

8.0 Item Analysis Report

8.1 Description of Item Analysis Report – CMAS Science

An Item Analysis Report is available at the school and district level for CMAS science 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 PGs 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).

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 Statement (PG)

On elementary item analysis reports, the corresponding standard and GLE are listed below each item. On the grade 8 and grade 11 item analysis reports, the corresponding standard and PG 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

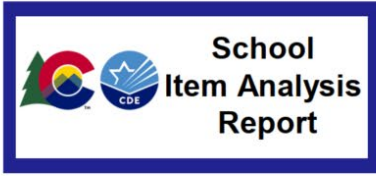
Refer to page 2 of the Item Analysis Report.

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)
- Location on the test (unit number and item number)
- Standard and GLE numbers (for grade 5 only — grade 8 and grade 11 has Standard and PG number)
- Standard by name
- Scientific and Engineering Practices (SEP)
- Cross Cutting Concepts (CCC)
- Item type (Selected Response (SR); 2-point Constructed Response (CR-2))

8.2 Sample Item Analysis Report – CMAS Science



Colorado Measures of Academic Success
Based on the 2020 Colorado Academic Standards

A Spring 2023

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

B

Science **C**

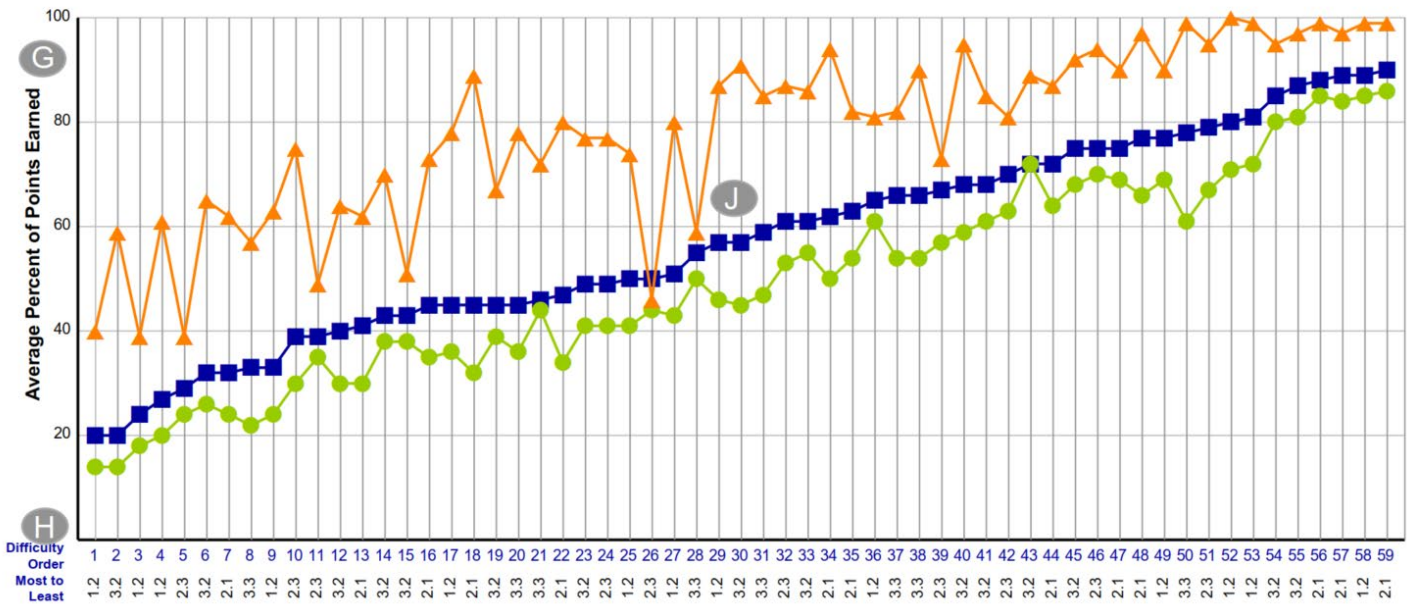
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D Grade 5

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

Students in School with Valid Scores (42) **E**

■ State ● District ▲ School **F**



I Standard.GLE

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.



Colorado Measures of Academic Success Spring 2023
Based on the 2020 Colorado Academic Standards

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

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

Difficulty Order Most to Least	Unit-Item Number	Standard.GLE	Standard	SEP*	CCC*	Item Type Selected Response (SR) Constructed Response (CR)
1	1-008	1.2	Physical Science	SEP3	CCC4	CR-2
2	2-009	3.2	Earth and Space Science	SEP2	CCC4	CR-2
3	3-019	1.2	Physical Science	SEP3	CCC4	CR-2
4	1-009	1.2	Physical Science	SEP3	CCC4	CR-2
5	1-022	2.3	Physical/Life Science	SEP3	CCC5	SR
6	3-007	3.2	Earth and Space Science	SEP2	CCC4	SR
7	3-013	2.1	Physical/Life Science	SEP2	CCC2	CR-2
8	1-013	3.3	Earth and Space Science	SEP3	CCC5	CR-2
9	3-015	1.2	Physical Science	SEP3	CCC4	SR
10	2-019	2.3	Physical/Life Science	SEP3	CCC5	CR-2
11	3-006	2.3	Physical/Life Science	SEP3	CCC5	SR
12	2-003	3.2	Earth and Space Science	SEP5	CCC4	CR-2
13	3-009	2.1	Physical/Life Science	SEP2	CCC2	CR-2
14	1-002	3.2	Earth and Space Science	SEP5	CCC4	SR
15	3-010	3.2	Earth and Space Science	SEP2	CCC4	SR
16	1-010	2.1	Physical/Life Science	SEP2	CCC2	SR
17	1-023	1.2	Physical Science	SEP3	CCC4	SR
18	2-002	2.1	Physical/Life Science	SEP2	CCC2	SR
19	2-008	3.2	Earth and Space Science	SEP2	CCC4	CR-2
20	3-018	3.3	Earth and Space Science	SEP3	CCC5	CR-2
21	3-016	3.3	Earth and Space Science	SEP3	CCC5	SR
22	1-014	2.1	Physical/Life Science	SEP2	CCC2	SR
23	1-024	3.2	Earth and Space Science	SEP5	CCC4	SR
24	3-008	2.3	Physical/Life Science	SEP3	CCC5	CR-2
25	2-013	1.2	Physical Science	SEP3	CCC4	CR-2
26	2-017	2.3	Physical/Life Science	SEP3	CCC5	SR
27	3-001	1.2	Physical Science	SEP3	CCC4	SR
28	3-017	3.3	Earth and Space Science	SEP3	CCC5	SR
29	1-020	1.2	Physical Science	SEP3	CCC4	CR-2
30	2-015	3.2	Earth and Space Science	SEP2	CCC4	SR
31	3-023	3.3	Earth and Space Science	SEP3	CCC5	SR
32	2-018	2.3	Physical/Life Science	SEP3	CCC5	CR-2
33	3-022	3.2	Earth and Space Science	SEP5	CCC4	CR-2
34	2-020	2.1	Physical/Life Science	SEP2	CCC2	SR
35	2-024	2.1	Physical/Life Science	SEP2	CCC2	SR
36	3-024	1.2	Physical Science	SEP3	CCC4	SR

continued

*Science and Engineering Practices (SEPs) and Cross Cutting Concepts (CCCs).
For the full lists of SEPs/CCCs and how they are applied at grade level see the following resources:
<https://www.cde.state.co.us/coscience/sep-progressions>, <https://www.cde.state.co.us/coscience/ccprogressions>.
Colorado Academic Standards: <https://www.cde.state.co.us/coscience/2020cas-sc-introduction>

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