabilities of events. Designs and uses a simulation to generate frequencies for compound events. **Designs and uses a simulation to estimate the probability of a compound event.**	**Develops a model to approximate the probability of a chance event and predicts approximate frequencies when given the probability or by observing frequencies in data generated from the process.**		

	Grade 7 Math: Sub-Claim C In connection with content, the student expresses Grade 7 appropriate mathematical reasoning by constructing viable arguments, critiquing the reasoning of others and/or attending to precision when making mathematical statements.			
	Level 5: Exceeds Expectations	**Level 4: Meets Expectations**	**Level 3: Approaches Expectations**	**Level 2: Partially Meets Expectations**
Properties of Operations 7.C.1.1 7.C.1.2 7.C.2	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student clearly constructs and communicates a complete response based on properties of operations and relationship between addition and subtraction or multiplication and division, including: • a logical approach based on a conjecture and/or stated assumptions • a logical and complete progression of steps • precision of calculation • correct use of grade-level vocabulary, symbols, labels • complete justification of a conclusion • **generalization of an argument or conclusion** evaluating, interpreting, and critiquing the validity of other's responses, approaches, conclusions and reasoning, and **correcting and providing counter-examples where applicable.**	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student **clearly** constructs and communicates a complete response based on the properties of operations and the relationship between addition and subtraction or between multiplication and division, including: • a logical approach based on a conjecture and/or stated assumptions • a logical and **complete** progression of steps • **precision** of calculation • **correct** use of grade-level vocabulary, symbols and labels • **complete** justification of a conclusion • evaluating**, interpreting and critiquing** the validity of other's **responses,** approaches, conclusions, and **reasoning.**	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student constructs and communicates a **complete** response based on the properties of operations and the relationship between addition and subtraction or between multiplication and division, including: • a **logical** approach based on a conjecture and/or stated assumptions • a **logical,** but incomplete, progression of steps • **minor** calculation errors • **some** use of grade-level vocabulary, symbols and labels • partial justification of a conclusion • **evaluating the validity of other's approaches and conclusions**	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student constructs and communicates an incomplete response based on the properties of operations and the relationship between addition and subtraction or between multiplication and division, including: • a faulty approach based on a conjecture and/or stated assumptions • an incomplete or illogical progression of steps • major calculation errors • limited use of grade-level vocabulary, symbols and labels • partial justification of a conclusion

	Grade 7 Math: Sub-Claim C In connection with content, the student expresses Grade 7 appropriate mathematical reasoning by constructing viable arguments, critiquing the reasoning of others and/or attending to precision when making mathematical statements.			
	Level 5: Exceeds Expectations	**Level 4: Meets Expectations**	**Level 3: Approaches Expectations**	**Level 2: Partially Meets Expectations**
Concrete Referents and Diagrams 7.C.3 7.C.4	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student clearly constructs and communicates a complete response based on concrete referents provided in the prompt or constructed by the student such as diagrams that are connected to a written (symbolic) method, number line diagrams or coordinate plane diagrams, including: • a logical approach based on a conjecture and/or stated assumptions • a logical and complete progression of steps • precision of calculation • correct use of grade-level vocabulary, symbols and labels • complete justification of a conclusion • generalization of an argument or conclusion • evaluating, interpreting and critiquing the validity and efficiency of other's responses, approaches, conclusions and reasoning, and **providing a counterexample where applicable.**	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student clearly constructs and communicates a **complete** response based on concrete referents provided in the prompt or **constructed by the student** such as: diagrams that are connected to a written (symbolic) method, number line diagrams or coordinate plane diagrams, including: • a logical approach based on a conjecture and/or stated assumptions • a logical and **complete** progression of steps • **precision** of calculation • **correct** use of grade-level vocabulary, symbols and labels • **complete** justification of a conclusion • evaluating, **interpreting and critiquing** the validity of other's responses, approaches, conclusions and **reasoning.**	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student constructs and communicates an incomplete response based on concrete referents provided in the prompt or in **simple cases, constructed by the student** such as: diagrams **that are connected to a written (symbolic) method,** number line diagrams or coordinate plane diagrams, including: • a **logical** approach based on a conjecture and/or stated assumptions • a **logical**, but incomplete, progression of steps • **minor** calculation errors • **some** use of grade-level vocabulary, symbols and labels • partial justification of a conclusion • **evaluation the validity of other's approaches and conclusions.**	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student constructs and communicates an incomplete response based on concrete referents provided in the prompt such as: diagrams, number line diagrams or coordinate plane diagrams, which may include: • a faulty approach based on a conjecture and/or stated assumptions • an illogical and incomplete progression of steps • major calculation errors • limited use of grade-level vocabulary, symbols and labels • partial justification of a conclusion
Distinguish Correct Explanation / Reasoning from that which is Flawed 7.C.5 7.C.6.1 7.C.7.1 7.C.7.2 7.C.7.3 7.C.7.4 7.C.8	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student clearly constructs and communicates a complete response to a given equation, multi-step problem, proposition or conjecture, including: • a logical approach based on a conjecture and/or stated assumptions • a logical and complete progression of steps • precision of calculation • correct use of grade-level vocabulary, symbols, labels • complete justification of a conclusion	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student clearly constructs and communicates a complete response to a given equation, multi-step problem, proposition or conjecture, including: • a logical approach based on a conjecture and/or stated assumptions • a logical and **complete** progression of steps • **precision** of calculation • **correct** use of grade-level vocabulary, symbols, labels • **complete** justification of a conclusion	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student constructs and communicates a **complete** response to a given equation, multi-step problem, proposition or conjecture, including: • a **logical** approach based on a conjecture and/or stated assumptions • a **logical,** but incomplete, progression of steps • **minor** calculation errors • **some** use of grade-level vocabulary, symbols and labels	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student constructs and communicates an incomplete response to a given equation, multi-step problem, proposition or conjecture, including: • a faulty approach based on a conjecture and/or stated assumptions • an illogical and incomplete progression of steps • major calculation errors • limited use of grade-level vocabulary, symbols, labels • partial justification of a conclusion

	Grade 7 Math: Sub-Claim C In connection with content, the student expresses Grade 7 appropriate mathematical reasoning by constructing viable arguments, critiquing the reasoning of others and/or attending to precision when making mathematical statements.			
	Level 5: Exceeds Expectations	**Level 4: Meets Expectations**	**Level 3: Approaches Expectations**	**Level 2: Partially Meets Expectations**
	• **generalization of an argument or conclusion** • evaluating, interpreting and critiquing the validity and **efficiency** of other's responses, approaches, conclusions and reasoning, and **provides a counterexample where applicable.** • identifying and describing errors in solutions and presents correct solutions • **distinguishing correct explanation/reasoning from that which is flawed. If there is a flaw, presents correct reasoning.**	• evaluating**, interpreting and critiquing** the validity of other's responses, approaches, conclusions and **reasoning.** • identifying and describing errors in solutions and **presents correct solutions.**	• partial justification of a conclusion • **evaluating the validity of other's approaches and conclusions.** • **identifying and describing errors in solutions.**	

	Grade 7 Math: Sub-Claim D In connection with content, the student solves real-world problems with a degree of difficulty appropriate to Grade 7 by applying knowledge and skills articulated in the standards for Grade 7 (or for more complex problems, knowledge and skills articulated in the standards for previous grades/courses), engaging particularly in the Modeling practice, and where helpful making sense of problems and persevering to solve them, reasoning abstractly, and quantitatively, using appropriate tools strategically, looking for the making use of structure and/or looking for and expressing regularity in repeated reasoning			
	Level 5: Exceeds Expectations	**Level 4: Meets Expectations**	**Level 3: Approaches Expectations**	**Level 2: Partially Meets Expectations**
Modeling 7.D.1 7.D.2 7.D.3 7.D.4	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student devises a plan to apply mathematics in solving problems arising in everyday life, society and the workplace by: • using stated assumptions and making assumptions and approximations to simplify a real-world situation • mapping relationships between important quantities by selecting appropriate tools to create models • analyzing relationships mathematically between important quantities to draw conclusions • writing a complete, clear and correct algebraic expression or equation to describe a situation • applying proportional reasoning	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student devises a plan to apply mathematics in solving problems arising in everyday life, society and the workplace by: • using stated assumptions and **making assumptions** and **approximations** to simplify a real-world situation • **mapping** relationships between important quantities by **selecting appropriate** tools to create models • analyzing relationships mathematically between important quantities to draw conclusions • writing a **complete**, **clear and correct** algebraic expression or equation to describe a situation • applying proportional reasoning	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student devises a plan to apply mathematics in solving problems arising in everyday life, society and the workplace by: • using stated assumptions and approximations to simplify a real-world situation • **illustrating relationships** between important quantities by using provided tools to create models • analyzing relationships mathematically **between important quantities** to draw conclusions • writing an incomplete algebraic expression or equation to describe a situation • applying proportional reasoning	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student devises a plan to apply mathematics in solving problems arising in everyday life, society and the workplace by: • using stated assumptions and approximations to simplify a real-world situation • identifying important quantities using provided tools to create models • analyzing relationships mathematically to draw conclusions • writing an incomplete algebraic expression or equation to describe a situation • applying proportional reasoning using functions to describe how one quantity of interest depends on another

	Grade 7 Math: Sub-Claim D In connection with content, the student solves real-world problems with a degree of difficulty appropriate to Grade 7 by applying knowledge and skills articulated in the standards for Grade 7 (or for more complex problems, knowledge and skills articulated in the standards for previous grades/courses), engaging particularly in the Modeling practice, and where helpful making sense of problems and persevering to solve them, reasoning abstractly, and quantitatively, using appropriate tools strategically, looking for the making use of structure and/or looking for and expressing regularity in repeated reasoning			
	Level 5: Exceeds Expectations	**Level 4: Meets Expectations**	**Level 3: Approaches Expectations**	**Level 2: Partially Meets Expectations**
	• writing/using functions to describe how one quantity of interest depends on another • using reasonable estimates of known quantities in a chain of reasoning that yields an estimate of an unknown quantity • reflecting on whether the results make sense • improving the model if it has not served its purpose • interpreting mathematical results in the context of the situation **• analyzing and/or creating constraints, relationships and goals** **• analyzing, justifying and defending models which lead to a conclusion**	• writing/using functions to describe how one quantity of interest depends on another • using reasonable estimates of known quantities in a chain of reasoning that yields an estimate of an unknown quantity • reflecting on whether the results make sense • **improving** the model if it has not served its purpose • interpreting mathematical results in the **context of the situation**	• **writing**/using functions to describe how one quantity of interest depends on another • using **reasonable** estimates of known quantities in a chain of reasoning that yields an estimate of an unknown quantity **• reflecting on whether the results make sense** **• modifying the model if it has not served its purpose** **• interpreting mathematical results in a simplified context**	• using unreasonable estimates of known quantities in a chain of reasoning that yields an estimate of an unknown quantity

Grade 8 Mathematics Performance Level Descriptors

	Grade 8 Math : Sub-Claim A The student solves problems involving Major Content for Grade 8 with connections to the Standards for Mathematical Practice.			
	Level 5: Exceeds Expectations	**Level 4: Meets Expectations**	**Level 3: Approaches Expectations**	**Level 2: Partially Meets Expectations**
Expressions and Equations 8 EE.1 8 EE.2	Evaluates and generates equivalent numerical expressions using and applying properties of integer exponents. Solves equations of the form $x^2 = p$ and $x^3 = p$, representing solutions **using √ or $\sqrt[3]{}$ symbols.**	Evaluates and **generates equivalent** numerical expressions using and **applying** properties of integer exponents. **Solves** equations of the form $x^2 = p$, where p is a perfect square, **and solves equations of the form $x^3 = p$, where p is a perfect cube.**	Evaluates numerical expressions using properties of integer exponents. **Partially solves equations of the form $x^2 = p$, where p is a positive rational number and a perfect square < or = to 100, by representing only the positive solution of the equation.**	Evaluates numerical expressions using properties of integer exponents.
Scientific Notation 8.EE.3 8.EE.4-1 8.EE.4-2	Using scientific notation, estimates very large and very small quantities, determines how many times as large a number is in relation to another. Performs operations with numbers expressed in scientific notation. Interprets scientific notation that has been generated by technology. Chooses appropriate units for measuring very large or very small quantities. **Interprets scientific notation in context.**	Using scientific notation, estimates very large and **very small quantities.** Performs operations with numbers expressed in scientific notation.	Using scientific notation, estimates very large quantities. **Performs operations with numbers expressed in scientific notation.**	Using scientific notation, estimates very large quantities.
Proportional Relationships and Linear Equations 8.EE.5-1 8.EE.5-2 8.EE.6-1 8.F.3-1	Graphs linear relationships in the form $y=mx+b$, including proportional relationships. Interprets the unit rate as the slope of the graph of a proportional relationship and applies these concepts to solve real-world problems. Compares two different proportional relationships represented in different ways. Interprets $y=mx+b$ as defining a linear function. Uses similar triangles to show that the slope is the same between any two distinct points on a non-vertical line in the coordinate plane.	Graphs linear relationships, in the form $y=mx+b$, including proportional relationships. Interprets the unit rate as the slope of the graph of a proportional relationship and **applies these concepts to solve real-world problems**. **Compares** two different proportional relationships represented in different ways.	Graphs linear relationships, in the form $y=mx+b$, **including proportional relationships.** **Interprets the unit rate as the slope of the graph of a proportional relationship.** **Makes some comparisons between two different proportional relationships represented in different ways**.	Graphs linear relationships, in the form $y=mx+b$.

	Grade 8 Math : Sub-Claim A The student solves problems involving Major Content for Grade 8 with connections to the Standards for Mathematical Practice.			
	Level 5: Exceeds Expectations	**Level 4: Meets Expectations**	**Level 3: Approaches Expectations**	**Level 2: Partially Meets Expectations**
Solving Linear Equations 8.EE.7b 8.EE.C.Int. 1	Solves **mathematical and real-world problems** linear equations in one variable, with rational number coefficients, including those that require use of the distributive property and combining like terms.	Solves linear equations in one variable, with rational number coefficients, including those that require use of the distributive property **and** combining like terms.	Solves linear equations in one variable, with rational number coefficients, **including those that require use of the distributive property or combining like terms.**	Solves linear equations in one variable, with rational number coefficients.
Simultaneous Linear Equations 8.EE.8a 8.EE.8b-1 8.EE.8b-2 8.EE.8b-3 8.EE.8c	Analyzes and solves mathematical and **real-world** problems leading to pairs of simultaneous linear equations graphically, algebraically and by **inspection.** **Understands the relationship between the graphic representation and the algebraic solution to the system.** **Verifies a solution utilizing multiple methods to prove accuracy.**	**Analyzes** and solves mathematical problems leading to pairs of simultaneous linear equations graphically and **algebraically.**	Solves mathematical problems leading to pairs of simultaneous linear equations graphically and by **inspection**.	Solves mathematical problems leading to pairs of simultaneous linear equations graphically, where the graph is provided.
Functions 8.F.1-1 8.F.1-2 8.F.2 8.F.3-2	Understands that a function is a rule assigning to each input exactly 1 output, which can be graphed as a set of ordered pairs. Compares properties of two functions represented in different ways. Identifies **and proves** functions that are non-linear**.**	Understands that a function is a rule that assigns to each input exactly one output and can be graphed as a set of ordered pairs. **Compares properties of two functions represented in different ways.**	Understands that a function is a rule that assigns to each input exactly one output **and can be graphed as a set of ordered pairs.**	Understands that a function is a rule that assigns to each input exactly one output.
Congruence and Similarity 8.G.1a 8.G.1b 8.G.1c 8.G.2 8.G.3 8.G.4	Describes the effect of dilations, translations, rotations and reflections on two-dimensional figures with and without coordinates, determines whether two given figures are congruent or similar through one or more transformations and **describes the sequence of transformations to justify congruence or similarity of two figures.**	Describes the effect of **dilations**, translations, rotations and reflections on two-dimensional figures **with** coordinates, and determines whether two given figures are congruent **or similar through one or more transformations.**	Describes the effect of translations, rotations **and** reflections on two-dimensional figures without coordinates and determines whether two given figures are congruent.	Describes the effect of translations, rotations or reflections on two-dimensional figures without coordinates and determines whether two given figures are congruent.
Pythagorean Theorem 8.G.7-1 8.G.7-2 8.G.8	Applies the Pythagorean Theorem in real world and mathematical problems in two and three dimensions and to find the distance between two points in a coordinate system.	Applies the Pythagorean Theorem in a simple planar case and **to find the distance between two points in a coordinate system.**	Applies the Pythagorean Theorem in solving **for any side** of the right triangle in a simple planar case without coordinates.	Applies the Pythagorean Theorem in solving for the hypotenuse of a right triangle in a simple planar case without coordinates.

	Grade 8 Math : Sub-Claim A The student solves problems involving Major Content for Grade 8 with connections to the Standards for Mathematical Practice.			
	Level 5: Exceeds Expectations	**Level 4: Meets Expectations**	**Level 3: Approaches Expectations**	**Level 2: Partially Meets Expectations**
	Recognizes situations to apply the Pythagorean Theorem in multi-step problems.			

	Grade 8 Math: Sub-Claim B The student solves problems involving Additional and Supporting Content for Grade 8 with connections to the Standards for Mathematical Practice.			
	Level 5: Exceeds Expectations	**Level 4: Meets Expectations**	**Level 3: Approaches Expectations**	**Level 2: Partially Meets Expectations**
Rational Numbers 8.NS.1 8.NS.2	Distinguishes between rational and irrational numbers, understands that these numbers have decimal expansions and approximates their locations on a number line, and converts between terminating decimals or **decimals that repeat eventually** and fractional representations of rational numbers.	Distinguishes between rational and irrational numbers, understands that these numbers have decimal expansions and approximates their locations on a number line, and **converts between terminating decimals or repeating decimals of the form (0.aaa…) and fractional representations of rational numbers.**	Distinguishes between rational and irrational numbers and **understands that these numbers have decimal expansions** and approximates their locations on a number line.	Distinguishes between rational and irrational numbers and approximates their locations on a number line.
Modeling with Functions 8.F.4 8.F.5-1 8.F.5-2	Constructs a function to model a linear relationship between two quantities described with or without a context. Given a description of a relationship or two (*x,y*) values in a table of values or a graph, determines the rate of change and initial value of the function. Analyzes **and** describes the functional relationship between two quantities. Sketches a graph of a function when given a written description.	Constructs a function to model a linear relationship between two quantities described **with or without a context.** **Given two (*x,y*) values in a table of values or a graph,** determines the rate of change and initial value of the function. Analyzes the graph of a linear function to describe the functional relationship between two quantities. **Sketches the graph of a function when given a written description.**	**Constructs** a function to model a linear relationship between two quantities in a table or a graph. Determines the rate of change **and** initial value of the function from a table or graph that contains the initial value. **Analyzes the graph of a linear function to describe the functional relationship between two quantities.**	Identifies a function to model a linear relationship between two quantities in a table or a graph. Determines the rate of change or initial value of the function from a table or graph that contains the initial value.
Volume 8.G.9	Identifies the formulas for the volume of cones, cylinders and spheres, and uses them to find the volume **or dimensions** of solids in mathematical and real-world problems. **Applies these formulas to multiple composite mathematical solids.**	Identifies the formulas for the volume of cones, cylinders and spheres, and uses them to find the volume of solids in mathematical and **real-world** problems.	Identifies the formulas for the volume of cones, cylinders and spheres, and **uses them to find the volume of solids in mathematical problems.**	Identifies the formulas for the volume of cones, cylinders and spheres.
Bivariate Data	Analyzes and describes the patterns of association that can	**Analyzes** and describes the patterns of association that can	Describes the patterns of association that can be seen in	Describes the patterns of association that can be seen in

	Grade 8 Math: Sub-Claim B The student solves problems involving Additional and Supporting Content for Grade 8 with connections to the Standards for Mathematical Practice.			
	Level 5: Exceeds Expectations	**Level 4: Meets Expectations**	**Level 3: Approaches Expectations**	**Level 2: Partially Meets Expectations**
8.SP.1 8.SP.2 8.SP.3 8.SP.4	be seen in bivariate data by constructing, displaying and interpreting scatter plots and two-way tables. Uses the equation of a linear model to solve problems in context. Informally fits a straight line to a scatter plot that suggests a linear association and **assesses the model fit.** **Compares linear models used to fit the same set of data to determine which is a better fit.**	be seen in bivariate data by **constructing, displaying and** interpreting scatter plots and two-way tables. Uses the equation of a linear model to solve problems in context. **Informally fits a straight line to** a scatter plot that suggests a linear association.	bivariate data by interpreting scatter plots and two-way tables. **Uses a given equation of a linear model to solve problems in context.** **Identifies a line of best fit for a scatter plot that suggests a linear association.**	bivariate data by interpreting scatter plots and two-way tables.

	Grade 8: Sub-Claim C In connection with content, the student expresses Grade 8 appropriate mathematical reasoning by constructing viable arguments, critiquing the reasoning of others and/or attending to precision when making mathematical statements.			
	Level 5: Exceeds Expectations	**Level 4: Meets Expectations**	**Level 3: Approaches Expectations**	**Level 2: Partially Meets Expectations**
Graphs and Equations 8.C.1.1 8.C.1.2 8.C.2	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student clearly constructs and communicates a complete response based on the principle that a graph of an equation in two variables is the set of all its solutions and a given equation or system of equations including: • a logical approach based on a conjecture and/or stated assumptions • a logical and **complete** progression of steps • precision of calculation • correct use of grade-level vocabulary, symbols and labels • complete justification of a conclusion • **generalization of an argument or conclusion** • evaluating, interpreting, and critiquing the validity and efficiency of other's responses, approaches and	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student clearly constructs and communicates a complete response based on the principle that a graph of an equation in two variables is the set of all its solutions and a given equation or system of equations including: • a logical approach based on a conjecture and/or stated assumptions • a logical and **complete** progression of steps • **precision** of calculation • **correct** use of grade-level vocabulary, symbols and labels • **complete** justification of a conclusion • evaluating, **interpreting and critiquing** the validity of other's responses, approaches, conclusions and **reasoning**	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student constructs and communicates a **complete** response based on the principle that a graph of an equation in two variables is the set of all its solutions and a given equation or system of equations including: • a **logical** approach based on a conjecture and/or stated assumptions • a **logical,** but incomplete, progression of steps • **minor** calculation errors • **some** use of grade-level vocabulary, symbols and labels • partial justification of a conclusion • **evaluating the validity of other's approaches and conclusions**	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student constructs and communicates an incomplete response based on the principle that a graph of an equation in two variables is the set of all its solutions and a given equation or system of equations including: • a faulty approach based on a conjecture and/or stated assumptions • an illogical or incomplete progression of steps • major calculation errors • limited use of grade-level vocabulary, symbols and labels • partial justification of a conclusion

	Grade 8: Sub-Claim C In connection with content, the student expresses Grade 8 appropriate mathematical reasoning by constructing viable arguments, critiquing the reasoning of others and/or attending to precision when making mathematical statements.			
	Level 5: Exceeds Expectations	**Level 4: Meets Expectations**	**Level 3: Approaches Expectations**	**Level 2: Partially Meets Expectations**
	reasoning, conclusions and **reasoning correcting and providing a counterexample where applicable.**			
Reasoning 8.C.3.1 8.C.3.2 8.C.3.3 8.C.4.1 8.C.6	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student clearly constructs and communicates a complete response based on a chain of reasoning to justify or refute algebraic, function or linear-equation propositions or conjectures including: • a logical approach based on a conjecture and/or stated assumptions • a logical and complete progression of steps • precision of calculation • correct use of grade-level vocabulary, symbols and labels • complete justification of a conclusion • **generalization of an argument or conclusion** • evaluating, interpreting and critiquing the validity of other's responses, approaches, conclusions and reasoning, **correcting and providing a counterexample where applicable**	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student clearly constructs and communicates a complete response based on a chain of reasoning to justify or refute algebraic, function or linear-equation propositions or conjectures including: • a logical approach based on a conjecture and/or stated assumptions • a logical and **complete** progression of steps • **precision** of calculation • **correct** use of grade-level vocabulary, symbols and labels • **complete** justification of a conclusion • evaluating, **interpreting and critiquing** the validity of other's responses, approaches, conclusions and **reasoning**	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student constructs and communicates a **complete** response based on a chain of reasoning to justify or refute algebraic, function or linear-equation propositions or conjectures including: • a **logical** approach based on a conjecture and/or stated assumptions • a **logical**, but incomplete, progression of steps • **minor** calculation errors • **some** use of grade-level vocabulary, symbols and labels • partial justification of a conclusion • **evaluating the validity of other's approaches and conclusions**	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student constructs and communicates an incomplete response based on a chain of reasoning to justify or refute algebraic, function or linear-equation propositions or conjectures including: • a faulty approach based on a conjecture and/or stated assumptions • an illogical and incomplete progression of steps • major calculation errors • limited use of grade-level vocabulary, symbols and labels • partial justification of a conclusion.
Geometric Reasoning 8.C.5.1 8.C.5.2 8.C.5.3	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student clearly constructs and communicates a complete response based on applying geometric reasoning in a coordinate setting and/or use coordinates to draw geometric conclusions including: • a logical approach based on a conjecture and/or stated assumptions • a logical and complete progression of steps • precision of calculation • correct use of grade-level	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student clearly constructs and communicates a complete response based on applying geometric reasoning in a coordinate setting and/or use coordinates to draw geometric conclusions including: • a logical approach based on a conjecture and/or stated assumptions • a logical and **complete** progression of steps • **precision** of calculation • **correct** use of grade-level	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student constructs and communicates a **complete** response based on applying geometric reasoning in a coordinate setting and/or use coordinates to draw geometric conclusions including: • a **logical** approach based on a conjecture and/or stated assumptions • a **logical**, but incomplete, progression of steps • **minor** calculation errors • **some** use of grade-level	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student constructs and communicates an incomplete response based on applying geometric reasoning in a coordinate setting and/or use coordinates to draw geometric conclusions including: • a faulty approach based on a conjecture and/or stated assumptions • an illogical and incomplete progression of steps • major calculation errors • limited use of grade-level

	Grade 8: Sub-Claim C In connection with content, the student expresses Grade 8 appropriate mathematical reasoning by constructing viable arguments, critiquing the reasoning of others and/or attending to precision when making mathematical statements.			
	Level 5: Exceeds Expectations	**Level 4: Meets Expectations**	**Level 3: Approaches Expectations**	**Level 2: Partially Meets Expectations**
	vocabulary, symbols and labels • complete justification of a conclusion • **generalization of an argument or conclusion** • evaluating, interpreting and critiquing the validity and **efficiency** of other's responses, approaches and reasoning, **correcting and providing a counterexample where applicable** • identifying and describing errors in solutions and presenting correct solutions • **distinguishing correct explanation/reasoning from that which is flawed. If there is a flaw, presents correct reasoning.**	vocabulary, symbols and labels • **complete** justification of a conclusion • evaluating, **interpreting and critiquing** the validity of other's responses, approaches, conclusions and **reasoning** • identifying and describing errors in solutions and **presenting correct solutions**	vocabulary, symbols and labels • partial justification of a conclusion • **evaluating the validity of other's approaches and conclusions** • **identifying and describing errors in solutions**	vocabulary, symbols and labels • partial justification of a conclusion

	Grade 8: Sub-Claim D In connection with content, the student solves real-world problems with a degree of difficulty appropriate to Grade 8 by applying knowledge and skills articulated in the standards for Grade 8 (or for more complex problems, knowledge and skills articulated in the standards for previous grades/courses), engaging particularly in the Modeling practice, and where helpful making sense of problems and persevering to solve them, reasoning abstractly, and quantitatively, using appropriate tools strategically, looking for and making use of structure and/or looking for and expressing regularity in repeated reasoning.			
	Level 5: Exceeds Expectations	**Level 4: Meets Expectations**	**Level 3: Approaches Expectations**	**Level 2: Partially Meets Expectations**
Modeling 8.D.1 8.D.2 8.D.3 8.D.4	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student devises a plan to apply mathematics in solving problems arising in everyday life, society and workplace by: • using stated assumptions and making assumptions and approximations to simplify a real-world situation • mapping relationships between important quantities by selecting appropriate tools to create models • analyzing relationships mathematically between important quantities to draw conclusions • writing a complete, clear and correct algebraic expression	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student devises a plan to apply mathematics in solving problems arising in everyday life, society and workplace by: • using stated assumptions and **making assumptions** and **approximations** to simplify a real-world situation • **mapping** relationships between important quantities by **selecting appropriate** tools to create models • analyzing relationships mathematically between important quantities to draw conclusions • writing a **complete, clear and correct** algebraic expression	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student devises a plan to apply mathematics in solving problems arising in everyday life, society and workplace by: • using stated assumptions and approximations to simplify a real-world situation • **illustrating relationships between important quantities by using provided tools to create models** • analyzing relationships mathematically **between important quantities** to draw conclusions • writing an incomplete algebraic expression or equation to describe a	In connection with the content knowledge, skills, and abilities described in Sub-claims A and B, the student devises a plan to apply mathematics in solving problems arising in everyday life, society and workplace by: • using stated assumptions and approximations to simplify a real-world situation • identifying important quantities using provided tools to create models • analyzing relationships mathematically to draw conclusions • writing an incomplete algebraic expression or equation to describe a situation

	Grade 8: Sub-Claim D In connection with content, the student solves real-world problems with a degree of difficulty appropriate to Grade 8 by applying knowledge and skills articulated in the standards for Grade 8 (or for more complex problems, knowledge and skills articulated in the standards for previous grades/courses), engaging particularly in the Modeling practice, and where helpful making sense of problems and persevering to solve them, reasoning abstractly, and quantitatively, using appropriate tools strategically, looking for and making use of structure and/or looking for and expressing regularity in repeated reasoning.			
	Level 5: Exceeds Expectations	**Level 4: Meets Expectations**	**Level 3: Approaches Expectations**	**Level 2: Partially Meets Expectations**
	or equation to describe a situation • applying proportional reasoning • writing/using functions to describe how one quantity of interest depends on another	or equation to describe a situation • applying proportional reasoning • writing/using functions to describe how one quantity of interest depends on another	situation • applying proportional reasoning • **writing**/using functions to describe how one quantity of interest depends on another	
	• using reasonable estimates of known quantities in a chain of reasoning that yields an estimate of an unknown quantity • reflecting on whether the results make sense • improving the model if it has not served its purpose • interpreting mathematical results in the context of the situation analyzing and/or creating constraints, relationships and goals analyzing, justifying and defending models which lead to a conclusion	• using reasonable estimates of known quantities in a chain of reasoning that yields an estimate of an unknown quantity • reflecting on whether the results make sense • **improving** the model if it has not served its purpose interpreting mathematical results in the **context of the situation**	• using **reasonable** estimates of known quantities in a chain of reasoning that yields an estimate of an unknown quantity • **reflecting on whether the results make sense** • **modifying the model if it has not served its purpose interpreting mathematical results in a simplified context**	• applying proportional reasoning • using functions to describe how one quantity of interest depends on another using unreasonable estimates of known quantities in a chain of reasoning that yields an estimate of an unknown quantity

Appendix C

CMAS Science and Social Studies Prepared Graduate Competencies and Grade Level Expectations

Grade 4 Social Studies
Standards, Prepared Graduate Competencies, and Grade Level Expectations

1	History
PGC 1	Develop an understanding of how people view, construct, and interpret history
GLE 1	Organize and sequence events to understand the concepts of chronology and cause and effect in the history of Colorado
PGC 2	Analyze key historical periods and patterns of change over time within and across nations and cultures
GLE 2	The historical eras, individuals, groups, ideas and themes in Colorado history and their relationships to key events in the United States
2	**Geography**
PGC1	Develop spatial understanding, perspectives, and personal connections to the world
GLE 1	Use several types of geographic tools to answer questions about the geography of Colorado
PGC 2	Examine places and regions and the connections among them
GLE 2	Connections within and across human and physical systems are developed
3	**Economics (PFL)**
PGC 1	Understand the allocation of scarce resources in societies through analysis of individual choice, market interaction, and public policy
GLE 1	People respond to positive and negative incentives
PGC 2	Acquire the knowledge and economic reasoning skills to make sound financial decisions (PFL)
GLE 2	The relationship between choice and opportunity cost (PFL)
4	**Civics**
PGC 1	Analyze and practice rights, roles, and responsibilities of citizens
GLE 1	Analyze and debate multiple perspectives on an issue
PGC 2	Analyze the origins, structure, and functions of governments and their impacts on societies and citizens
GLE 2	The origins, structure, and functions of the Colorado government

Grade 7 Social Studies
Standards, Prepared Graduate Competencies, and Grade Level Expectations

1	History
PGC 1	Develop an understanding of how people view, construct, and interpret history
GLE 1	Seek and evaluate multiple historical sources with different points of view to investigate a historical question and to formulate and defend a thesis with evidence
PGC 2	Analyze key historical periods and patterns of change over time within and across nations and cultures
GLE 2	The historical eras, individuals, groups, ideas and themes within regions of the Eastern Hemisphere and their relationships with one another
2	**Geography**
PGC1	Develop spatial understanding, perspectives, and personal connections to the world
GLE 1	Use geographic tools to gather data and make geographic inferences and predictions
PGC 2	Examine places and regions and connections among them
GLE 2	Regions have different issues and perspectives
3	**Economics (PFL)**
PGC 1	Understand the allocation of scarce resources in societies through analysis of individual choice, market interaction, and public policy
GLE 1	Supply and demand influence price and profit in a market economy
PGC 2	Acquire the knowledge and economic reasoning skills to make sound financial decisions (PFL)
GLE 2	The distribution of resources influences economic production and individual choices (PFL)
4	**Civics**
PGC 1	Analyze and practice rights, roles, and responsibilities of citizens
GLE 1	Compare how various nations define the rights, responsibilities, and roles of citizens
PGC 2	Analyze the origins, structure, and functions of governments and their impacts on society and citizens
GLE 2	Different forms of government and international organizations and their influence in the world community

Grade 5 Science
Standards, Prepared Graduate Competencies, and Grade Level Expectations

1	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
2	**Life Science**
PGC1	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
PGC 2	Analyze how 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
3	**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
PGC 2	Evaluate evidence that Earth's geosphere, atmosphere, hydrosphere, biosphere interact as a complex system
GLE 2	Earth’s surface changes constantly through a variety of processes and forces
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

Grade 8 Science
Standards, Prepared Graduate Competencies, and Grade Level Expectations

1	Physical Science
PGC 1	Observe, explain, and predict natural phenomena governed by Newton's laws of motion, acknowledging the limitations of their application to very small or very fast objects
GLE 1	Identify and calculate the direction and magnitude of forces that act on an object, and explain the results in the object's change of motion
PGC 2	Apply an understanding that energy exists in various forms, and its transformation and conservation occur in processes that are predictable and measurable
GLE 2	There are different forms of energy, and those forms of energy can be changed from one form to another— but total energy is conserved
GLE 4	Recognize that waves such as electromagnetic, sound, seismic, and water have common characteristics and unique properties
PGC 3	Apply an understanding of atomic and molecular structure to explain the properties of matter, and predict outcomes of chemical and nuclear reactions
GLE 3	Distinguish between physical and chemical changes, noting that mass is conserved during any change
2	**Life Science**
PGC1	Explain and illustrate with examples how living systems interact with the biotic and abiotic environment
GLE 1	Human activities can deliberately or inadvertently alter ecosystems and their resiliency
PGC 2	Analyze how various organisms grow, develop, and differentiate during their lifetimes based on an interplay between genetics and their environment
GLE 2	Organisms reproduce and transmit genetic information (genes) to offspring, which influences individuals' traits in the next generation
3	**Earth Systems Science**
PGC 1	Evaluate evidence that Earth's geosphere, atmosphere, hydrosphere, and biosphere interact as a complex system
GLE 1	Weather is a result of complex interactions of Earth's atmosphere, land and water, that are driven by energy from the sun, and can be predicted and described through complex models
GLE 2	Earth has a variety of climates defined by average temperature, precipitation, humidity, air pressure, and wind that have changed over time in a particular location
PGC 2	Describe and interpret how Earth's geologic history and place in space are relevant to our understanding of the processes that have shaped our planet
GLE 3	The solar system is comprised of various objects that orbit the Sun and are classified based on their characteristics
GLE 4	The relative positions and motions of Earth, Moon, and Sun can be used to explain observable effects such as seasons, eclipses, and Moon phases

High School Science
Standards, Prepared Graduate Competencies, and Grade Level Expectations

1	Physical Science
PGC 1	Observe, explain, and predict natural phenomena governed by Newton's laws of motion, acknowledging the limitations of their application to very small or very fast objects
GLE 1	Newton's laws of motion and gravitation describe the relationships among forces acting on and between objects, their masses, and changes in their motion – but have limitations
PGC 2	Apply an understanding of atomic and molecular structure to explain the properties of matter, and predict outcomes of chemical and nuclear reactions
GLE 2	Matter has definite structure that determines characteristic physical and chemical properties
GLE 3	Matter can change form through chemical or nuclear reactions abiding by the laws of conservation of mass and energy
GLE 4	Atoms bond in different ways to form molecules and compounds that have definite properties
PGC 3	Apply an understanding that energy exists in various forms, and its transformation and conservation occur in processes that are predictable and measurable
GLE 5	Energy exists in many forms such as mechanical, chemical, electrical, radiant, thermal, and nuclear, that can be quantified and experimentally determined
GLE 6	When energy changes form, it is neither created not destroyed; however, because some is necessarily lost as heat, the amount of energy available to do work decreases
2	**Life Science**
PGC1	Explain and illustrate with examples how living systems interact with the biotic and abiotic environment
GLE 1	Matter tends to be cycled within an ecosystem, while energy is transformed and eventually exits an ecosystem
GLE 2	The size and persistence of populations depend on their interactions with each other and on the abiotic factors in an ecosystem
PGC 2	Analyze the relationships between structure and function in living systems at a variety of organizational levels, and recognize living systems' dependence on natural selection
GLE 3	Cellular metabolic activities are carried out by biomolecules produced by organisms
GLE 4	The energy for life primarily derives from the interrelated processes of photosynthesis and cellular respiration. Photosynthesis transforms the sun's light energy into the chemical energy of molecular bonds. Cellular respiration allows cells to utilize chemical energy when these bonds are broken.
GLE 5	Cells use passive and active transport of substances across membranes to maintain relatively stable intracellular environments
GLE 6	Cells, tissues, organs, and organ systems maintain relatively stable internal environments, even in the face of changing external environments
PGC3	Analyze how various organisms grow, develop, and differentiate during their lifetimes based on an interplay between genetics and their environment
GLE 7	Physical and behavioral characteristics of an organism are influenced to varying degrees by heritable genes, many of which encode instructions for the production of proteins

GLE 8	Multicellularity makes possible a division of labor at the cellular level through the expression of select genes, but not the entire genome.
PGC4	Explain how biological evolution accounts for the unity and diversity of living organisms
GLE 9	Evolution occurs as the heritable characteristics of populations change across generations and can lead populations to become better adapted to their environment
3	**Earth Systems Science**
PGC 1	Describe and interpret how Earth's geologic history and place in space are relevant to our understanding of the processes that have shaped our planet
GLE 1	The history of the universe, solar system and Earth can be inferred from evidence left from past events
GLE 2	As part of the solar system, Earth interacts with various extraterrestrial forces and energies such as gravity, solar phenomena, electromagnetic radiation, and impact events that influence the planet's geosphere, atmosphere, and biosphere in a variety of ways
PGC 2	Evaluate evidence that Earth's geosphere, atmosphere, hydrosphere, and biosphere interact as a complex system
GLE 3	The theory of plate tectonics helps explain geological, physical, and geographical features of Earth
GLE 4	Climate is the result of energy transfer among interactions of the atmosphere, hydrosphere, geosphere, and biosphere
GLE 6	The interaction of Earth's surface with water, air, gravity, and biological activity causes physical and chemical changes
GLE 7	Natural hazards have local, national and global impacts such as volcanoes, earthquakes, tsunamis, hurricanes, and thunderstorms
PGC 3	Describe how humans are dependent on the diversity of resources provided by Earth and Sun
GLE 5	There are costs, benefits, and consequences of exploration, development, and consumption of renewable and nonrenewable resources

Appendix D

CMAS Mathematics, ELA, and CSLA Assessed Standards

Grade 3 ELA and CSLA
Reading, Writing, and Communicating Standards

Colorado Academic Standards	Domain	Standard Descriptor
3.2.1.a.i 3.2.1.a.iii 3.2.1.a.v	Reading: Literature	Key Ideas & Details
3.2.1.b.i 3.2.1.b.iii 3.2.1.b.iv	Reading: Literature	Craft & Structure
3.2.1.c.i 3.2.1.c.iii	Reading: Literature	Integration of Knowledge & Ideas
3.2.2.a.i 3.2.2.a.ii 3.2.2.a.iii	Reading: Informational Text	Key Ideas & Details
3.2.2.b.i 3.2.2.b.ii 3.2.2.b.iii	Reading: Informational Text	Craft & Structure
3.2.2.c.i 3.2.2.c.ii 3.2.2.c.iii	Reading: Informational Text	Integration of Knowledge & Ideas
3.2.3.c 3.2.3.c.i 3.2.3.c.ii 3.2.3.c.iv 3.2.3.c.v 3.2.3.d 3.2.3.d.i 3.2.3.d.ii 3.2.3.d.iii 3.2.3.3	Language	Conventions of Standard English Knowledge of Language Vocabulary Acquisition and Use

Grade 4 ELA and CSLA
Reading, Writing, and Communicating Standards

Colorado Academic Standards	Domain	Standard Descriptor
4.2.1.a.i 4.2.1.a.iii 4.2.1.a.iv	Reading: Literature	Key Ideas & Details
4.2.1.b.i 4.2.1.b.ii 4.2.1.b.iii	Reading: Literature	Craft & Structure
4.2.1.c.i 4.2.1.c.ii	Reading: Literature	Integration of Knowledge & Ideas
4.2.2.a.i 4.2.2.a.ii 4.2.2.a.iii	Reading: Informational Text	Key Ideas & Details
4.2.2.b.i 4.2.2.b.ii 4.2.2.c.iii	Reading: Informational Text	Craft & Structure
4.2.2.c.i 4.2.2.c.ii 4.2.2.c.iii	Reading: Informational Text	Integration of Knowledge & Ideas
4.2.3.c 4.2.3.c.i 4.2.3.c.ii 4.2.3.c.vii 4.2.3.d 4.2.3.d.i 4.2.3.d.ii 4.2.3.d.iii 4.2.3.e	Language	Conventions of Standard English Knowledge of Language Vocabulary Acquisition and Use

Grade 5 ELA
Reading, Writing, and Communicating Standards

Colorado Academic Standards	Domain	Standard Descriptor
5.2.1.b.i 5.2.1.b.ii 5.2.1.b.iii	Reading: Literature	Key Ideas & Details
5.2.1.c.i 5.2.1.c.iii 5.2.1.c.iv	Reading: Literature	Craft & Structure
5.2.1.d.i 5.2.1.d.ii	Reading: Literature	Integration of Knowledge & Ideas
5.2.2.a.i 5.2.2.a.ii 5.2.2.a.iii	Reading: Informational Text	Key Ideas & Details
5.2.2.b.i 5.2.2.b.ii 5.2.2.b.iii	Reading: Informational Text	Craft & Structure
5.2.2.c.i 5.2.2.c.ii 5.2.2.c.iii	Reading: Informational Text	Integration of Knowledge & Ideas
5.2.3.b 5.2.3.b.i 5.2.3.b.ii 5.2.3.b.iii 5.2.3.d 5.2.1.c.i 5.2.3.d.ii 5.2.1.c.ii 5.2.3.h	Language	Conventions of Standard English Knowledge of Language Vocabulary Acquisition and Use

Grade 6 ELA
Reading, Writing, and Communicating Standards

Colorado Academic Standards	Domain	Standard Descriptor
6.2.1.a.i 6.2.1.a.ii 6.2.1.a.iii	Reading: Literature	Key Ideas & Details
6.2.1.b.i 6.2.1.b.ii 6.2.1.b.iii	Reading: Literature	Craft & Structure
6.2.1.c.i 6.2.1.c.ii	Reading: Literature	Integration of Knowledge & Ideas
6.2.2.a.i 6.2.2.a.ii 6.2.2.a.iii	Reading: Informational Text	Key Ideas & Details
6.2.2.b.i 6.2.2.b.ii 6.2.2.b.iii	Reading: Informational Text	Craft & Structure
6.2.2.c.i 6.2.2.c.ii 6.2.2.c.iii	Reading: Informational Text	Integration of Knowledge & Ideas
6.2.3.a 6.2.3.a.i 6.2.3.a.iii 6.2.3.a.v 6.2.3.a.vi 6.2.3.b 6.2.3.b.i 6.2.3.b.ii 6.2.3.b.iii 6.2.3.c	Language	Conventions of Standard English Knowledge of Language Vocabulary Acquisition and Use
6.2.1.N.5 6.2.2.N.3	Literacy in History/Social Studies	Key Ideas and Details Craft and Structure Integration of Knowledge and Ideas Range of Reading and Level of Text Complexity
6.2.1.N.4 6.2.2.N.2	Literacy in Science & Technical Subjects	Key Ideas and Details Craft and Structure Integration of Knowledge and Ideas Range of Reading and Level of Text Complexity

Grade 7 ELA
Reading, Writing, and Communicating Standards

Colorado Academic Standards	Domain	Standard Descriptor
7.2.1.a.i 7.2.1.a.ii 7.2.1.a.iii	Reading: Literature	Key Ideas & Details
7.2.1.b.i 7.2.1.b.ii 7.2.1.b.iii	Reading: Literature	Craft & Structure
7.2.1.c.i 7.2.1.c.ii	Reading: Literature	Integration of Knowledge & Ideas
7.2.2.a.i 7.2.2.a.ii 7.2.2.a.iii	Reading: Informational Text	Key Ideas & Details
7.2.2.b.i 7.2.2.b.ii 7.2.2.b.iv	Reading: Informational Text	Craft & Structure
7.2.2.c.i 7.2.2.c.ii 7.2.2.c.iii	Reading: Informational Text	Integration of Knowledge & Ideas
7.2.3.a 7.2.3.a.i 7.2.3.a.iii 7.2.3.a.iv 7.2.3.a.v 7.2.3.b 7.2.3.b.i 7.2.3.b.iii 7.2.3.b.iv 7.2.3.c	Language	Conventions of Standard English Knowledge of Language Vocabulary Acquisition and Use
7.2.1.N.3 7.2.2.N.3	Literacy in History/Social Studies	Key Ideas and Details Craft and Structure Integration of Knowledge and Ideas Range of Reading and Level of Text Complexity
7.2.1.N.2 7.2.2.N.2	Literacy in Science & Technical Subjects	Key Ideas and Details Craft and Structure Integration of Knowledge and Ideas Range of Reading and Level of Text Complexity

Grade 8 ELA
Reading, Writing, and Communicating Standards

Colorado Academic Standards	Domain	Standard Descriptor
8.2.1.a.i 8.2.1.a.ii 8.2.1.a.iii	Reading: Literature	Key Ideas & Details
8.2.1.b.i 8.2.1.b.ii 8.2.1.b.iii	Reading: Literature	Craft & Structure
8.2.1.c.i 8.2.1.c.iv	Reading: Literature	Integration of Knowledge & Ideas
8.2.2.a.i 8.2.2.a.ii 8.2.2.a.iii	Reading: Informational Text	Key Ideas & Details
8.2.2.b.i 8.2.2.b.ii 8.2.2.b.iii	Reading: Informational Text	Craft & Structure
8.2.2.c.i 8.2.2.c.ii 8.2.2.c.iii	Reading: Informational Text	Integration of Knowledge & Ideas
8.2.3.a 8.2.3.a.iv 8.2.3.a.v 8.2.3.a.vi 8.2.3.a.vii 8.2.3.b 8.2.3.b.i 8.2.3.b.ii 8.2.3.b.iii 8.2.3.c	Language	Conventions of Standard English Knowledge of Language Vocabulary Acquisition and Use
8.2.1.N.3 8.2.2.N.3	Literacy in History/Social Studies	Key Ideas and Details Craft and Structure Integration of Knowledge and Ideas Range of Reading and Level of Text Complexity
8.2.1.N.2 8.2.2.N.2	Literacy in Science & Technical Subjects	Key Ideas and Details Craft and Structure Integration of Knowledge and Ideas Range of Reading and Level of Text Complexity

Grade 3
Mathematics Standards

Colorado Academic Standards	Domain	Standard Descriptor
3.1.3.a.i 3.1.3.a.ii 3.1.3.a.iii 3.1.3.a.iv	Operations & Algebraic Thinking	Represent and solve problems involving multiplication and division.
3.1.3.b.i 3.1.3.b.ii	Operations & Algebraic Thinking	Understand properties of multiplication and the relationship between multiplication and division.
3.1.3.c.i 3.1.3.c.ii	Operations & Algebraic Thinking	Multiply and divide within 100.
3.1.3.d.i 3.1.3.d.ii 3.1.3.d.iii 3.1.3.d.iv	Operations & Algebraic Thinking	Solve problems involving the four operations, and identify and explain patterns in arithmetic.
3.1.1.a.i 3.1.1.a.ii 3.1.1.a.iii	Number & Operations in Base Ten	Use place value understanding and properties of operations to perform multi-digit arithmetic. [1] [1] A range of algorithms may be used.
3.1.2.a.i 3.1.2.a.ii 3.1.2.a.iii 3.1.2.a.iii.1 3.1.2.a.iii.2 3.1.2.a.iii.3 3.1.2.a.iii.4 3.1.2.a.iii.5 3.1.2.a.iii.6	Number & Operations—Fractions[1] [1] Grade 3 expectations in this domain are limited to fractions with denominators 2, 3, 4, 6, and 8.	Develop understanding of fractions as numbers.
3.4.3.a.i 3.4.3.a.ii 3.4.3.a.iii 3.4.3.a.iv 3.4.3.a.v	Measurement & Data	Solve problems involving measurement and estimation.
3.3.1.a.i 3.3.1.a.ii 3.3.1.a.iii	Measurement & Data	Represent and interpret data.
3.4.2.a.i 3.4.2.a.ii 3.4.2.a.iii	Measurement & Data	Geometric measurement: understand concepts of area and relate area to multiplication and to addition.
3.4.2.c 3.4.2.c.i 3.4.2.c.ii 3.4.2.c.iii	Measurement & Data	Geometric measurement: recognize perimeter.
3.4.1.a.i 3.4.1.a.i.1 3.4.1.a.ii	Geometry	Reason with shapes and their attributes.

Grade 4
Mathematics Standards

Colorado Academic Standards	Domain	Standard Descriptor
4.1.3.b.i 4.1.3.b.ii 4.1.3.b.iii 4.1.3.b.iv 4.1.3.b.v 4.1.3.b.vi	Operations & Algebraic Thinking	Use the four operations with whole numbers to solve problems.
4.2.1.b.i 4.2.1.b.ii 4.2.1.b.iii 4.2.1.b.iv	Operations & Algebraic Thinking	Gain familiarity with factors and multiples.
4.2.1.a	Operations & Algebraic Thinking	Generate and analyze patterns.
4.1.1.a.i 4.1.1.a.ii 4.1.1.a.iii 4.1.1.a.iv	Number & Operations in Base Ten	Generalize place value understanding for multi-digit whole numbers.
4.1.3.a.i 4.1.3.a.ii 4.1.3.a.iii 4.1.3.a.iv	Number & Operations in Base Ten	Use place value understanding and properties of operations to perform multi-digit arithmetic.
4.1.2.a.ii 4.1.2.a.iii	Number & Operations - Fractions	Extend understanding of fraction equivalence and ordering.
4.1.2.b.i 4.1.2.b.i.2 4.1.2.b.i.3 4.1.2.b.ii 4.1.2.b.ii.1 4.1.2.b.ii.2 4.1.2.b.ii.3	Number & Operations - Fractions	Build fractions from unit fractions.
4.1.1.b.i 4.1.1.b.ii 4.1.1.b.iii	Number & Operations - Fractions	Understand decimal notation for fractions, and compare decimal fractions.
4.4.1.a.i 4.4.1.a.ii 4.4.1.a.iii 4.4.1.a.iv 4.4.1.a.v	Measurement & Data	Solve problems involving measurement and conversion of measurements.
4.3.1.a 4.3.1.b	Measurement & Data	Represent and interpret data.
4.4.1.b.i 4.4.1.b.ii 4.4.1.b.iii 4.4.1.b.iv	Measurement & Data	Geometric measurement: understand concepts of angle and measure angles.
4.4.2.a 4.4.2.b 4.4.2.c 4.4.2.d	Geometry	Draw and identify lines and angles, and classify shapes by properties of their lines and angles.

Grade 5
Mathematics Standards

Colorado Academic Standards	Domain	Standard Descriptor
5.1.2.d.i 5.1.2.d.ii	Operations & Algebraic Thinking	Write and interpret numerical expressions.
5.2.1.a 5.2.1.b 5.2.1.c 5.2.1.d	Operations & Algebraic Thinking	Analyze patterns and relationships.
5.1.1.a 5.1.1.a.i 5.1.1.a.ii 5.1.1.b 5.1.1.b.i 5.1.1.b.ii 5.1.1.c	Number & Operations in Base Ten	Understand the place value system.
5.1.2.a 5.1.2.b 5.1.2.b.i 5.1.2.b.ii 5.1.2.c	Number & Operations in Base Ten	Perform operations with multi-digit whole numbers and with decimals to hundredths.
5.1.3.a.i 5.1.3.a.ii 5.1.3.a.iii	Number & Operations - Fractions	Use equivalent fractions as a strategy to add and subtract fractions.
5.1.4.a 5.1.4.b 5.1.4.c 5.1.4.d 5.1.4.e 5.1.4.e.i 5.1.4.e.ii 5.1.4.f 5.1.4.g 5.1.4.h 5.1.4.i	Number & Operations - Fractions	Apply and extend previous understandings of multiplication and division.
5.1.1.d.i 5.1.1.d.ii	Measurement & Data	Convert like measurement units within a given measurement system.
5.3.1.a.i 5.3.1.a.ii	Measurement & Data	Represent and interpret data.
5.4.1 5.4.1.a 5.4.1.b 5.4.1.b.i 5.4.1.b.ii 5.4.1.b.iii	Measurement & Data	Geometric measurement: understand concepts of volume.
5.4.2.a 5.4.2.b	Geometry	Geometric measurement: understand concepts of volume.
5.4.2.c.i 5.4.2.c.ii	Geometry	Classify two-dimensional figures into categories based on their properties.

Grade 6
Mathematics Standards

Colorado Academic Standards	Domain	Standard Descriptor
6.1.1.a 6.1.1.b 6.1.1.c 6.1.1.c.i 6.1.1.c.ii 6.1.1.c.iii 6.1.1.c.iv 6.1.1.c.viii	Ratios & Proportional Relationships	Understand ratio concepts and use ratio reasoning to solve problems.
6.1.2.f 6.1.2.g 6.1.2.h	The Number System	Apply and extend previous understandings of multiplication and division to divide fractions by fractions.
6.1.2.a 6.1.2.b 6.1.2.c 6.1.2.d 6.1.2.e 6.1.3.a 6.1.3.a.i	The Number System	Compute fluently with multi-digit numbers and find common factors and multiples.
6.1.3.b.i 6.1.3.b.ii 6.1.3.b.iii 6.1.3.b.iv 6.1.3.b.vi 6.1.3.c 6.1.3.c.i 6.1.3.c.ii 6.1.3.c.iii 6.1.3.c.iv 6.1.3.d	The Number System	Apply and extend previous understandings of numbers to the system of rational numbers.
6.2.1.a 6.2.1.b 6.2.1.b.i 6.2.1.b.ii 6.2.1.b.iii 6.2.1.b.iv 6.2.1.c 6.2.1.d	Expressions & Equations	Apply and extend previous understandings of arithmetic to algebraic expressions.
6.2.2.a 6.2.2.b 6.2.2.c 6.2.2.c.i 6.2.2.d 6.2.2.e 6.2.2.f 6.2.2.g.i 6.2.2.g.ii	Expressions & Equations	Reason about and solve one-variable equations and inequalities.

6.2.2.g.i 6.2.2.g.ii 6.2.2.g.iii	Expressions & Equations	Represent and analyze quantitative relationships between dependent and independent variables.
6.4.1.a.i 6.4.1.a.ii 6.4.1.b.i 6.4.1.b.ii 6.4.1.b.iii 6.4.1.c 6.4.1.c.ii 6.4.1.d.i 6.4.1.d.ii 6.4.1.d.iii	Geometry	Solve real-world and mathematical problems involving area, surface area, and volume.
6.3.1.a 6.3.1.b 6.3.1.c	Statistics & Probability	Develop understanding of statistical variability.
6.3.1.d.i 6.3.1.d.ii 6.3.1.d.ii.1 6.3.1.d.ii.2 6.3.1.d.ii.3 6.3.1.d.ii.4	Statistics & Probability	Summarize and describe distributions.

Grade 7
Mathematics Standards

Colorado Academic Standards	Domain	Standard Descriptor
7.1.1.b 7.1.1.c 7.1.1.c.i 7.1.1.c.ii 7.1.1.c.iii 7.1.1.c.iv 7.1.1.d	Ratios & Proportional Relationships	Analyze proportional relationships and use them to solve real-world and mathematical problems.
7.1.2.a 7.1.2.a.i 7.1.2.a.ii 7.1.2.a.iii 7.1.2.a.iv 7.1.2.a.v 7.1.2.a.vi 7.1.2.a.vii 7.1.2.a.viii 7.1.2.b 7.1.2.b.i 7.1.2.b.ii 7.1.2.b.iii 7.1.2.b.iv 7.1.2.b.v 7.1.2.b.vi 7.1.2.c	The Number System	Apply and extend previous understandings of operations with fractions.
7.2.1.a.i 7.2.1.a.ii	Expressions & Equations	Use properties of operations to generate equivalent expressions.
7.2.2.a 7.2.2.b 7.2.2.c 7.2.2.c.ii 7.2.2.c.iii 7.2.2.c.iv	Expressions & Equations	Solve real-life and mathematical problems using numerical and algebraic expressions and equations.
7.4.1.a.i 7.4.1.a.ii 7.4.1.a.iii 7.4.1.a.iv	Geometry	Draw construct, and describe geometrical figures and describe the relationships between them.
7.4.2.a 7.4.2.b 7.4.2.c 7.4.2.d	Geometry	Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.
7.3.1.a.i 7.3.1.a.iii 7.3.1.a.iv	Statistics & Probability	Use random sampling to draw inferences about a population.
7.3.1.b.i 7.3.1.b.ii	Statistics & Probability	Draw informal comparative inferences about two populations.

7.3.2.a 7.3.2.b 7.3.2.c 7.3.2.c.i 7.3.2.c.ii 7.3.2.c.iii 7.3.2.d 7.3.2.d.i 7.3.2.d.ii 7.3.2.d.iii 7.3.2.d.iv	Statistics & Probability	Investigate chance processes and develop, use, and evaluate probability models.

Grade 8
Mathematics Standards

Colorado Academic Standards	Domain	Standard Descriptor
8.1.1.b.i 8.1.1.b.ii 8.1.1.c	The Number System	Know that there are numbers that are not rational, and approximate them by rational numbers.
8.1.1.d 8.1.1.g 8.1.1.h 8.1.1.h.i 8.1.1.h.ii	Expressions & Equations	Expressions and equations work with radicals and integer exponents.
8.2.1.b 8.2.1.c 8.2.1.d 8.2.1.e	Expressions & Equations	Understand the connections between proportional relationships, lines, and linear equations.
8.2.2.a 8.2.2.a.i 8.2.2.a.ii 8.2.2.b 8.2.2.b.i 8.2.2.b.ii 8.2.2.b.iii	Expressions & Equations	Analyze and solve linear equations and pairs of simultaneous linear equations.
8.2.3.a.i 8.2.3.a.ii 8.2.3.a.iii 8.2.3.a.iv	Functions	Define, evaluate, and compare functions.
8.2.3.b.i 8.2.3.b.ii 8.2.3.b.iii 8.2.3.b.iv 8.2.3.b.v	Functions	Use functions to model relationships between quantities.
8.4.1.a 8.4.1.b 8.4.1.c 8.4.1.d 8.4.1.e 8.4.1.f 8.4.1.g	Geometry	Understand congruence and similarity using physical models, transparencies, or geometry software.
8.4.2.a 8.4.2.b 8.4.2.c	Geometry	Understand and apply the Pythagorean Theorem.
8.4.2.d	Geometry	Solve real-world and mathematical problems involving volume of cylinders, cones, and spheres.
8.3.1.a 8.3.1.b 8.3.1.c 8.3.1.d 8.3.1.e 8.3.1.e.i 8.3.1.e.ii	Statistics & Probability	Investigate patterns of association in bivariate data.