Maryland Comprehensive Assessment Program

Maryland Comprehensive Assessment Program: 2023 Technical Manual for High School Level Government and Life Science Assessments

Prepared by Cognia and the Maryland State Department of Education

Foreword

The technical information included in this report is intended for use by those who evaluate tests, interpret scores, or use test results in making educational decisions. It is assumed that the reader has some technical knowledge of test construction and measurement procedures, as stated in Standards for Educational and Psychological Testing (American Educational Research Association, American Psychological Association, & National Council on Measurement in Education, 2014).

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Section 1. Introduction

The Maryland Comprehensive Assessments are tests that are developed or adopted by the Maryland State Department of Education (MSDE), including those assessments formerly known as the Maryland High School Assessments (HSAs). The Maryland Comprehensive Assessment Program (MCAP) includes an assessment in High School American Government (MCAP Government) and in Life Science, the Life Science Maryland Integrated Science Assessment (MCAP Life Science MISA). These MCAPs are intended to ultimately be end-of-course requirements; however, both assessments were participation-only requirements in 2023. The MCAP Life Science MISA also meets the high school assessment requirements for the federal Every Student Succeeds Act of 2015 (ESSA). The MCAP Government assessment meets the high school assessment requirements from Maryland Code Educational Article §7-203 Education Accountability Program 2017. This report provides information about the Winter, Spring, and Summer 2023 administrations for the MCAP Government and MCAP Life Science MISA.

The Government assessment administrations began in 2002 and continued until 2011. From summer 2011 to October 2012, the Government assessment was excluded from the then Maryland High School Assessment (HSA) program. Starting in January 2013, the Government assessment was reintroduced. The Life Science assessment began in 2022, and a standard setting was conducted in August of 2022.

Since May 2009, these assessments have been administered online as well as in the paper-and-pencil format. Studies of the comparability of online and paper forms of the HSA were conducted in 2009 and 2010. The 2009 report is provided in the 2009 HSA Technical Report in Appendix 1C. The 2010 results were provided to MSDE (Educational Testing Service, October 29, 2010). Further mode comparability studies have not been conducted.

For the 2022-23 administration year, the paper-based testing was reserved for accommodations only. The computer-based testing was provided via the eMetric-based platform. The online administrations were conducted using the Student Kiosk web-based software application. The Student Kiosk allows students to respond to the selected-response (SR) items electronically by selecting an answer choice. Students respond electronically to the constructed-response (CR) items by typing their answers into the response boxes using the computer keyboard. The Student Kiosk also allows students to respond electronically to the technology-enhanced (TE) items in a variety of formats.

All SR and TE items were machine scored. The CR items were first scored by a human scorer and then received a second score from artificial intelligence (AI) using MZD's EMMA platform for automated scoring. EMMA analyzes a sample of human-scored student responses to produce a model that emulates human scoring behavior. When the scores from the two scorers were adjacent, the higher score was used. When the two scores differed by more than one point, the scoring supervisor would decide on a final resolution score. Additional detailed information about MCAP Government and MCAP Life Science MISA is provided below.

MCAP Government

The MCAP Government assessment was administered in Winter, Spring, and summer of 2023. Each of the distinct test forms administered was the combination of an operational (or core) form and a field test (matrix) form.

As just noted, each MCAP Government form consisted of operational and field test items. The operational items were used to produce student scores; students' scores on the field test items were not included in the computation of their scores. Apart from items selected for public release, which are not reused, the

operational items that are returned to the item bank remain unused for at least one year to minimize item exposure.

The operational items in the MCAP Government assessment consisted of SR items, which require students to choose from among four short response options; TE items, including matching, drag and drop, click to select, and hot spot items; brief constructed-response (BCR) items, which require students to write a short response; and evidence-based argument sets (EBAS), which consist of a series of stimuli, SR items, and an extended CR (ECR) item. All items are based on the content outlined in Maryland's Social Studies Standards.[1]

Item response theory (IRT) was used to estimate total test scores and subscores via item-pattern scoring using the computer program, PARSCALE (Muraki & Bock, 2003). For MCAP Government, the three-parameter logistic (3PL) model was used for the SR items (see Section 2 for an introduction to item types) and the generalized partial credit model (GPCM) was used for the BCR and ECR items. Refer to Scale Scores in Section 4 for the details of IRT models used and the item-pattern scoring procedure.

Pre-equated item parameter estimates were used to generate student scores on the MCAP Government assessment. When pre-equated item parameter estimates are used, the parameters are not estimated following an administration; instead, existing bank parameter estimates are used to produce student scores. Bank parameter estimates come from field testing of new items each Winter and Spring administration.

MCAP Life Science MISA

The MCAP Life Science MISA is the final assessment in a series of science assessments, including the grade 5 and grade 8 MISA, students take that is aligned to the Next Generation Science Standards (NGSS). The MCAP Life Science MISA was administered in Winter, Spring, and Summer of 2023.

Following the pattern established by the elementary and middle school MISA, the MCAP Life Science MISA consists of item sets that are organized around common stimuli. Students read a stimulus and then answer a set of six questions about the stimulus. These item sets are made up of a combination of multiple selected-response (MSR), SR, TE, and CR items.

The 2023 MCAP Life Science MISA administration had six operational item sets and two field test (matrix) item sets. One of the operational item sets was combined with each of three field test item sets. For the Winter 2023 administration, there were three unique forms. For the spring 2023 administration, there were nine unique forms. The Summer 2023 administration was a re-use of the Winter 2023 accommodated form.

Standard setting for the MCAP Life Science MISA assessment was conducted in August 2022, using a panel of 12 Maryland educators. The panel-recommended raw score cut scores that were reviewed by MSDE. MSDE opted to make policy-based adjustments to the panel-recommended cut scores. The final raw score cut scores were mapped onto the IRT scale via the test characteristic curve of the test form used for standard setting.

The MCAP Life Science MISA Spring 2023 operational items were calibrated without fixing any item parameters. This set the initial IRT scale for MCAP Life Science MISA. MCAP Life Science MISA Winter

[1] *The Government Standards documents can be found on the Maryland School Improvement website at http://www.marylandpublicschools.org/about/Pages/DAAIT/Assessment/HSA/index.aspx*

2023 operational items were brought on scale via a fixed common item parameters (FCIP) calibration. All operational items in MCAP Life Science MISA Summer were administered in either the Winter or Spring 2023 administration. As such, MCAP Life Science MISA Summer test forms were pre-equated using the item parameters already obtained from the Winter and Spring 2023 calibrations.

Item response theory (IRT) was used to estimate total test scores and subscores via item-pattern scoring using the computer program, PARSCALE (Muraki & Bock, 2003). For MCAP Life Science MISA, the two-parameter logistic (2PL) model was used for the SR items and the GPCM was used for non-SR items. The 2PL model and the GPCM were chosen, to be consistent with all the other MCAP assessments that were newly-launched in 2022. Refer to Scale Scores in Section 4 for the details of IRT models used and the item-pattern scoring procedure.

Structure of this Report

This Maryland technical report consists of eight sections and three appendices.

- **Section 1**—introduces the Maryland Comprehensive Assessment Program.
- **Section 2**—describes the procedures used for test construction and administration.
- **Section 3**—presents validity evidence for the MCAP Government assessment and MCAP Life Science MISA.
- **Section 4**—delineates the scoring procedures and score types.
- **Section 5**—describes the reporting of 2023 MCAP Government and MCAP Life Science MISA results.
- **Section 6**—summarizes the results of the analyses of test reliability, decision consistency, and decision accuracy.
- **Section 7**—provides summary statistics and descriptive information about student characteristics.
- **Section 8**—gives the results of the analysis of the test data, including classical item analysis, and field test item calibration and scaling.
- **Appendix A**—provides an example of the Maryland Cognitive Complexity Framework Rubric.
- **Appendix B**—provides classical item statistics for operational items by administration for each content area.
- **Appendix C**—provides classical item statistics for field-test items by administration for each content area.
- **Appendix D**—provides overall, and subgroup reliability estimates by test form and administration for each content area.
- **Appendix E**—provides overall, and subgroup decision accuracy and consistency (DAC) estimates by test form and administration for each content area.
- **Appendix F**—provides examples of the score reports.
- **Appendix G**—provides overall, and subgroup scaled score summary statistics by test form and administration for each content area.
- **Appendix H**—provides demographic subgroup frequencies by administration for each content area.

Section 2. Test Construction and Administration

Test Development

Planning

For the 2023 MCAP Government test, Cognia content leaders collaborated with their content counterparts at MSDE to build operational forms using selected-response (SR), brief constructed-response (BCR), technology-enhanced (TE) items, and Evidence Based Argument Sets (EBAS) from the MCAP Government item bank. Field test items were embedded in the operational form according to the test design. Test design and specifications were developed by MSDE and Cognia and are based on the Maryland American Government Framework, which is organized around five of the six state social studies standards.

For the MCAP Life Science Maryland Integrated Science Assessment (MCAP Life Science MISA), Cognia content leaders collaborated with their content counterparts at MSDE to select operational items according to the test designs. Field test items were selected to continue to build an operational item bank for the MCAP Life Science MISA.

In adherence to these considerations, science "clusters" were developed to create a strong, three-dimensional alignment[2] to the Next Generation Science Standards (NGSS), incorporating two NGSS performance expectations. Each performance expectation has three foundational elements: science and engineering practices, cross cutting concepts, and the disciplinary core ideas. Each cluster is aligned to all three foundational dimensions. Each cluster was designed around a common stimulus that is based upon valid scientific research and contains six items. Test design and specifications were developed by MSDE and Cognia and are based on the 24 Life Science Standards found in the NGSS at the high school level.

MCAP Government Item Types

As noted in Section 1, four item types were used on the 2023 MCAP Government tests:

- SR—questions in multiple-choice format with four answer options and one correct answer;
- BCR—an item type used in MCAP Government only, for which the students need to write a short response;
- TE items—including matching, drag and drop, and hot spot items; and
- EBAS—that consist of a series of stimuli, SR items, and an extended constructed-response (ECR) item.

Table 2-1 shows how the operational item types were distributed on each MCAP Government form for the 2023 administrations. Each SR item is worth one point, each TE item is worth two points, each BCR is worth four points, and each ECR is worth five points.

[2] *The Next Generation Science Standards (NGSS) are organized by Performance Expectations (PEs). In the NGSS, the content and the practices of science work together. Therefore, each PE is tied to a Disciplinary Core Idea (DCI) or content piece as well as to a Science and Engineering Practice (SEP) and a Crosscutting Concept (CCC), which are the over-arching science concepts that tie the content and practices. Items developed for MCAP Science must be aligned to two, if not all three, dimensions of the NGSS.*

Table 2-1. Number of Operational Items and Points Possible by Item Type for Each MCAP Government Form

	SR	TE	BCR	ECR	Total
Number of Items	44	5	2	1	52
Points Possible	44	10	8	5	67

MCAP Life Science MISA Item Types

As also noted in Section 1, four item types were used on the 2023 MCAP Life Science MISA tests:

- SR—questions in multiple-choice format with four answer options and one correct answer;
- MSR—questions in multiple-choice format with multiple correct answers;
- Constructed-response (CR)—an item type for which the students need to write a response (2-point, 3-point, and 4-point CR items are included on the MCAP Life Science MISA test); and
- TE items—including matching, drag and drop, ordering, graphing, hot spot, fill-in-the-blank (numerical entry only), and inline choice. (1-point and 2-point TE items are included on the MCAP Life Science MISA test).

As previously noted, the operational MCAP Life Science MISA test is designed with item sets, or clusters. Clusters on the operational form contained a stimulus, five machine-scored items (which include SR, MSR, and TE items) and one CR item, in one of three configurations (shown below) based on the point value of the CR item.

- 2-point CR configuration: three 1-point SR/TE items, two 2-point SR/TE items, one 2-point CR item
- 3-point CR configuration: four 1-point SR/TE items, one 2-point SR/TE item, one 3-point CR item
- 4-point CR configuration: five 1-point SR/TE items, one 4-point CR item

Table 2-2. Number of Operational Items and Points Possible by Item Type for Winter MCAP Life Science MISA Form

	SR, MSR, TE	CR	Total
Number of Items	30	6	36
Points Possible	36	18	54

Test Specifications and Design

MCAP Government

For the MCAP Government test, MSDE predetermined the preliminary test design and provided it to Cognia, following the existing MCAP Government test blueprints. The final forms were selected by MSDE to adhere to content and psychometric guidelines. The basic test design document provided information based on specified expectations and the distribution of the number of items by item type for each reporting category. The variety of item types represented ensures that a variety of levels of cognitive complexity are addressed, although these levels are not specifically mandated by the test blueprints. Specific items were placed throughout the forms by Cognia content specialists, with the approval of MSDE. Construction of the forms was based on test blueprints approved by MSDE. The MCAP Government Operational Blueprint is presented in Table 2-3.

Table 2-3. MCAP Government Operational Blueprint

Content Area (Subscore Category)	Total Points Per Category
Standard 1: Civics	32
Standard 2: Peoples of the Nations and World	8
Standard 3: Geography	8
Standard 4: Economics	10
Standard 6: Skills and Processes	9
Total	67

Information on the referenced learning standards can be found in the Maryland Social Studies Standards for Government, available on the Maryland School Improvement website at http://www.marylandpublicschools.org/about/Pages/DCAA/Social-Studies/AGHSH.aspx.

MCAP Life Science MISA

For the 2023 MCAP Life Science MISA test, MSDE and Cognia worked collaboratively to design an operational form consisting of six NGSS-aligned clusters, each containing one shared stimulus and six items. Each cluster included various item types as outlined above, always including one CR item. The variety of item types represented the complexity and three-dimensionality of the NGSS, which ensured that a variety of levels of cognitive complexity are addressed.

Cognitive Complexity and Dimensionality in NGSS Aligned Items

To assign cognitive complexity alignments to the items administered in the 2023 MCAP Life Science MISA test, MSDE utilized existing research and consulted with Maryland science educators to design the Maryland Cognitive Complexity Framework (MCCF) Rubric (Appendix A).

This rubric was developed as MSDE researched cognitive complexity and found several documents that stressed that DOK and Bloom's were not well suited for evaluating the cognitive complexity of an assessment aligned to the multidimensional Next Generation Science Standards. Using Achieve's Framework for Evaluating Cognitive Complexity, specifically the Detailed Individual Item Analysis Rubric, MSDE drafted the Maryland Cognitive Complexity Framework Rubric, which was then reviewed by a group of science educators from across the state to ensure that the rubric was consistent with instructional practices.

Using the MCCF Rubric, Cognia and MSDE evaluated the items that were used on the 2023 MCAP Life Science MISA test. This evaluation showed that, in general, constructed response item types were more likely to be aligned to higher cognitive complexity ranges. For this reason, a more complete view of cognitive complexity ranges throughout the MCAP Life Science MISA forms were analyzed by points, not by item count. Based on this analysis, cognitive complexity ranges were assigned for the 2023 MCAP Life Science MISA forms in ranges by points, as shown in Table 2-4. These ranges will continue to be evaluated and refined as part of the operational test design moving forward.

Table 2-4. Cognitive Complexity Alignments

2023 MCAP Life Science MISA	Point Value				Total	
Cognitive Complexity	1	2	3	4	Points	Pct (%)
Low	31-32	8	0	0	39-40	52-53%
Medium	16	9-10	3-5	1-3	29-34	40-47%
High	0	0-1	1	1-2	3-4	4-5%
Total	**47-48**	**17-19**	**4-6**	**2-5**	**73-75**	**100%**

Additionally, alignment to cognitive complexity level will be incorporated into item development and content reviews for all new MCAP Life Science MISA development. Item writers and members of content review committees will be trained on the MCCF Rubric and will establish or review the cognitive complexity alignment of each item to ensure adherence to the rubric.

Dimensionality

The MCCF not only includes the process for evaluating Cognitive Complexity, but it also provides information about the number of active NGSS dimensions that are being used in each item. There are six cognitive complexity levels (high3, high2, medium3, medium2, low3, low2). The number identifies the total active dimensions, which is used to make sure that forms include similar ranges of two and three-dimensional items.

Table 2-5. Operational Dimensionality Alignments

2023 MCAP Life Science MISA	Item Count	Item Percentage
Aligned to 3 NGSS Dimensions	33-36	92-100
Aligned to 2 NGSS Dimensions	0-2	3-6
Aligned to 1 NGSS Dimension	0	0

Operational Blueprint

The MCAP Life Science MISA operational subscore categories and test blueprint are as follows:

- Each test form contained a total of 36 items and 54 possible points, typically in the following cluster configurations: two 2-point CR clusters, two 3-point CR clusters, and two 4-point CR clusters.
- Each test form contains clusters aligned to the NGSS Life Science Performance Expectations, as well as all three dimensions of the NGSS: DCIs, CCCs, and SEPs as outlined above.
- Each test form contains items that are aligned to the three levels of cognitive complexity for NGSS aligned items as specified by the MCCF Rubric described above.

Table 2-6. MCAP Life Science MISA Operational Blueprint

Content Area	Number
Life Science Items	36
Total Number of Items	36
Total Possible Points	54

In addition, test designs are also aligned to groupings of Practices and Crosscutting Concepts as illustrated in Table 2-7 and Disciplinary Core Ideas as illustrated in Table 2-8.

Table 2-7. Test Design Alignments: Practices and Crosscutting Concepts

Subscore Category Investigating	Min-Max Percentage	Subscore Category Sensemaking	Min-Max Percentage	Subscore Category Critiquing	Min-Max Percentage
* Asking questions & defining problems * Planning & carrying out investigations * Using mathematics & computational thinking	24-35% (13-19 pts)	*Patterns and Cause and Effect (PCE) *Patterns *Cause and Effect	35-46% (19-25 pts)	*Engaging in argument from evidence *Obtaining, evaluating, & communicating information	24-35% (13-19 pts)

Table 2-8. Test Design Alignments: Disciplinary Core Ideas

DCI Category Structure and Function	Min-Max Percentage	DCI Category Matter and Energy	Min-Max Percentage	DCI Category Interdependent Relationships	Min-Max Percentage	DCI Category Inheritance and Variation of Traits	Min-Max Percentage	DCI Category Natural Selection and Evolution	Min-Max Percentage
LS1-1, LS1-2, LS1-3	11-19% (6-10 pts)	LS1-5, LS1-6, LS1-7, LS2-3, LS2-4, LS2-5	19-26% (10-14 pts)	LS2-1, LS2-2, LS2-6, LS2-7, LS2-8, LS4-6	19-26% (10-14 pts)	LS1-4, LS3-1, LS3-2, LS3-3	17-24% (9-13 pts)	LS4-1, LS4-2, LS4-3, LS4-4, LS4-5	17-24% (9-13 pts)

The MCAP Life Science MISA items and clusters were designed to align to a subset of the high school grade band standards. Item development and field test form construction were designed to support future operational test blueprints.

Item Writing

In the 2021–2022-year, new item development occurred for the MCAP Government and MCAP Life Science MISA assessment. Some of this new development was then field tested in the 2023 administrations.

All test items were originally developed by item writers. Item writers were employed to develop high-quality test items that aligned with the Social Studies Standards (Government) or the NGSS. For both assessments, the items were developed by Maryland educators, working collaboratively with the Cognia content teams and MSDE content specialists.

Item writers were trained in general item writing techniques and were given writing guidelines that are specific to the MCAP program. After an initial item writer training occurred, follow-up training was provided in the form of individual feedback and specialist review. After this follow-up training occurred, item writers received additional feedback and coaching, as necessary.

Upon completion of their writing assignments, the item writers submitted their items to Cognia. Items and clusters that were accepted by the Cognia content team proceeded to the item review and revision process.

Item Review and Revision

All items on the forms underwent a series of reviews in accordance with the following procedures:

- Items were edited by Cognia's editorial staff according to standard rules established by the Maryland Style Guide and the Chicago Manual of Style, including those detailed by the Maryland Overview Document and Item Specification documents, developed in conjunction with MSDE.
- Items were reviewed for accuracy, organization, comprehension, style, usage, consistency, fairness/sensitivity, and accessibility by Cognia's content experts and editors.
- Item content was reviewed by Cognia's content experts to establish whether the item measured the intended standards and cognitive complexity levels, as applicable.
- Copyright and/or trademark permissions were verified for any materials requiring permissions, for both field test and operational material after content review committee approval.
- Items were reviewed by Cognia editorial staff to ensure the item adhered to both the stated MSDE Style Guide and standard grammar rules.
- Internal reviews were conducted by different content experts on Cognia's team, and historical records were established for all version changes.

After Cognia performed the required internal reviews, items were submitted to MSDE for review. MSDE content specialists performed a review of the items and provided feedback to Cognia content specialists. The edits suggested by the MSDE specialists were then incorporated into the items. At this stage, items were also reviewed for accessibility and universal design.

Finally, the items were prepared for review by the Content, Bias/Sensitivity, and Accommodations Review Committees. These committees, selected by MSDE, were composed of diverse groups of Maryland educators. The committees reviewed each item to ensure that the content (a) accurately reflected what was taught in Maryland schools; (b) correctly aligned to the intended standards; (c) did not unfairly favor or disadvantage an individual or group; and (d) was universally designed and accessible to students with disabilities who utilize various presentation and response accommodations.

Upon completion of this final round of reviews, MSDE and Cognia content specialists conducted face-to-face meetings to evaluate and reconcile the reviews. Cognia then applied the requested edits to the items and/or revisions to the accompanying graphics.

For the MCAP Government assessment, 165 items were presented for review by the Content, Bias/Sensitivity, and Accommodations Review Committees in 2023. Some of these items were used to build the 2024 field test forms. Ten items were rejected following committee recommendations, and thirteen items were put on hold or pushed to 2025 development due to current events or curriculum changes.

For the MCAP Life Science MISA assessment, 24 science clusters were presented for review by the Content, Bias/Sensitivity, and Accommodations Review Committees in 2022. These items were then used to build the 2023 field test forms. These clusters included 24 multi-part stimuli and 336 items. Because of the integrated nature of the clusters, acceptance rates depended on the entire cluster, not individual items. One cluster was put on hold due to the extent of the revisions requested.

Testing Accommodations

Several alternate test formats were available to test takers, including large-print, braille, and standard paper-based versions of the MCAP Government and MCAP Life Science MISA tests. For 2023, all three alternate test formats were available for all administrations in both content areas. For additional information concerning test accommodations see the Maryland Assessment, Accessibility, and Accommodations Policy Manual available here: http://marylandpublicschools.org/programs/Documents/Special-Ed/IEP/MAM508102017.pdf.

Test Construction

MCAP Government

The MCAP Government forms administered in Winter, Spring, and Summer of 2023 were constructed using items from the Maryland MCAP government item bank. The pool of items that was available for use in the construction of the 2023 forms included items that had been administered, calibrated, and linked to the operational scale (see Year-to-Year Scale Maintenance / Section 4 for additional details). Each MCAP Government test form was constructed to meet specific test blueprint specifications. Table 2-1 indicates the distribution of score points associated with each item type.

MCAP Life Science MISA

Each MCAP Life Science MISA form administered in Winter, Spring, and summer of 2023 was designed and constructed to meet the operational test blueprint outlined in Tables 2-2, 2-5, and 2-6 above as well as the cognitive complexity ranges detailed in Table 2-6. Each form was designed with four sessions consisting of two integrated clusters each. Two field test clusters were embedded with the six operational clusters. Each session was designed to be completed in approximately 40 minutes.

As previously stated, each cluster included one shared stimulus and six items. Each cluster contained one CR item worth two, three, or four points. The remaining five items in the cluster were a variety of SR and TE item types.

Item Selection and Form Design

MCAP Government

To preserve the item pool when multiple forms were included in an administration, each test form consisted of a common set of operational items shared across forms within an administration, as well as a unique set of items. Within this administration, approximately 60 percent of the operational items in each form were common across the test sections. The remaining items in the forms consisted of combinations of items that varied across forms. The percentage of common items across forms was determined by MSDE and is consistent with the test specifications for previous administrations of the MCAP Government assessment.

The guidelines used to construct the forms are provided in Tables 2-9 through 2-11. The exact composition of the forms varied slightly based on available items in the pool.

Table 2-9. Form Construction Specifications for the MCAP Government Winter Administration

Forms A, B, and C – Operational Core 1	Form X (Accom.)
Common set ~ 100%	Same as Form A, with paper versions of TEIs
Field test selection – Unique items	Field test selection – Same as Form A

Table 2-10. Form Construction Specifications for the MCAP Government Spring Administration

Forms D, E, F, G, H, J, K, L, M, N, O, P – Operational Core 1	Forms Q, R, S, T, U, V, W, AK, AL, AM, AN, AO, – Operational Core 2	Form Y (Accom.)
Common set ~ 60% Unique items ~ 40%	Common set ~ 60% Unique items ~ 40%	Same as Form D with paper versions of TEIs
Field test selection – Unique items	Field test selection – Unique items	D

Table 2-11. Form Construction Specifications for the MCAP Government Summer Administration

Form R – Operational Core 1	Form Z (Accom.)
Common set ~ 100%	Same as Form A with paper versions of TEIs
Field test selection – Unique items	R

In addition to the operational items, embedded field test items were included with each version of the test form, resulting in multiple versions of a test form containing different sets of field test items. Field test items accounted for approximately 19 percent of the total items on each form (12 field test items out of the total of 63 items). The content standards, item types, and item specifications added to the assessment and field tested in 2023 were developed and reviewed by Maryland educators to be representative of the knowledge, concepts, and skills taught in Maryland government courses and designed to be measured by the test.

For this administration, there was more than one form available, so the forms were randomly assigned at the student level. Random assignment at the student level means that multiple forms of the test were distributed to students arbitrarily by the computer-based testing platform. Random assignment at the student level helps ensure that all forms are arbitrarily distributed throughout the state. Because only one paper-based form is created, this form cannot be randomly assigned.

The 2023 MCAP Government forms were constructed using the test construction software associated with the customer item bank. The goal was to match the test characteristic curves (TCCs) and the conditional standard error of measurement (CSEM) curves with the "target" form defined as the base form used to set the operational scale. For MCAP Government, the base forms were originally developed in 2003. These base forms contained BCR items. Between summer 2009 and October 2013, BCR items were discontinued on the MCAP Government and the target TCCs for the MCAPs were revised so that they were no longer influenced by the characteristics of CR items. Refer to the Educational Testing Service (ETS) memorandum: *Considerations for Setting New Target Test Characteristic Curves for the Maryland High School Assessments (HSAs)* (ETS, 2009) for details on how new target TCCs were created. However, starting in January 2014, BCR items were reintroduced to the MCAP Government so the Government target TCCs have been revised to again include BCR items in the calculation of TCCs and CSEMs.

The following general steps were completed during the test construction process for the MCAP Government forms:

1. For each administration, all forms were constructed simultaneously to provide the best opportunity to construct parallel forms.
2. Items were selected to represent the test blueprint and match the target TCCs and CSEMs.
3. Test developers were careful to ensure that the item selections met all content specifications, including matching items to the test blueprint, distribution of keys, and avoidance of clueing[3] or clanging.[4]
4. After the operational items were selected for the test forms, the field test sets were constructed. Item sets consisted of SR, BCR, TE, and ECR item types. While the field test sets were not constructed to meet any psychometric criteria, they were constructed to meet content criteria. For MCAP Government, the field test sets were estimated to be able to be completed by students in approximately 30 to 35 minutes. The field test items were embedded in the test according to a variety of content and template criteria, including, but not limited to, coverage of the reporting categories and assessment limits, cognitive balance, key balance/distribution, and clueing/clanging within the field test set and among the surrounding operational items.

Figures 2-1 through 2-6 show the plots of the TCCs and CSEMs of the operational forms used for MCAP Government in 2023. The three vertical lines in each figure represent the scaled cut scores (see Table 5-1 for the cut score values). The CSEMs in Figure 2-2 are CSEM values on the scaled score metric (i.e., scaled CSEMs). It is important to note that the TCCs and CSEMs shown in the plots are based on pre-equated item parameters and therefore are curves calculated prior to administration of the tests. The TCC plots indicate that all forms for MCAP Government were within or very close to each other across the range of scale scores. When forms varied in difficulty, differences between forms were typically less than 5 percent of the expected raw score across the score range, especially in the range of the cut scores. When forms had differences slightly greater than 5 percent, these larger differences were typically seen at the very low end of the scale score range and at the high end of the scale. As expected, the CSEM plots indicate that the CSEMs were lowest at and above the scaled cut score, which represents the middle and upper ranges of scale scores. Typically, this is where most student scores are located.

[3] ***Clueing*** *refers to information within a passage, stimulus, item, graphic, or other test component that allows respondents to select/construct the correct answer to one or more items in an assessment without the knowledge and/or skill targeted by the item.*

[4] ***Clanging*** *occurs when an identical or similar word(s) appears in both the item stem and one or more item distractors. Also, if two or more items that are near each other share common key words, even if the item content does not clue, the items are said to clang because the interpretation of the word in one item can affect the interpretation of another item.*

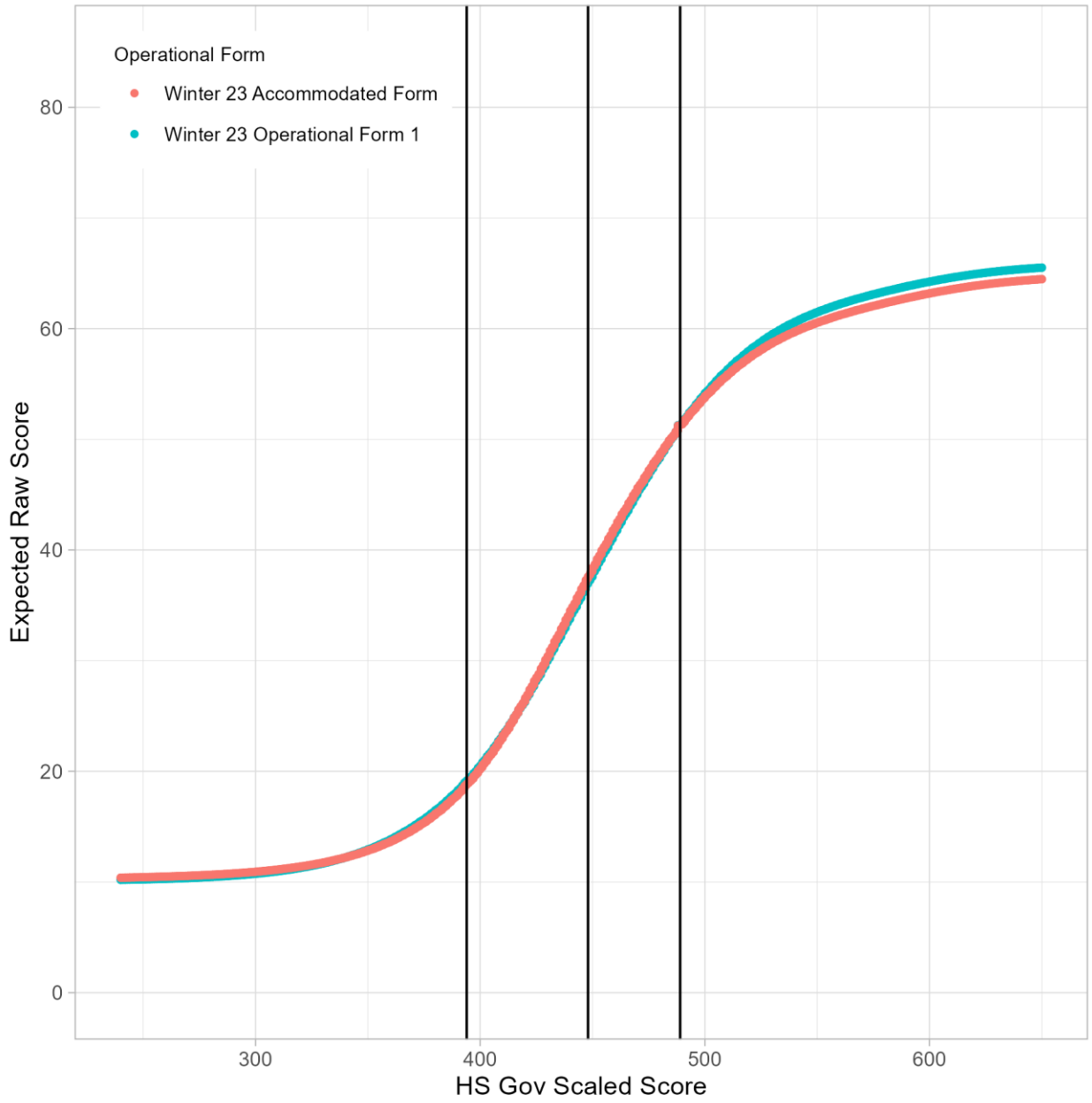

Figure 2-1. Test Characteristic Curves for the MCAP Government Forms—Winter

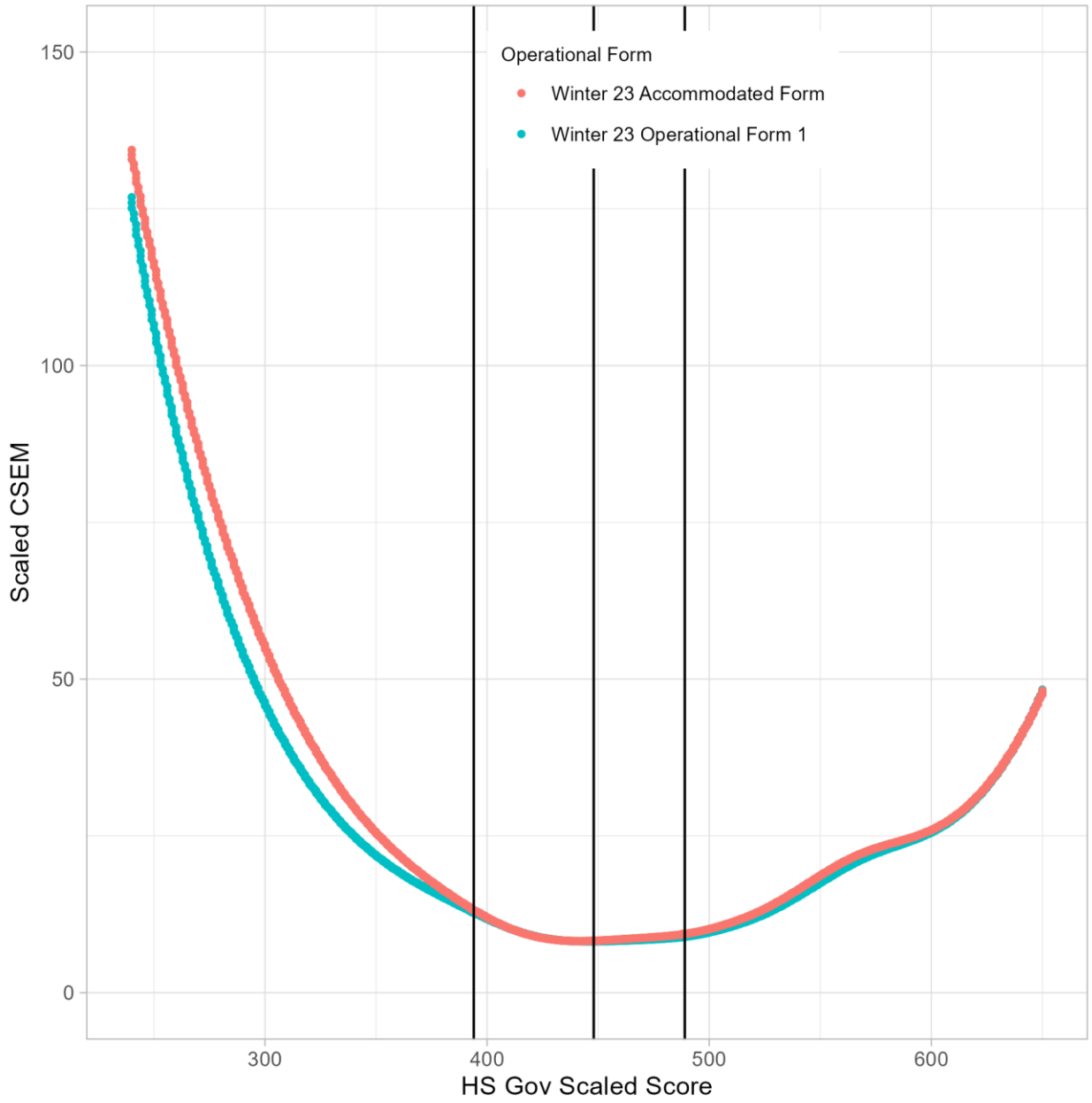

Figure 2-2. Conditional Standard Errors of Measurement and Proficiency Cutoffs for the MCAP Government Forms—Winter

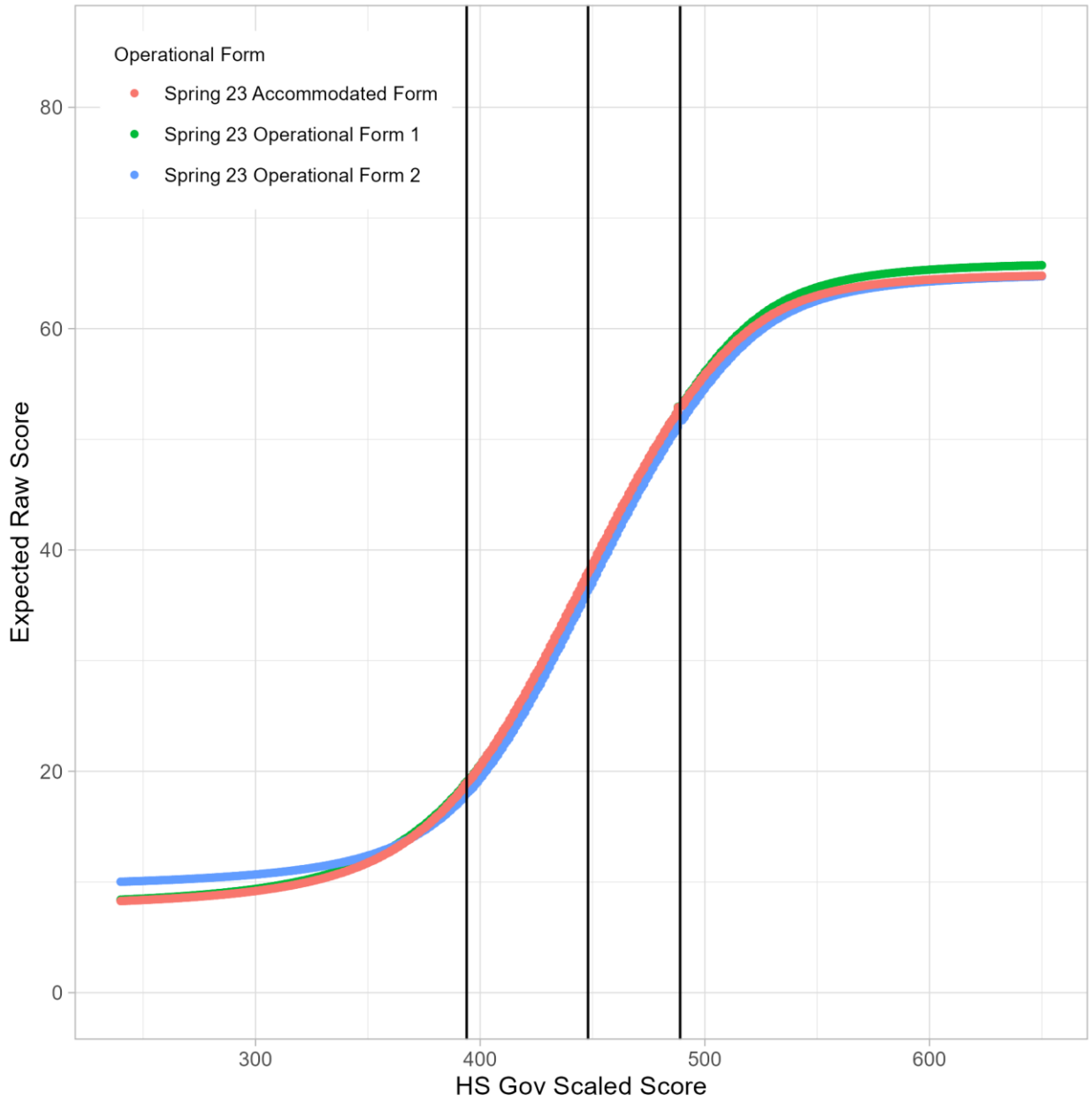

Figure 2-3. Test Characteristic Curves for the MCAP Government Forms—Spring

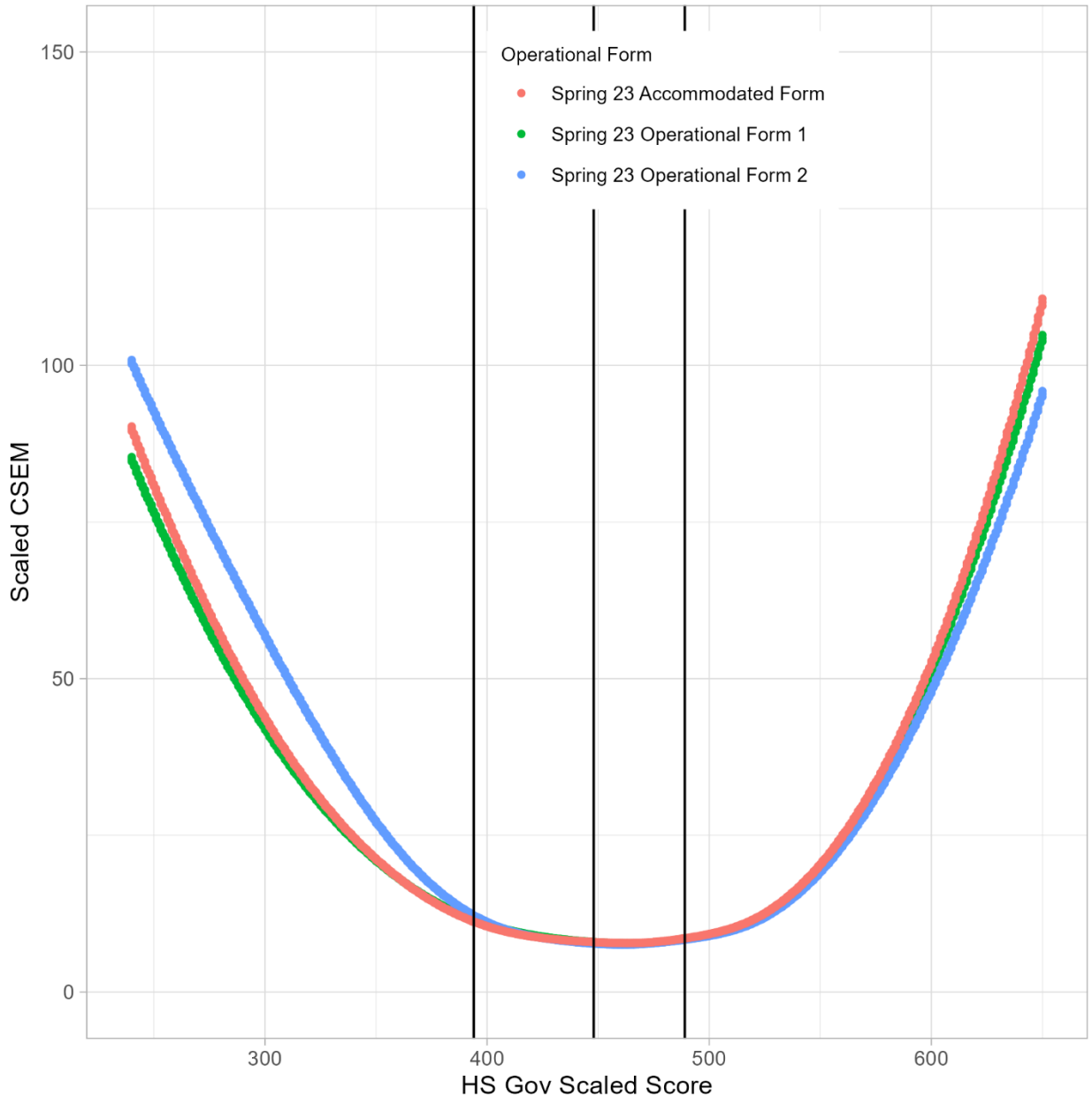

Figure 2-4. Conditional Standard Errors of Measurement and Proficiency Cutoffs for the MCAP Government Forms—Spring

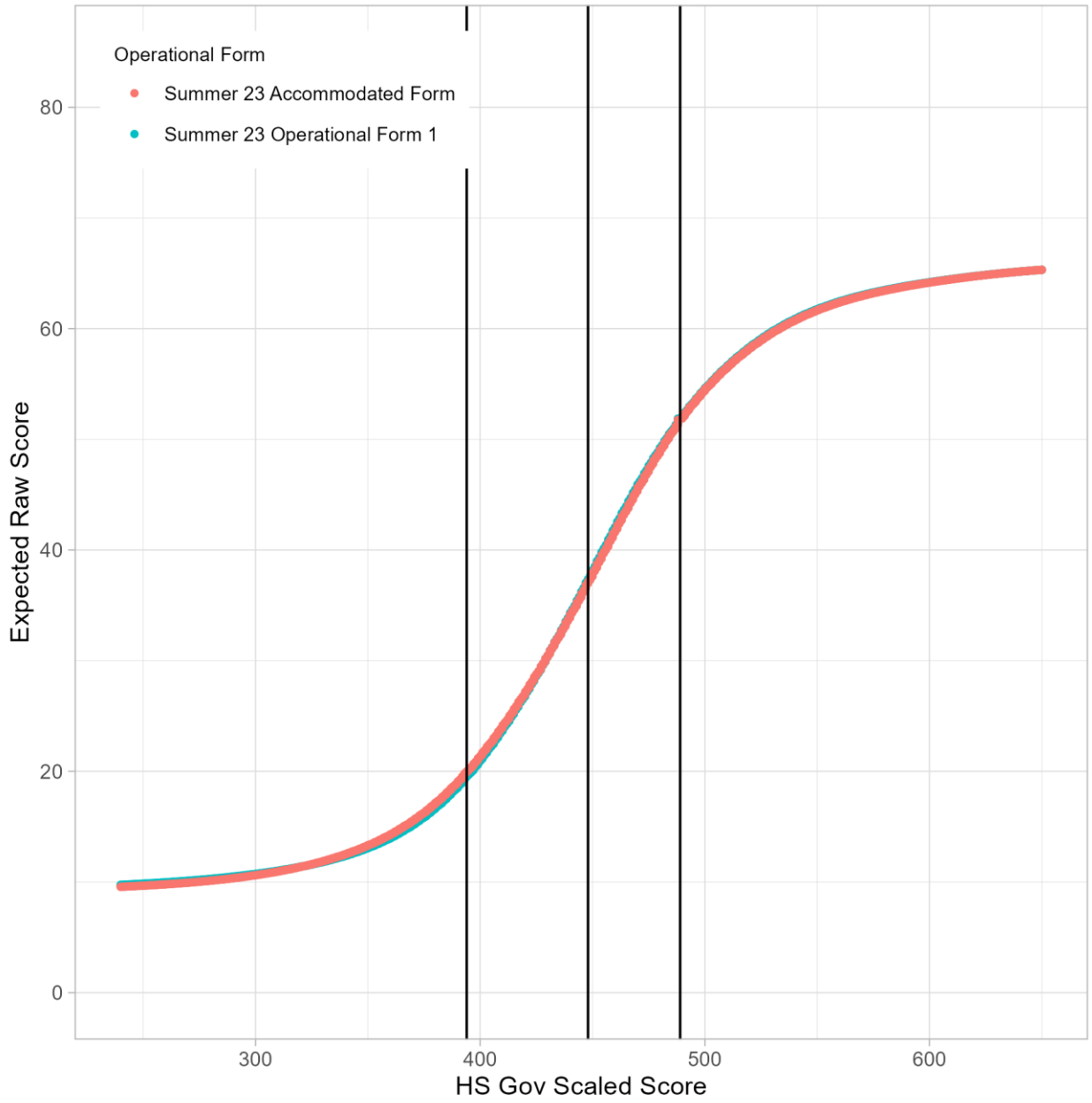

Figure 2-5. Test Characteristic Curves for the MCAP Government Forms—Summer

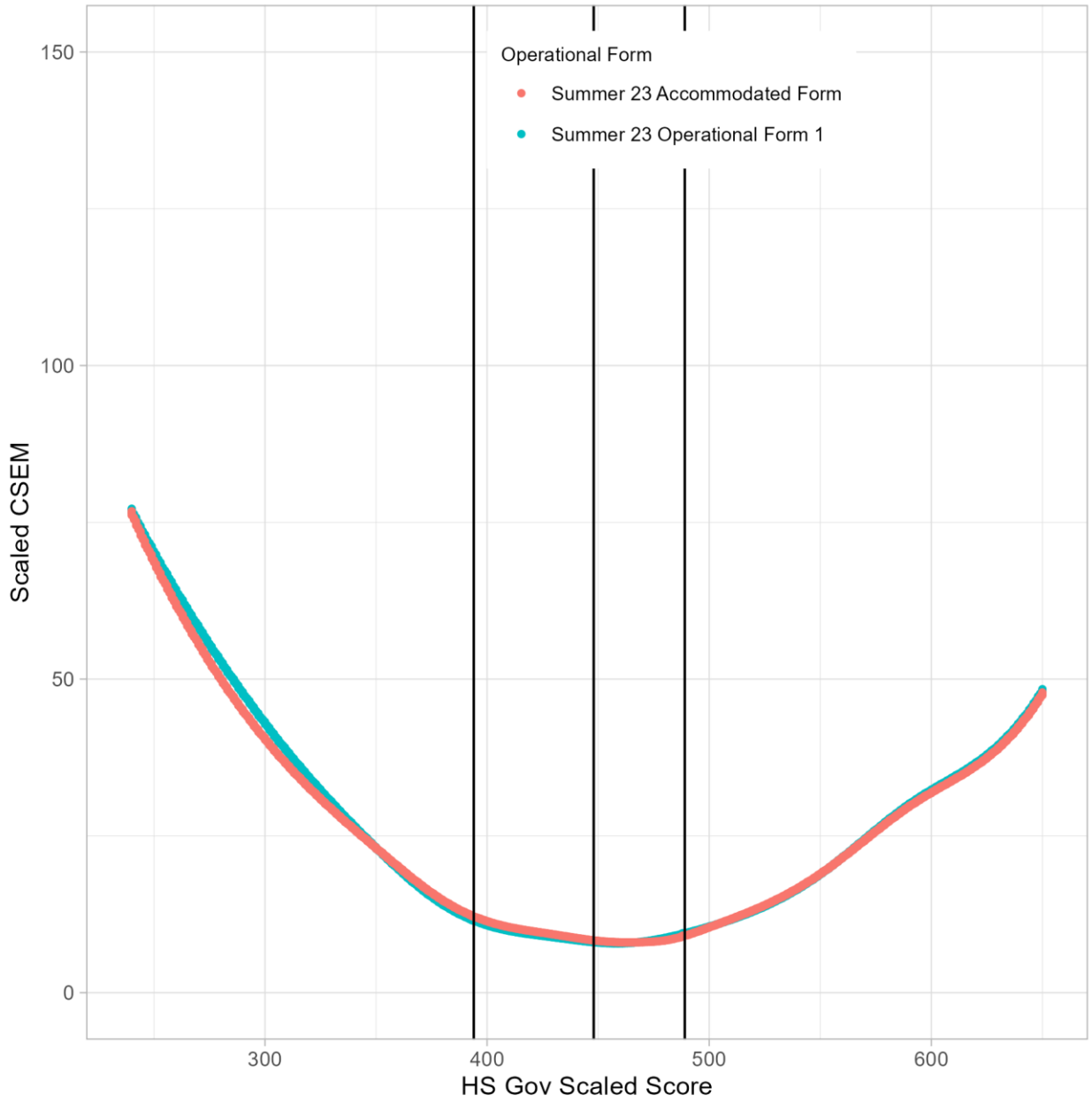

Figure 2-6. Conditional Standard Errors of Measurement and Proficiency Cutoffs for the MCAP Government Forms—Summer

MCAP Life Science MISA

Per the MCAP Life Science MISA test design, when multiple forms were included in an administration, each test form consisted of a common set of operational clusters shared across forms within an administration, as well as a unique set of items. Per this test design, one-half of the operational clusters are shared across the forms for each administration. Note that in 2023, each test form had six clusters that were operational in the sense that those clusters counted toward student scores. The other two clusters on a test form were field test clusters in the sense that those clusters did not count toward student scores.

In addition to the operational items, embedded field test clusters were included with each version of the test form, resulting in multiple versions of a test form containing different sets of field test items. The guidelines used to construct the forms are provided in Tables 2-12 through 2-14. The exact composition of the forms varied slightly based on available items in the pool.

Table 2-12. Form Construction Specifications for the MCAP Life Science MISA Winter Administration

Forms A, B, C Operational Core 1	Form X (Accom.)
Linking clusters – 62% Unique clusters – 38%	Same as Form A
Field test selection – Unique clusters	Field test selection – Same as Form A

Table 2-13. Form Construction Specifications for the MCAP Life Science MISA Spring Administration

Forms D, E, F, G, H, J – Operational Core 1	Forms K, L, M, N, O, P – Operational Core 2	Form Y (Accom.)
Linking clusters – 62% Unique clusters – 38%	Linking clusters – 62% Unique clusters – 38%	Same as Form D
Field test selection – Unique clusters	Field test selection – Unique clusters	Field test selection – Same as Form D

Table 2-14. Form Construction Specifications for the MCAP Life Science MISA Summer Administration

Form R Operational Core 1	Form Z (Accom.)
Linking clusters – 62% Unique clusters – 38%	Same as Form R
Field test selection – Unique clusters	Field test selection – Same as Form A

The following general steps were completed during the test construction process for the MCAP Life Science MISA forms:

1. For each administration, typically all forms were constructed simultaneously to provide the best opportunity to construct parallel forms.
2. Test developers were careful to ensure that the item selections met all content specifications, including matching items to the test blueprint, distribution of keys, and avoidance of clueing or clanging.
3. After the operational items were selected for the test forms, the field test sets were constructed. Field test sets consisted of MCAP Life Science MISA clusters across all content areas. While the field test sets were not constructed to meet any psychometric criteria, they were constructed to meet content criteria. The field test items were embedded in the test according to a variety of content and template criteria, including, but not limited to, coverage of the reporting categories and continued efforts to build the operational pool of NGSS-aligned MCAP Life Science MISA clusters.

Figures 2-7 through 2-12 show the plots of the TCCs and CSEMs of the forms used for MCAP Life Science MISA in the Winter 2023 administration. Figures 2-5 and 2-6 show the plots of the TCCs and CSEMs of the forms used for MCAP Life Science MISA in the Early Fall 2023 administration. The vertical

lines in each figure represent the scaled cut scores (see Table 5-1 for the cut score values). Note that the CSEMs in these figures are CSEM values on the scaled score metric (i.e., scaled CSEMs).

The TCC plots indicate that all forms for MCAP Life Science MISA were within the range of scaled scores, or very close to each other. When forms varied in difficulty, differences between forms were typically less than 5 percent of the total raw score across the score range, especially in the range of the cut scores. When forms had differences slightly greater than 5 percent, these larger differences were typically seen at the very low end of the scale score range and at the high end of the scale. The CSEM plots indicate that the scaled CSEMs were lowest at and above the scaled cut score, which represents the middle and upper ranges of scale scores. Typically, this is where most student scores are located.

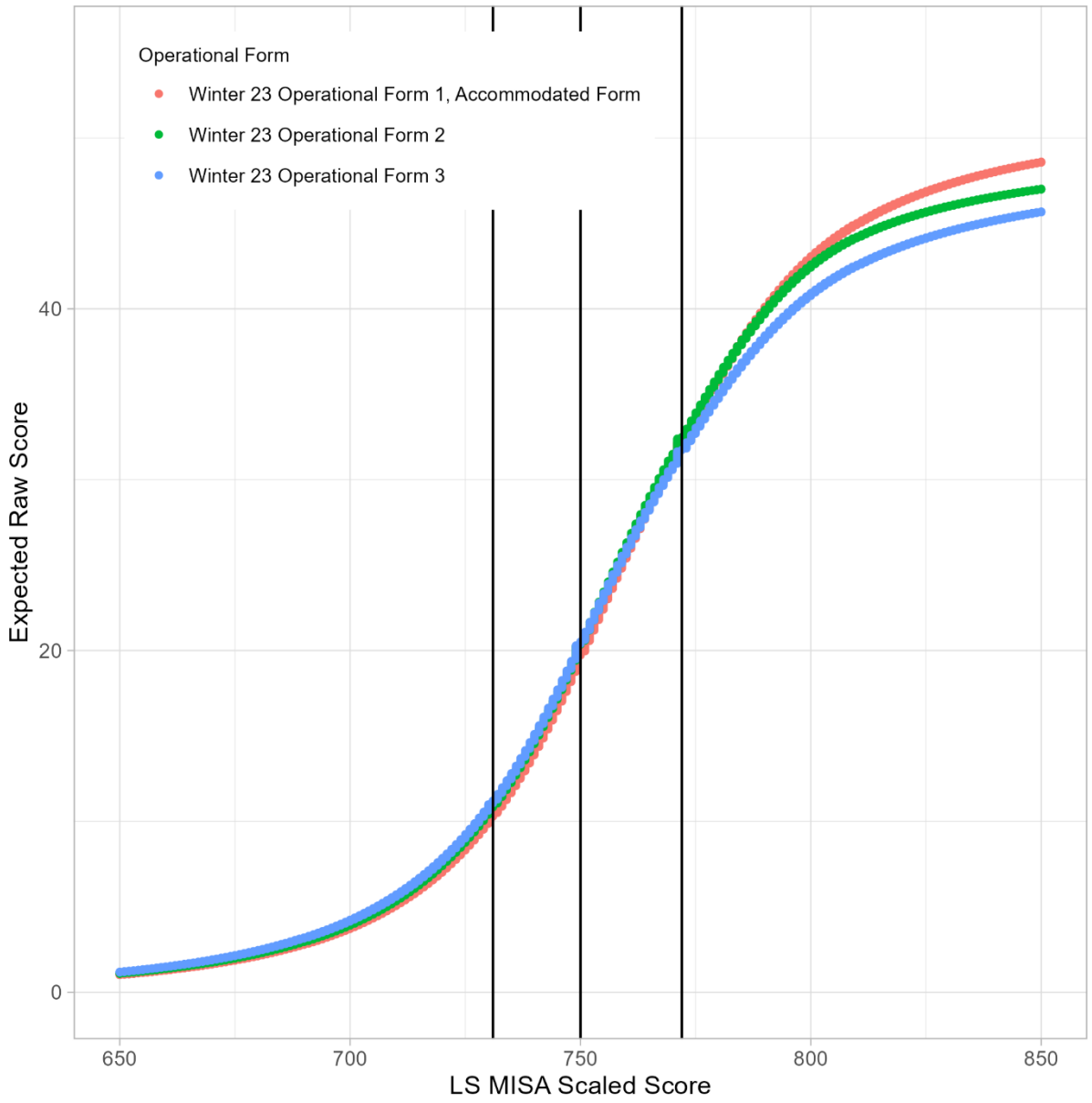

Figure 2-7. Test Characteristic Curves for the MCAP Life Science MISA Forms—Winter

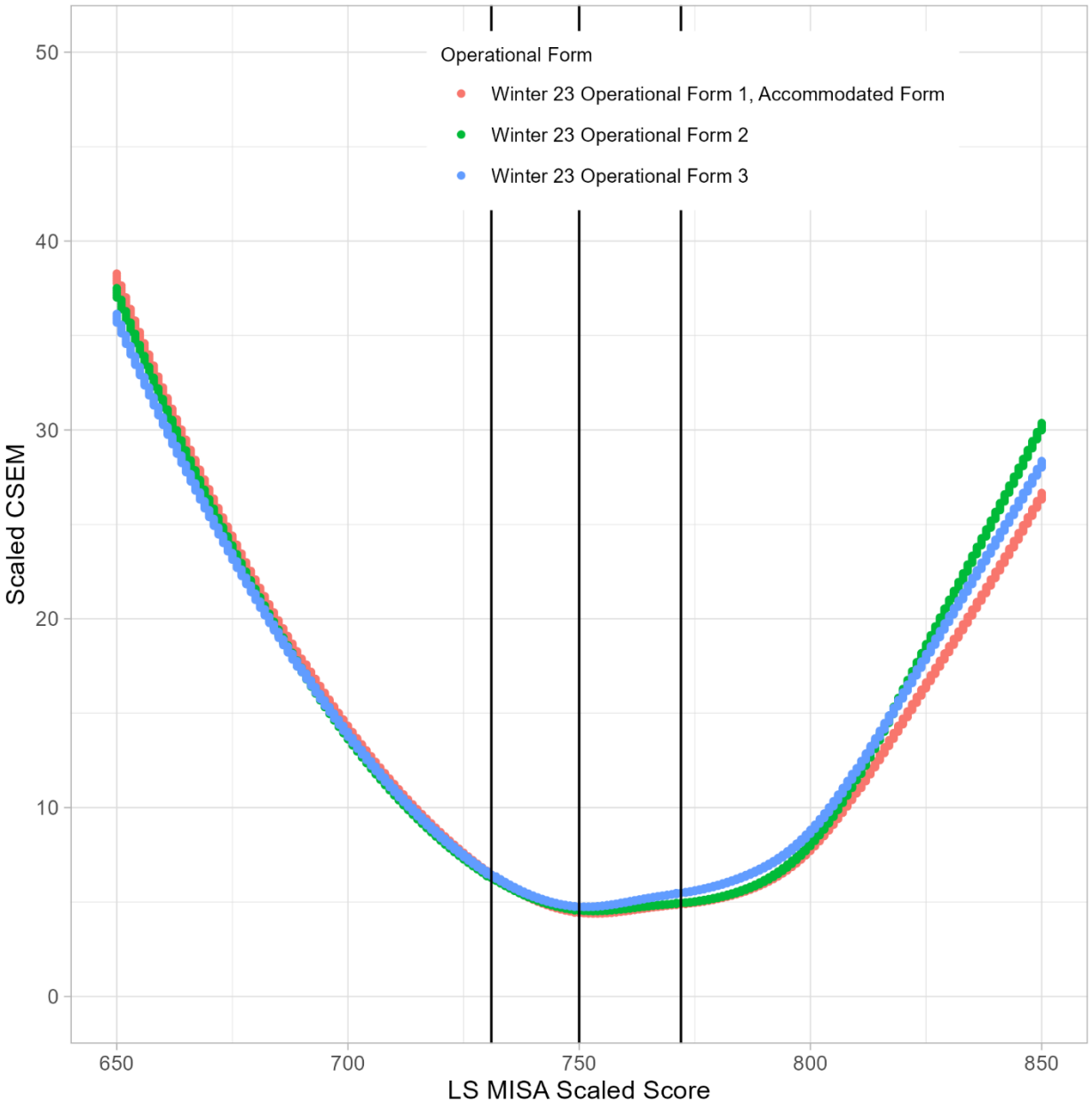

Figure 2-8. Conditional Standard Errors of Measurement and Performance Level Cutoffs for the MCAP Life Science MISA Forms—Winter

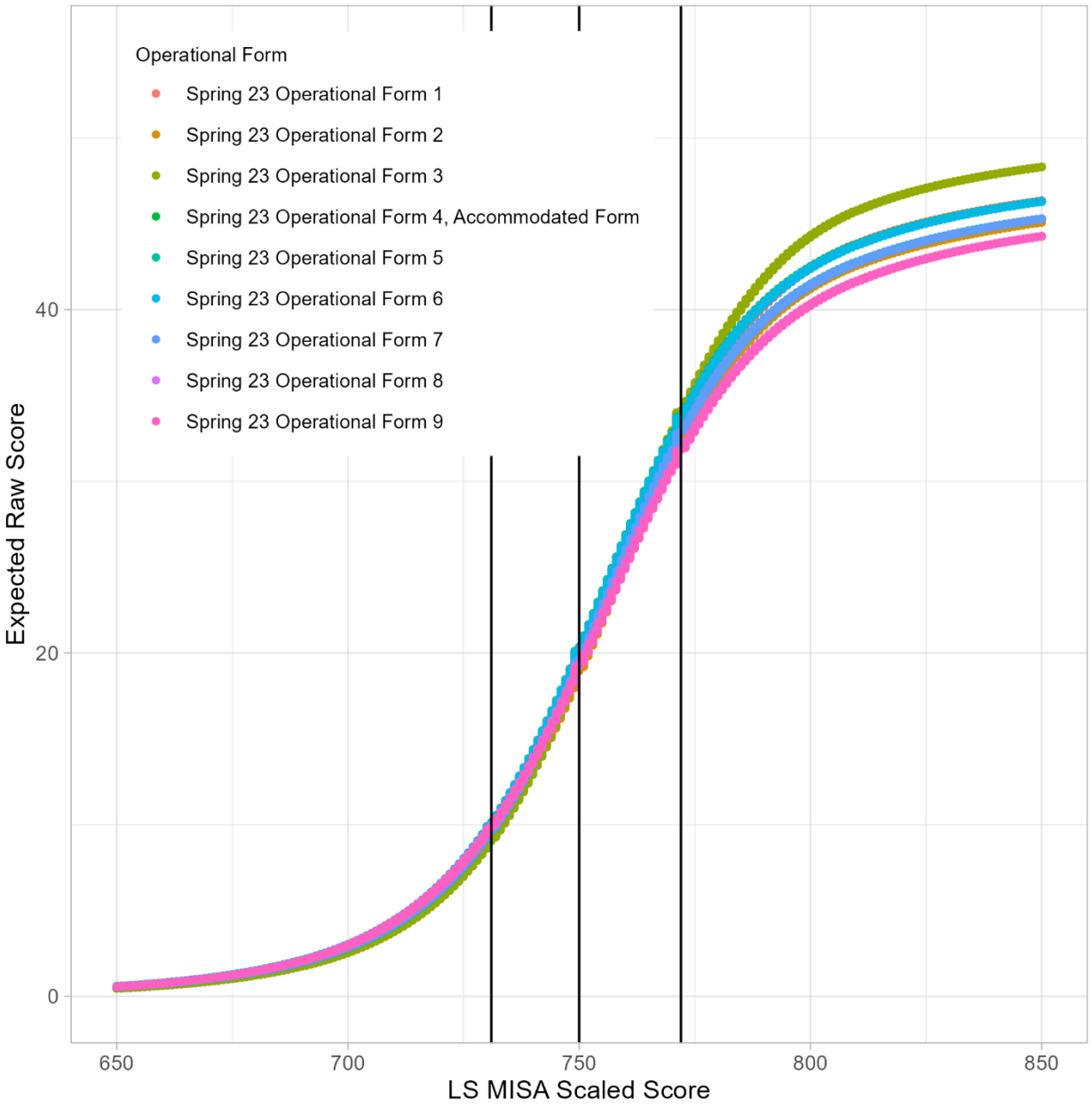

Figure 2-9. Test Characteristic Curves for the MCAP Life Science MISA Forms—Spring

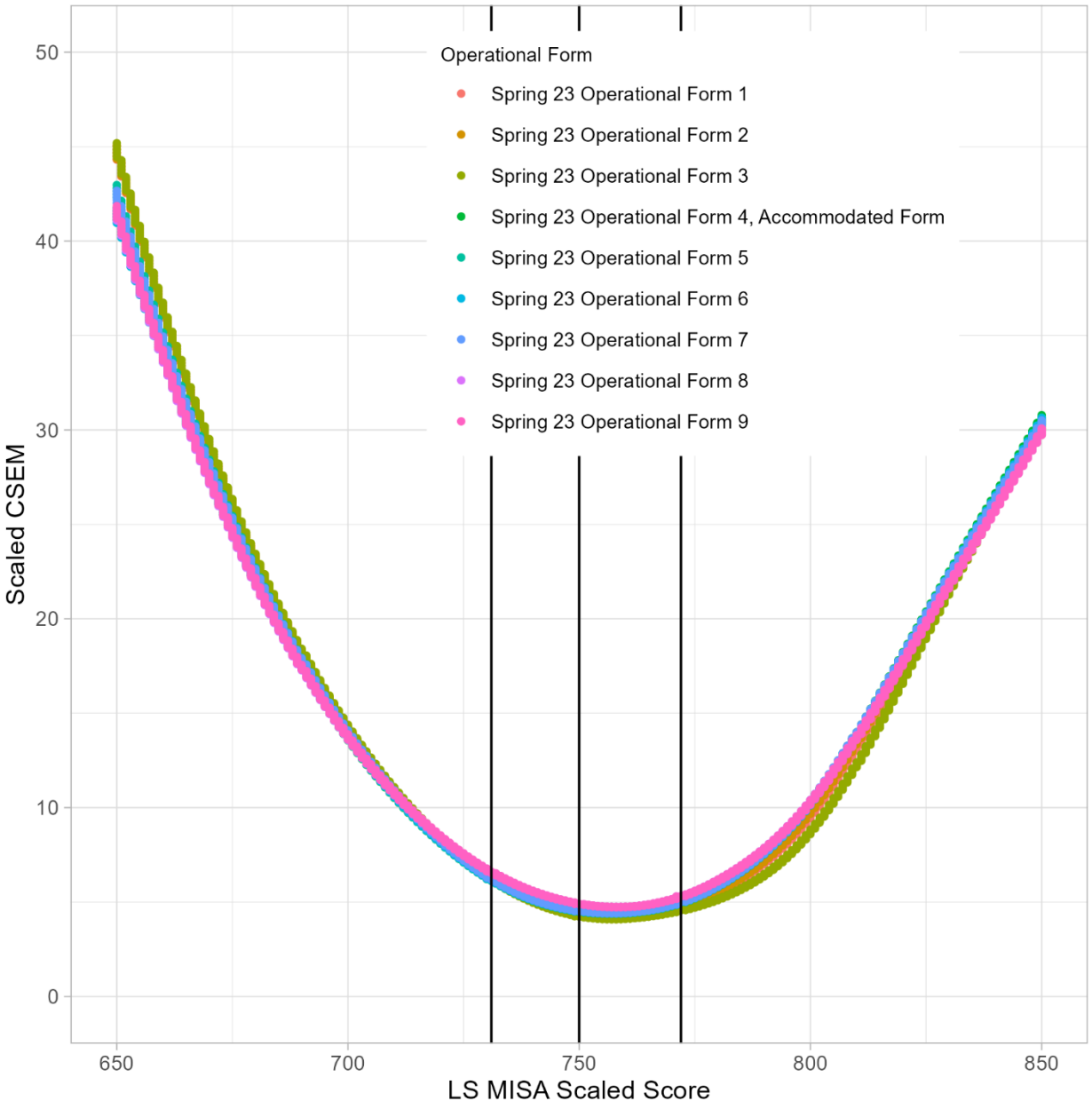

Figure 2-10. Conditional Standard Errors of Measurement and Performance Level Cutoffs for the MCAP Life Science MISA Forms—Spring

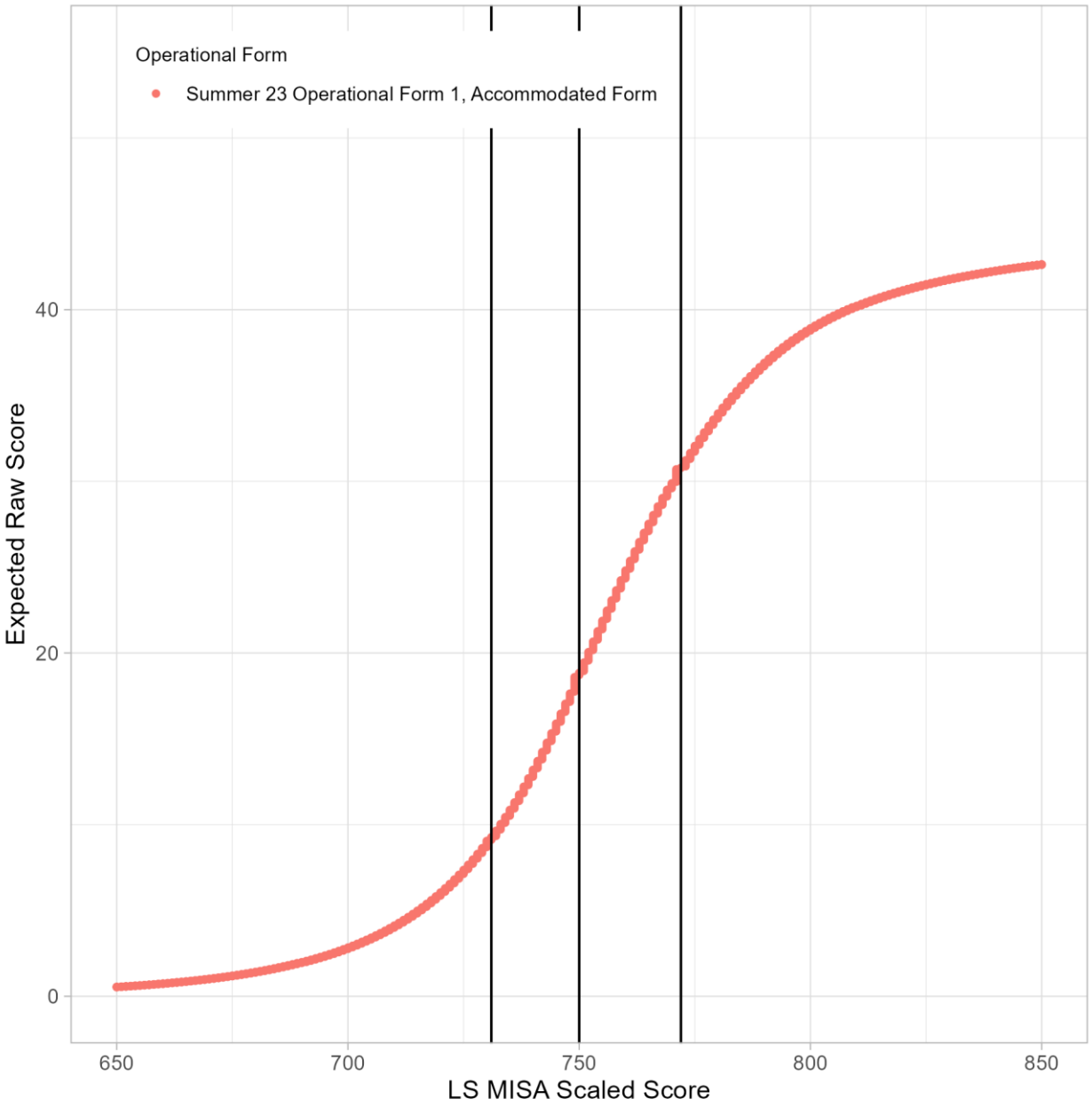

Figure 2-11. Test Characteristic Curves for the MCAP Life Science MISA Forms—Summer

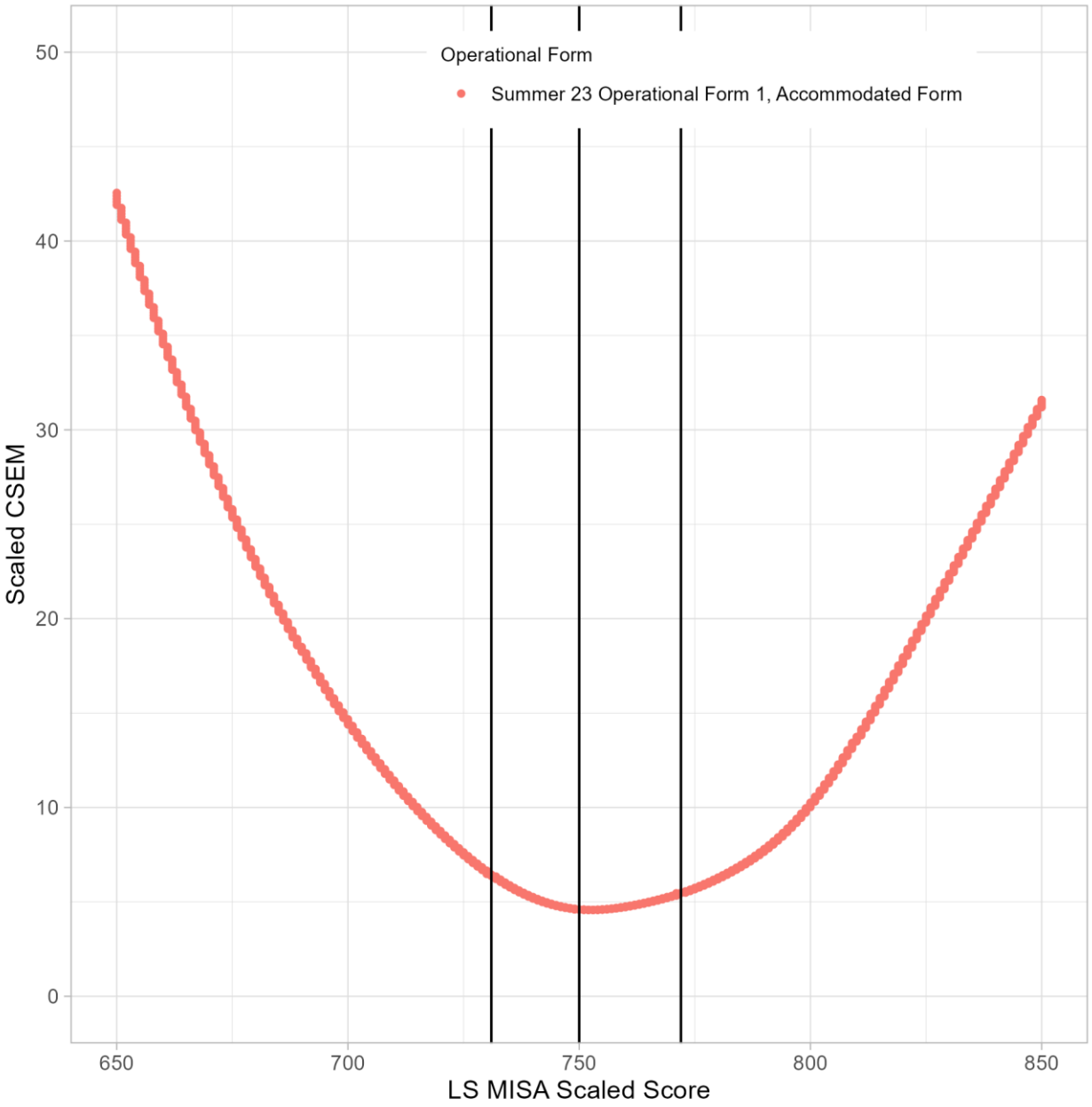

Figure 2-12. Conditional Standard Errors of Measurement and Performance Level Cutoffs for the MCAP Life Science MISA Forms—Summer

Test Administration

For all Maryland MCAP tests administered in 2023, both paper-and-pencil and online versions were available. An online practice test was available to the public throughout the administration year. For all administrations, online forms were randomly assigned. There was one paper form provided for students and used for accommodations or special circumstances. The paper administration window is one week shorter than the online window.

All forms administered without extended time accommodations had timing limits indicated in Table 2-15.

Table 2-15. Test Timing Schedule in Minutes for MCAP Government and MCAP Life Science MISA

Content Area	Session One	Break	Session Two	Break	Session Three	Break	Session Four
MCAP Life Science MISA	40 min.	5 min.	40 min.	5 min.	40 min.	5 min.	40 min.
MCAP Government	40 min.	5 min.	40 min.	5 min.	40 min.	5 min.	40 min.

Section 3. Validity

Validity is one of the most important attributes of assessment quality and is a fundamental consideration when tests are developed and evaluated (AERA, APA, & NCME, 2014; Messick, 1989). Validity refers to the degree to which logical, empirical, and judgmental evidence supports each proposed interpretation or use of a set of scores. Validity is not based on a single study or type of study but is an ongoing process of gathering evidence to support the interpretation or use of the resulting test scores. In 2023, taking the MCAP Government and MCAP Life Science MISA fulfilled a participation requirement. The 2023 testing data largely supported the test development process for 2023, such as field test item analysis and test form construction.

This section provides validity evidence for the Maryland Comprehensive Assessment Program Government and High School Maryland Integrated Science Assessment. Students' scores on the MCAP Government and MCAP Life Science MISA are assumed to reflect students' level of knowledge and skills in a content area. The scaled scores on each of these assessments are used to classify students in terms of their level of proficiency based on cut scores established by the state. Note that at the time of drafting this report, no validity evidence was available on the relationships to external variables (e.g., relationships to other MCAP assessments such as ELA Grade 10, Algebra 1) or on testing consequences (e.g., the impact of test scores on student grades).

Evidence Based on Analyses of Test Content

The MCAP Government and MCAP Life Science MISA tests are referred to as end-of-course tests because students take each as they complete the appropriate coursework. Consequently, MCAP Government and MCAP Life Science MISA test items are developed to measure the knowledge and skills expected of students following completion of the respective coursework. As discussed in Section 2, the development of test content for the MCAP Government and the MCAP Life Science MISA is overseen by content experts who have depth of knowledge and teaching experience related to the course(s). Appropriate content leaders who have similar qualifications review the test development work of these individuals.

Evidence based on analyses of test content includes logical analyses that determine the degree to which the items in a test represent the content domain that the test is intended to measure (AERA, APA, & NCME, 2014, p. 14). The test development process for the Maryland MCAPs provides numerous opportunities for MSDE to review test content and make changes to ensure that the items measure the knowledge and skills of Maryland students according to course standards. Every item that is created is referenced to a particular instructional standard (goal, expectation, or indicator). During the internal Cognia development process, the specific reference is confirmed or changed to reflect changes to the item. When the item is sent to a committee of Maryland educators for a content review, the members of the committee make independent judgments about the match of the item content to the standard that it is intended to measure and evaluate the appropriateness for the intended grade level. These judgments are tabulated and reviewed by the content experts who use the information to decide which items advance to the field test stage of development.

Evidence Based on Analyses of Internal Test Structure

Analyses of the internal structure of a test typically aim to study the relationships among test items and/or test components to establish the degree to which the items/components reflect the construct (AERA, APA, & NCME, 2014, p. 16). The term "construct" refers to the characteristic that a test is intended to

measure and a test score interpretation is based on; in the case of the MCAP Government, the construct is the knowledge and skills defined by the test blueprint for each content area.

High total group internal consistencies as well as similar group-specific SEMs across subgroups with roughly the same sample size provide additional validity evidence based on internal structure. Measurement error is inevitable. However, high reliability over items within a test implies that the measurement error is small. Coefficient alpha (Cronbach, 1951), IRT marginal reliability, and group-specific SEMs results for each administration for the overall population, as well as for subgroups, can be found in Section 6 of this report in Tables 6-1 through 6-3.

Another way to assess the internal structure of the test is through the evaluation of Pearson correlation matrices between the individual subscores. If subscores are strongly related to each other, it implies the construct measured is unidimensional, which is consistent with the IRT scaling and scoring processes.

Table 3-1 shows the Pearson correlations between subscores of the MCAP Government test. Results indicate that each subscore is positively correlated with the overall scale score and that the subscores are positively correlated with each other. The correlations of subscores with the total test scores were strong and were generally greater than 0.5. Correlations of subscores between each pair of standards tended to be strong as well, generally being greater than 0.5. Subscore correlations between Standard 1 and any other subscore tended to be larger than that of the subscore correlations that do not include Standard 1. This is likely due to the fact Standard 1 represented a total of 32 points, while Standards 2, 3, 4, and 6 represented 8, 8, 10, and 9 points, respectively. That is, more items aligned to Standard 1 than any of the other standards.

Table 3-2 shows the Pearson correlations between subscores of the MCAP Life Science MISA test. Results indicate that each subscore is strongly correlated with the overall scale score and that the subscores are strongly correlated with each other. The subscore correlations that included Standard 1–3 tended to be greater than subscores that did not include Standard 1–3.

Table 3-1. Correlations Between Subscores—MCAP Government

	Overall	Standard 1: Civics	Standard 2: Peoples of the Nations and World	Standard 3: Geography	Standard 4: Economic	Standard 6: Skills and Processes
Winter 2023 Administration (N = 10,359)						
Overall	1.000	--	--	--	--	--
Standard 1: Civics	0.934	1.000	--	--	--	--
Standard 2: Peoples of the Nations and World	0.807	0.729	1.000	--	--	--
Standard 3: Geography	0.771	0.692	0.641	1.000	--	--
Standard 4: Economic	0.734	0.664	0.582	0.567	1.000	--
Standard 6: Skills and Processes	0.771	0.710	0.634	0.553	0.530	1.000
Spring 2023Administration (N = 56,563)						
Overall	1.000	--	--	--	--	--
Standard 1: Civics	0.960	1.000	--	--	--	--
Standard 2: Peoples of the Nations and World	0.756	0.704	1.000	--	--	--
Standard 3: Geography	0.734	0.669	0.609	1.000	--	--
Standard 4: Economic	0.820	0.742	0.622	0.598	1.000	--
Standard 6: Skills and Processes	0.784	0.697	0.582	0.573	0.696	1.000
Summer 2023Administration (N = 297)						
Overall	1.000	--	--	--	--	--
Standard 1: Civics	0.974	1.000	--	--	--	--
Standard 2: Peoples of the Nations and World	0.845	0.786	1.000	--	--	--
Standard 3: Geography	0.838	0.788	0.721	1.000	--	--
Standard 4: Economic	0.871	0.829	0.721	0.741	1.000	--
Standard 6: Skills and Processes	0.664	0.642	0.590	0.520	0.536	1.000

Table 3-2. Correlations Between Subscores—MCAP Life Science MISA

	Overall	Standard 1: Investigating Practices	Standard 2: Sense making Practices	Standard 3: Critiquing Practices	Standard 4: Structure and Function	Standard 5: Matter and Energy in Organisms and Ecosystems	Standard 6: Interdependent Relationships in Ecosystems	Standard 7: Inheritance and Variation of Traits	Standard 8: Natural Selection and Evolution
Winter 2023 Administration (N = 11,7369)									
Overall	1.000	--	--	--	--	--	--	--	--
Investigating Practices	0.897	1.000	--	--	--	--	--	--	--
Sensemaking Practices	0.954	0.804	1.000	--	--	--	--	--	--
Critiquing Practices	0.853	0.728	0.760	1.000	--	--	--	--	--
Structure and Function	0.809	0.686	0.844	0.668	1.000	--	--	--	--
Matter and Energy in Organisms and Ecosystems	0.835	0.717	0.881	0.677	0.644	1.000	--	--	--
Interdependent Relationships in Ecosystems	0.863	0.967	0.770	0.701	0.660	0.685	1.000	--	--
Inheritance and Variation of Traits	0.852	0.756	0.780	0.867	0.650	0.681	0.695	1.000	--
Natural Selection and Evolution	0.752	0.653	0.712	0.730	0.601	0.607	0.628	0.617	1.000
Spring 2023 Administration (N = 63,974)									
Overall	1.000	--	--	--	--	--	--	--	--
Investigating Practices	0.786	1.000	--	--	--	--	--	--	--
Sensemaking Practices	0.911	0.637	1.000	--	--	--	--	--	--
Critiquing Practices	0.823	0.619	0.663	1.000	--	--	--	--	--
Structure and Function	0.697	0.516	0.764	0.530	1.000	--	--	--	--
Matter and Energy in Organisms and Ecosystems	0.754	0.556	0.791	0.557	0.484	1.000	--	--	--
Interdependent Relationships in Ecosystems	0.721	0.866	0.578	0.612	0.471	0.491	1.000	--	--
Inheritance and Variation of Traits	0.787	0.659	0.671	0.760	0.499	0.534	0.541	1.000	--
Natural Selection and Evolution	0.715	0.540	0.640	0.705	0.477	0.500	0.499	0.526	1.000
Summer 2023 Administration (N = 300)									
Overall	1.000	--	--	--	--	--	--	--	--
Investigating Practices	0.871	1.000	--	--	--	--	--	--	--
Sensemaking Practices	0.949	0.779	1.000	--	--	--	--	--	--
Critiquing Practices	0.943	0.775	0.862	1.000	--	--	--	--	--
Structure and Function	0.698	0.602	0.759	0.645	1.000	--	--	--	--
Matter and Energy in Organisms and Ecosystems	0.830	0.688	0.886	0.739	0.542	1.000	--	--	--
Interdependent Relationships in Ecosystems	0.891	0.884	0.802	0.844	0.609	0.690	1.000	--	--
Inheritance and Variation of Traits	0.784	0.712	0.700	0.791	0.527	0.616	0.632	1.000	--
Natural Selection and Evolution	0.754	0.595	0.739	0.772	0.562	0.571	0.607	0.584	1.000

Confirmatory Factor Analyses

The internal structures of the MCAP Government and MCAP Life Science MISA tests are assessed by the degree to which the tests meet the requirements of the statistical models used to estimate item parameters and student scores. Confirmatory factor analysis (CFA) was used to assess the degree to which one-factor models fit the MCAP Government and the MCAP Life Science MISA tests. CFA is a useful statistical methodology for evaluating whether performance on items in each test reflects a single underlying characteristic (i.e., a unidimensional test) or a set of distinct characteristics defined by the reporting categories (i.e., a multidimensional test). The CFA results provide evidence as to the degree to which the unidimensional item response theory (IRT) model used to calibrate the MCAP Government items is appropriate.

To assess the dimensionality of the MCAP Government test, a separate CFA was conducted on the item response data from each operational form and the accommodated form, from each administration. Similarly, to assess the dimensionality of the MCAP Life Science MISA, a separate CFA was conducted on each operational form and the accommodated form from each administration.

Mplus 8.1 (Muthén & Muthén, 2007) was used to calculate matrices of polychoric correlations between the items and was also used to fit specified factor models to the data. In the analysis, the input polychoric correlation matrix was used to estimate the factor loadings between the indicators (items). Parameters for CFA were estimated using weighted least-squares (WLS) estimation with mean and variance adjustment (Muthén, du Toit, & Spisic, 1997). This method leads to a consistent estimator of the model parameters and provides standard errors that are robust under model misspecification. For ordinal data, WLS estimation offers an alternative to full-information maximum likelihood techniques. The latter becomes computationally too demanding for models with more than a few dimensions. Model fit is assessed through a scaled chi-square statistic. However, the degrees of freedom for the reference distribution of this statistic cannot be computed in the standard way. The correct degrees of freedom depend on the data, and hence degrees of freedom may vary when the same model is applied to different data (Muthén, 1998–2004, p. 19-20).

Overall model fit for the CFA model was examined using the scaled chi-square (χ^2) test of model fit in combination with supplemental fit indices. The Tucker-Lewis Index (TLI) compares the chi-square for the hypothesized model with that of the null or “independence” model, in which all correlations or covariances are zero. TLI values range from 0.0 to 1.0; values greater than 0.94 signify good fit (Hu & Bentler, 1999). The comparative fit index (CFI) and root mean square error of approximation (RMSEA) index are both based on non-centrality parameters. The CFI compares the covariance matrix predicted by the model with the observed covariance matrix, and the covariance matrix of the null model with the observed covariance matrix. A CFI value greater than 0.90 indicates acceptable model fit (Hu & Bentler, 1999). The RMSEA assesses the error in the hypothesized model predictions; values less than or equal to 0.06 indicate good fit (Hu & Bentler, 1999).

Table 3-3 shows the results of the analyses. Although the χ^2 statistic values were statistically significant, the TLI, CFI, and RMSEA fit statistics indicated that the one-factor solutions generally fit the data well. These fit statistics provide strong evidence in support of the item response theory (IRT) assumption of unidimensionality for both MCAP Government and MCAP Life Science MISA.

Table 3-3. Confirmatory Factor Analyses Fit Statistics

Admin	Form	N	# of Factors	# of Items	df	χ^2	p-value	TLI	CFI	RMSEA
MCAP Government										
Winter	Operational Form 1	9,682	1	52	1,274	9372.222	< 0.0001	0.975	0.976	0.026
	Accommodated Form	434	--	--	--	--	--	--	--	--
Spring	Operational Form 1	27,090	1	51	1,224	38734.758	< 0.0001	0.958	0.959	0.034
	Operational Form 2	26,921	1	51	1,224	37422.115	< 0.0001	0.959	0.961	0.033
	Accommodated Form	2,552	1	51	1,224	2900.888	< 0.0001	0.949	0.951	0.023
Summer	Operational Form 1	272	--	--	--	--	--	--	--	--
	Accommodated Form	25	--	--	--	--	--	--	--	--
MCAP Life Science MISA										
Winter	Operational Form 1	3,615	1	35	560	1956.086	< 0.0001	0.975	0.976	0.026
	Operational Form 2	3,606	1	35	560	1779.902	< 0.0001	0.977	0.979	0.025
	Operational Form 3	3,605	1	35	560	1670.704	< 0.0001	0.978	0.979	0.023
	Accommodated Form	543	1	35	560	740.902	< 0.0001	0.877	0.884	0.024
Spring	Operational Form 1	10,280	1	33	495	3457.882	< 0.0001	0.978	0.980	0.024
	Operational Form 2	10,191	1	33	495	3448.945	< 0.0001	0.979	0.980	0.024
	Operational Form 3	10,191	1	33	495	3292.178	< 0.0001	0.980	0.981	0.024
	Operational Form 4	5,073	1	33	495	1908.39	< 0.0001	0.977	0.979	0.024
	Operational Form 5	5,138	1	33	495	1715.765	< 0.0001	0.982	0.983	0.022
	Operational Form 6	5,130	1	33	495	1716.345	< 0.0001	0.982	0.983	0.022
	Operational Form 7	5,113	1	33	495	1666.694	< 0.0001	0.982	0.983	0.022
	Operational Form 8	5,101	1	33	495	1553.509	< 0.0001	0.984	0.985	0.020
	Operational Form 9	5,082	1	33	495	1741.846	< 0.0001	0.982	0.984	0.022
	Accommodated Form	2,675	1	33	495	1060.646	< 0.0001	0.932	0.936	0.021
Summer	Operational Form 1	281	--	--	--	--	--	--	--	--
	Accommodated Form	19	--	--	--	--	--	--	--	--

Evidence Based on Response Processes

Validity evidence related to response processes includes results from cognitive interviews of students using think-aloud methods (e.g., Padilla & Leighton, 2017). Analyses of item response times can also provide validity evidence related to response processes. MSDE is currently engaged with Cognia to conduct such cognitive interviews during the 2022–23 school year.

One other source of validity evidence related to response processes is the rate of omitted responses. The tables in Appendices B and C contain the omit rates for field test and operational items from MCAP Government and MCAP Life Science MISA by administration and item type. Generally, omit rates were well under 5%, with only a few exceptions on some constructed-response items. This finding could be driven by the fact that MCAP Government and MCAP Life Science MISA were participation requirements in 2022, which potentially decreased engagement on constructed-response items. MSDE and Cognia will monitor the omit rates on constructed-response items in 2023 and consider what, if any, remedial measures are needed to reduce omit rates on constructed-response items.

Section 4. Reliability / Measurement Precision

This section provides the results of test score reliability (classical and IRT-based), decision consistency, and accuracy analyses of the 2023 MCAP Government and the MCAP Life Science MISA.

Classical Reliability

The general concept of reliability concerns the precision of a test score. Of interest is quantifying the degree to which a score varies from an average result obtained over many testing occasions due to random factors (Haertel, 2006). A variety of theories and methods can be used to estimate reliability.

Classical test theory defines reliability as the proportion of true-score variance in total score variance. Several different ways of estimating this proportion exist. One commonly used estimate of reliability is coefficient alpha (Cronbach, 1951), an internal consistency measure. It is derived from analysis of the consistency of performance over items within a test and provides a lower-bound estimate of a test's reliability as follows:

$$\alpha \equiv \frac{n}{n-1}\left[1 - \frac{\sum_{i=1}^{n} \sigma^2_{(Y_i)}}{\sigma^2_x}\right] \qquad \text{(Equation 1)}$$

where
n is the number of items,
$\sigma^2_{(Y_i)}$ is the variance of scores on item *i*, and
σ^2_x is the variance of the total score (sum of scores on the individual items).

Sample estimates are substituted for the population variances in this formula to provide reliability estimates.

IRT Marginal Reliability

IRT marginal reliability estimation is based on applying the standard classical test theory (CTT) formula, relating variances of true score, observed score, and measurement error, in the IRT setting. In CTT, the relationship between these variances is given by:

$$\sigma^2_X = \sigma^2_T + \sigma^2_E \qquad \text{(Equation 2)}$$

where
σ^2_X is the observed-score variance,
σ^2_T is the true-score variance, and
σ^2_E is the error variance.

Starting from this basic equation, it can be shown that the formula for CTT reliability can be expressed as:

$$CTT\ Reliability = 1 - \frac{\sigma^2_E}{\sigma^2_X}. \qquad \text{(Equation 3)}$$

IRT marginal reliability is based on extending the CTT model to an IRT framework (Samejima, 1994) and provides an IRT-based estimate of the overall test reliability. Error variance is estimated as the mean squared conditional standard error of measurement (CSEM) of the theta estimates across students within a grade. Observed score variance is estimated as the variance of the theta estimates across students within a grade. Equivalently, the mean squared CSEM of the scale scores and the variance of the scale scores can be used in place of the CSEM of the theta estimates and the variance of the theta estimates, respectively. IRT marginal reliability is then given by the following formula:

$$IRT\ Marginal\ Reliability = 1 - \frac{\overline{CSEM(\theta)^2}}{Var(\hat{\theta})} = 1 - \frac{\overline{CSEM(SS)^2}}{Var(SS)}, \qquad \text{(Equation 4)}$$

where

$\overline{CSEM(\theta)^2}$ is the mean squared CSEM,
$\overline{CSEM(SS)^2}$ is the mean squared scale CSEM,
$Var(\hat{\theta})$ is the variance of theta estimates, and
$Var(SS)$ is the scale score variance.

CSEMs are equal to the reciprocal of the square root of the test information function (TIF; i.e., the sum of item information functions) conditional at individual score points and defined as:

$$CSEM(\theta) = \frac{1}{\sqrt{I(\theta)}} \qquad \text{(Equation 5)}$$

where

θ is the individual score point (location on the scale),
CSEM (θ) is the conditional standard error of measurement at the score point, and
$I(\theta)$ is the test information function value at that score point, θ.

Using these formulas, IRT marginal reliability estimates were calculated for each test form using the scale scores and CSEMs.

Reliability Results

The total group and subgroup classical and IRT marginal reliabilities for MCAP Government and MCAP Life Science MISA are presented in Appendix D. Note that lower reliability coefficients can occur when sample sizes are small, the number of repeat test takers is large, and/or the sample is based only on those taking an accommodated form. That is because under such scenarios, the observed variation in scores tends to be restricted. Such a restriction in range can translate to smaller reliability estimates.

Decision Accuracy and Decision Consistency

For MCAP Government and MCAP Life Science MISA tests, students are classified into one of four performance levels: Beginning Learner, Developing Learner, Proficient Learner, and Distinguished Learner. The accuracy of decisions based on the specified cut score was assessed for reliability of classification using the computer program called *BB-CLASS* (Brennan, 2004). *BB-CLASS* provides statistics that describe the reliability of classifications based on test scores using the Livingston & Lewis (1995) methodology. Specifically, information from an administration of one form is used to estimate the following:

Decision accuracy, or the extent to which test takers are classified, on the basis of their estimated ability, into the same performance level as they should be on the basis of their true ability. Decision accuracy addresses the question: How does the actual classification of test takers, based on their single-form scores, agree with the classification that would be made on the basis of their true scores, if their true scores were somehow known?

Decision consistency, or the extent to which test takers are classified into the same performance level if they take the same test one more time. Decision consistency addresses the question: What is the agreement between the classifications based on two non-overlapping, equally difficult forms of the test? *BB-CLASS* estimates decision accuracy using an estimated joint distribution of reported performance-level classifications on the current form of the assessment and the performance-level classifications based on an all-forms average (true score). *BB-CLASS* estimates decision consistency using an estimated joint distribution of reported performance-level classifications on the current form of the assessment and performance-level classifications on the alternate (parallel) form. In each case, the proportion of performance-level classifications with exact agreement is the sum of the entries in the diagonal of the contingency table representing the joint distribution.

Along with the observed frequency distribution of scaled scores, *BB-CLASS* requires an estimate of score reliability for the total test. To that end, IRT marginal reliability was used.

The decision accuracy and consistency were estimated for the MCAP Government and MCAP Life Science MISA test forms administered in 2023. The results are provided in Appendix E.

Note that in all cases the decision accuracy indices tend to be somewhat larger than the decision consistency indices. This is due to the differences in the estimation procedures. The estimation procedure for decision accuracy includes a random component on one of the two variables, whereas in estimating decision consistency each variable includes a random component (Livingston & Lewis, 1995).

Section 5. Scale Development and Scoring Procedures

Students' total test scores and subscores were reported as scale scores derived using item response theory (IRT; e.g., Yen & Fitzpatrick, 2006) and pattern scoring procedures. MCAP Government uses the three-parameter logistic (3PL) model for selected-response (SR) items and the generalized partial credit model (GPCM; Muraki, 1992) for constructed-response (CR) items. MCAP Life Science MISA uses the two-parameter (2PL) model for SR items and the GPCM for non-SR multi-point (polytomous) items. MCAP Life Science MISA is part of the new suite of MCAP assessments that launched in 2022. The 2PL model and GPCM were chosen for MCAP Life Science MISA in order be consistent with the IRT models used with the other MCAP assessments that launched in 2022.

The 3PL model describes the probability that a person with ability θ responds correctly to item *i* as follows:

$$P_i(\theta) = c_i + (1 - c_i)\frac{exp[Da_i(\theta - b_i)]}{1 + exp[Da_i(\theta - b_i)]} \qquad \text{(Equation 6)}$$

where

a_i is the slope parameter of item *i*, characterizing its discrimination;
b_i is the location parameter of item *i*, characterizing its difficulty;
c_i is the lower asymptote parameter of item *i*, reflecting the chance that students with very low proficiency will select the correct answer, sometimes called the "pseudo-guessing" level; and
D is a normal approximation constant set equal to 1.701.

The 2PL model is a special case of the 3PL model in which the *c*-parameter is fixed to 0.0.

The GPCM states that the probability that a person with ability θ obtains a score category of *k* on item *i* that has m_i score categories assigned score values ranging from 0 to m_i – 1 can be expressed as:

$$P_{ik}(\theta) = \frac{exp[\sum_{v=1}^{k} Da_i(\theta - b_i + d_{iv})]}{\sum_{c=1}^{m_i} exp\,[\sum_{v=1}^{c} Da_i(\theta - b_i + d_{iv})]} \qquad \text{(Equation 7)}$$

where

b_i is the location parameter for item *i,*
d_{iv} is the step parameter for score *v* on item *i,* and
m_i is the number of item score categories of item *i.*

An indeterminacy exists in the item parameters of the GPCM. To resolve the indeterminacy, d_0 is fixed to 0 and the sum of the step parameters is fixed to 0.0.

There are essentially two ways of scoring a test: number-correct or item-pattern scoring. Number-correct scoring considers how many test items a student answered correctly in determining that student's total raw score. In contrast, the item-pattern scoring method is based on an IRT model. Item-pattern scoring considers not only a student's total raw responses, but also the psychometric characteristics of test items. Two students with exactly the same total raw scores will get the same test scores in number-correct scoring. It is highly likely, however, that even though they have the same total raw scores, the actual items they answered correctly were different, and their different sets of correctly answered items could

have different item characteristics. In such a case, the students will very likely get different reported test scores in item-pattern scoring. With item-pattern scoring, a student who correctly answers a number of more difficult items will get a higher score than one who answers the same number of easier items. This would be applicable to both total test scores and subscore category scores reported using item-pattern scoring.

Item-pattern scoring has been found to produce smaller standard errors of measurement (SEM) than number-correct scoring. The smaller the SEM, the more confidence we have about the precision of the test results. In addition, test reliability is higher with item-pattern scoring than with number-correct scoring (Yen & Candell, 1991), which means that fewer questions are needed in item-pattern scoring than in number-correct scoring for equivalent scoring accuracy. For these reasons, both total scores and subscores of the MCAP Government and MCAP Life Science MISA tests are reported using item-pattern scoring.

Cut Scores

MSDE originally established a single cut score MCAP Government test in 2003 that defines two performance levels (fail and pass).[5] In 2022, a new standard setting was conducted to establish a new set of three cut scores and a new reporting scale for MCAP Government. Under the new reporting scale, performance levels are reported to students as Beginning Learner, Developing Learner, Proficient Learner, and Distinguished Learner. MSDE also established three cut scores for MCAP Life Science MISA in 2022, which define four performance levels (Beginning Learner, Developing Learner, Proficient Learner, and Distinguished Learner).

Table 5-1 contains the cut score values for MCAP Government and MCAP Life Science MISA.

Table 5-1. MCAP Cut Scores and Scaling Constants

Theta Cut Scores	Scaled Score Cut Scores	Slope	Intercept	LOSS	HOSS
MCAP Government					
-1.07715	394	40	437.086	240	650
0.26791	448				
1.31018	489				
MCAP Life Science MISA					
-0.86719	731	15.5	750	650	850
0.36621	750				
1.79590	772				

Scale Scores

The MCAP Government reporting scale was established in 2022 and defines scaled scores that range from 240 to 650. The scaling constants for MCAP Government are an intercept of 437.086 and a slope of 40, such that:

$$ScaledScore_{MCAP\ Govt} = 437.086 + 40\theta \qquad \text{(Equation 8)}$$

[5] *Technical documentation on the standard-setting method used to establish the MD HSA cut scores is available on the Maryland State Department of Education website at https://marylandpublicschools.org/about/Pages/DCAA/PlanningResultsTest/HSATechnicalReports.aspx*

where

θ is the ability level (or pattern score) of a student.

The MCAP Life Science MISA reporting scale was established in 2022 and defines scaled scores that range from 650 to 850. The scaling constants for MCAP Life Science MISA are an intercept of 750 and a slope of 15.5, such that

$$ScaledScore_{HS\ LS\ MISA} = 750 + 15.5(\theta - \theta_{Proficient}) \quad \text{(Equation 9)}$$

where

$\theta_{Proficient}$ is the theta cut score for Proficient (equal to 0.36621).

Table 5-1, above, contains the scaled score cut scores and scaling constants for MCAP Government and MCAP Life Science MISA.

Lowest and Highest Obtainable Test Scores

The maximum likelihood procedure under either the 2PL or 3PL model does not produce finite scale score estimates for students with perfect scores or zero raw scores. For all test takers to receive scale scores, scores need to be established for perfect or zero raw scores. Perfect raw scores are assigned the highest obtainable scaled score (HOSS). Zero raw scores are assigned the lowest obtainable scaled score (LOSS). For MCAP Government, the LOSS and HOSS are 240 and 650, respectively. For MCAP Life Science MISA, the LOSS and HOSS are 650 and 850, respectively.

Year-to-Year Scale Maintenance

MCAP Government is pre-equated and starting in 2023, MCAP Life Science MISA will be pre-equated. In the pre-equating design, a bank of items with calibrated parameters on the reporting scale must exist before test form construction. The item parameter estimates for new forms are retrieved from the bank and are used to build test forms that are parallel across administrations. Student scores are produced with the existing item parameter estimates; thus, scores are linked from one administration to the other. To expand both the MCAP Government and MCAP Life Science MISA item banks, both tests embedded field test items in the operational test forms of each administration.

Section 6. Reporting

Reporting of Results

The MCAP Government and MCAP Life Science MISA tests are designed to measure student achievement in the Maryland content standards.

- MCAP Government results are reported in terms of a scaled score and performance level indicators. There are three scaled cut scores that categorize student overall scaled scores into the performance levels of Beginning Learner, Developing Learner, Proficient Learner, and Distinguished Learner. Student performance on five social studies standards (Civics, Peoples of the Nations and World, Geography, Economics, and Skills & Processes) is reported as Beginning Learners, Developing Learners, and Distinguished & Proficient Learners.
- MCAP Life Science MISA results are reported in terms of a scaled score and performance level indicators. There are three scaled cut scores that categorize student overall scaled scores into the performance levels of Beginning Learner, Developing Learner, Proficient Learner, and Distinguished Learner. Student MISA integrated dimension performance is reported for Investigating Science and Engineering Practices Integrated with Life Science, Sensemaking Science and Engineering Practices Integrated with Life Science, and Critiquing Science and Engineering Practices Integrated with Life Science. Each dimension score is reported as Beginning Learners, Developing Learners, and Distinguished & Proficient Learners.

Student results are provided to the Maryland State Department of Education via a secure website. Table 6.1 lists the state-, district-, and school-level reports produced for the MCAP Government and MCAP Life Science MISA assessments. (See Appendix F for selected sample reports, including student results labels, individual student report, school student roster report, district summary of schools report, and district/school performance level summary report.) Henceforth, districts will be referred to as local educational agencies (LEAs). Due to the timing of the reporting, MCAP Government LEAs were referred to as Districts in the report titles, while MCAP Life Science MISA report titles referred to Districts as LEAs.

Table 6-1. List of MCAP Government and MCAP Life Science MISA Reports

Report	Winter/Spring/Summer MCAP Government and MCAP Life Science MISA
Student Results Labels*	X
Individual Student Report*	X
School Student Roster Report	X
School-, LEA-, and State-Performance Summary Report	X
LEA Summary of Schools Report	X
State Summary of LEAs Report	X
Interactive Reporting	X

** LEA-level PDFs that contained a copy of school-level reports for all the schools in an LEA were also generated for each LEA.*

Student Results Labels

A Student Results Label is produced for each tested student. Student results labels are printed and mailed to the districts for distribution. Additionally, labels were available for download via a secure website. The labels provide student identifying information as well as earned scaled score and performance level for the student.

Individual Student Results

An Individual Student Results Report is produced for each tested student. Student results reports are printed and mailed to the LEAs for distribution. Additionally, reports are available for download via a secure website.

The individual student report visualizes the results for the assessment, which includes the student's overall earned scaled score and indication whether the student was proficient. The report also provides a comparison of the school, LEA, and state as a whole. The MCAP Government report provides the student's test results on the social studies standards. The MCAP Life Science MISA report provides the student's test results on the integrated dimensions.

School Student Roster Report

A School Student Roster Report is produced for each school containing at least one tested student for an administration. Reports are available for download via a secure website. The school student roster report summarizes school, LEA, and state performance by displaying the average overall scale score and the percentage of students at each score category for the social studies standards and the science integrated dimensions. The report provides schools with student performance by listing students' test results.

School-, LEA-, and State-Performance Summary Report

The Performance Summary Report summarizes test results for schools, LEAs, and the state as a whole and by demographic subgroups. The number of valid scores, average scale score, number, and percent of students at each performance level are provided for gender, ethnicity/race, economic disadvantage, students with disabilities, and English Learner demographic subgroups.

LEA Summary of Schools Report

The LEA Summary of Schools Report provides the test results for schools in a particular LEA. The number of valid scores, average scale score, percent of students at each performance category for test subject, and applicable sub-scores are listed. Stacked horizontal bar charts are provided for the percentages.

State Summary of LEAs Report

The State Summary of LEAs Report provides the MCAP Government and MCAP Life Science MISA test results for each district. The number of valid scores, average scale score, percent of students at each performance category for science/social studies standards, and science sub-scores, if applicable, are listed. Stacked horizontal bar charts are provided for the percentages.

Interactive Reporting

The Performance Level Summary is available in the interactive reporting platform, which is a permissions-based Web reporting tool (https://reporting.cognia.org/ReportingMD/login.aspx). To access this report, the user applies basic filtering options, such as the name of the LEA or school and the grade-level/content-area test. At this point, the user has the option of printing the report for the entire grade level or applying advanced filtering options to select a subgroup of students to analyze. Advanced filtering options include gender, ethnicity, EL, IEP (Individualized Education Program), and FARMS (Free and Reduced Meal Services). A user may provide a custom title for the report for download.

Decision Rules

To ensure that high school assessment results are processed and reported accurately, a document delineating decision rules is prepared before each reporting cycle. The decision rules are observed in the analyses of the high school assessment data and in reporting results. These rules also guide data analysts in identifying students to be excluded from school-, LEA-, and state-level summary computations.

Quality Assurance

The software quality assurance (SQA) team works together with the data processing and data analysis teams to ensure quality data is captured and delivered accurately. Quality control checks are being performed by the data processors and data analysts as the data is handed off via multiple internal software tools. These quality checks assess the accuracy of the data at different stages in data processing. These data populate the database and subsequent tables/columns. The SQA team develops a test plan that includes previously agreed upon report designs and decision rule documents. Test cases housed in internal test cases repository software are then executed including, but not limited to, the following:

- Testing data counts of data imported
- Testing data quality of individual fields for valid values, such as gender, ethnicity, etc.
- Validating scripts developed by the software developers to ensure they match business requirements and technical specifications

Included in this testing effort to ensure the quality of the data, the SQA team uses a sample of schools and LEAs, which is selected based on multiple criteria. A few are identified below.

- Unique student testing records
- Students completed testing
- Students partially completed testing
- Invalidated students

Working together with the data processing and data analysis teams allows for timely and precise turnaround if any data anomalies are found. Test cases are tied to tickets outlining required work to allow for full transparency and cohesive teamwork in validation of the data. Included in the final execution, the SQA team executes test cases validating student printed reports and student labels for accuracy in consistency with the report design specifications. Once all the test cases are passed, the SQA team notifies the Cognia Client Services department for final signoff.

Section 7. Student Characteristics

Summary Statistics

This section presents summary statistics for the Winter, Spring, and Summer 2023 administrations of MCAP Government and MCAP Life Science MISA. Summary statistics (N-count, mean, and standard deviation) of scale scores in Table 7-1 are reported for all students and by grade for MCAP Government. Summary statistics (N-count, mean, and standard deviation) of scale scores in Table 7-2 are reported for all students and by grade for MCAP Life Science MISA. Table 7-3 reports the MCAP Government percentage passing rates over test years. Table 7-4 reports the MCAP Life Science MISA performance level percentage distributions over test windows and years.

Table 7-1. Means and Standard Deviations Overall and by Grade for MCAP Government

		N	Mean	SD
Winter				
Overall		10,359	419.75	63.50
Grade	**9**	2,021	419.12	65.74
	10	4,704	430.41	61.14
	11	1,649	399.03	69.27
	12	1,937	412.49	56.23
	Not Specified	48	--	--
Spring				
Overall		56,563	429.33	55.07
Grade	**9**	19,228	422.19	58.11
	10	32,879	435.16	51.61
	11	2,704	419.20	61.52
	12	1,629	413.63	59.17
	Not Specified	123	--	--
Summer				
Overall		297	369.48	77.54
Grade	**9**	71	335.68	87.02
	10	111	360.05	80.83
	11	44	--	--
	12	71	404.62	37.58
	Not Specified	0	--	--

Note: Statistics not reported for sample size less than 50 (N < 50). Grade not provided reflects the small number of students whose grade was not provided in the rostering data.

Table 7-2. Means and Standard Deviations Overall and by Grade for MCAP Life Science MISA

		N	Mean	SD
Winter				
Overall		11,369	733.79	30.06
Grade	**9**	1,822	728.94	36.28
	10	4,786	740.61	26.99
	11	3,250	729.21	30.35
	12	1,476	727.95	26.06
	Not Specified	35	--	--
Spring				
Overall		63,974	739.38	23.70
Grade	**9**	55	745.85	20.87
	10	34,155	741.94	24.25
	11	25,929	737.54	21.83
	12	2,773	730.39	27.39
	Not Specified	179	736.55	20.60
Summer				
Overall		300	711.49	35.25
Grade	**9**	90	695.68	40.02
	10	109	711.37	36.12
	11	41	--	--
	12	60	729.23	13.53
	Not Specified	0	--	--

Note: Statistics not reported for sample size less than 50 (N < 50). Grade not provided reflects the small number of students whose grade was not provided in the rostering data.

Table 7-3. MCAP Government Historical Passing Rates Over Test Years

Year	Mean Scaled Score	Percentage Passing	Percentage Passing—Winter[1]	Percentage Passing—Spring[1]	Percentage Passing—Summer[1]
2003	403.5	39.8	--	--	--
2004	406.5	54.6	--	--	--
2005	409.3	67.1	--	--	--
2006	418.5	74.1	--	--	--
2007	417.1	73.3	--	--	--
2008	417.1	71.5	--	--	--
2009	406.3	61.1	--	--	--
2010	408.6	61.7	--	--	--
2011	405.6	62.1	--	--	--
2012	--	*	--	--	--
2013	414.7	72.4	--	--	--
2014	417.6	76.5	--	--	--
2015	412.2	71.8	--	--	--
2016	405.4	62.7	--	--	--
2017	403.6	61.6	--	--	--
2018	403.2	62.5	--	--	--
2019	399.9	60.3	26.4	69.8	29.4
2020[2]	375.9	29.1	29.1	--	--
2021[3]	405.8	67.2	67.2	--	--
2022	399.0	59.7	57.1	60.4	27.1
2023[4]	427.6	80.7	76.7	81.6	47.8

** The Government test was not administered after the Spring 2011 administration until January 2013, when it was introduced into the HSAs.*
[1] Prior to 2019, the percentage of students passing was not disaggregated by testing window (i.e., Winter, Spring, and Summer).
[2] In 2020, MCAP Government was only administered in Winter.
[3] In 2021, MCAP Government was only administered in Winter.
[4] The Government reporting scale was updated for use in 2023 and later, based on the results of the 2022 standard setting.

The MCAP Life Science MISA performance level percentages per administration and year are presented in Table 7-4.

Table 7-4. MCAP Life Science MISA Performance Level Percentage Distributions

Admin/Year	Beginning Learner	Developing Learner	Proficient Learner	Distinguished Learner
January 2022	28.4	41.1	27.5	3.0
May 2022	23.8	40.2	32.5	3.5
Summer 2022	45.7	41.5	11.7	1.1
Winter 2023	33.4	37.6	26.2	2.8
Spring 2023	27.3	39.9	29.3	3.5
Summer 2023	67.7	27.7	4.7	0.0
2022 – Overall	24.6	40.4	31.5	3.4
2023 – Overall	28.3	39.5	28.7	3.4

Summary statistics on MCAP Government and MCAP Life Science MISA for all students and for subgroups based on gender, special education programs, ethnicity, and English language proficiency are presented in Appendix G. These tables include the numbers of students tested for whom valid scores were available, mean scale scores, and standard deviations of scale scores.

Figures 7-1, 7-2, and 7-3 show the distribution of total scale scores for MCAP Government for the Winter, Spring, and Summer 2023 administrations, respectively. Figures 7-4, 7-5, and 7-6 show the distribution of total scale scores for MCAP Life Science MISA for the Winter, Spring, and Summer 2023 administrations, respectively. The vertical lines in these figures represent the scaled score cut scores.

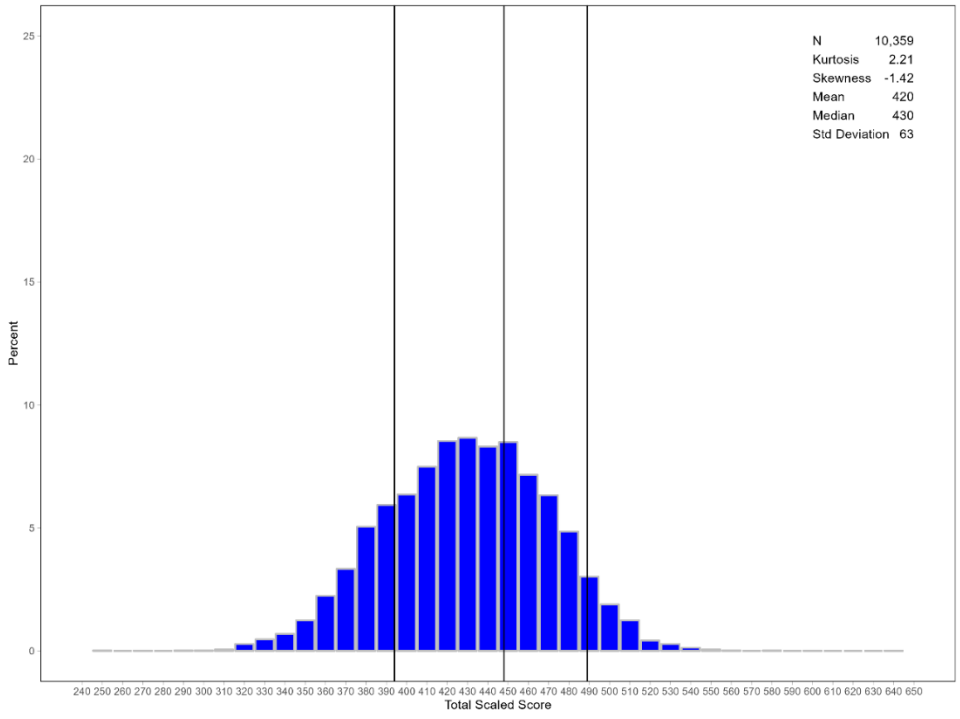

Figure 7-1. Total Scale Score Distribution for MCAP Government Winter Administration

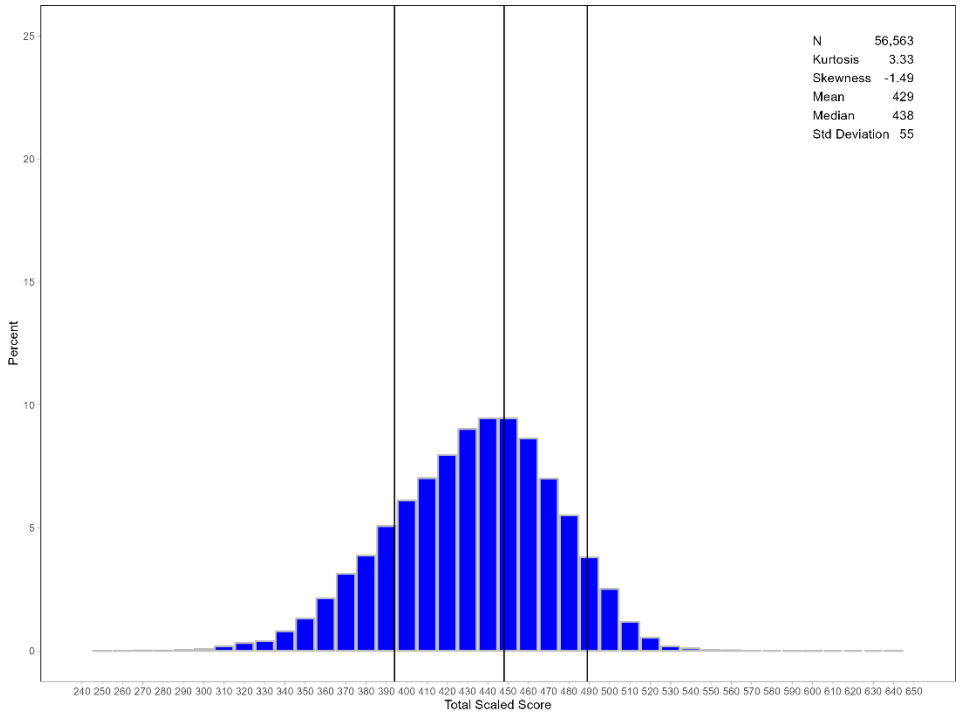

Figure 7-2. Total Scale Score Distribution for MCAP Government Spring Administration

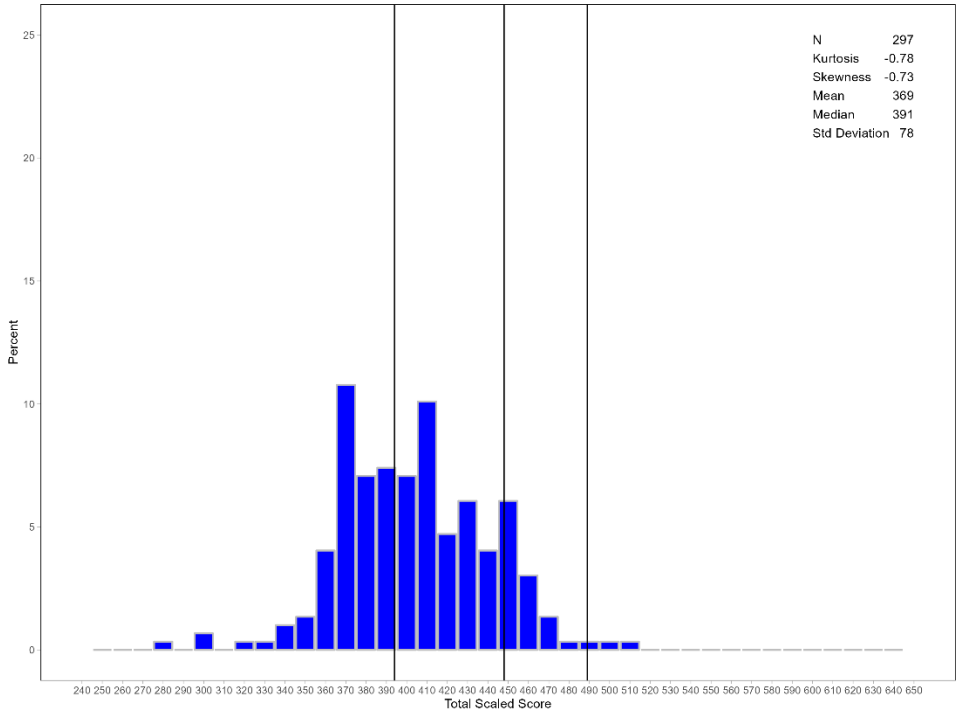

Figure 7-3. Total Scale Score Distribution for MCAP Government Summer Administration

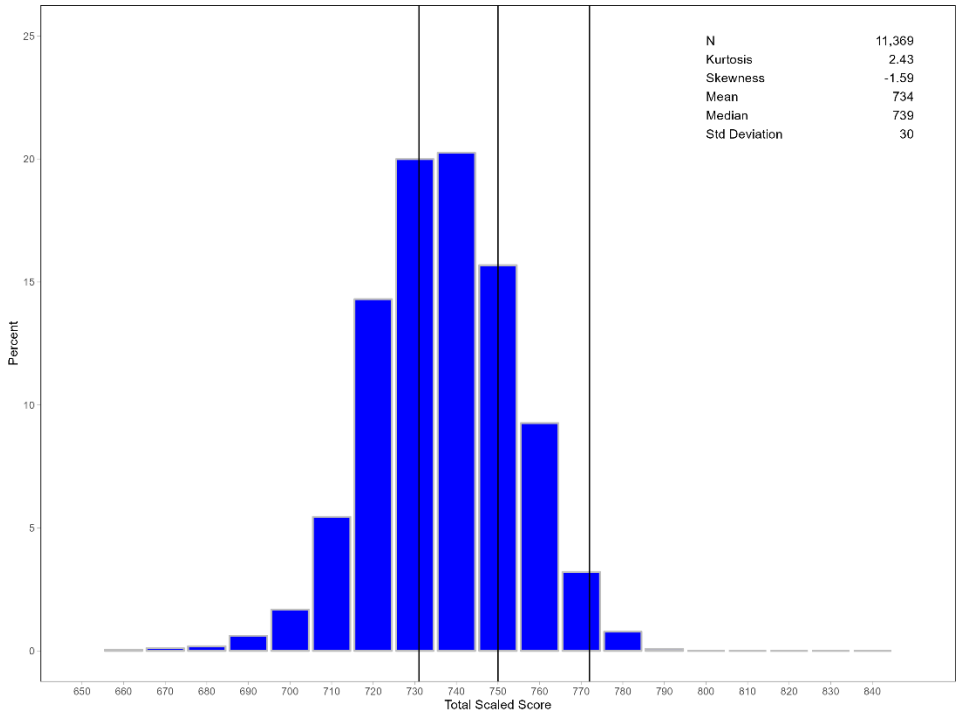

Figure 7-4. Total Scale Score Distribution for MCAP Life Science MISA Winter Administration

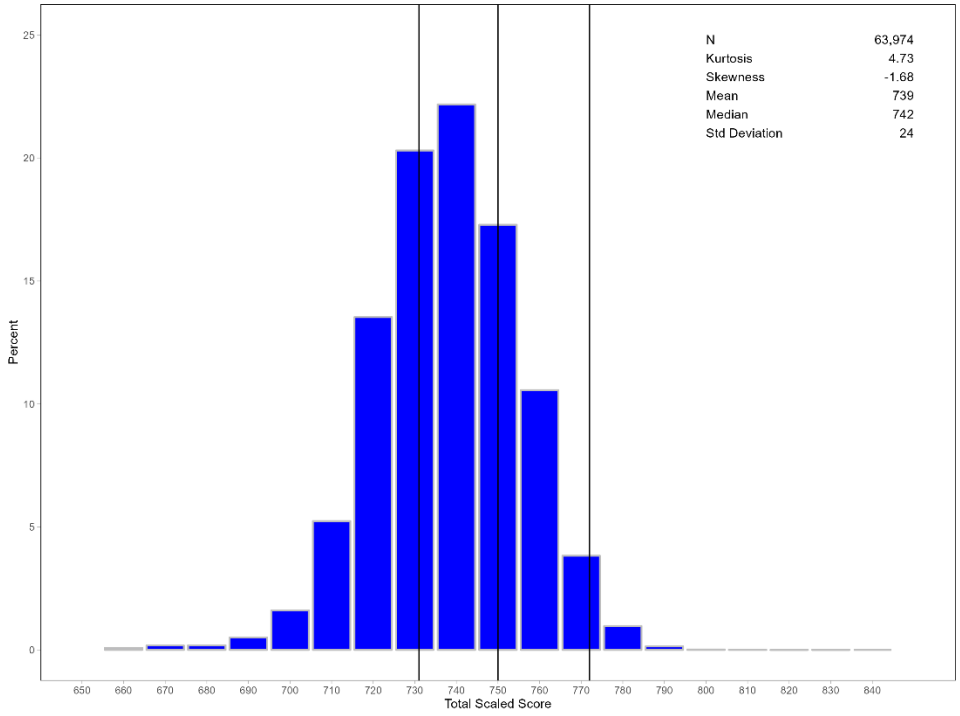

Figure 7-5. Total Scale Score Distribution for MCAP Life Science MISA Spring Administration

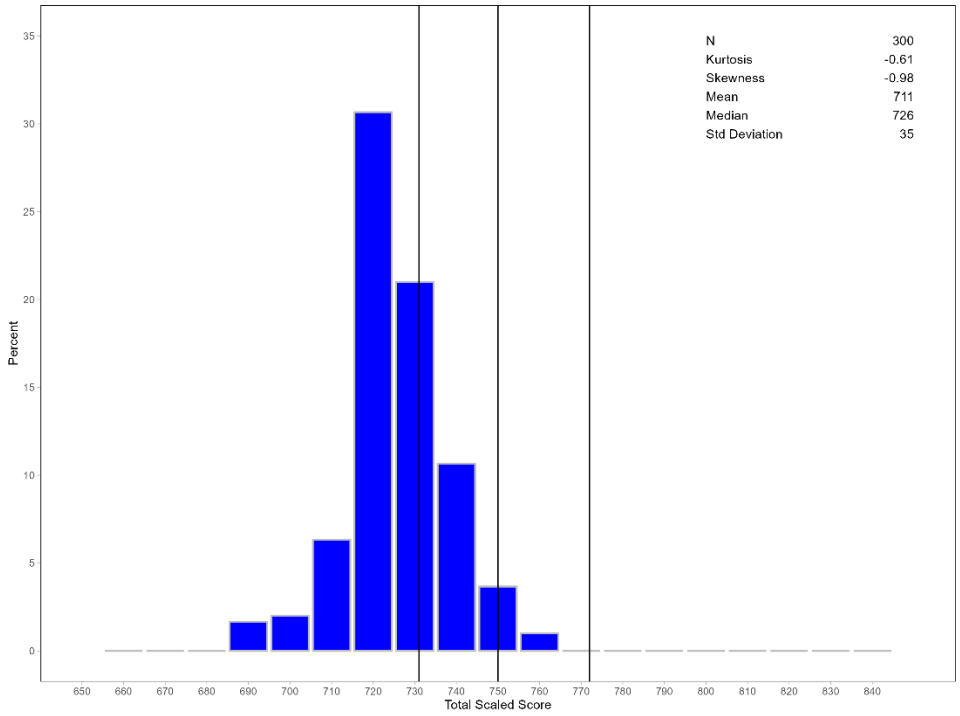

Figure 7-6. Total Scale Score Distribution for MCAP Life Science MISA Summer Administration

Demographic Characteristics

Demographic characteristics of the students who took the MCAP Government and MCAP Life Science MISA tests in the Winter, Spring, and summer administrations are presented in Appendix H. Demographic variables reported include gender, ethnicity.

Section 8. Classical Item Analysis

Following the receipt of the final score file from eMetric for each administration, classical item statistics were calculated on the operational items on the Maryland Comprehensive Assessment Program Government (MCAP Government) and the Life Science Maryland Integrated Science Assessment (MCAP Life Science MISA) tests. Classical item statistics provide key information about the quality of the items from an empirical perspective. The following outlines the classical item statistics estimated. The criteria for flagging the items for content specialists' review are also described below.

Classical item difficulty (p-value): This statistic indicates the mean item score expressed as a proportion of the maximum obtainable item score. For selected-response (SR) items, it is equivalent to the proportion of test takers in the sample that answered the item correctly. For constructed-response (CR) items, the average item score is divided by the maximum score points to obtain the *p*-value. Desired *p*-values for SR items generally fall within the range of 0.25 to 0.90. Occasionally, items that fall outside this range can be justified for inclusion in an item bank based on the quality and educational importance of the item content or the ability to measure students with very high or low achievement, especially if the students have not yet received instruction in the content.

Table 8.1 Distribution of *p*-Values for MCAP Government Field Test Items for the Winter and Spring Test Administrations

	Multiple-Choice (MC) Items				Non-Multiple-Choice Items			
	Winter 2023		Spring 2023		Winter 2023		Spring 2023	
Item P-Value	# of Items	% of Items	# of Items	% of Items	# of Items	% of Items	# of Items	% of Items
p < 0.1	0	0.0	0	0.0	0	0.0	0	0.0
0.1 ≤ p < 0.2	0	0.0	0	0.0	1	6.3	4	4.3
0.2 ≤ p < 0.3	1	7.7	7	6.3	2	12.5	4	4.3
0.3 ≤ p < 0.4	3	23.1	12	10.8	1	6.3	12	12.9
0.4 ≤ p < 0.5	3	23.1	14	12.6	3	18.8	10	10.8
0.5 ≤ p < 0.6	1	7.7	34	30.6	4	25.0	25	26.9
0.6 ≤ p < 0.7	4	30.8	23	20.7	4	25.0	18	19.4
0.7 ≤ p < 0.8	0	0.0	14	12.6	0	0.0	14	15.1
0.8 ≤ p < 0.9	1	7.7	7	6.3	1	6.3	6	6.5
p ≥ 0.9	0	0.0	0	0.0	0	0.0	0	0.0
Descriptive Statistics								
Number of Items	13		111		16		93	
Mean	0.50		0.56		0.49		0.55	
SD	0.17		0.15		0.18		0.18	
Min	0.25		0.21		0.15		0.10	
Max	0.80		0.87		0.80		0.88	

Table 8.2 Distribution of *p*-Values for MCAP Life Science MISA Field Test Items for the Winter and Spring Test Administrations

	Multiple-Choice (MC) Items				Non-Multiple-Choice Items			
	Winter 2023		Spring 2023		Winter 2023		Spring 2023	
Item P-Value	# of Items	% of Items	# of Items	% of Items	# of Items	% of Items	# of Items	% of Items
r < 0.1	0	0.0	0	0.0	2	15.4	2	3.0
0.1 ≤ r < 0.2	0	0.0	1	2.6	1	7.7	12	18.2
0.2 ≤ r < 0.3	5	38.5	6	15.4	3	23.1	18	27.3
0.3 ≤ r < 0.4	3	23.1	7	17.9	2	15.4	13	19.7
0.4 ≤ r < 0.5	4	30.8	13	33.3	3	23.1	17	25.8
0.5 ≤ r < 0.6	1	7.7	8	20.5	1	7.7	4	6.1
0.6 ≤ r < 0.7	0	0.0	4	10.3	1	7.7	0	0.0
0.7 ≤ r < 0.8	0	0.0	0	0.0	0	0.0	0	0.0
0.8 ≤ r < 0.9	0	0.0	0	0.0	0	0.0	0	0.0
r ≥ 0.9	0	0.0	0	0.0	0	0.0	0	0.0
Descriptive Statistics								
Number of Items	13		39		13		66	
Mean	0.36		0.42		0.32		0.31	
SD	0.09		0.12		0.17		0.13	
Min	0.24		0.19		0.04		0.05	
Max	0.51		0.65		0.62		0.56	

Classical item discrimination (item-total correlation): This statistic describes the relationship between performance on the specific item and performance on the total test, including the item under study. For dichotomously scored items, the item-total correlation is the point-biserial correlation between the key and the total raw score. For polytomously scored items, the item-total correlation is the point-polyserial correlation between the item score and the total raw score. Values less than 0.20 are generally considered to indicate a weaker than desired relationship; therefore, these items receive careful consideration by Cognia and MSDE staff before including them on future forms. Items with negative correlations may indicate serious problems with the item content (e.g., multiple correct answers, incorrect key, unusually complex content, or unfamiliarity with the test content).

Table 8.3 Distribution of Item-Total Correlations (r) for MCAP Government Field Test Items for the Winter and Spring Test Administrations

	Multiple-Choice (MC) Items				Non-Multiple-Choice Items			
	Winter 2023		Spring 2023		Winter 2023		Spring 2023	
Item P-Value	# of Items	% of Items	# of Items	% of Items	# of Items	% of Items	# of Items	% of Items
p < 0.1	1	7.7	3	2.7	0	0.0	2	2.2
0.1 ≤ p < 0.2	0	0.0	5	4.5	0	0.0	6	6.5
0.2 ≤ p < 0.3	2	15.4	8	7.2	1	6.3	5	5.4
0.3 ≤ p < 0.4	3	23.1	22	19.8	0	0.0	9	9.7
0.4 ≤ p < 0.5	5	38.5	48	43.2	7	43.8	31	33.3
0.5 ≤ p < 0.6	2	15.4	24	21.6	3	18.8	25	26.9
0.6 ≤ p < 0.7	0	0.0	1	0.9	5	31.3	14	15.1
0.7 ≤ p < 0.8	0	0.0	0	0.0	0	0.0	1	1.1
0.8 ≤ p < 0.9	0	0.0	0	0.0	0	0.0	0	0.0
p ≥ 0.9	0	0.0	0	0.0	0	0.0	0	0.0
Descriptive Statistics								
Number of Items	13		111		16		93	
Mean	0.36		0.41		0.52		0.46	
SD	0.17		0.12		0.11		0.15	
Min	-0.11		0.01		0.26		-0.10	
Max	0.56		0.60		0.68		0.76	

Table 8.4 Distribution of Item-Total Correlations (r) for MCAP Life Science MISA Field Test Items for the Winter and Spring Test Administrations

	Multiple-Choice (MC) Items				Non-Multiple-Choice Items			
	Winter 2023		Spring 2023		Winter 2023		Spring 2023	
Item P-Value	# of Items	% of Items	# of Items	% of Items	# of Items	% of Items	# of Items	% of Items
r < 0.1	2	15.4	3	7.7	0	0.0	1	1.5
0.1 ≤ r < 0.2	2	15.4	11	28.2	2	15.4	5	7.6
0.2 ≤ r < 0.3	6	46.2	12	30.8	0	0.0	12	18.2
0.3 ≤ r < 0.4	1	7.7	5	12.8	4	30.8	15	22.7
0.4 ≤ r < 0.5	2	15.4	7	17.9	4	30.8	16	24.2
0.5 ≤ r < 0.6	0	0.0	1	2.6	3	23.1	11	16.7
0.6 ≤ r < 0.7	0	0.0	0	0.0	0	0.0	6	9.1
0.7 ≤ r < 0.8	0	0.0	0	0.0	0	0.0	0	0.0
0.8 ≤ r < 0.9	0	0.0	0	0.0	0	0.0	0	0.0
r ≥ 0.9	0	0.0	0	0.0	0	0.0	0	0.0
Descriptive Statistics								
Number of Items	13		39		13		66	
Mean	0.24		0.25		0.39		0.40	
SD	0.12		0.14		0.13		0.14	
Min	0.07		-0.15		0.13		0.06	
Max	0.48		0.52		0.57		0.64	

Point-biserial correlation of incorrect response option (SR items) with the total raw score: These statistics describe the relationship between selecting an incorrect response option for a specific item and performance on the total test, including the item under study. Typically, the correlation between an incorrect answer and total test performance is weak or negative. When the magnitude of a point-biserial correlation for an incorrect answer is strong relative to the correct answer, the item is carefully reviewed for content-related problems. Alternatively, positive point-biserial correlations on incorrect options may indicate that students have not had sufficient opportunity to learn the material.

Percentage of students omitting an item: This statistic is useful for identifying problems with test features, such as testing time and item/test layout. Typically, it is assumed that if students have an adequate amount of testing time, at least 95 percent of them should attempt to answer each question. When a pattern of omit percentages exceeds 5 percent for a series of SR/TE items or 15 percent for CR items at the end of a timed section, this may indicate insufficient time for students to complete all items. For individual items, if the omit percentage is greater than 5 percent for a single SR/TE item or 15 percent for a CR item, this could be an indication of an item/test layout problem. For example, students might accidentally skip an item that follows a lengthy stem. (See Appendices B and C for omit rates on field test and operational items, respectively.)

Proportion of students choosing each response option (SR items): This statistic indicates the proportion of test takers selecting each answer choice, or option. Options not selected by any students or selected by a very low proportion of students may indicate problems with plausibility of the option. Items that do not have all answer options functioning may be discarded or revised and field tested again.

Proportion of students receiving each CR score point: Observation of the distribution of scores is useful to identify how well the item is functioning. If no students are assigned the top score point, this may indicate that the item is not functioning with respect to the scoring rubric, there are problems with the item content, or students have not been taught the content.

The following flagging criteria were applied to all field test items administered in 2023:

- Difficulty flag: *p*-value is less than 0.10 or greater than 0.90.
- Discrimination flag: Item-total correlation is less than 0.10.

- Distractor flag: SR point-biserial correlation is positive for an incorrect option, or the magnitude of a point-biserial correlation for an incorrect answer is strong relative to the correct answer.
- Omit flag:
    - Percentage omitted is greater than 5 percent for SR or TE items.
    - Percentage omitted is greater than 15 percent for CR items.

The full set of tables of classical item statistics and omit rates appears in Appendices B and C.

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Appendices

Appendix A. Maryland Cognitive Complexity Framework Rubric

Cognitive Complexity	Stimuli	Science and Engineering Practice (SEP)	Disciplinary Core Ideas (DCI)	Crosscutting Concepts (CCC)
High Little to no Scaffolding Far Transfer	**Emphasis** Addressing a rich and puzzling phenomenon or problem presented with high-degree uncertainty. • The stimuli present A real, authentic, and unique phenomenon or problem that is not immediately explainable by students. • Often involves multiple appropriate ways to engage and pursue the labset items.	**Emphasis** Figuring out a phenomenon or problem using the SEPs in service of authentic sensemaking. • The item requires students to engage with SEP elements in unexpected, unconventional, or unfamiliar ways. • High degree of student agency in the selection and use of SEPs in ambiguous situations with high-degrees of uncertainty experienced. • Sensemaking requires the use of multiple SEPs.	**Emphasis** Non-routine use of domain specific science ideas as part of sensemaking. • The item requires students to use and engage in non-typical reasoning with multiple science ideas. • High degree of student agency is needed in selection and use of science ideas [content needed is variable or not immediately obvious].	**Emphasis** Selection and use of conceptual understanding of crosscutting ideas is necessary and expands students' thinking. • The item requires students to engage in complex sensemaking that leverages the CCCs. • High degree of student agency is needed in selection, use, and application of the CCCs.
Medium Some Scaffolding Near Transfer	**Emphasis** Addressing phenomenon or problem with some level of uncertainty. • The stimuli present a relatively new phenomenon that students might have some familiarity with, but do not fully understand the specific uncertainty the labset items are focused on. • The stimulus includes multiple facets of information for students to interpret.	**Emphasis** Representation of ideas; use of skills that are relatively complex. • The item requires students to engage in SEPs in expected or well-practiced ways. • Students are required to demonstrate some understanding of how/why to use the SEP. • This may involve the use of multiple SEPs.	**Emphasis** Supported application of science ideas in typical contexts. • The item requires students to use science ideas as part of student reasoning in typical contexts with routine, well-practiced ways. • Addressing the item may require students to connect multiple ideas in routine ways.	**Emphasis** Specific crosscutting concept understanding is needed and is used to focus students' thinking. • The item requires students to engage in CCCs in scaffolded/ cued ways to focus students' thinking.
Low Heavily Scaffolded No Transfer	**Emphasis** Addressing routinely encountered or highly simplified stimulus. • The stimuli provide a problem or a phenomenon that students are already familiar with how to explain or solve.	**Emphasis** Using the mechanics, skills, and specific knowledge associated with practices isolated from sensemaking. • The item requires students to demonstrate simple, procedural, and mechanical aspects of engaging in SEPs (reading graphs/charts, drawing diagrams, etc.). • Students may be provided with a script/set of defined procedures to follow to engage with the SEP, with limited student thinking required about which, how, or why practices are engaged. • The Performance Expectation's SEP is used but not to the level identified in the SEP foundation box.	**Emphasis** Producing previously learned ideas and conceptual procedures in routine, well-practiced ways. • The item requires direct representation of previously learned ideas and concepts, including well-developed procedures related to concepts. • The item does not require relating science ideas to one another, reasoning with ideas or using them in service of sensemaking.	**Emphasis** Crosscutting concepts are implicitly engaged or practiced but are not consciously used by students in service of sensemaking. • The item inherently involves the CCCs (e.g., explanation involving a cause and effect) but does not require students to demonstrate that they understand and can use elements of the CCCs. • If CCC is included as part of the DCI. (DCI cognitive level should be identified as either medium or high due to this relationship) • The Performance Expectation's CCC is used but not to the level identified in the CCC foundation box.

Appendix B. Classical Item Statistics—Operational Items

For the data in tables B-1 through B-4:

- Item Type = Type + Point Value, where Type is one of the following:
    - BCR (brief constructed-response items worth 4 points),
    - CR (constructed-response items worth 2, 3, or 4 points),
    - MSR (multi-select items worth either 1 or 2 points),
    - SR (selected-response items), or
    - TE (technology-enhanced items worth either 1 or 2 points).
- Common = whether the item appears on other forms in this administration
    - L= item is common across all forms in this administration,
    - O = item is in one or more but not all forms in this administration.
- Forms = the forms on which the item appears in this administration,
- P_Val = *p*-value,
- R_ITT = item-total correlation,
- P_BIS1 – P_BIS*n* = option-total correlations for *n* options, and
- %Omits = percentage of omitted responses.

Table B-1. Classical Item Statistics, Field Test Items: HS Government—Winter 2023

Item Type	ItemID	Number	P_Val	R_ITT	P_BIS_A	P_BIS_B	P_BIS_C	P_BIS_D
SR	0074X2	3,039	0.43	0.31	-0.25	0.31	-0.04	-0.11
SR	0074XQ	2,992	0.44	0.50	-0.15	-0.28	-0.14	0.50
SR	0074YB	3,039	0.69	0.42	0.42	-0.31	-0.13	-0.12
SR	0074ZI	2,992	0.32	-0.11	0.11	-0.18	-0.11	0.25
SR	0083O7	2,992	0.49	0.46	-0.18	-0.18	-0.22	0.46
SR	0083OC	2,975	0.33	0.45	-0.07	-0.24	-0.13	0.45
SR	0083QF	2,975	0.56	0.23	-0.20	0.23	-0.24	0.19
SR	0083QH	3,039	0.80	0.49	-0.22	0.49	-0.29	-0.24
SR	0083QK	2,975	0.25	0.25	-0.01	0.25	-0.21	-0.03
SR	0085YA	9,006	0.63	0.42	-0.18	-0.22	0.42	-0.13
SR	0085YC	2,992	0.61	0.56	0.56	-0.26	-0.27	-0.20
SR	0085YD	9,006	0.32	0.33	0.16	-0.27	-0.25	0.33
SR	0085YE	6,014	0.65	0.32	0.03	-0.26	0.32	-0.21
	Mean (SR)		0.50	0.36	0.00	-0.07	-0.10	0.09
	SD (SR)		0.17	0.17	0.25	0.28	0.22	0.28
CR-4	0074YZ	2,021	0.15	0.68	--	--	--	--
CR-4	0083QT	2,066	0.21	0.54	--	--	--	--
CR-4	0083RA	1,742	0.25	0.65	--	--	--	--
	Mean (CR-4)		0.20	0.62	--	--	--	--
	SD (CR-4)		0.05	0.07	--	--	--	--
CR-5	0075EN	1,934	0.35	0.68	--	--	--	--
MSR-2	009FIG	3,039	0.62	0.49	--	--	--	--
MSR-2	009FIK	2,992	0.49	0.59	--	--	--	--
MSR-2	009FJW	2,992	0.66	0.44	--	--	--	--
MSR-2	009FMD	2,992	0.52	0.60	--	--	--	--
	Mean (MSR-2)		0.57	0.53	--	--	--	--
	SD (MSR-2)		0.08	0.08	--	--	--	--
TE-2	0083OG	2,975	0.40	0.26	--	--	--	--
TE-2	0083QE	3,039	0.52	0.60	--	--	--	--
TE-2	0083R7	2,975	0.62	0.42	--	--	--	--
TE-2	0083RK	3,039	0.59	0.52	--	--	--	--
TE-2	008CD3	2,975	0.80	0.48	--	--	--	--
TE-2	009FHN	2,975	0.47	0.48	--	--	--	--
TE-2	009FIB	2,992	0.53	0.43	--	--	--	--
TE-2	009FJ2	3,039	0.69	0.47	--	--	--	--
	Mean (TE-2)		0.58	0.46	--	--	--	--
	SD (TE-2)		0.13	0.10	--	--	--	--

Table B-2. Classical Item Statistics, Field Test Items: HS LS MISA—Winter 2023

Item Type	ItemID	Number	P_Val	R_ITT	P_BIS_A	P_BIS_B	P_BIS_C	P_BIS_D
SR	009KCW	3,318	0.28	0.21	0.07	-0.10	-0.16	0.21
SR	009KD8	3,311	0.46	0.48	0.48	-0.21	-0.19	-0.19
SR	009KDK	3,324	0.25	0.11	0.11	-0.03	0.08	-0.10
SR	009KED	3,324	0.36	0.22	-0.13	0.22	-0.15	0.09
SR	009KEE	3,311	0.26	0.21	0.21	0.08	-0.31	0.09
SR	009KEH	6,629	0.29	0.08	-0.17	-0.15	0.08	0.21
SR	009KEJ	3,324	0.37	0.23	0.09	-0.12	-0.21	0.23
SR	009KEM	3,324	0.24	0.24	0.03	-0.03	-0.15	0.24
SR	009KFX	3,318	0.41	0.34	-0.13	0.34	-0.13	-0.10
SR	009R6J	6,635	0.51	0.19	-0.16	0.03	0.19	-0.16
SR	009RAT	6,629	0.31	0.29	0.10	-0.18	-0.19	0.29
SR	009RD2	9,953	0.41	0.07	-0.09	0.07	0.07	-0.05
SR	009RE8	6,642	0.48	0.44	-0.09	-0.22	-0.21	0.44
	Mean (SR)		0.36	0.24	0.02	-0.02	-0.10	0.09
	SD (SR)		0.09	0.12	0.18	0.17	0.15	0.20
CR-2	009R80	2,002	0.27	0.57	--	--	--	--
CR-2	009R86	1,879	0.11	0.32	--	--	--	--
	Mean (CR-2)		0.19	0.45	--	--	--	--
	SD (CR-2)		0.11	0.18	--	--	--	--
CR-3	009KEF	1,871	0.04	0.43	--	--	--	--
CR-3	009KEG	2,001	0.08	0.55	--	--	--	--
	Mean (CR-3)		0.06	0.49	--	--	--	--
	SD (CR-3)		0.03	0.08	--	--	--	--
MSR-2	009KE2	3,324	0.46	0.49	--	--	--	--
MSR-2	009R72	3,318	0.62	0.46	--	--	--	--
MSR-2	009RAS	3,311	0.38	0.51	--	--	--	--
	Mean (MSR-2)		0.49	0.49	--	--	--	--
	SD (MSR-2)		0.12	0.03	--	--	--	--
TE-1	009KEI	6,629	0.21	0.33	--	--	--	--
TE-2	009KDV	6,629	0.53	0.44	--	--	--	--
TE-2	009R10	3,311	0.41	0.13	--	--	--	--
TE-2	009R4F	3,318	0.32	0.31	--	--	--	--
TE-2	009SBL	3,324	0.30	0.19	--	--	--	--
TE-2	009SBZ	3,324	0.40	0.37	--	--	--	--
	Mean (TE-2)		0.39	0.29	--	--	--	--
	SD (TE-2)		0.09	0.13	--	--	--	--

Table B-3. Classical Item Statistics, Field Test Items: HS Government—Spring 2023

Item Type	ItemID	Number	P_Val	R_ITT	P_BIS_A	P_BIS_B	P_BIS_C	P_BIS_D
SR	00618Y	2,164	0.58	0.51	0.51	-0.38	-0.11	-0.13
SR	006QOR	2,164	0.65	0.32	-0.20	0.32	-0.22	0.00
SR	006QOX	2,178	0.34	0.06	0.06	-0.18	0.06	0.07
SR	006QR5	2,164	0.57	0.54	-0.20	0.54	-0.32	-0.15
SR	006QR6	2,178	0.62	0.30	-0.20	0.03	-0.19	0.30
SR	006QST	2,178	0.52	0.46	-0.19	-0.24	-0.13	0.46
SR	006QSY	2,166	0.55	0.43	-0.18	-0.16	0.43	-0.21
SR	006QT4	2,143	0.51	0.39	0.39	-0.10	-0.15	-0.23
SR	006QT8	2,166	0.58	0.49	0.49	-0.18	-0.31	-0.24
SR	00740A	2,178	0.73	0.42	-0.24	-0.31	0.42	-0.04
SR	0074XC	2,145	0.56	0.57	-0.22	-0.30	-0.26	0.57
SR	0074XH	2,166	0.72	0.54	-0.31	-0.27	0.54	-0.19
SR	0074XN	2,190	0.43	0.35	0.35	-0.11	-0.24	-0.04
SR	0074Y8	2,190	0.87	0.45	0.45	-0.25	-0.25	-0.12
SR	0074YI	2,175	0.80	0.51	-0.24	-0.30	0.51	-0.14
SR	0074YM	2,185	0.85	0.47	-0.16	0.47	-0.29	-0.26
SR	0074YN	2,171	0.28	0.22	-0.01	-0.10	0.22	-0.09
SR	0074YS	2,143	0.62	0.40	0.40	-0.28	-0.24	0.00
SR	0074Z0	2,166	0.81	0.50	-0.21	0.50	-0.24	-0.23
SR	0074Z6	2,205	0.58	0.42	-0.21	-0.23	0.42	-0.07
SR	0083ME	2,175	0.44	0.32	-0.14	-0.15	0.32	-0.09
SR	0083MG	2,185	0.77	0.38	-0.27	0.38	-0.18	-0.06
SR	0083OD	2,166	0.59	0.42	-0.12	-0.23	-0.20	0.42
SR	0083OQ	2,190	0.43	0.33	-0.13	0.33	-0.26	-0.02
SR	0083OT	2,175	0.66	0.44	-0.11	0.44	-0.26	-0.22
SR	0083OV	2,175	0.26	0.01	0.22	-0.25	0.01	-0.11
SR	0083P5	2,178	0.71	0.58	-0.22	-0.30	-0.28	0.58
SR	0083P6	2,205	0.67	0.42	-0.16	-0.30	0.42	-0.19
SR	0083PB	2,198	0.57	0.41	-0.10	-0.19	0.41	-0.26
SR	0083PE	2,145	0.46	0.33	-0.21	-0.02	0.33	-0.26
SR	0083PK	2,190	0.32	0.35	-0.24	0.00	-0.17	0.35
SR	0083QN	2,175	0.60	0.47	-0.23	-0.20	-0.25	0.47
SR	0085V3	2,171	0.37	0.11	-0.02	0.11	-0.01	-0.07
SR	0085V7	2,161	0.36	0.35	0.35	-0.14	-0.11	-0.08
SR	0085WW	2,171	0.57	0.34	-0.11	-0.26	0.34	-0.07
SR	0085WX	2,185	0.35	0.37	-0.22	0.37	-0.08	-0.11
SR	0085WY	2,171	0.63	0.47	-0.25	-0.23	0.47	-0.17
SR	0085WZ	2,185	0.74	0.55	-0.24	-0.27	-0.30	0.55
SR	0085Y2	4,356	0.33	0.25	0.25	-0.14	-0.22	0.09
SR	0085Y4	2,166	0.34	0.19	0.12	-0.22	0.19	-0.16
SR	0085Y5	2,166	0.29	0.28	0.28	-0.23	0.03	-0.13
SR	0085Y6	2,164	0.71	0.44	-0.14	0.44	-0.32	-0.16
SR	0085Y7	2,164	0.54	0.41	-0.18	-0.16	-0.18	0.41
SR	0085Y8	2,164	0.66	0.53	-0.15	-0.27	-0.30	0.53
SR	0085Y9	2,166	0.38	0.37	0.37	-0.20	-0.12	-0.07
SR	0088SO	2,164	0.60	0.39	-0.10	-0.18	-0.26	0.39
SR	0088SQ	2,175	0.26	0.09	-0.01	0.09	-0.10	0.04
SR	008CJU	2,198	0.80	0.49	0.49	-0.21	-0.28	-0.24
SR	008CJV	2,198	0.79	0.46	-0.19	0.46	-0.29	-0.20
SR	008CJW	2,145	0.52	0.55	-0.17	-0.23	-0.30	0.55
SR	008CJX	2,198	0.51	0.43	-0.18	-0.08	-0.33	0.43
SR	008CJY	2,145	0.73	0.35	-0.08	-0.19	0.35	-0.24
SR	008CJZ	2,145	0.50	0.40	-0.12	-0.25	0.40	-0.17
SR	008FU6	2,198	0.62	0.48	0.48	-0.26	-0.21	-0.15
SR	008FUS	2,171	0.59	0.47	-0.17	0.47	-0.25	-0.22
SR	008Y57	2,164	0.57	0.40	-0.01	0.40	-0.30	-0.24
SR	0093QE	2,178	0.54	0.42	-0.15	-0.18	0.42	-0.18

continued

Item Type	ItemID	Number	P_Val	R_ITT	P_BIS_A	P_BIS_B	P_BIS_C	P_BIS_D
SR	0093QN	2,192	0.35	0.38	0.38	0.05	-0.27	-0.23
SR	0095YF	2,142	0.53	0.51	-0.23	0.51	-0.26	-0.15
SR	0095YK	2,143	0.63	0.54	0.54	-0.20	-0.28	-0.22
SR	0095YO	2,166	0.55	0.49	0.49	-0.28	-0.19	-0.14
SR	0095YP	2,145	0.70	0.54	-0.26	0.54	-0.29	-0.18
SR	0095YR	2,171	0.83	0.50	-0.22	-0.30	0.50	-0.19
SR	0095YU	2,192	0.72	0.44	-0.18	0.44	-0.29	-0.10
SR	0095ZA	2,192	0.21	0.14	0.18	-0.17	-0.15	0.14
SR	0095ZB	2,142	0.30	0.19	0.18	-0.27	-0.13	0.19
SR	0095ZC	2,166	0.53	0.21	-0.24	0.16	0.21	-0.17
SR	0095ZF	2,178	0.44	0.36	0.36	-0.26	-0.15	0.01
SR	0095ZG	2,161	0.59	0.48	-0.22	-0.17	0.48	-0.24
SR	0095ZI	2,161	0.65	0.50	-0.26	0.50	-0.28	-0.16
SR	00960D	2,142	0.53	0.39	-0.20	0.39	-0.20	-0.10
SR	0097TD	2,178	0.34	0.40	-0.16	-0.08	-0.18	0.40
SR	0097TG	2,164	0.70	0.51	-0.26	-0.27	0.51	-0.23
SR	0097TJ	2,164	0.57	0.49	-0.16	-0.25	-0.27	0.49
SR	0097TR	2,178	0.41	0.42	0.42	-0.18	-0.22	-0.07
SR	0097TW	2,164	0.49	0.41	-0.24	-0.22	-0.12	0.41
SR	0097TY	2,178	0.66	0.31	-0.14	0.31	-0.11	-0.20
SR	0097TZ	2,175	0.59	0.48	0.48	-0.28	-0.25	-0.10
SR	0097U0	2,175	0.63	0.57	0.57	-0.25	-0.30	-0.27
SR	0097U1	2,175	0.64	0.51	-0.21	0.51	-0.30	-0.22
SR	0097U3	2,175	0.72	0.43	-0.17	-0.19	0.43	-0.27
SR	0097U6	2,175	0.34	0.17	-0.12	0.17	-0.12	0.05
SR	0097X3	2,178	0.45	0.47	0.47	-0.19	-0.30	-0.09
SR	0097X7	2,178	0.49	0.39	-0.23	0.39	-0.22	-0.06
SR	0097X8	2,178	0.61	0.49	-0.21	-0.14	-0.33	0.49
SR	0097Z0	4,335	0.43	0.47	-0.21	-0.17	-0.18	0.47
SR	0097Z1	2,192	0.62	0.42	0.42	-0.18	-0.23	-0.22
SR	0097Z2	2,143	0.65	0.50	-0.18	-0.28	0.50	-0.26
SR	0097Z4	2,143	0.44	0.45	-0.15	-0.17	-0.22	0.45
SR	0097Z5	2,192	0.74	0.41	-0.14	-0.20	0.41	-0.28
SR	0097ZC	2,178	0.42	0.41	-0.07	-0.28	-0.13	0.41
SR	0097ZD	2,161	0.47	0.40	0.40	-0.13	-0.17	-0.20
SR	0097ZE	2,161	0.65	0.57	-0.25	-0.31	-0.25	0.57
SR	0097ZF	2,178	0.62	0.46	-0.22	0.46	-0.20	-0.20
SR	0097ZG	2,161	0.59	0.33	-0.14	-0.17	0.33	-0.14
SR	0097ZH	2,178	0.56	0.51	0.51	-0.27	-0.25	-0.14
SR	0097ZY	2,166	0.57	0.33	-0.09	0.33	-0.22	-0.11
SR	0097ZZ	2,142	0.57	0.41	-0.12	-0.18	-0.21	0.41
SR	009800	2,166	0.69	0.54	-0.21	0.54	-0.29	-0.25
SR	009801	2,142	0.25	0.22	0.22	-0.03	-0.09	-0.05
SR	009802	2,166	0.50	0.40	-0.22	-0.13	0.40	-0.25
SR	009803	2,142	0.80	0.41	-0.09	-0.22	-0.26	0.41
SR	009804	2,175	0.72	0.48	-0.16	0.48	-0.33	-0.19
SR	009HQL	2,164	0.52	0.28	-0.07	-0.20	0.28	0.00
SR	00A4O3	2,205	0.53	0.54	-0.22	-0.23	0.54	-0.28
SR	00A4O4	2,205	0.46	0.33	0.33	-0.18	-0.10	-0.15
SR	00A4O5	2,205	0.53	0.40	-0.11	-0.17	0.40	-0.26
SR	00A4O6	2,190	0.74	0.57	0.57	-0.27	-0.37	-0.18
SR	00A4O7	2,190	0.59	0.30	-0.21	-0.07	0.30	-0.19
SR	00A4O8	2,190	0.71	0.60	-0.25	-0.29	-0.32	0.60
SR	00A4R5	2,178	0.31	0.40	-0.11	-0.10	-0.20	0.40
	Mean (SR)		0.56	0.41	-0.02	-0.05	-0.06	-0.01
	SD (SR)		0.15	0.12	0.26	0.28	0.28	0.27
CR-4	0083MM	1,327	0.39	0.62	--	--	--	--
CR-4	0083MP	2,063	0.18	0.54	--	--	--	--
CR-4	008FTC	1,035	0.31	0.67	--	--	--	--

continued

Item Type	ItemID	Number	P_Val	R_ITT	P_BIS_A	P_BIS_B	P_BIS_C	P_BIS_D
CR-4	008FU7	2,029	0.20	0.63	--	--	--	--
CR-4	009606	2,053	0.31	0.76	--	--	--	--
CR-4	009607	2,039	0.17	0.59	--	--	--	--
CR-4	00A4P9	2,053	0.15	0.59	--	--	--	--
CR-4	00A4PC	2,039	0.10	0.48	--	--	--	--
CR-4	00A4RK	2,115	0.35	0.65	--	--	--	--
CR-4	00A4S0	2,018	0.47	0.67	--	--	--	--
	Mean (CR-4)		0.26	0.62	--	--	--	--
	SD (CR-4)		0.12	0.08	--	--	--	--
CR-5	007409	2,077	0.39	0.67	--	--	--	--
CR-5	0075D3	1,291	0.32	0.66	--	--	--	--
CR-5	008D18	2,030	0.39	0.68	--	--	--	--
CR-5	008D48	2,022	0.37	0.66	--	--	--	--
CR-5	008D4Y	2,036	0.39	0.68	--	--	--	--
CR-5	008DCL	2,022	0.43	0.68	--	--	--	--
	Mean (CR-5)		0.38	0.67	--	--	--	--
	SD (CR-5)		0.04	0.01	--	--	--	--
MSR-2	00850P	2,164	0.71	0.47	--	--	--	--
MSR-2	008515	2,178	0.53	0.40	--	--	--	--
MSR-2	0085C0	2,142	0.63	0.50	--	--	--	--
MSR-2	009FEG	2,185	0.56	0.59	--	--	--	--
MSR-2	009FGR	2,205	0.56	0.43	--	--	--	--
MSR-2	009FGV	2,185	0.54	0.39	--	--	--	--
MSR-2	009FH5	2,205	0.61	0.53	--	--	--	--
MSR-2	009FIQ	2,198	0.68	0.47	--	--	--	--
MSR-2	009FJY	2,190	0.78	0.49	--	--	--	--
MSR-2	009FKM	2,166	0.53	0.52	--	--	--	--
MSR-2	009FKO	2,178	0.40	0.46	--	--	--	--
MSR-2	009FKR	2,198	0.75	0.56	--	--	--	--
MSR-2	009FL2	2,178	0.58	0.63	--	--	--	--
MSR-2	009FLG	2,161	0.72	0.49	--	--	--	--
MSR-2	009FLS	2,175	0.42	0.29	--	--	--	--
MSR-2	009FLT	2,161	0.68	0.60	--	--	--	--
MSR-2	009FM6	2,145	0.63	0.43	--	--	--	--
MSR-2	009FMB	2,145	0.51	0.47	--	--	--	--
MSR-2	009FMF	2,166	0.54	0.42	--	--	--	--
MSR-2	009FMG	2,178	0.52	0.43	--	--	--	--
MSR-2	009FMH	2,143	0.81	0.26	--	--	--	--
MSR-2	009FML	2,164	0.86	0.47	--	--	--	--
MSR-2	009JNG	2,164	0.34	-0.10	--	--	--	--
MSR-2	00A69W	2,142	0.76	0.40	--	--	--	--
MSR-2	00A6AD	2,175	0.34	0.15	--	--	--	--
MSR-2	00A6AH	2,166	0.53	0.43	--	--	--	--
MSR-2	00A6BT	2,192	0.54	0.47	--	--	--	--
MSR-2	00A6BV	2,166	0.24	0.13	--	--	--	--
MSR-2	00A6BW	2,166	0.54	0.44	--	--	--	--
	Mean (MSR-2)		0.58	0.42	--	--	--	--
	SD (MSR-2)		0.15	0.15	--	--	--	--
TE-2	006QTD	2,178	0.62	0.46	--	--	--	--
TE-2	006QTG	2,166	0.63	0.52	--	--	--	--
TE-2	006QTO	2,164	0.61	0.40	--	--	--	--
TE-2	006QTP	2,164	0.79	0.62	--	--	--	--
TE-2	006QTQ	2,192	0.69	0.30	--	--	--	--
TE-2	0074Y6	2,205	0.59	0.35	--	--	--	--
TE-2	0083MU	2,205	0.60	0.52	--	--	--	--
TE-2	0083MV	2,198	0.71	0.50	--	--	--	--
TE-2	0083N0	2,185	0.59	0.07	--	--	--	--
TE-2	0083N2	2,175	0.72	0.38	--	--	--	--
TE-2	0083OI	2,185	0.58	0.44	--	--	--	--

continued

Item Type	ItemID	Number	P_Val	R_ITT	P_BIS_A	P_BIS_B	P_BIS_C	P_BIS_D
TE-2	0083OP	2,166	0.83	0.52	--	--	--	--
TE-2	0083OW	2,171	0.53	0.39	--	--	--	--
TE-2	0083PV	2,178	0.70	0.57	--	--	--	--
TE-2	0083Q5	2,145	0.64	0.45	--	--	--	--
TE-2	0083QD	2,178	0.54	0.40	--	--	--	--
TE-2	0083RB	2,190	0.41	0.45	--	--	--	--
TE-2	0083RC	2,178	0.41	0.45	--	--	--	--
TE-2	0083RD	2,190	0.58	0.55	--	--	--	--
TE-2	0083RE	2,205	0.79	0.51	--	--	--	--
TE-2	0083RH	2,175	0.62	0.55	--	--	--	--
TE-2	0083RJ	2,161	0.46	0.17	--	--	--	--
TE-2	00850T	2,178	0.69	0.44	--	--	--	--
TE-2	008511	2,178	0.42	0.39	--	--	--	--
TE-2	0085CZ	2,164	0.29	0.26	--	--	--	--
TE-2	008CD2	2,198	0.88	0.19	--	--	--	--
TE-2	008CD4	2,161	0.69	0.48	--	--	--	--
TE-2	0095YY	2,145	0.37	0.51	--	--	--	--
TE-2	0095YZ	2,175	0.57	0.56	--	--	--	--
TE-2	0095Z2	2,175	0.56	0.44	--	--	--	--
TE-2	0095Z3	2,164	0.62	0.34	--	--	--	--
TE-2	0095Z6	2,164	0.23	0.17	--	--	--	--
TE-2	0095ZT	2,192	0.75	0.42	--	--	--	--
TE-2	0095ZZ	2,142	0.53	0.53	--	--	--	--
TE-2	00960V	2,143	0.52	0.46	--	--	--	--
TE-2	00960Y	2,142	0.59	0.43	--	--	--	--
TE-2	009E5P	2,171	0.85	0.54	--	--	--	--
TE-2	009FI4	2,178	0.61	0.18	--	--	--	--
TE-2	009FL8	2,171	0.51	0.59	--	--	--	--
TE-2	00A4PY	2,175	0.76	0.54	--	--	--	--
TE-2	00A4PZ	2,198	0.82	0.36	--	--	--	--
TE-2	00A4R0	2,143	0.79	0.36	--	--	--	--
TE-2	00A4RR	2,185	0.58	0.51	--	--	--	--
TE-2	00A4U5	2,178	0.77	0.58	--	--	--	--
TE-2	00A69V	2,178	0.46	0.25	--	--	--	--
TE-2	00A6A9	2,143	0.48	0.54	--	--	--	--
TE-2	00A6BC	2,175	0.75	0.48	--	--	--	--
TE-2	00ARH9	2,192	0.70	0.39	--	--	--	--
	Mean (TE-2)		0.61	0.43	--	--	--	--
	SD (TE-2)		0.15	0.13	--	--	--	--

Table B-4. Classical Item Statistics, Field Test Items: HS LS MISA—Spring 2023

Item Type	ItemID	Number	P_Val	R_ITT	P_BIS_A	P_BIS_B	P_BIS_C	P_BIS_D
SR	008RFP	9,887	0.45	0.25	0.25	-0.11	-0.06	-0.08
SR	008RFR	4,950	0.30	0.25	-0.07	-0.10	-0.03	0.25
SR	008RFU	4,920	0.23	-0.08	0.14	-0.08	-0.07	0.07
SR	008RFV	9,857	0.25	0.36	-0.08	0.36	-0.15	-0.06
SR	008RFW	4,950	0.31	0.13	-0.06	0.13	0.06	-0.10
SR	008RFX	9,857	0.40	0.16	0.01	-0.09	0.16	-0.06
SR	009D44	4,937	0.41	0.18	0.04	0.18	-0.22	-0.03
SR	009D6D	14,807	0.42	0.08	-0.01	-0.08	0.08	0.03
SR	009D6M	9,857	0.43	0.17	-0.12	-0.17	0.17	0.11
SR	009D6R	4,950	0.29	-0.15	0.10	0.09	-0.15	0.04
SR	009VTK	4,931	0.60	0.36	-0.11	0.36	-0.14	-0.20
SR	009VUP	9,853	0.41	0.45	-0.17	-0.19	-0.14	0.45
SR	009VVS	9,927	0.35	0.16	-0.14	0.16	0.09	-0.16
SR	009VVZ	9,927	0.33	0.11	0.08	0.11	-0.13	-0.01
SR	00AA9T	4,950	0.55	0.35	-0.06	-0.22	0.35	-0.16
SR	00AAAE	4,913	0.19	0.10	0.10	-0.22	-0.19	0.28
SR	00AAAF	4,915	0.61	0.42	-0.17	-0.18	-0.20	0.42
SR	00AAAH	4,915	0.49	0.52	0.52	-0.23	-0.26	-0.14
SR	00AAAI	4,913	0.55	0.40	-0.19	-0.14	0.40	-0.16
SR	00AACR	4,922	0.51	0.23	-0.07	-0.20	0.23	-0.01
SR	00AAEJ	4,931	0.44	0.33	-0.10	-0.14	-0.15	0.33
SR	00AAJT	5,005	0.47	0.17	0.18	0.17	-0.28	-0.21
SR	00AATS	5,005	0.45	0.22	-0.06	-0.16	0.22	-0.03
SR	00AAYT	9,853	0.34	0.19	-0.09	0.19	0.08	-0.21
SR	00AB0Y	9,936	0.38	0.24	-0.16	-0.10	0.24	-0.01
SR	00AB3G	4,913	0.62	0.45	-0.17	0.45	-0.26	-0.17
SR	00AERH	9,933	0.33	0.30	0.30	-0.21	-0.07	-0.03
SR	00AERJ	4,987	0.25	0.15	-0.06	0.15	0.01	-0.11
SR	00AERM	9,924	0.21	0.10	-0.06	0.05	-0.08	0.10
SR	00AERS	4,987	0.40	0.29	-0.02	0.29	-0.24	-0.06
SR	00AGJO	4,913	0.52	0.20	-0.14	0.20	0.03	-0.17
SR	00AGKP	9,863	0.45	0.40	-0.10	0.40	-0.25	-0.16
SR	00AGQM	4,915	0.51	0.32	-0.07	0.32	-0.20	-0.12
SR	00AGST	9,865	0.54	0.25	-0.18	-0.05	0.25	-0.10
SR	00AKE4	4,987	0.37	0.20	-0.13	0.04	0.20	-0.17
SR	00AKG8	14,911	0.51	0.24	-0.07	-0.09	0.24	-0.11
SR	00AKHB	4,946	0.48	0.42	-0.05	-0.25	-0.20	0.42
SR	00AKOQ	9,924	0.53	0.24	0.00	0.24	-0.03	-0.22
SR	00ANTP	4,978	0.65	0.45	-0.21	-0.24	0.45	-0.18
	Mean (SR)		0.42	0.25	-0.03	0.02	-0.01	-0.02
	SD (SR)		0.12	0.14	0.15	0.21	0.20	0.19
CR-2	008RFY	2,014	0.29	0.40	--	--	--	--
CR-2	008RFZ	2,001	0.25	0.63	--	--	--	--
CR-2	009D73	2,000	0.21	0.56	--	--	--	--
CR-2	009D75	2,000	0.15	0.55	--	--	--	--
CR-2	009VTD	2,006	0.23	0.63	--	--	--	--
CR-2	009VTG	2,017	0.21	0.58	--	--	--	--
CR-2	00AA8F	1,319	0.12	0.51	--	--	--	--
CR-2	00AAAO	2,019	0.25	0.60	--	--	--	--
CR-2	00AAF6	2,005	0.24	0.60	--	--	--	--
CR-2	00AAHQ	2,004	0.27	0.64	--	--	--	--
CR-2	00AEQD	2,009	0.20	0.59	--	--	--	--
CR-2	00AEQM	2,032	0.17	0.58	--	--	--	--
CR-2	00AGSU	1,611	0.17	0.59	--	--	--	--
CR-2	00AGSV	2,002	0.10	0.49	--	--	--	--
CR-2	00AKGI	2,024	0.30	0.62	--	--	--	--
CR-2	00AKGJ	2,016	0.11	0.45	--	--	--	--

continued

Item Type	ItemID	Number	P_Val	R_ITT	P_BIS_A	P_BIS_B	P_BIS_C	P_BIS_D
	Mean (CR-2)		0.20	0.56	--	--	--	--
	SD (CR-2)		0.06	0.07	--	--	--	--
MSR-2	008RBD	4,920	0.19	0.35	--	--	--	--
MSR-2	008RFQ	4,950	0.35	0.49	--	--	--	--
MSR-2	009D49	9,857	0.39	0.36	--	--	--	--
MSR-2	009D71	4,950	0.22	0.27	--	--	--	--
MSR-2	009VVH	9,936	0.05	0.13	--	--	--	--
MSR-2	00AAAQ	14,778	0.45	0.34	--	--	--	--
MSR-2	00AACS	4,922	0.12	0.16	--	--	--	--
MSR-2	00AAKA	4,922	0.39	0.46	--	--	--	--
MSR-2	00AB39	4,915	0.44	0.41	--	--	--	--
MSR-2	00AER3	9,965	0.31	0.33	--	--	--	--
MSR-2	00AES3	4,946	0.41	0.45	--	--	--	--
MSR-2	00AGK7	4,913	0.28	0.28	--	--	--	--
MSR-2	00AGRZ	9,863	0.19	0.21	--	--	--	--
MSR-2	00AKG1	4,978	0.38	0.35	--	--	--	--
MSR-2	00AKG3	4,946	0.46	0.44	--	--	--	--
MSR-2	00AKOE	9,933	0.43	0.38	--	--	--	--
	Mean (MSR-2)		0.32	0.34	--	--	--	--
	SD (MSR-2)		0.13	0.11	--	--	--	--
TE-1	009D6L	4,950	0.16	0.12	--	--	--	--
TE-1	00A9YC	4,915	0.47	0.52	--	--	--	--
TE-1	00AEQO	4,946	0.50	0.48	--	--	--	--
TE-1	00AGIF	4,950	0.43	0.43	--	--	--	--
TE-1	00AGJH	9,828	0.44	0.51	--	--	--	--
TE-1	00AKDU	4,978	0.33	0.33	--	--	--	--
	Mean (TE-1)		0.39	0.40	--	--	--	--
	SD (TE-1)		0.13	0.15	--	--	--	--
TE-2	008RAV	4,950	0.56	0.39	--	--	--	--
TE-2	008RAZ	4,937	0.06	0.30	--	--	--	--
TE-2	008RFS	4,937	0.40	0.51	--	--	--	--
TE-2	008RFT	4,920	0.53	0.43	--	--	--	--
TE-2	009D6S	4,920	0.25	0.36	--	--	--	--
TE-2	009D6Z	4,950	0.43	0.33	--	--	--	--
TE-2	009D70	9,857	0.33	0.25	--	--	--	--
TE-2	009VKS	4,922	0.31	0.26	--	--	--	--
TE-2	009VKT	5,005	0.20	0.38	--	--	--	--
TE-2	009VV1	9,936	0.30	0.37	--	--	--	--
TE-2	009VX0	4,931	0.46	0.49	--	--	--	--
TE-2	009W5V	4,922	0.45	0.48	--	--	--	--
TE-2	00A9EM	4,922	0.14	0.13	--	--	--	--
TE-2	00AA8G	4,950	0.48	0.34	--	--	--	--
TE-2	00AAAG	9,863	0.41	0.51	--	--	--	--
TE-2	00AAAP	4,950	0.49	0.49	--	--	--	--
TE-2	00AAD1	4,931	0.32	0.17	--	--	--	--
TE-2	00AAD6	5,005	0.34	0.21	--	--	--	--
TE-2	00AAE9	9,936	0.32	0.20	--	--	--	--
TE-2	00ADPE	4,978	0.28	0.27	--	--	--	--
TE-2	00AEQP	4,946	0.42	0.47	--	--	--	--
TE-2	00AERG	9,965	0.48	0.46	--	--	--	--
TE-2	00AGI2	4,915	0.36	0.27	--	--	--	--
TE-2	00AGIC	4,950	0.37	0.27	--	--	--	--
TE-2	00AGKR	4,915	0.30	0.26	--	--	--	--
TE-2	00AKDO	4,987	0.50	0.38	--	--	--	--
TE-2	00AKE3	4,978	0.28	0.35	--	--	--	--
TE-2	00AKI6	4,987	0.19	0.06	--	--	--	--
	Mean (TE-2)		0.36	0.34	--	--	--	--
	SD (TE-2)		0.12	0.12	--	--	--	--

Table B-5. Omit Rates of Field Test Machine-Scored Items: HS Government—Winter 2023

Item Type	ItemID	Number	N Omits	% Omit
SR	0074X2	3,258	306	9.4
SR	0074XQ	3,903	358	9.2
SR	0074YB	3,258	277	8.5
SR	0074ZI	3,903	371	9.5
SR	0083O7	3,903	316	8.1
SR	0083OC	3,198	299	9.3
SR	0083QF	3,198	283	8.8
SR	0083QH	3,258	254	7.8
SR	0083QK	3,198	261	8.2
SR	0085YA	10,359	985	9.5
SR	0085YC	3,903	372	9.5
SR	0085YD	10,359	982	9.5
SR	0085YE	6,456	607	9.4
MSR-2	009FIG	3,258	283	8.7
MSR-2	009FIK	3,903	357	9.1
MSR-2	009FJW	3,903	308	7.9
MSR-2	009FMD	3,903	370	9.5
TE-2	0083OG	3,198	340	10.6
TE-2	0083QE	3,258	291	8.9
TE-2	0083R7	3,198	260	8.1
TE-2	0083RK	3,258	241	7.4
TE-2	008CD3	3,198	327	10.2
TE-2	009FHN	3,198	292	9.1
TE-2	009FIB	3,903	374	9.6
TE-2	009FJ2	3,258	306	9.4

Table B-6. Omit Rates of Field Test Machine-Scored Items: HS Government—Spring 2023

Item Type	ItemID	Number	N Omits	% Omit
SR	00618Y	2,242	120	5.4
SR	00641U	2,276	120	5.3
SR	006QOR	2,253	128	5.7
SR	006QOX	2,251	111	4.9
SR	006QR5	2,253	142	6.3
SR	006QR6	2,251	118	5.2
SR	006QST	2,257	131	5.8
SR	006QSY	2,247	132	5.9
SR	006QT4	2,216	113	5.1
SR	006QT8	2,247	120	5.3
SR	006QTX	2,212	121	5.5
SR	006QUL	2,237	117	5.2
SR	00740A	2,268	129	5.7
SR	0074XC	2,235	124	5.5
SR	0074XH	4,804	268	5.6
SR	0074XN	2,273	121	5.3
SR	0074Y8	2,273	128	5.6
SR	0074YI	2,251	125	5.6
SR	0074YM	2,270	115	5.1
SR	0074YN	2,240	108	4.8
SR	0074YS	2,216	127	5.7
SR	0074Z0	4,804	308	6.4
SR	0074Z6	2,288	120	5.2
SR	0083ME	2,251	97	4.3
SR	0083MG	2,270	118	5.2
SR	0083OD	4,804	275	5.7

continued

Item Type	ItemID	Number	N Omits	% Omit
SR	0083OQ	2,273	130	5.7
SR	0083OT	2,251	122	5.4
SR	0083OV	2,251	98	4.4
SR	0083P5	2,251	123	5.5
SR	0083P6	2,288	121	5.3
SR	0083PB	2,278	106	4.7
SR	0083PE	2,235	118	5.3
SR	0083PK	2,273	112	4.9
SR	0083QG	2,237	112	5.0
SR	0083QN	2,251	110	4.9
SR	0085V3	2,240	99	4.4
SR	0085V7	2,242	129	5.8
SR	0085WW	2,240	103	4.6
SR	0085WX	2,270	113	5.0
SR	0085WY	2,240	101	4.5
SR	0085WZ	2,270	113	5.0
SR	0085Y2	4,510	216	4.8
SR	0085Y4	4,804	278	5.8
SR	0085Y5	4,804	277	5.8
SR	0085Y6	2,242	107	4.8
SR	0085Y7	2,242	107	4.8
SR	0085Y8	2,242	107	4.8
SR	0085Y9	4,804	276	5.7
SR	0088SO	2,242	116	5.2
SR	0088SQ	2,251	107	4.8
SR	0088SS	2,237	101	4.5
SR	008CCZ	2,276	96	4.2
SR	008CJU	2,278	108	4.7
SR	008CJV	2,278	109	4.8
SR	008CJW	2,235	123	5.5
SR	008CJX	2,278	108	4.7
SR	008CJY	2,235	123	5.5
SR	008CJZ	2,235	122	5.5
SR	008FTJ	2,277	136	6.0
SR	008FTS	2,212	124	5.6
SR	008FTU	2,213	120	5.4
SR	008FU6	2,278	120	5.3
SR	008FUS	2,240	109	4.9
SR	008Y57	2,242	124	5.5
SR	0093QE	2,257	128	5.7
SR	0093QJ	2,277	128	5.6
SR	0093QN	2,266	109	4.8
SR	0095YD	2,213	125	5.6
SR	0095YF	2,216	119	5.4
SR	0095YK	2,216	120	5.4
SR	0095YN	2,237	123	5.5
SR	0095YO	4,804	317	6.6
SR	0095YP	2,235	139	6.2
SR	0095YR	2,240	114	5.1
SR	0095YT	2,212	113	5.1
SR	0095YU	2,266	116	5.1
SR	0095ZA	2,266	110	4.9
SR	0095ZB	2,216	138	6.2
SR	0095ZC	2,247	128	5.7
SR	0095ZF	2,268	137	6.0
SR	0095ZG	2,242	115	5.1
SR	0095ZI	2,242	111	5.0
SR	0095ZL	2,213	118	5.3
SR	0095ZM	2,277	119	5.2

continued

Item Type	ItemID	Number	N Omits	% Omit
SR	00960D	2,216	134	6.0
SR	0097TD	2,251	94	4.2
SR	0097TG	2,253	114	5.1
SR	0097TJ	2,253	114	5.1
SR	0097TR	2,251	95	4.2
SR	0097TW	2,253	115	5.1
SR	0097TY	2,251	94	4.2
SR	0097TZ	2,251	99	4.4
SR	0097U0	2,251	102	4.5
SR	0097U1	2,251	104	4.6
SR	0097U3	2,251	104	4.6
SR	0097U6	2,251	99	4.4
SR	0097X3	2,257	112	5.0
SR	0097X7	4,494	211	4.7
SR	0097X8	4,494	211	4.7
SR	0097X9	2,237	102	4.6
SR	0097Z0	4,482	194	4.3
SR	0097Z1	2,266	90	4.0
SR	0097Z2	2,216	104	4.7
SR	0097Z4	2,216	106	4.8
SR	0097Z5	2,266	90	4.0
SR	0097Z6	2,212	105	4.7
SR	0097Z7	2,212	105	4.7
SR	0097Z8	2,212	107	4.8
SR	0097Z9	2,277	106	4.7
SR	0097ZA	2,277	107	4.7
SR	0097ZB	2,277	110	4.8
SR	0097ZC	2,268	119	5.2
SR	0097ZD	2,242	114	5.1
SR	0097ZE	2,242	112	5.0
SR	0097ZF	2,268	119	5.2
SR	0097ZG	2,242	110	4.9
SR	0097ZH	2,268	121	5.3
SR	0097ZY	2,247	115	5.1
SR	0097ZZ	2,216	105	4.7
SR	009800	2,247	116	5.2
SR	009801	2,216	105	4.7
SR	009802	2,247	115	5.1
SR	009803	2,216	102	4.6
SR	009804	2,251	97	4.3
SR	009HQL	2,253	139	6.2
SR	009VQ3	2,276	116	5.1
SR	00A4NX	2,276	86	3.8
SR	00A4NY	2,213	103	4.7
SR	00A4NZ	2,276	88	3.9
SR	00A4O0	2,276	86	3.8
SR	00A4O1	2,213	104	4.7
SR	00A4O2	2,213	103	4.7
SR	00A4O3	2,288	105	4.6
SR	00A4O4	2,288	106	4.6
SR	00A4O5	2,288	104	4.5
SR	00A4O6	2,273	114	5.0
SR	00A4O7	2,273	114	5.0
SR	00A4O8	2,273	113	5.0
SR	00A4R5	2,257	128	5.7
MSR-2	00850P	2,253	113	5.0
MSR-2	008515	2,251	129	5.7
MSR-2	0085BT	2,276	86	3.8
MSR-2	0085C0	2,216	101	4.6

continued

Item Type	ItemID	Number	N Omits	% Omit
MSR-2	009FEG	2,270	118	5.2
MSR-2	009FFX	2,213	100	4.5
MSR-2	009FGJ	2,237	98	4.4
MSR-2	009FGR	2,288	104	4.5
MSR-2	009FGV	2,270	122	5.4
MSR-2	009FH5	2,288	126	5.5
MSR-2	009FIM	2,212	102	4.6
MSR-2	009FIN	2,213	101	4.6
MSR-2	009FIQ	2,278	104	4.6
MSR-2	009FJY	2,273	111	4.9
MSR-2	009FKM	4,804	333	6.9
MSR-2	009FKO	2,268	114	5.0
MSR-2	009FKR	2,278	127	5.6
MSR-2	009FL2	2,268	129	5.7
MSR-2	009FLG	2,242	110	4.9
MSR-2	009FLS	2,251	127	5.6
MSR-2	009FLT	2,242	119	5.3
MSR-2	009FM6	2,235	116	5.2
MSR-2	009FMB	2,235	142	6.4
MSR-2	009FMF	4,804	269	5.6
MSR-2	009FMG	2,257	109	4.8
MSR-2	009FMH	2,216	131	5.9
MSR-2	009FML	2,242	105	4.7
MSR-2	009JNG	2,242	128	5.7
MSR-2	00A69W	2,216	102	4.6
MSR-2	00A6AD	2,251	113	5.0
MSR-2	00A6AH	2,247	113	5.0
MSR-2	00A6BT	2,266	88	3.9
MSR-2	00A6BU	2,277	106	4.7
MSR-2	00A6BV	4,804	352	7.3
MSR-2	00A6BW	2,247	115	5.1
TE-2	006QTD	2,251	92	4.1
TE-2	006QTE	2,212	127	5.7
TE-2	006QTG	2,247	142	6.3
TE-2	006QTL	2,277	107	4.7
TE-2	006QTO	2,253	112	5.0
TE-2	006QTP	2,253	161	7.1
TE-2	006QTQ	2,266	93	4.1
TE-2	0074Y6	2,288	115	5.0
TE-2	0083MK	2,277	141	6.2
TE-2	0083MR	2,277	149	6.5
TE-2	0083MU	2,288	132	5.8
TE-2	0083MV	2,278	132	5.8
TE-2	0083N0	2,270	113	5.0
TE-2	0083N2	2,251	98	4.4
TE-2	0083NE	2,276	126	5.5
TE-2	0083OI	2,270	135	5.9
TE-2	0083OP	2,247	139	6.2
TE-2	0083OU	2,237	139	6.2
TE-2	0083OW	2,240	117	5.2
TE-2	0083PV	2,268	137	6.0
TE-2	0083Q5	2,235	139	6.2
TE-2	0083QD	2,268	147	6.5
TE-2	0083R2	2,237	132	5.9
TE-2	0083R6	2,276	120	5.3
TE-2	0083RB	2,273	140	6.2
TE-2	0083RC	2,257	134	5.9
TE-2	0083RD	2,273	141	6.2
TE-2	0083RE	2,288	145	6.3

continued

Item Type	ItemID	Number	N Omits	% Omit
TE-2	0083RG	2,213	134	6.1
TE-2	0083RH	2,251	138	6.1
TE-2	0083RJ	2,242	133	5.9
TE-2	0083RL	2,213	133	6.0
TE-2	00850F	2,276	89	3.9
TE-2	00850T	2,251	92	4.1
TE-2	008511	2,251	125	5.6
TE-2	0085CZ	2,253	146	6.5
TE-2	008CD2	2,278	116	5.1
TE-2	008CD4	2,242	138	6.2
TE-2	0095YY	2,235	158	7.1
TE-2	0095YZ	2,251	125	5.6
TE-2	0095Z2	2,251	99	4.4
TE-2	0095Z3	2,242	141	6.3
TE-2	0095Z6	2,242	105	4.7
TE-2	0095ZT	2,266	124	5.5
TE-2	0095ZZ	2,216	153	6.9
TE-2	00960V	2,216	132	6.0
TE-2	00960Y	2,216	149	6.7
TE-2	009E5P	2,240	117	5.2
TE-2	009FI4	2,257	108	4.8
TE-2	009FL8	2,240	100	4.5
TE-2	00A4PY	2,251	133	5.9
TE-2	00A4PZ	2,278	140	6.1
TE-2	00A4R0	2,216	109	4.9
TE-2	00A4RR	2,270	111	4.9
TE-2	00A4SL	2,212	133	6.0
TE-2	00A4U5	2,257	135	6.0
TE-2	00A69V	2,268	115	5.1
TE-2	00A6A9	2,216	104	4.7
TE-2	00A6BC	2,251	118	5.2
TE-2	00A6BM	2,212	102	4.6
TE-2	00ARH9	2,266	127	5.6

Table B-7. Omit Rates of Field Test Machine-Scored Items: LS MISA—Winter 2023

Item Type	ItemID	Number	N Omits	% Omit
SR	009KCW	3,606	373	10.3
SR	009KD8	3,605	381	10.6
SR	009KDK	4,158	463	11.1
SR	009KED	4,158	462	11.1
SR	009KEE	3,605	376	10.4
SR	009KEH	7,211	735	10.2
SR	009KEJ	4,158	459	11.0
SR	009KEM	4,158	460	11.1
SR	009KFX	3,606	370	10.3
SR	009R6J	7,763	748	9.6
SR	009RAT	7,211	687	9.5
SR	009RD2	11,369	1113	9.8
SR	009RE8	7,764	751	9.7
MSR-2	009KE2	4,158	462	11.1
MSR-2	009R72	3,606	336	9.3
MSR-2	009RAS	3,605	349	9.7
TE-1	009KEI	7,211	748	10.4
TE-2	009KDV	7,211	753	10.4
TE-2	009R10	3,605	365	10.1
TE-2	009R4F	3,606	337	9.3
TE-2	009SBL	4,158	414	10.0
TE-2	009SBZ	4,158	417	10.0

Table B-8. Omit Rates of Field Test Machine-Scored Items: LS MISA—Spring 2023

Item Type	ItemID	Number	N Omits	% Omit
SR	008RFP	10,200	540	5.3
SR	008RFR	5,105	283	5.5
SR	008RFU	5,086	285	5.6
SR	008RFV	10,181	607	6.0
SR	008RFW	5,105	289	5.7
SR	008RFX	10,181	603	5.9
SR	009D44	5,096	233	4.6
SR	009D6D	15,288	711	4.7
SR	009D6M	10,183	479	4.7
SR	009D6R	5,105	259	5.1
SR	009VTK	5,105	292	5.7
SR	009VUP	10,191	563	5.5
SR	009VVS	10,271	569	5.5
SR	009VVZ	10,271	583	5.7
SR	00AA9T	5,113	314	6.1
SR	00AAAE	7,748	473	6.1
SR	00AAAF	5,082	300	5.9
SR	00AAAH	5,082	295	5.8
SR	00AAAI	7,748	483	6.2
SR	00AACR	5,086	246	4.8
SR	00AAEJ	5,105	250	4.9
SR	00AAJT	5,185	244	4.7
SR	00AATS	5,185	259	5.0
SR	00AAYT	10,191	523	5.1
SR	00AB0Y	10,290	529	5.1
SR	00AB3G	7,748	462	6.0
SR	00AERH	10,239	480	4.7
SR	00AERJ	5,138	231	4.5
SR	00AERM	10,231	462	4.5
SR	00AERS	5,138	230	4.5
SR	00AGJO	7,746	387	5.0
SR	00AGKP	12,859	665	5.2
SR	00AGQM	5,082	254	5.0
SR	00AGST	10,195	508	5.0
SR	00AKE4	5,138	256	5.0
SR	00AKG8	15,369	771	5.0
SR	00AKHB	5,101	283	5.5
SR	00AKOQ	10,231	554	5.4
SR	00ANTP	5,130	255	5.0
MSR-2	008RBD	5,086	284	5.6
MSR-2	008RFQ	5,105	281	5.5
MSR-2	009D49	10,183	471	4.6
MSR-2	009D71	5,105	275	5.4
MSR-2	009VVH	10,290	608	5.9
MSR-2	00AAAQ	17,943	1047	5.8
MSR-2	00AACS	5,086	255	5.0
MSR-2	00AAKA	5,086	267	5.2
MSR-2	00AB39	5,082	296	5.8
MSR-2	00AER3	10,268	514	5.0
MSR-2	00AES3	5,101	234	4.6
MSR-2	00AGK7	7,746	392	5.1
MSR-2	00AGRZ	12,859	681	5.3
MSR-2	00AKG1	5,130	260	5.1
MSR-2	00AKG3	5,101	279	5.5
MSR-2	00AKOE	10,239	553	5.4
TE-1	009D6L	5,105	268	5.2
TE-1	00A9YC	5,082	290	5.7
TE-1	00AEQO	5,101	265	5.2

continued

Item Type	ItemID	Number	N Omits	% Omit
TE-1	00AGIF	5,113	272	5.3
TE-1	00AGJH	12,828	634	4.9
TE-1	00AKDU	5,130	352	6.9
TE-2	008RAV	5,105	312	6.1
TE-2	008RAZ	5,095	298	5.8
TE-2	008RFS	5,095	291	5.7
TE-2	008RFT	5,086	290	5.7
TE-2	009D6S	5,087	257	5.1
TE-2	009D6Z	5,105	263	5.2
TE-2	009D70	10,183	495	4.9
TE-2	009VKS	5,086	295	5.8
TE-2	009VKT	5,185	309	6.0
TE-2	009VV1	10,290	588	5.7
TE-2	009VX0	5,105	290	5.7
TE-2	009W5V	5,086	281	5.5
TE-2	00A9EM	5,086	268	5.3
TE-2	00AA8G	5,113	386	7.5
TE-2	00AAAG	12,861	809	6.3
TE-2	00AAAP	5,113	293	5.7
TE-2	00AAD1	5,105	264	5.2
TE-2	00AAD6	5,185	256	4.9
TE-2	00AAE9	10,290	546	5.3
TE-2	00ADPE	5,130	252	4.9
TE-2	00AEQP	5,101	257	5.0
TE-2	00AERG	10,268	481	4.7
TE-2	00AGI2	5,082	255	5.0
TE-2	00AGIC	5,113	269	5.3
TE-2	00AGKR	5,082	261	5.1
TE-2	00AKDO	5,138	269	5.2
TE-2	00AKE3	5,130	266	5.2
TE-2	00AKI6	5,138	248	4.8

Table B-9. Omit Rates of Field Test CR Items: HS Government—Winter 2023

PsyItemNumber	Item Type	N	Blank	Off Topic	Insufficient Amount to Score	Repeats the Prompt	Refusal	Illegible	Non-English	No Score	Excluded Item
Frequency of Students											
0074YZ	CR-4	2,021	139	1	0	0	0	0	0	0	0
0083QT	CR-4	2,066	106	0	0	1	1	0	0	0	0
0083RA	CR-4	2,074	152	6	0	2	0	0	3	0	0
0075EN	CR-5	2,046	95	3	0	1	0	0	1	0	0
Percentage of Students											
0074YZ	CR-4	2,021	6.88	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0083QT	CR-4	2,066	5.13	0.00	0.00	0.05	0.05	0.00	0.00	0.00	0.00
0083RA	CR-4	2,074	7.33	0.29	0.00	0.10	0.00	0.00	0.14	0.00	0.00
0075EN	CR-5	2,046	4.64	0.15	0.00	0.05	0.00	0.00	0.05	0.00	0.00

Table B-10. Omit Rates of Field Test CR Items: HS Government—Spring 2023

PsyItemNumber	Item Type	N	Blank	Off Topic	Insufficient Amount to Score	Repeats the Prompt	Refusal	Illegible	Non-English	No Score	Excluded Item
Frequency of Students											
0083MM	CR-4	2,052	19	12	0	5	1	0	4	0	0
0083MP	CR-4	2,064	111	3	0	2	0	0	7	0	0
008FTC	CR-4	2,055	121	1	0	2	2	0	5	0	0
008FU7	CR-4	2,029	109	7	0	2	0	0	6	0	0
009606	CR-4	2,053	98	4	0	2	0	0	5	0	0
009607	CR-4	2,040	159	6	0	1	0	0	6	0	0
00A4P9	CR-4	2,053	147	7	0	3	2	0	4	0	0
00A4PB	CR-4	2,117	192	6	0	0	2	0	3	0	0
00A4PC	CR-4	2,039	209	2	0	0	0	0	8	0	0
00A4RK	CR-4	2,116	95	1	0	6	0	0	2	0	0
00A4RY	CR-4	2,132	91	3	0	6	0	0	6	0	0
00A4S0	CR-4	2,019	67	2	0	0	0	0	2	0	0
007409	CR-5	2,077	46	0	0	4	1	0	6	0	0
0075D3	CR-5	2,048	65	11	0	8	3	0	1	0	0
008D18	CR-5	2,031	44	6	0	1	3	0	2	0	0
008D48	CR-5	2,022	46	6	0	3	0	0	4	0	0
008D4Y	CR-5	2,037	35	3	0	1	0	0	4	0	0
008DCL	CR-5	2,022	49	3	0	0	3	0	5	0	0
Percentage of Students											
0083MM	CR-4	2,052	0.93	0.58	0.00	0.24	0.05	0.00	0.19	0.00	0.00
0083MP	CR-4	2,064	5.38	0.15	0.00	0.10	0.00	0.00	0.34	0.00	0.00
008FTC	CR-4	2,055	5.89	0.05	0.00	0.10	0.10	0.00	0.24	0.00	0.00

continued

PsyItemNumber	Item Type	N	Blank	Off Topic	Insufficient Amount to Score	Repeats the Prompt	Refusal	Illegible	Non-English	No Score	Excluded Item
008FU7	CR-4	2,029	5.37	0.34	0.00	0.10	0.00	0.00	0.30	0.00	0.00
009606	CR-4	2,053	4.77	0.19	0.00	0.10	0.00	0.00	0.24	0.00	0.00
009607	CR-4	2,040	7.79	0.29	0.00	0.05	0.00	0.00	0.29	0.00	0.00
00A4P9	CR-4	2,053	7.16	0.34	0.00	0.15	0.10	0.00	0.19	0.00	0.00
00A4PB	CR-4	2,117	9.07	0.28	0.00	0.00	0.09	0.00	0.14	0.00	0.00
00A4PC	CR-4	2,039	10.25	0.10	0.00	0.00	0.00	0.00	0.39	0.00	0.00
00A4RK	CR-4	2,116	4.49	0.05	0.00	0.28	0.00	0.00	0.09	0.00	0.00
00A4RY	CR-4	2,132	4.27	0.14	0.00	0.28	0.00	0.00	0.28	0.00	0.00
00A4S0	CR-4	2,019	3.32	0.10	0.00	0.00	0.00	0.00	0.10	0.00	0.00
007409	CR-5	2,077	2.21	0.00	0.00	0.19	0.05	0.00	0.29	0.00	0.00
0075D3	CR-5	2,048	3.17	0.54	0.00	0.39	0.15	0.00	0.05	0.00	0.00
008D18	CR-5	2,031	2.17	0.30	0.00	0.05	0.15	0.00	0.10	0.00	0.00
008D48	CR-5	2,022	2.27	0.30	0.00	0.15	0.00	0.00	0.20	0.00	0.00
008D4Y	CR-5	2,037	1.72	0.15	0.00	0.05	0.00	0.00	0.20	0.00	0.00
008DCL	CR-5	2,022	2.42	0.15	0.00	0.00	0.15	0.00	0.25	0.00	0.00

Table B-11. Omit Rates of Field Test CR Items: LS MISA—Winter 2023

PsyItemNumber	Item Type	N	Blank	Off Topic	Insufficient Amount to Score	Repeats the Prompt	Refusal	Illegible	Non-English	No Score	Excluded Item
Frequency of Students											
009R80	CR-2	2,002	91	8	0	0	3	0	2	0	0
009R86	CR-2	2,013	102	7	0	1	5	0	4	0	0
009KEF	CR-3	2,001	125	5	0	0	10	0	5	0	0
009KEG	CR-3	2,001	114	8	0	0	8	0	2	0	0
Percentage of Students											
009R80	CR-2	2,002	4.55	0.40	0.00	0.00	0.15	0.00	0.10	0.00	0.00
009R86	CR-2	2,013	5.07	0.35	0.00	0.05	0.25	0.00	0.20	0.00	0.00
009KEF	CR-3	2,001	6.25	0.25	0.00	0.00	0.50	0.00	0.25	0.00	0.00
009KEG	CR-3	2,001	5.70	0.40	0.00	0.00	0.40	0.00	0.10	0.00	0.00

Table B-12. Omit Rates of Field Test CR Items: LS MISA—Spring 2023

PsyItemNumber	Item Type	N	Blank	Off Topic	Insufficient Amount to Score	Repeats the Prompt	Refusal	Illegible	Non-English	No Score	Excluded Item
Frequency of Students											
008RFY	CR-2	2,014	78	4	0	0	2	0	2	0	0
008RFZ	CR-2	2,001	90	3	0	0	1	0	6	0	0
009D73	CR-2	2,001	72	2	0	0	2	0	5	0	0
009D75	CR-2	2,000	82	3	0	0	0	0	7	0	0
009VTD	CR-2	2,006	86	1	0	0	0	0	3	0	0
009VTG	CR-2	2,017	72	4	0	0	1	0	4	0	0
00AA8F	CR-2	2,014	94	3	0	0	1	0	6	0	0
00AAAO	CR-2	2,019	89	4	0	0	0	0	0	0	0
00AAF6	CR-2	2,005	96	1	0	0	0	0	3	0	0
00AAHQ	CR-2	2,005	81	1	0	0	1	0	5	0	0
00AEQD	CR-2	2,009	97	3	0	0	0	0	4	0	0
00AEQM	CR-2	2,032	81	7	0	1	1	0	2	0	0
00AGSU	CR-2	1,999	97	1	0	0	0	0	3	0	0
00AGSV	CR-2	2,003	93	0	0	0	0	0	3	0	0
00AKGI	CR-2	2,024	88	4	0	0	1	0	3	0	0
00AKGJ	CR-2	2,016	65	3	0	0	3	0	3	0	0
Percentage of Students											
008RFY	CR-2	2,014	3.87	0.20	0.00	0.00	0.10	0.00	0.10	0.00	0.00
008RFZ	CR-2	2,001	4.50	0.15	0.00	0.00	0.05	0.00	0.30	0.00	0.00
009D73	CR-2	2,001	3.60	0.10	0.00	0.00	0.10	0.00	0.25	0.00	0.00
009D75	CR-2	2,000	4.10	0.15	0.00	0.00	0.00	0.00	0.35	0.00	0.00
009VTD	CR-2	2,006	4.29	0.05	0.00	0.00	0.00	0.00	0.15	0.00	0.00
009VTG	CR-2	2,017	3.57	0.20	0.00	0.00	0.05	0.00	0.20	0.00	0.00
00AA8F	CR-2	2,014	4.67	0.15	0.00	0.00	0.05	0.00	0.30	0.00	0.00
00AAAO	CR-2	2,019	4.41	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00
00AAF6	CR-2	2,005	4.79	0.05	0.00	0.00	0.00	0.00	0.15	0.00	0.00
00AAHQ	CR-2	2,005	4.04	0.05	0.00	0.00	0.05	0.00	0.25	0.00	0.00
00AEQD	CR-2	2,009	4.83	0.15	0.00	0.00	0.00	0.00	0.20	0.00	0.00
00AEQM	CR-2	2,032	3.99	0.34	0.00	0.05	0.05	0.00	0.10	0.00	0.00
00AGSU	CR-2	1,999	4.85	0.05	0.00	0.00	0.00	0.00	0.15	0.00	0.00
00AGSV	CR-2	2,003	4.64	0.00	0.00	0.00	0.00	0.00	0.15	0.00	0.00
00AKGI	CR-2	2,024	4.35	0.20	0.00	0.00	0.05	0.00	0.15	0.00	0.00
00AKGJ	CR-2	2,016	3.22	0.15	0.00	0.00	0.15	0.00	0.15	0.00	0.00

Appendix C. Classical Item Statistics—Field Test Items

For the data in tables C-1 through C-4:

- Item Type = Type + Point Value, where Type is one of the following:
    - BCR (brief constructed-response items worth 4 points),
    - CR (constructed-response items worth 2, 3, or 4 points),
    - MSR (multi-select items worth either 1 or 2 points),
    - SR (selected-response items), or
    - TE (technology-enhanced items worth either 1 or 2 points).
- Common = whether the item appears on other forms in this administration
    - L= item is common across all forms in this administration,
    - O = item is in one or more but not all forms in this administration.
- Forms = the forms on which the item appears in this administration,
- P_Val = *p*-value,
- R_ITT = item-total correlation,
- P_BIS1 – P_BIS*n* = option-total correlations for *n* options, and
- %Omits = percentage of omitted responses.

Table C-1. Classical Item Statistics, Operational Items: HS Government—Winter 2023

Item Type	ItemID	Number	P_Val	R_ITT	P_BIS_A	P_BIS_B	P_BIS_C	P_BIS_D
SR	004ZV0	9,006	0.49	0.41	-0.16	-0.22	0.41	-0.07
SR	005045	9,006	0.64	0.57	0.57	-0.37	-0.27	-0.08
SR	0050Y8	9,006	0.67	0.50	0.50	-0.20	-0.30	-0.16
SR	0050YB	9,006	0.50	0.61	-0.25	-0.28	-0.22	0.61
SR	0053BC	9,006	0.58	0.48	-0.15	-0.16	-0.27	0.48
SR	0053BV	9,006	0.57	0.44	-0.25	-0.22	0.44	-0.13
SR	0053CY	9,006	0.44	0.34	-0.16	-0.03	-0.21	0.34
SR	0053D1	9,006	0.60	0.37	-0.21	0.37	-0.12	-0.14
SR	0053E5	9,006	0.51	0.46	-0.18	-0.24	-0.17	0.46
SR	0053EZ	9,006	0.32	0.22	-0.05	0.22	-0.13	-0.05
SR	0053F1	9,006	0.85	0.47	-0.21	0.47	-0.30	-0.24
SR	005AMT	9,006	0.42	0.32	0.08	-0.18	-0.27	0.32
SR	005AN0	9,006	0.37	0.40	-0.15	-0.19	0.40	-0.11
SR	005AOG	9,006	0.42	0.31	-0.15	-0.15	0.31	-0.04
SR	005AP9	9,006	0.48	0.48	-0.20	-0.16	-0.21	0.48
SR	005AT7	9,006	0.29	0.17	0.11	-0.18	0.17	-0.12
SR	005ATM	9,006	0.54	0.35	-0.10	-0.24	0.35	-0.11
SR	005AXY	9,006	0.67	0.50	-0.17	0.50	-0.33	-0.20
SR	005B3O	9,006	0.47	0.41	-0.03	0.41	-0.27	-0.18
SR	005B53	9,006	0.76	0.48	0.48	-0.21	-0.26	-0.26
SR	005B7T	9,006	0.69	0.57	-0.20	-0.27	-0.32	0.57
SR	005BBQ	9,006	0.59	0.53	-0.21	-0.26	0.53	-0.27
SR	005BBV	9,006	0.61	0.34	-0.17	-0.23	0.34	-0.07
SR	005BF8	9,006	0.72	0.28	-0.08	-0.08	0.28	-0.27
SR	005BHC	9,006	0.49	0.41	-0.15	-0.11	0.41	-0.21
SR	005BHY	9,006	0.30	0.03	0.03	-0.16	0.19	-0.11
SR	005BKU	9,006	0.39	0.55	0.55	-0.24	-0.10	-0.25
SR	005BLO	9,006	0.43	0.28	-0.02	-0.16	0.28	-0.16
SR	005EOX	9,006	0.72	0.47	0.47	-0.26	-0.24	-0.12
SR	005EPH	9,006	0.44	0.49	0.49	-0.24	-0.11	-0.19
SR	005ET5	9,006	0.69	0.38	-0.27	0.38	-0.16	-0.19
SR	005EWE	9,006	0.61	0.64	-0.23	-0.29	-0.33	0.64
SR	005EYF	9,006	0.51	0.48	0.48	-0.18	-0.25	-0.22
SR	005F02	9,006	0.43	0.51	0.51	-0.30	-0.19	-0.08
SR	005F7X	9,006	0.81	0.49	0.49	-0.28	-0.28	-0.21
SR	005FBE	9,006	0.72	0.43	-0.20	0.43	-0.28	-0.11
SR	005FD1	9,006	0.33	0.14	-0.10	0.03	-0.10	0.14
SR	005FEE	9,006	0.43	0.38	-0.24	-0.02	-0.27	0.38
SR	005STU	9,006	0.31	0.31	-0.09	-0.08	-0.14	0.31
SR	005STV	9,006	0.41	0.19	0.10	-0.13	0.19	-0.24
SR	005STW	9,006	0.27	0.24	0.24	0.00	-0.12	-0.14
SR	005STY	9,006	0.28	0.28	-0.04	0.28	-0.09	-0.14
SR	0061DF	9,006	0.43	0.37	-0.15	-0.21	-0.10	0.37
SR	006J4P	9,006	0.67	0.50	-0.28	0.50	-0.25	-0.19
	Mean (SR)		0.52	0.40	0.01	-0.07	-0.05	0.00
	SD (SR)		0.15	0.13	0.28	0.25	0.27	0.28
CR-4	0053IG	9,006	0.24	0.75	--	--	--	--
CR-4	005B2B	9,006	0.27	0.67	--	--	--	--
	Mean (CR-4)		0.26	0.71	--	--	--	--
	SD (CR-4)		0.02	0.06	--	--	--	--
CR-5	005STZ	9,006	0.30	0.71	--	--	--	--
TE-2	0060Z3	9,006	0.61	0.58	--	--	--	--
TE-2	0061WS	9,006	0.67	0.56	--	--	--	--
TE-2	0061XD	9,006	0.55	0.58	--	--	--	--
TE-2	0063VU	9,006	0.68	0.60	--	--	--	--
TE-2	00646N		0.52	0.52	--	--	--	--
	Mean (TE-2)		0.61	0.57	--	--	--	--
	SD (TE-2)		0.07	0.03	--	--	--	--

Table C-2. Classical Item Statistics, Operational Items: HS Government—Spring 2023

Item Type	ItemID	Number	P_Val	R_ITT	P_BIS_A	P_BIS_B	P_BIS_C	P_BIS_D
SR	005078	26,113	0.75	0.51	-0.26	-0.28	0.51	-0.23
SR	0050Y0	15,163	0.56	0.55	-0.25	-0.16	-0.30	0.55
SR	0053EI	26,113	0.74	0.36	-0.24	-0.16	-0.14	0.36
SR	005AMN	15,163	0.42	0.40	-0.10	0.40	-0.12	-0.17
SR	005ANA	15,163	0.56	0.47	-0.15	-0.21	0.47	-0.23
SR	005ANU	15,163	0.62	0.47	-0.11	-0.21	0.47	-0.26
SR	005AQ0	15,163	0.69	0.46	-0.19	-0.20	-0.25	0.46
SR	005ATT	41,276	0.41	0.45	-0.15	-0.25	-0.12	0.45
SR	005B67	15,163	0.71	0.51	-0.22	-0.24	0.51	-0.21
SR	005B94	15,163	0.81	0.53	-0.22	0.53	-0.29	-0.30
SR	005B9K	41,276	0.56	0.56	-0.25	-0.24	0.56	-0.26
SR	005BDU	41,276	0.29	0.48	-0.16	-0.17	-0.17	0.48
SR	005BF3	41,276	0.43	0.36	-0.11	-0.16	0.36	-0.12
SR	005BGT	41,276	0.59	0.56	-0.22	-0.20	-0.30	0.56
SR	005BLZ	41,276	0.43	0.24	0.00	0.24	-0.18	-0.08
SR	005ENB	41,276	0.35	0.37	-0.21	-0.06	0.37	-0.19
SR	005EOS	15,163	0.84	0.41	-0.23	0.41	-0.23	-0.15
SR	005F6R	15,163	0.72	0.45	-0.15	-0.27	0.45	-0.22
SR	005FCU	15,163	0.64	0.44	0.44	-0.20	-0.25	-0.17
SR	005FHF	26,113	0.49	0.47	0.47	-0.22	-0.24	-0.08
SR	005T0D	26,113	0.62	0.64	0.64	-0.31	-0.28	-0.28
SR	005T0K	26,113	0.40	0.41	-0.15	-0.08	0.41	-0.22
SR	005T0O	15,163	0.67	0.58	-0.28	-0.26	-0.26	0.58
SR	005T0Q	15,163	0.54	0.57	0.57	-0.27	-0.28	-0.17
SR	005T0T	15,163	0.62	0.52	-0.16	-0.25	-0.26	0.52
SR	005TZQ	15,163	0.58	0.49	-0.28	-0.18	0.49	-0.18
SR	00617B	41,276	0.61	0.48	-0.20	-0.22	0.48	-0.19
SR	00617K	41,276	0.73	0.35	0.35	-0.15	-0.23	-0.09
SR	00617O	26,113	0.65	0.48	0.48	-0.25	-0.22	-0.15
SR	00618Q	26,113	0.76	0.44	0.44	-0.27	-0.22	-0.18
SR	0061B5	26,113	0.58	0.56	-0.17	-0.23	-0.35	0.56
SR	0061BE	15,163	0.72	0.62	-0.24	-0.36	-0.25	0.62
SR	0061C4	26,113	0.25	0.32	-0.04	-0.07	-0.14	0.32
SR	0061E7	41,276	0.78	0.45	0.45	-0.29	-0.15	-0.24
SR	0061EC	41,276	0.69	0.46	-0.26	0.46	-0.25	-0.11
SR	0061EJ	41,276	0.56	0.47	-0.16	0.47	-0.25	-0.19
SR	0061EX	41,276	0.52	0.46	-0.23	-0.15	-0.23	0.46
SR	0061H4	26,113	0.73	0.45	-0.19	-0.29	0.45	-0.16
SR	0061IM	15,163	0.63	0.50	-0.26	-0.27	0.50	-0.15
SR	0062JM	26,113	0.48	0.54	0.54	-0.24	-0.29	-0.12
SR	0063ZM	41,276	0.75	0.55	-0.26	-0.32	-0.24	0.55
SR	00645A	41,276	0.46	0.45	0.45	-0.16	-0.22	-0.11
SR	00645U	41,276	0.43	0.49	-0.19	-0.18	0.49	-0.18
SR	006461	26,113	0.32	0.19	-0.02	-0.12	0.00	0.19
SR	0065KQ	41,276	0.56	0.44	-0.31	-0.12	0.44	-0.08
SR	0069NL	26,113	0.37	0.48	-0.10	-0.20	-0.22	0.48
SR	006J50	41,276	0.22	0.14	0.02	0.02	-0.09	0.14
SR	006QNT	26,113	0.50	0.49	0.49	-0.22	-0.17	-0.18
SR	006QOY	41,276	0.35	0.33	-0.03	0.33	-0.25	-0.07
SR	006QP9	41,276	0.32	0.32	-0.14	-0.15	-0.06	0.32
SR	006QQK	26,113	0.45	0.41	-0.26	0.41	-0.17	-0.07
SR	006QSS	41,276	0.56	0.53	-0.31	-0.19	-0.24	0.53
SR	006QSX	26,113	0.65	0.46	0.46	-0.25	-0.28	-0.09
SR	006QSZ	41,276	0.60	0.46	-0.14	-0.31	0.46	-0.17
SR	006QT3	41,276	0.75	0.57	-0.19	-0.32	-0.27	0.57
SR	006QT5	26,113	0.66	0.54	-0.28	-0.24	0.54	-0.25
SR	006QU4	15,163	0.33	0.20	0.13	0.20	-0.31	-0.07

continued

Item Type	ItemID	Number	P_Val	R_ITT	P_BIS_A	P_BIS_B	P_BIS_C	P_BIS_D
SR	006RD5	15,163	0.40	0.33	-0.13	-0.08	-0.15	0.33
SR	006T39	26,113	0.58	0.38	-0.11	0.38	-0.18	-0.21
SR	006T3A	26,113	0.72	0.53	-0.27	-0.24	0.53	-0.22
SR	007O59	41,276	0.69	0.48	-0.25	-0.20	0.48	-0.18
SR	0083O4	15,163	0.38	0.44	-0.09	-0.21	-0.15	0.44
	Mean (SR)		0.56	0.45	-0.05	-0.11	0.00	0.04
	SD (SR)		0.15	0.10	0.28	0.23	0.33	0.31
CR-4	0061AS	41,276	0.29	0.65	--	--	--	--
CR-4	0061KB	41,276	0.36	0.72	--	--	--	--
	Mean (CR-4)		0.33	0.69	--	--	--	--
	SD (CR-4)		0.05	0.05	--	--	--	--
CR-5	005T0N	26,113	0.33	0.72	--	--	--	--
CR-5	005T0Y	15,163	0.32	0.72	--	--	--	--
	Mean (CR-5)		0.33	0.72	--	--	--	--
	SD (CR-5)		0.01	0.00	--	--	--	--
TE-2	00675D	15,163	0.48	0.42	--	--	--	--
TE-2	006QPF	41,276	0.66	0.54	--	--	--	--
TE-2	006QPH	41,276	0.29	0.50	--	--	--	--
TE-2	006QSG	41,276	0.70	0.62	--	--	--	--
TE-2	006QTN	26,113	0.60	0.57	--	--	--	--
TE-2	006QUM	41,276	0.38	0.38	--	--	--	--
	Mean (TE-2)		0.52	0.51	--	--	--	--
	SD (TE-2)		0.16	0.09	--	--	--	--

Table C-3. Classical Item Statistics, Operational Items: HS Government—Summer 2023

Item Type	ItemID	Number	P_Val	R_ITT	P_BIS_A	P_BIS_B	P_BIS_C	P_BIS_D
SR	0053C2	256	0.18	0.09	0.09	-0.23	-0.35	0.36
SR	0053C9	256	0.25	0.46	0.46	-0.16	-0.31	0.07
SR	0053CB	256	0.46	0.41	-0.12	-0.11	0.41	-0.25
SR	0053CG	256	0.27	0.31	0.31	-0.16	-0.04	-0.08
SR	0053CV	256	0.38	0.45	-0.12	-0.26	-0.16	0.45
SR	0053DD	256	0.40	0.24	0.04	0.24	-0.21	-0.11
SR	0053JF	256	0.27	0.31	-0.21	0.05	-0.16	0.31
SR	005AKW	256	0.29	0.19	0.23	0.19	-0.18	-0.29
SR	005APH	256	0.24	0.09	0.09	0.06	-0.15	0.00
SR	005AYR	256	0.45	0.40	-0.20	-0.12	0.40	-0.19
SR	005B0W	256	0.48	0.27	-0.09	-0.18	0.27	-0.09
SR	005B2Z	256	0.23	0.23	0.23	-0.07	-0.18	0.06
SR	005B7Y	256	0.47	0.21	-0.05	-0.35	0.21	0.18
SR	005B8R	256	0.33	0.14	-0.10	0.14	-0.19	0.12
SR	005BHS	256	0.29	0.20	-0.16	-0.14	0.20	0.06
SR	005BJJ	256	0.39	0.05	0.06	0.00	0.05	-0.07
SR	005ESZ	256	0.60	0.48	-0.14	0.48	-0.35	-0.13
SR	005EUD	256	0.42	0.39	0.39	-0.14	-0.12	-0.24
SR	005EZG	256	0.64	0.45	0.45	-0.26	-0.18	-0.21
SR	005F58	256	0.60	0.54	-0.26	-0.28	-0.24	0.54
SR	005F5O	256	0.43	0.37	-0.01	-0.15	-0.28	0.37
SR	005FEA	256	0.39	0.38	-0.10	-0.23	0.38	-0.08
SR	005SXL	256	0.43	0.44	0.44	-0.15	-0.22	-0.18
SR	005TLQ	256	0.23	0.41	0.41	-0.22	-0.11	0.01
SR	005TLR	256	0.34	0.30	-0.04	0.04	0.30	-0.30
SR	005TLS	256	0.30	0.46	-0.10	-0.21	-0.17	0.46
SR	005TLT	256	0.16	0.01	0.23	-0.32	0.01	0.14
SR	005UTR	256	0.39	0.10	0.00	0.10	-0.03	-0.04
SR	005VWY	256	0.51	0.34	-0.01	0.34	-0.33	-0.16
SR	00617S	256	0.46	0.37	-0.18	-0.17	0.37	-0.16

continued

Item Type	ItemID	Number	P_Val	R_ITT	P_BIS_A	P_BIS_B	P_BIS_C	P_BIS_D
SR	0061AR	256	0.31	0.51	0.51	-0.20	-0.05	-0.29
SR	0061DA	256	0.52	0.40	-0.26	0.40	-0.13	-0.14
SR	0065KU	256	0.32	0.13	0.07	-0.04	-0.13	0.13
SR	0065KZ	256	0.59	0.44	0.44	-0.31	-0.19	-0.08
SR	0065L3	256	0.65	0.39	-0.16	-0.18	0.39	-0.24
SR	0065LD	256	0.36	0.14	0.08	0.14	-0.10	-0.08
SR	0067KW	256	0.33	0.30	-0.01	0.30	-0.28	-0.04
SR	006QOP	256	0.32	0.38	-0.15	-0.20	-0.04	0.38
SR	006QP8	256	0.41	0.58	-0.21	-0.14	-0.32	0.58
SR	006QPA	256	0.63	0.50	-0.20	-0.28	-0.22	0.50
SR	006QT0	256	0.53	0.55	-0.25	0.55	-0.28	-0.19
SR	006QU3	256	0.38	0.32	0.32	-0.28	-0.13	0.06
SR	006QU6	256	0.27	0.23	0.23	-0.04	-0.10	-0.11
SR	0085UV	256	0.68	0.53	0.53	-0.34	-0.30	-0.07
	Mean (SR)		0.40	0.33	0.06	-0.07	-0.07	0.02
	SD (SR)		0.13	0.15	0.24	0.23	0.23	0.25
CR-4	0053HJ	256	0.18	0.65	--	--	--	--
CR-4	006QT9	256	0.15	0.63	--	--	--	--
	Mean (CR-4)		0.17	0.64	--	--	--	--
	SD (CR-4)		0.02	0.01	--	--	--	--
CR-5	005TLU	256	0.16	0.56	--	--	--	--
TE-2	006289	256	0.46	0.45	--	--	--	--
TE-2	006Q8V	256	0.48	0.26	--	--	--	--
TE-2	006QSD	256	0.65	0.16	--	--	--	--
TE-2	006QUJ	256	0.58	0.53	--	--	--	--
TE-2	008CD1	256	0.58	0.56	--	--	--	--
	Mean (TE-2)		0.55	0.39	--	--	--	--
	SD (TE-2)		0.08	0.17	--	--	--	--

Table C-4. Classical Item Statistics, Operational Items: HS Life Science MISA—Winter 2023

Item Type	ItemID	Number	P_Val	R_ITT	P_BIS_A	P_BIS_B	P_BIS_C	P_BIS_D
SR	006LXQ	9,953	0.31	0.19	-0.08	0.19	0.01	-0.14
SR	006LZP	9,953	0.43	0.36	0.36	-0.24	-0.07	-0.11
SR	006LZQ	9,953	0.38	0.51	-0.18	-0.17	-0.23	0.51
SR	0076P4	3,318	0.22	0.05	0.05	0.12	-0.16	0.06
SR	0076P5	3,311	0.23	0.16	-0.12	-0.19	0.11	0.16
SR	0076PC	9,953	0.44	0.26	-0.09	-0.18	0.26	0.00
SR	0076QG	3,324	0.47	0.46	-0.18	-0.14	-0.20	0.46
SR	0076QY	6,635	0.45	0.29	-0.09	-0.08	0.29	-0.11
SR	007AHF	9,953	0.36	0.34	0.34	-0.09	-0.10	-0.16
SR	007BB9	6,635	0.46	0.25	0.01	0.25	-0.21	-0.04
SR	007BBA	3,324	0.71	0.39	-0.19	-0.22	0.39	-0.10
SR	007BBB	3,318	0.50	0.27	-0.08	0.27	-0.13	-0.08
SR	007BBC	3,311	0.37	0.42	0.42	-0.09	-0.19	-0.17
SR	007BBD	6,642	0.35	0.10	-0.09	0.02	0.10	0.02
SR	007BBF	3,311	0.58	0.51	-0.22	0.51	-0.32	-0.15
SR	007BBH	6,642	0.64	0.48	-0.17	0.48	-0.25	-0.21
SR	007BBO	3,324	0.32	0.17	-0.07	-0.08	0.17	0.04
SR	007GR7	9,953	0.44	0.23	-0.17	0.23	-0.20	0.07
SR	007GRC	9,953	0.25	0.15	0.12	-0.18	-0.11	0.15
SR	007GRL	9,953	0.37	0.19	-0.02	0.19	-0.07	-0.14
SR	007GRM	9,953	0.49	0.23	-0.19	0.01	0.23	-0.18
SR	009U9E	9,953	0.39	0.21	0.12	0.21	-0.23	-0.11
SR	009U9I	9,953	0.36	0.36	0.36	-0.25	-0.15	0.03
SR	009U9V	9,953	0.41	0.45	-0.18	-0.09	-0.24	0.45
SR	009UAE	9,953	0.30	0.25	0.09	0.25	-0.15	-0.11

continued

Item Type	ItemID	Number	P_Val	R_ITT	P_BIS_A	P_BIS_B	P_BIS_C	P_BIS_D
SR	009XEZ	9,953	0.54	0.40	-0.12	-0.27	0.40	-0.15
SR	009XFH	9,953	0.41	0.30	0.30	-0.16	-0.10	-0.05
SR	009YFZ	9,953	0.44	0.32	-0.07	-0.18	0.32	-0.13
SR	009YO6	9,953	0.29	0.17	0.04	-0.05	0.17	-0.15
SR	009YP3	9,953	0.35	0.19	-0.02	-0.22	0.19	0.02
	Mean (SR)		0.41	0.29	0.00	-0.01	-0.02	-0.01
	SD (SR)		0.11	0.12	0.19	0.22	0.22	0.19
CR-2	006LZS	9,953	0.28	0.63	0.00	0.00	0.00	0.00
CR-3	0076R0	3,318	0.15	0.68	0.00	0.00	0.00	0.00
CR-3	0076R2	6,635	0.17	0.68	0.00	0.00	0.00	0.00
CR-3	007GSK	9,953	0.25	0.73	0.00	0.00	0.00	0.00
CR-3	009U92	9,953	0.15	0.61	0.00	0.00	0.00	0.00
	Mean (CR-3)		0.18	0.68	0.00	0.00	0.00	0.00
	SD (CR-3)		0.05	0.05	--	--	--	--
CR-4	007BBU	9,953	0.11	0.66	--	--	--	--
CR-4	009YLC	9,953	0.17	0.71	--	--	--	--
	Mean (CR-4)		0.14	0.69	--	--	--	--
	SD (CR-4)		0.04	0.04	--	--	--	--
MSR-2	006LY5	9,953	0.35	0.47	--	--	--	--
TE-1	0076PE	3,318	0.41	0.50	--	--	--	--
TE-1	007BBI	6,629	0.08	0.26	--	--	--	--
TE-1	007CG0	6,629	0.59	0.29	--	--	--	--
	Mean (TE-1)		0.36	0.35	--	--	--	--
	SD (TE-1)		0.26	0.13	--	--	--	--
TE-2	006LY9	9,953	0.51	0.45	--	--	--	--
TE-2	0076NX	3,311	0.08	0.32	--	--	--	--
TE-2	0076OI	3,324	0.33	0.40	--	--	--	--
TE-2	0076P2	3,318	0.38	0.45	--	--	--	--
TE-2	007GS5	9,953	0.39	0.51	--	--	--	--
	Mean (TE-2)		0.34	0.43	--	--	--	--
	SD (TE-2)		0.16	0.07	--	--	--	--

Table C-5. Classical Item Statistics, Operational Items: HS Life Science MISA—Spring 2023

Item Type	ItemID	Number	P_Val	R_ITT	P_BIS_A	P_BIS_B	P_BIS_C	P_BIS_D
SR	006LXQ	59,354	0.32	0.20	-0.09	0.20	0.03	-0.15
SR	006LZP	59,354	0.43	0.36	0.36	-0.24	-0.06	-0.12
SR	006LZQ	59,354	0.39	0.52	-0.17	-0.16	-0.25	0.52
SR	007GRC	59,354	0.26	0.16	0.12	-0.18	-0.12	0.16
SR	007GRM	59,354	0.50	0.25	-0.20	-0.01	0.25	-0.17
SR	008UZ5	29,689	0.35	0.25	-0.07	-0.13	-0.03	0.25
SR	008UZF	29,689	0.29	0.21	-0.09	-0.15	0.07	0.21
SR	008V2W	9,891	0.39	0.30	-0.13	-0.19	0.30	0.03
SR	008V2Y	19,752	0.25	0.19	-0.01	0.19	-0.21	0.03
SR	008V2Z	19,828	0.40	0.38	-0.14	-0.07	0.38	-0.22
SR	008V35	19,798	0.30	0.21	0.06	0.21	-0.15	-0.04
SR	008VYR	29,689	0.30	0.45	-0.19	-0.21	-0.04	0.45
SR	008W13	9,900	0.37	0.23	-0.12	0.23	-0.07	-0.03
SR	008W52	9,893	0.50	0.40	-0.09	-0.25	0.40	-0.14
SR	008W55	29,689	0.42	0.31	-0.20	-0.03	0.31	-0.13
SR	008WEX	19,796	0.21	0.24	-0.05	-0.11	-0.01	0.24
SR	008WFD	29,689	0.27	0.24	-0.06	-0.09	-0.04	0.24
SR	008YH7	29,665	0.35	0.47	-0.15	-0.14	-0.17	0.47
SR	008YKC	29,665	0.59	0.42	-0.16	-0.17	-0.20	0.42
SR	008YKD	29,665	0.56	0.39	0.39	-0.17	-0.13	-0.16
SR	008YKG	29,665	0.26	0.35	0.35	-0.18	-0.01	-0.10
SR	009Q70	9,942	0.41	0.31	-0.03	0.31	-0.22	-0.09
SR	009QLW	29,665	0.43	0.22	0.01	0.22	-0.13	-0.12
SR	009QLX	29,665	0.29	0.37	0.37	-0.19	-0.19	-0.01
SR	009QLZ	9,942	0.39	0.17	-0.06	-0.06	-0.03	0.17
SR	009QM0	19,723	0.30	0.17	0.17	0.05	-0.11	-0.10
SR	009U9E	59,354	0.42	0.25	0.06	0.25	-0.23	-0.12
SR	009U9I	59,354	0.37	0.37	0.37	-0.25	-0.15	0.02
SR	009U9V	59,354	0.43	0.46	-0.18	-0.11	-0.26	0.46
SR	009UAE	59,354	0.29	0.23	0.11	0.23	-0.17	-0.10
SR	009XEZ	59,354	0.58	0.41	-0.14	-0.26	0.41	-0.16
SR	009XFH	59,354	0.42	0.29	0.29	-0.16	-0.10	-0.06
SR	009YFZ	59,354	0.43	0.34	-0.09	-0.17	0.34	-0.13
SR	009YO6	59,354	0.28	0.18	0.05	-0.07	0.18	-0.15
SR	009YP3	59,354	0.36	0.22	-0.05	-0.22	0.22	0.02
	Mean (SR)		0.37	0.30	0.01	-0.06	-0.01	0.04
	SD (SR)		0.10	0.10	0.19	0.17	0.21	0.22
CR-2	006LZS	59,354	0.31	0.65	--	--	--	--
CR-3	007GSK	59,354	0.29	0.75	--	--	--	--
CR-3	008YH9	19,814	0.19	0.69	--	--	--	--
CR-3	008YHB	9,851	0.14	0.62	--	--	--	--
CR-3	009U92	59,354	0.17	0.64	--	--	--	--
	Mean (CR-3)		0.20	0.68	--	--	--	--
	SD (CR-3)		0.07	0.06	--	--	--	--
CR-4	008V3I	29,689	0.22	0.72	--	--	--	--
CR-4	008WFQ	29,689	0.14	0.69	--	--	--	--
CR-4	009QYT	19,793	0.16	0.68	--	--	--	--
CR-4	009QYX	9,872	0.13	0.67	--	--	--	--
CR-4	009YLC	59,354	0.19	0.71	--	--	--	--
	Mean (CR-4)		0.17	0.69	--	--	--	--
	SD (CR-4)		0.04	0.02	--	--	--	--
MSR-1	009QM7	29,665	0.12	0.14	--	--	--	--
MSR-2	006LY5	59,354	0.36	0.49	--	--	--	--
TE-1	008V1W	19,798	0.35	0.35	--	--	--	--
TE-1	008VZ2	9,893	0.35	0.43	--	--	--	--
TE-1	008VZH	9,896	0.10	0.11	--	--	--	--
TE-1	Item ID	19,723	0.41	0.42	--	--	--	--

continued

Item Type	ItemID	Number	P_Val	R_ITT	P_BIS_A	P_BIS_B	P_BIS_C	P_BIS_D
	Mean (TE-1)		0.30	0.33	--	--	--	--
	SD (TE-1)		0.14	0.15	--	--	--	--
TE-2	006LY9	59,354	0.54	0.46	--	--	--	--
TE-2	007GS5	59,354	0.39	0.53	--	--	--	--
TE-2	008YGW	9,851	0.48	0.56	--	--	--	--
TE-2	008YGY	9,872	0.47	0.55	--	--	--	--
TE-2	008YGZ	9,942	0.48	0.57	--	--	--	--
	Mean (TE-2)		0.47	0.53	--	--	--	--
	SD (TE-2)		0.05	0.04	--	--	--	--

Table C-6. Classical Item Statistics, Operational Items: HS Life Science MISA—Summer 2023

Item Type	ItemID	Number	P_Val	R_ITT	P_BIS_A	P_BIS_B	P_BIS_C	P_BIS_D
SR	006LXQ	270	0.26	0.35	-0.06	0.35	-0.09	-0.17
SR	006LZP	270	0.30	0.32	0.32	-0.20	0.03	-0.11
SR	006LZQ	270	0.23	0.37	-0.08	-0.10	-0.13	0.37
SR	007GRC	270	0.26	0.28	0.04	-0.12	-0.17	0.28
SR	007GRM	270	0.38	0.19	-0.21	0.11	0.19	-0.14
SR	008VYR	270	0.19	0.24	-0.01	-0.16	0.01	0.24
SR	008W13	270	0.30	0.12	0.00	0.12	-0.07	-0.01
SR	008W55	270	0.29	0.21	-0.11	-0.08	0.21	0.01
SR	008WEX	270	0.21	0.20	-0.02	-0.11	-0.02	0.20
SR	008WFD	270	0.34	0.28	-0.16	-0.09	-0.04	0.28
SR	008YH7	270	0.25	0.31	0.01	-0.08	-0.21	0.31
SR	008YKC	270	0.47	0.32	-0.05	-0.13	-0.19	0.32
SR	008YKD	270	0.36	0.31	0.31	-0.11	-0.13	-0.08
SR	008YKG	270	0.19	0.25	0.25	0.08	-0.17	-0.14
SR	009U9E	270	0.34	0.22	0.06	0.22	-0.20	-0.05
SR	009U9I	270	0.27	0.30	0.30	-0.18	-0.10	0.01
SR	009U9V	270	0.29	0.32	-0.15	-0.04	-0.12	0.32
SR	009UAE	270	0.21	0.13	0.16	0.13	-0.20	0.01
SR	009XEZ	270	0.47	0.34	-0.04	-0.22	0.34	-0.18
SR	009XFH	270	0.32	0.37	0.37	-0.13	-0.11	-0.14
SR	009YFZ	270	0.37	0.21	-0.16	-0.08	0.21	0.02
SR	009YO6	270	0.31	0.15	0.08	-0.09	0.15	-0.13
SR	009YP3	270	0.29	0.19	-0.01	-0.18	0.19	0.02
	Mean (SR)		0.30	0.26	0.04	-0.05	-0.03	0.05
	SD (SR)		0.08	0.08	0.17	0.15	0.16	0.19
CR-2	006LZS	270	0.14	0.49	--	--	--	--
CR-3	007GSK	270	0.08	0.56	--	--	--	--
CR-3	008YH9	270	0.03	0.33	--	--	--	--
	Mean (CR-3)		0.06	0.45	--	--	--	--
	SD (CR-3)		0.04	0.16	--	--	--	--
CR-4	008WFQ	270	0.02	0.52	--	--	--	--
CR-4	009YLC	270	0.04	0.49	--	--	--	--
	Mean (CR-4)		0.03	0.51	--	--	--	--
	SD (CR-4)		0.01	0.02	--	--	--	--
MSR-2	006LY5	270	0.24	0.40	--	--	--	--
TE-2	006LY9	270	0.36	0.32	--	--	--	--
TE-2	007GS5	270	0.26	0.41	--	--	--	--
TE-2	008YGY	270	0.28	0.33	--	--	--	--
	Mean (TE-2)		0.30	0.35	--	--	--	--
	SD (TE-2)		0.05	0.05	--	--	--	--

Table C-7. Omit Rates of Operational Machine-Scored Items: HS Government—Winter 2023

Item Type	Item ID	N	N Omits	% Omits
SR	004ZV0	10,359	980	9.5
SR	005045	10,359	918	8.9
SR	0050Y8	10,359	977	9.4
SR	0050YB	10,359	915	8.8
SR	0053BC	10,359	934	9.0
SR	0053BV	10,359	803	7.8
SR	0053CY	10,359	815	7.9
SR	0053D1	10,359	936	9.0
SR	0053E5	10,359	924	8.9
SR	0053EZ	10,359	791	7.6
SR	0053F1	10,359	770	7.4
SR	005AMT	10,359	913	8.8
SR	005AN0	10,359	907	8.8
SR	005AOG	10,359	946	9.1
SR	005AP9	10,359	951	9.2
SR	005AT7	10,359	852	8.2
SR	005ATM	10,359	807	7.8
SR	005AXY	10,359	862	8.3
SR	005B3O	10,359	982	9.5
SR	005B53	10,359	784	7.6
SR	005B7T	10,359	963	9.3
SR	005BBQ	10,359	821	7.9
SR	005BBV	10,359	808	7.8
SR	005BF8	10,359	763	7.4
SR	005BHC	10,359	968	9.3
SR	005BHY	10,359	812	7.8
SR	005BKU	10,359	955	9.2
SR	005BLO	10,359	818	7.9
SR	005EOX	10,359	949	9.2
SR	005EPH	10,359	928	9.0
SR	005ET5	10,359	819	7.9
SR	005EWE	10,359	973	9.4
SR	005EYF	10,359	776	7.5
SR	005F02	10,359	924	8.9
SR	005F7X	10,359	769	7.4
SR	005FBE	10,359	925	8.9
SR	005FD1	10,359	763	7.4
SR	005FEE	10,359	830	8.0
SR	005STU	10,359	810	7.8
SR	005STV	10,359	807	7.8
SR	005STW	10,359	810	7.8
SR	005STY	10,359	811	7.8
SR	0061DF	10,359	770	7.4
SR	006J4P	10,359	783	7.6
MSR-2	006UHI	677	49	7.2
MSR-2	006V3I	677	60	8.9
MSR-2	006VDP	677	62	9.2
MSR-2	006VED	677	63	9.3
TE-2	0060Z3	9,682	888	9.2
TE-2	0061WS	9,682	937	9.7
TE-2	0061XD	9,682	866	8.9
TE-2	0063VU	9,682	723	7.5
TE-2	00646N	9,682	761	7.9
TE-2	006SHB	677	56	8.3

Table C-8. Omit Rates of Operational Machine-Scored Items: HS Government—Spring 2023

Item Type	Item ID	N	N Omits	% Omits
SR	005078	29,642	1,319	4.4
SR	0050Y0	26,921	1,560	5.8
SR	0053EI	29,642	1,523	5.1
SR	005AMN	26,921	1,634	6.1
SR	005ANA	26,921	1,554	5.8
SR	005ANU	26,921	1,494	5.5
SR	005AQ0	26,921	1,347	5.0
SR	005ATT	56,563	3,159	5.6
SR	005B67	26,921	1,510	5.6
SR	005B94	26,921	1,178	4.4
SR	005B9K	56,563	2,524	4.5
SR	005BDU	56,563	3,441	6.1
SR	005BF3	56,563	3,127	5.5
SR	005BGT	56,563	3,353	5.9
SR	005BLZ	56,563	2,552	4.5
SR	005ENB	56,563	2,836	5.0
SR	005EOS	26,921	1,158	4.3
SR	005F6R	26,921	1,464	5.4
SR	005FCU	26,921	1,155	4.3
SR	005FHF	29,642	1,800	6.1
SR	005T0D	29,642	1,833	6.2
SR	005T0K	29,642	1,855	6.3
SR	005T0O	26,921	1,612	6.0
SR	005T0Q	26,921	1,619	6.0
SR	005T0T	26,921	1,628	6.0
SR	005TZQ	26,921	1,200	4.5
SR	00617B	56,563	3,248	5.7
SR	00617K	56,563	2,915	5.2
SR	00617O	29,642	1,741	5.9
SR	00618Q	29,642	1,326	4.5
SR	0061B5	29,642	1,665	5.6
SR	0061BE	26,921	1,622	6.0
SR	0061C4	29,642	1,637	5.5
SR	0061E7	56,563	2,548	4.5
SR	0061EC	56,563	3,050	5.4
SR	0061EJ	56,563	2,791	4.9
SR	0061EX	56,563	3,148	5.6
SR	0061H4	29,642	1,429	4.8
SR	0061IM	26,921	1,203	4.5
SR	0062JM	29,642	1,739	5.9
SR	0063ZM	56,563	2,678	4.7
SR	00645A	56,563	3,125	5.5
SR	00645U	56,563	3,388	6.0
SR	006461	29,642	1,659	5.6
SR	0065KQ	56,563	3,437	6.1
SR	0069NL	29,642	1,821	6.1
SR	006J50	56,563	3,342	5.9
SR	006QNT	29,642	1,640	5.5
SR	006QOY	56,563	2,686	4.7
SR	006QP9	56,563	2,562	4.5
SR	006QQK	29,642	1,330	4.5
SR	006QSS	56,563	2,501	4.4
SR	006QSX	29,642	1,633	5.5
SR	006QSZ	56,563	2,739	4.8
SR	006QT3	56,563	3,399	6.0
SR	006QT5	29,642	1,371	4.6
SR	006QU4	26,921	1,471	5.5
SR	006RD5	26,921	1,622	6.0
SR	006T39	29,642	1,843	6.2

continued

Item Type	Item ID	N	N Omits	% Omits
SR	006T3A	29,642	1,846	6.2
SR	007O59	56,563	3,135	5.5
SR	0083O4	26,921	1,474	5.5
MSR-2	0085BY	2,552	180	7.1
MSR-2	0085PP	2,552	154	6.0
MSR-2	00860D	2,552	143	5.6
MSR-2	0087XS	2,552	214	8.4
TE-2	00675D	26,921	1,561	5.8
TE-2	006QPF	54,011	2,534	4.7
TE-2	006QPH	54,011	3,231	6.0
TE-2	006QSG	54,011	2,521	4.7
TE-2	006QTN	27,090	1,557	5.7
TE-2	006QUM	54,011	2,434	4.5
TE-2	0085D2	2,552	132	5.2

Table C-9. Omit Rates of Operational Machine-Scored Items: HS Government—Summer 2023

Item Type	Item ID	N	N Omits	% Omits
SR	0053C2	297	73	24.6
SR	0053C9	297	74	24.9
SR	0053CB	297	74	24.9
SR	0053CG	297	74	24.9
SR	0053CV	297	72	24.2
SR	0053DD	297	70	23.6
SR	0053JF	297	73	24.6
SR	005AKW	297	73	24.6
SR	005APH	297	72	24.2
SR	005AYR	297	69	23.2
SR	005B0W	297	72	24.2
SR	005B2Z	297	72	24.2
SR	005B7Y	297	72	24.2
SR	005B8R	297	73	24.6
SR	005BHS	297	68	22.9
SR	005BJJ	297	72	24.2
SR	005ESZ	297	71	23.9
SR	005EUD	297	69	23.2
SR	005EZG	297	73	24.6
SR	005F58	297	68	22.9
SR	005F5O	297	73	24.6
SR	005FEA	297	74	24.9
SR	005SXL	297	69	23.2
SR	005TLQ	297	71	23.9
SR	005TLR	297	70	23.6
SR	005TLS	297	71	23.9
SR	005TLT	297	71	23.9
SR	005UTR	297	74	24.9
SR	005VWY	297	69	23.2
SR	00617S	297	73	24.6
SR	0061AR	297	74	24.9
SR	0061DA	297	72	24.2
SR	0065KU	297	72	24.2
SR	0065KZ	297	72	24.2
SR	0065L3	297	69	23.2
SR	0065LD	297	74	24.9
SR	0067KW	297	69	23.2
SR	006QOP	297	73	24.6
SR	006QP8	297	74	24.9
SR	006QPA	297	73	24.6
SR	006QT0	297	74	24.9

continued

Item Type	Item ID	N	N Omits	% Omits
SR	006QU3	297	69	23.2
SR	006QU6	297	73	24.6
SR	0085UV	297	70	23.6
MSR-2	006UG2	25	5	20.0
MSR-2	006UH1	25	5	20.0
MSR-2	0085CS	25	5	20.0
MSR-2	0085O7	25	5	20.0
MSR-2	0087XI	25	5	20.0
TE-2	006289	272	65	23.9
TE-2	006Q8V	272	66	24.3
TE-2	006QSD	272	68	25.0
TE-2	006QUJ	272	67	24.6
TE-2	008CD1	272	65	23.9

Table C-10. Omit Rates of Operational Machine-Scored Items: LS MISA—Winter 2023

Item Type	Item ID	N	N Omits	% Omits
SR	006LXQ	11,369	1,089	9.6
SR	006LZP	11,369	1,124	9.9
SR	006LZQ	11,369	1,104	9.7
SR	0076P4	3,606	393	10.9
SR	0076P5	3,605	404	11.2
SR	0076PC	11,369	1,278	11.2
SR	0076QG	4,158	481	11.6
SR	0076QY	7,763	892	11.5
SR	007AHF	11,369	1,273	11.2
SR	007BB9	7,763	809	10.4
SR	007BBA	4,158	446	10.7
SR	007BBB	3,606	363	10.1
SR	007BBC	3,605	364	10.1
SR	007BBD	7,764	810	10.4
SR	007BBF	3,605	368	10.2
SR	007BBH	7,764	817	10.5
SR	007BBO	4,158	449	10.8
SR	007GR7	11,369	984	8.7
SR	007GRC	11,369	986	8.7
SR	007GRL	11,369	996	8.8
SR	007GRM	11,369	993	8.7
SR	009U9E	11,369	1,256	11.0
SR	009U9I	11,369	1,255	11.0
SR	009U9V	11,369	1,265	11.1
SR	009UAE	11,369	1,264	11.1
SR	009XEZ	11,369	1,060	9.3
SR	009XFH	11,369	1,063	9.3
SR	009YFZ	11,369	1,055	9.3
SR	009YO6	11,369	1,066	9.4
SR	009YP3	11,369	1,062	9.3
MSR-2	006LY5	11,369	1,047	9.2
TE-1	0076PE	3,606	395	11.0
TE-1	007BBI	7,211	730	10.1
TE-1	007CG0	7,211	733	10.2
TE-2	006LY9	11,369	1,067	9.4
TE-2	0076NX	3,605	407	11.3
TE-2	0076OI	4,158	483	11.6
TE-2	0076P2	3,606	392	10.9
TE-2	007GS5	11,369	998	8.8

Table C-11. Omit Rates of Operational Machine-Scored Items: LS MISA—Spring 2023

Item Type	Item ID	N	N Omits	% Omits
SR	006LXQ	63,974	3,408	5.3
SR	006LZP	63,974	3,787	5.9
SR	006LZQ	63,974	3,663	5.7
SR	007GRC	63,974	2,698	4.2
SR	007GRM	63,974	2,739	4.3
SR	008UZ5	33,312	2,041	6.1
SR	008UZF	33,312	2,040	6.1
SR	008V2W	12,878	795	6.2
SR	008V2Y	23,061	1,446	6.3
SR	008V2Z	23,129	1,433	6.2
SR	008V35	20,434	1,246	6.1
SR	008VYR	33,312	1,711	5.1
SR	008W13	12,886	678	5.3
SR	008W52	10,212	518	5.1
SR	008W55	33,312	1,729	5.2
SR	008WEX	23,100	1,256	5.4
SR	008WFD	33,312	1,767	5.3
SR	008YH7	30,662	1,887	6.2
SR	008YKC	30,662	1,848	6.0
SR	008YKD	30,662	1,860	6.1
SR	008YKG	30,662	1,894	6.2
SR	009Q70	10,280	529	5.1
SR	009QLW	30,662	1,574	5.1
SR	009QLX	30,662	1,609	5.2
SR	009QLZ	10,280	543	5.3
SR	009QM0	20,382	1,072	5.3
SR	009U9E	63,974	3,744	5.9
SR	009U9I	63,974	3,775	5.9
SR	009U9V	63,974	3,821	6.0
SR	009UAE	63,974	3,802	5.9
SR	009XEZ	63,974	2,858	4.5
SR	009XFH	63,974	2,888	4.5
SR	009YFZ	63,974	2,832	4.4
SR	009YO6	63,974	2,938	4.6
SR	009YP3	63,974	2,912	4.6
MSR-1	009QM7	30,662	1,622	5.3
MSR-2	006LY5	63,974	3,071	4.8
TE-1	008V1W	20,434	1,225	6.0
TE-1	008VZ2	10,212	516	5.1
TE-1	008VZH	10,214	580	5.7
TE-1	009Q6Z	20,382	1,056	5.2
TE-2	006LY9	63,974	3,261	5.1
TE-2	007GS5	63,974	2,791	4.4
TE-2	008YGW	10,191	638	6.3
TE-2	008YGY	10,191	624	6.1
TE-2	008YGZ	10,280	623	6.1

Table C-12. Omit Rates of Operational Machine-Scored Items: LS MISA—Summer 2023

Item Type	Item ID	N	N Omits	% Omits
SR	006LXQ	300	73	24.3
SR	006LZP	300	73	24.3
SR	006LZQ	300	73	24.3
SR	007GRC	300	72	24.0
SR	007GRM	300	71	23.7
SR	008VYR	300	72	24.0
SR	008W13	300	72	24.0
SR	008W55	300	74	24.7
SR	008WEX	300	73	24.3
SR	008WFD	300	73	24.3
SR	008YH7	300	74	24.7
SR	008YKC	300	73	24.3
SR	008YKD	300	73	24.3
SR	008YKG	300	74	24.7
SR	009U9E	300	72	24.0
SR	009U9I	300	72	24.0
SR	009U9V	300	74	24.7
SR	009UAE	300	72	24.0
SR	009XEZ	300	71	23.7
SR	009XFH	300	72	24.0
SR	009YFZ	300	72	24.0
SR	009YO6	300	72	24.0
SR	009YP3	300	72	24.0
MSR-2	006LY5	300	73	24.3
TE-2	006LY9	300	73	24.3
TE-2	007GS5	300	71	23.7
TE-2	008YGY	300	74	24.7

Table C-13. Omit Rates of Operational CR Items: HS Government—Winter 2023

Item ID	Item Type	N	Blank	Off Topic	Insufficient Amount to Score	Repeats the Prompt	Refusal	Illegible	Non-English	No Score	Excluded Item
Frequency of Students											
0053IG	CR-4	10,359	1,592	20	1	11	1	0	12	0	0
005B2B	CR-4	10,359	1,219	21	0	19	4	0	10	0	0
005STZ	CR-5	10,359	1,200	6	0	0	0	0	0	0	0
Percentage of Students											
0053IG	CR-4	10,359	15	0.19	0.01	0.11	0.01	0.00	0.12	0.00	0.00
005B2B	CR-4	10,359	12	0.20	0.00	0.18	0.04	0.00	0.10	0.00	0.00
005STZ	CR-5	10,359	12	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table C-14. Omit Rates of Operational CR Items: HS Government—Spring 2023

Item ID	Item Type	N	Blank	Off Topic	Insufficient Amount to Score	Repeats the Prompt	Refusal	Illegible	Non-English	No Score	Excluded Item
Frequency of Students											
0061AS	CR-4	56,563	4,378	1	0	2	0	0	20	0	0
0061KB	CR-4	56,563	5,194	19	0	10	8	0	96	0	0
005T0N	CR-5	29,642	2,855	15	0	11	13	0	31	0	0
005T0Y	CR-5	26,921	2,516	25	0	6	5	0	31	0	0
Percentage of Students											
0061AS	CR-4	56,563	8	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00
0061KB	CR-4	56,563	9	0.03	0.00	0.02	0.01	0.00	0.17	0.00	0.00
005T0N	CR-5	29,642	10	0.05	0.00	0.04	0.04	0.00	0.10	0.00	0.00
005T0Y	CR-5	26,921	9	0.09	0.00	0.02	0.02	0.00	0.12	0.00	0.00

Table C-15. Omit Rates of Operational CR Items: HS Government—Summer 2023

Item ID	Item Type	N	Blank	Off Topic	Insufficient Amount to Score	Repeats the Prompt	Refusal	Illegible	Non-English	No Score	Excluded Item
Frequency of Students											
0053HJ	CR-4	297	86	0	0	3	2	0	0	0	0
006QT9	CR-4	297	99	3	0	0	2	0	1	0	0
005TLU	CR-5	297	84	1	0	0	1	0	1	0	0
Percentage of Students											
0053HJ	CR-4	297	29	0.00	0.00	1.01	0.67	0.00	0.00	0.00	0.00
006QT9	CR-4	297	33	1.01	0.00	0.00	0.67	0.00	0.34	0.00	0.00
005TLU	CR-5	297	28	0.34	0.00	0.00	0.34	0.00	0.34	0.00	0.00

Table C-16. Omit Rates of Operational CR Items: LS MISA—Winter 2023

Item ID	Item Type	N	Blank	Off Topic	Insufficient Amount to Score	Repeats the Prompt	Refusal	Illegible	Non-English	No Score	Excluded Item
Frequency of Students											
006LZS	CR-2	11,369	1,511	2	0	0	0	0	1	0	0
0076R0	CR-3	3,606	557	8	0	1	2	0	0	0	0
0076R2	CR-3	7,763	1,372	1	0	0	2	0	0	0	0
007GSK	CR-3	11,369	1,480	2	0	1	0	0	0	0	0
009U92	CR-3	11,369	1,807	18	0	2	5	0	8	0	0
007BBU	CR-4	11,369	1,738	24	0	2	9	0	7	0	0
009YLC	CR-4	11,369	1,525	1	0	0	2	0	2	0	0
Percentage of Students											
006LZS	CR-2	11,369	13	0.02	0.00	0.00	0.00	0.00	0.01	0.00	0.00
0076R0	CR-3	3,606	15	0.22	0.00	0.03	0.06	0.00	0.00	0.00	0.00
0076R2	CR-3	7,763	18	0.01	0.00	0.00	0.03	0.00	0.00	0.00	0.00
007GSK	CR-3	11,369	13	0.02	0.00	0.01	0.00	0.00	0.00	0.00	0.00
009U92	CR-3	11,369	16	0.16	0.00	0.02	0.04	0.00	0.07	0.00	0.00
007BBU	CR-4	11,369	15	0.21	0.00	0.02	0.08	0.00	0.06	0.00	0.00
009YLC	CR-4	11,369	13	0.01	0.00	0.00	0.02	0.00	0.02	0.00	0.00

Table C-17. Omit Rates of Operational CR Items: LS MISA—Spring 2023

Item ID	Item Type	N	Blank	Off Topic	Insufficient Amount to Score	Repeats the Prompt	Refusal	Illegible	Non-English	No Score	Excluded Item
					Frequency of Students						
006LZS	CR-2	63,974	5,623	4	0	0	0	0	2	0	0
007GSK	CR-3	63,974	5,096	0	0	0	2	0	1	0	0
008YH9	CR-3	20,471	2,093	18	0	0	11	0	19	0	0
008YHB	CR-3	10,191	1,116	10	0	0	2	0	6	0	0
009U92	CR-3	63,974	6,256	3	0	0	1	0	8	0	0
008V3I	CR-4	33,312	3,335	40	0	5	17	0	25	0	0
008WFQ	CR-4	33,312	3,442	28	0	2	13	0	28	0	0
009QYT	CR-4	20,471	2,100	23	0	2	6	0	14	0	0
009QYX	CR-4	10,191	1,051	8	0	1	6	0	13	0	0
009YLC	CR-4	63,974	4,979	1	0	0	1	0	7	0	0
					Percentage of Students						
006LZS	CR-2	63,974	9	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
007GSK	CR-3	63,974	8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
008YH9	CR-3	20,471	10	0.09	0.00	0.00	0.05	0.00	0.09	0.00	0.00
008YHB	CR-3	10,191	11	0.10	0.00	0.00	0.02	0.00	0.06	0.00	0.00
009U92	CR-3	63,974	10	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
008V3I	CR-4	33,312	10	0.12	0.00	0.02	0.05	0.00	0.08	0.00	0.00
008WFQ	CR-4	33,312	10	0.08	0.00	0.01	0.04	0.00	0.08	0.00	0.00
009QYT	CR-4	20,471	10	0.11	0.00	0.01	0.03	0.00	0.07	0.00	0.00
009QYX	CR-4	10,191	10	0.08	0.00	0.01	0.06	0.00	0.13	0.00	0.00
009YLC	CR-4	63,974	8	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00

Table C-18. Omit Rates of Operational CR Items: LS MISA—Summer 2023

Item ID	Item Type	N	Blank	Off Topic	Insufficient Amount to Score	Repeats the Prompt	Refusal	Illegible	Non-English	No Score	Excluded Item
					Frequency of Students						
006LZS	CR-2	300	83	3	0	0	0	0	0	0	0
007GSK	CR-3	300	86	1	0	0	1	0	1	0	0
008WFQ	CR-4	300	93	9	0	0	0	0	0	0	0
008YH9	CR-3	300	92	4	0	0	2	0	0	0	0
009YLC	CR-4	300	88	2	0	0	0	0	0	0	0
					Percentage of Students						
006LZS	CR-2	300	28	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
007GSK	CR-3	300	29	0.33	0.00	0.00	0.33	0.00	0.33	0.00	0.00
008WFQ	CR-4	300	31	3.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
008YH9	CR-3	300	31	1.33	0.00	0.00	0.67	0.00	0.00	0.00	0.00
009YLC	CR-4	300	29	0.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Appendix D. Reliability

Table D-1. Test Reliability Estimates for MCAP Government Winter 2023 Operational Form 1*

		N	Alpha	SEM	IRT
Overall	Overall	9,682	0.943	21.081	0.925
Gender	Male	5,061	0.946	20.970	0.928
	Female	4,608	0.940	21.098	0.922
	Non-Binary	13	--	--	--
Grade	9	1,894	0.946	21.435	0.931
	10	4,419	0.944	20.061	0.918
	11	1,545	0.942	23.362	0.938
	12	1,824	0.925	21.341	0.904
Ethnicity	American Indian/Alaskan Native	25	--	--	--
	Asian	292	0.933	17.536	0.873
	Black or African American	3,311	0.934	23.507	0.930
	Hispanic/Latino Ethnicity	0	--	--	--
	Native Hawaiian or Other Pacific Islander	19	--	--	--
	White	3,535	0.934	18.859	0.893
	Multiracial	0	--	--	--
Econ. Dis.	Yes	3,507	0.936	22.647	0.927
	No	6,175	0.944	20.359	0.921
Special Education (SE) Indicator	Yes	822	0.925	23.832	0.924
	No	7,838	0.943	20.974	0.924
	Exited	282	0.940	21.525	0.924
	Exited from 504	66	0.940	19.100	0.904
	504	674	0.942	20.583	0.920
English Learner (EL) Status	Yes	657	0.867	27.230	0.899
	No	8,638	0.944	20.928	0.925
	Exited	387	0.922	21.714	0.904

** Statistics not reported for sample size less than 50 (N < 50).*

Table D-2. Test Reliability Estimates for MCAP Government Winter 2023 Accommodated Form*

		N	Alpha	SEM	IRT
Overall	Overall	677	0.868	25.851	0.838
Gender	Male	410	0.875	25.498	0.841
	Female	219	0.851	27.627	0.841
	Non-Binary	0	--	--	--
Grade	9	127	0.858	24.982	0.814
	10	285	0.863	26.045	0.835
	11	104	0.894	26.643	0.876
	12	113	0.858	26.866	0.839
Ethnicity	American Indian/Alaskan Native	0	--	--	--
	Asian	17	--	--	--
	Black or African American	205	0.915	23.579	0.871
	Hispanic/Latino Ethnicity	0	--	--	--
	Native Hawaiian or Other Pacific Islander	0	--	--	--
	White	177	0.939	15.625	0.787
	Multiracial	0	--	--	--
Econ. Dis.	Yes	267	0.861	27.895	0.854
	No	362	0.871	24.895	0.829
Special Education (SE) Indicator	Yes	458	0.863	25.960	0.834
	No	156	0.854	28.565	0.854
	Exited	2	--	--	--
	Exited from 504	6	--	--	--
	504	7	--	--	--
English Learner (EL) Status	Yes	221	0.835	27.192	0.820
	No	393	0.880	25.843	0.852
	Exited	15	--	--	--

** Statistics not reported for sample size less than 50 (N < 50).*

Table D-3. Test Reliability Estimates for MCAP Government Spring 2023 Operational Form 1*

		N	Alpha	SEM	IRT
Overall	Overall	27,090	0.941	18.425	0.930
Gender	Male	14,008	0.944	18.250	0.932
	Female	13,025	0.938	18.520	0.926
	Non-Binary	44	--	--	--
Grade	9	9,195	0.943	19.154	0.937
	10	15,825	0.938	17.654	0.920
	11	1,245	0.947	19.986	0.946
	12	812	0.938	19.915	0.937
Ethnicity	American Indian/Alaskan Native	90	0.958	11.876	0.878
	Asian	1,567	0.942	14.375	0.886
	Black or African American	9,969	0.933	19.837	0.931
	Hispanic/Latino Ethnicity	0	--	--	--
	Native Hawaiian or Other Pacific Islander	53	0.963	10.681	0.865
	White	7,855	0.936	16.520	0.905
	Multiracial	0	--	--	--
Econ. Dis.	Yes	12,062	0.928	20.308	0.929
	No	15,015	0.943	17.305	0.922
Special Education (SE) Indicator	Yes	1,972	0.925	21.267	0.933
	No	22,444	0.941	18.261	0.927
	Exited	816	0.941	18.777	0.932
	Exited from 504	168	0.940	17.825	0.923
	504	1,677	0.942	17.784	0.925
English Learner (EL) Status	Yes	2,652	0.849	24.620	0.903
	No	22,531	0.941	18.240	0.928
	Exited	1,894	0.913	16.394	0.869

** Statistics not reported for sample size less than 50 (N < 50).*

Table D-4. Test Reliability Estimates for MCAP Government Spring 2023 Operational Form 2*

		N	Alpha	SEM	IRT
Overall	Overall	26,921	0.942	18.377	0.929
Gender	Male	13,747	0.946	18.404	0.934
	Female	13,131	0.937	18.213	0.923
	Non-Binary	40	--	--	--
Grade	9	9,073	0.943	19.136	0.936
	10	15,741	0.939	17.594	0.919
	11	1,341	0.947	19.745	0.944
	12	763	0.945	20.021	0.944
Ethnicity	American Indian/Alaskan Native	84	0.951	17.534	0.934
	Asian	1,558	0.936	14.914	0.883
	Black or African American	9,813	0.933	19.596	0.929
	Hispanic/Latino Ethnicity	0	--	--	--
	Native Hawaiian or Other Pacific Islander	37	--	--	--
	White	8,018	0.937	16.621	0.907
	Multiracial	0	--	--	--
Econ. Dis.	Yes	11,963	0.929	20.109	0.929
	No	14,955	0.943	17.353	0.922
Special Education (SE) Indicator	Yes	1,981	0.919	21.460	0.929
	No	22,244	0.941	18.216	0.928
	Exited	806	0.933	18.158	0.917
	Exited from 504	166	0.940	16.851	0.913
	504	1,721	0.943	17.938	0.927
English Learner (EL) Status	Yes	2,671	0.852	26.002	0.915
	No	22,432	0.941	18.010	0.926
	Exited	1,815	0.915	16.697	0.877

** Statistics not reported for sample size less than 50 (N < 50).*

Table D-5. Test Reliability Estimates for MCAP Government Spring 2023 Accommodated Form*

		N	Alpha	SEM	IRT
Overall	Overall	2,552	0.888	23.263	0.852
Gender	Male	1,603	0.889	23.642	0.858
	Female	840	0.866	23.892	0.834
	Non-Binary	2	--	--	--
Grade	9	960	0.870	25.111	0.854
	10	1,313	0.885	22.988	0.844
	11	118	0.881	21.558	0.818
	12	54	0.850	24.597	0.826
Ethnicity	American Indian/Alaskan Native	9	--	--	--
	Asian	69	0.970	7.004	0.547
	Black or African American	1,054	0.885	22.491	0.838
	Hispanic/Latino Ethnicity	0	--	--	--
	Native Hawaiian or Other Pacific Islander	7	--	--	--
	White	581	0.943	16.113	0.839
	Multiracial	0	--	--	--
Econ. Dis.	Yes	1,430	0.849	25.957	0.843
	No	1,015	0.903	21.834	0.853
Special Education (SE) Indicator	Yes	2,174	0.869	23.578	0.833
	No	186	0.889	29.064	0.906
	Exited	11	--	--	--
	Exited from 504	19	--	--	--
	504	55	0.954	18.859	0.904
English Learner (EL) Status	Yes	513	0.855	27.496	0.866
	No	1,845	0.884	23.161	0.846
	Exited	87	0.845	13.948	0.445

** Statistics not reported for sample size less than 50 (N < 50).*

Table D-6. Test Reliability Estimates for MCAP Government Summer 2023 Operational Form 1*

		N	Alpha	SEM	IRT
Overall	Overall	272	0.946	25.326	0.882
Gender	Male	144	0.950	24.826	0.886
	Female	128	0.942	25.773	0.877
	Non-Binary	0	--	--	--
Grade	9	65	0.964	23.497	0.908
	10	103	0.952	24.875	0.890
	11	40	--	--	--
	12	64	0.824	19.796	0.407
Ethnicity	American Indian/Alaskan Native	1	--	--	--
	Asian	12	--	--	--
	Black or African American	136	0.930	26.308	0.859
	Hispanic/Latino Ethnicity	0	--	--	--
	Native Hawaiian or Other Pacific Islander	0	--	--	--
	White	61	0.969	23.049	0.918
	Multiracial	0	--	--	--
Econ. Dis.	Yes	135	0.955	25.249	0.900
	No	137	0.928	24.026	0.826
Special Education (SE) Indicator	Yes	26	--	--	--
	No	221	0.945	25.425	0.881
	Exited	13	--	--	--
	Exited from 504	0	--	--	--
	504	12	--	--	--
English Learner (EL) Status	Yes	13	--	--	--
	No	251	0.949	25.099	0.887
	Exited	8	--	--	--

** Statistics not reported for sample size less than 50 (N < 50).*

Table D-7. Test Reliability Estimates for MCAP Government Summer 2023 Accommodated Form*

		N	Alpha	SEM	IRT
Overall	Overall	25	--	--	--
Gender	Male	20	--	--	--
	Female	5	--	--	--
	Non-Binary	0	--	--	--
Grade	9	6	--	--	--
	10	8	--	--	--
	11	4	--	--	--
	12	7	--	--	--
Ethnicity	American Indian/Alaskan Native	0	--	--	--
	Asian	0	--	--	--
	Black or African American	8	--	--	--
	Hispanic/Latino Ethnicity	0	--	--	--
	Native Hawaiian or Other Pacific Islander	0	--	--	--
	White	6	--	--	--
	Multiracial	0	--	--	--
Econ. Dis.	Yes	13	--	--	--
	No	12	--	--	--
Special Education (SE) Indicator	Yes	19	--	--	--
	No	6	--	--	--
	Exited	0	--	--	--
	Exited from 504	0	--	--	--
	504	0	--	--	--
English Learner (EL) Status	Yes	9	--	--	--
	No	16	--	--	--
	Exited	0	--	--	--

** Statistics not reported for sample size less than 50 (N < 50).*

Table D-8. Test Reliability Estimates for MCAP Life Science MISA Winter 2023 Operational Form 1*

		N	Alpha	SEM	IRT
Overall	Overall	3,615	0.883	14.118	0.822
Gender	Male	1,842	0.881	13.970	0.816
	Female	1,768	0.884	14.226	0.827
	Non-Binary	5	--	--	--
Grade	9	576	0.905	15.411	0.878
	10	1,538	0.876	13.039	0.781
	11	1,018	0.870	14.752	0.820
	12	483	0.850	14.445	0.787
Ethnicity	American Indian/Alaskan Native	9	--	--	--
	Asian	151	0.867	11.805	0.713
	Black or African American	1,302	0.866	15.731	0.838
	Hispanic/Latino Ethnicity	0	--	--	--
	Native Hawaiian or Other Pacific Islander	7	--	--	--
	White	1,293	0.867	12.659	0.752
	Multiracial	0	--	--	--
Econ. Dis.	Yes	1,216	0.873	16.097	0.853
	No	2,399	0.877	13.100	0.785
Special Education (SE) Indicator	Yes	290	0.860	17.233	0.859
	No	2,950	0.879	13.730	0.806
	Exited	93	0.872	12.774	0.764
	Exited from 504	29	--	--	--
	504	253	0.893	15.232	0.859
English Learner (EL) Status	Yes	222	0.702	17.934	0.747
	No	3,258	0.883	14.065	0.821
	Exited	135	0.875	16.044	0.854

** Statistics not reported for sample size less than 50 (N < 50).*

Table D-9. Test Reliability Estimates for MCAP Life Science MISA Winter 2023 Operational Form 2*

		N	Alpha	SEM	IRT
Overall	Overall	3,606	0.879	14.291	0.817
Gender	Male	1,818	0.882	14.008	0.814
	Female	1,785	0.875	14.558	0.818
	Non-Binary	3	--	--	--
Grade	9	578	0.897	15.995	0.875
	10	1,553	0.874	13.198	0.778
	11	1,023	0.865	15.346	0.824
	12	452	0.824	13.358	0.705
Ethnicity	American Indian/Alaskan Native	10	--	--	--
	Asian	144	0.872	11.016	0.677
	Black or African American	1,251	0.862	16.220	0.840
	Hispanic/Latino Ethnicity	0	--	--	--
	Native Hawaiian or Other Pacific Islander	10	--	--	--
	White	1,292	0.855	12.491	0.717
	Multiracial	0	--	--	--
Econ. Dis.	Yes	1,228	0.875	15.987	0.849
	No	2,378	0.873	13.328	0.780
Special Education (SE) Indicator	Yes	279	0.864	16.046	0.839
	No	2,945	0.876	14.098	0.808
	Exited	113	0.862	15.549	0.826
	Exited from 504	17	--	--	--
	504	252	0.878	14.262	0.816
English Learner (EL) Status	Yes	202	0.688	18.794	0.755
	No	3,238	0.879	14.261	0.817
	Exited	166	0.868	14.686	0.813

** Statistics not reported for sample size less than 50 (N < 50).*

Table D-10. Test Reliability Estimates for MCAP Life Science MISA Winter 2023 Operational Form 3*

		N	Alpha	SEM	IRT
Overall	Overall	3,605	0.878	14.386	0.812
Gender	Male	1,806	0.886	13.986	0.812
	Female	1,794	0.870	14.731	0.810
	Non-Binary	5	--	--	--
Grade	9	591	0.896	16.087	0.870
	10	1,511	0.876	12.629	0.752
	11	1,047	0.860	15.628	0.818
	12	456	0.836	14.843	0.768
Ethnicity	American Indian/Alaskan Native	7	--	--	--
	Asian	139	0.886	12.509	0.765
	Black or African American	1,235	0.855	16.751	0.837
	Hispanic/Latino Ethnicity	0	--	--	--
	Native Hawaiian or Other Pacific Islander	6	--	--	--
	White	1,309	0.866	12.291	0.718
	Multiracial	0	--	--	--
Econ. Dis.	Yes	1,213	0.866	16.644	0.846
	No	2,392	0.875	13.223	0.771
Special Education (SE) Indicator	Yes	293	0.857	16.237	0.828
	No	2,931	0.877	14.278	0.807
	Exited	117	0.861	13.629	0.762
	Exited from 504	20	--	--	--
	504	244	0.877	14.482	0.813
English Learner (EL) Status	Yes	220	0.700	19.066	0.761
	No	3,238	0.880	14.313	0.812
	Exited	147	0.828	15.811	0.786

** Statistics not reported for sample size less than 50 (N < 50).*

Table D-11. Test Reliability Estimates for MCAP Life Science MISA Winter 2023 Accommodated Form*

		N	Alpha	SEM	IRT
Overall	Overall	543	0.745	17.813	0.697
Gender	Male	324	0.788	17.774	0.741
	Female	184	0.649	18.241	0.624
	Non-Binary	0	--	--	--
Grade	9	77	0.813	18.274	0.780
	10	184	0.745	16.382	0.642
	11	162	0.757	18.946	0.743
	12	85	0.630	18.392	0.615
Ethnicity	American Indian/Alaskan Native	4	--	--	--
	Asian	11	--	--	--
	Black or African American	169	0.824	16.910	0.757
	Hispanic/Latino Ethnicity	0	--	--	--
	Native Hawaiian or Other Pacific Islander	0	--	--	--
	White	115	0.891	11.127	0.639
	Multiracial	0	--	--	--
Econ. Dis.	Yes	229	0.769	19.534	0.768
	No	279	0.732	16.314	0.623
Special Education (SE) Indicator	Yes	332	0.763	18.367	0.732
	No	162	0.695	17.547	0.637
	Exited	3	--	--	--
	Exited from 504	3	--	--	--
	504	8	--	--	--
English Learner (EL) Status	Yes	187	0.668	19.441	0.683
	No	305	0.787	17.052	0.717
	Exited	16	--	--	--

** Statistics not reported for sample size less than 50 (N < 50).*

Table D-12. Test Reliability Estimates for MCAP Life Science MISA Spring 2023 Operational Form 1*

		N	Alpha	SEM	IRT
Overall	Overall	10,280	0.873	11.353	0.813
Gender	Male	5,269	0.880	11.274	0.820
	Female	4,987	0.865	11.373	0.803
	Non-Binary	23	--	--	--
Grade	9	5,574	0.882	11.253	0.822
	10	4,103	0.848	11.208	0.773
	11	446	0.871	13.993	0.875
	12	146	0.799	14.375	0.822
Ethnicity	American Indian/Alaskan Native	31	--	--	--
	Asian	744	0.860	8.276	0.613
	Black or African American	3,553	0.835	13.281	0.825
	Hispanic/Latino Ethnicity	0	--	--	--
	Native Hawaiian or Other Pacific Islander	20	--	--	--
	White	3,222	0.860	9.743	0.721
	Multiracial	0	--	--	--
Econ. Dis.	Yes	4,199	0.832	13.328	0.824
	No	6,080	0.876	10.379	0.780
Special Education (SE) Indicator	Yes	717	0.835	13.360	0.828
	No	8,583	0.871	11.185	0.805
	Exited	287	0.873	12.221	0.839
	Exited from 504	67	0.833	9.429	0.651
	504	625	0.879	11.519	0.826
English Learner (EL) Status	Yes	882	0.669	16.234	0.787
	No	8,596	0.874	11.307	0.812
	Exited	801	0.839	10.149	0.707

** Statistics not reported for sample size less than 50 (N < 50).*

Table D-13. Test Reliability Estimates for MCAP Life Science MISA Spring 2023 Operational Form 2*

		N	Alpha	SEM	IRT
Overall	Overall	10,191	0.875	11.305	0.814
Gender	Male	5,116	0.881	11.125	0.816
	Female	5,059	0.869	11.426	0.809
	Non-Binary	14	--	--	--
Grade	9	5,428	0.884	11.255	0.824
	10	4,169	0.853	11.079	0.774
	11	452	0.854	14.512	0.869
	12	129	0.861	11.924	0.815
Ethnicity	American Indian/Alaskan Native	28	--	--	--
	Asian	758	0.865	8.779	0.669
	Black or African American	3,567	0.835	12.794	0.812
	Hispanic/Latino Ethnicity	0	--	--	--
	Native Hawaiian or Other Pacific Islander	18	--	--	--
	White	3,155	0.865	10.020	0.745
	Multiracial	0	--	--	--
Econ. Dis.	Yes	4,206	0.838	13.086	0.823
	No	5,983	0.876	10.377	0.780
Special Education (SE) Indicator	Yes	736	0.819	14.015	0.829
	No	8,455	0.874	11.049	0.804
	Exited	308	0.864	11.187	0.794
	Exited from 504	60	0.855	8.375	0.611
	504	630	0.883	12.447	0.855
English Learner (EL) Status	Yes	880	0.664	15.473	0.762
	No	8,512	0.875	11.323	0.814
	Exited	797	0.849	9.848	0.707

** Statistics not reported for sample size less than 50 (N < 50).*

Table D-14. Test Reliability Estimates for MCAP Life Science MISA Spring 2023 Operational Form 3*

		N	Alpha	SEM	IRT
Overall	Overall	10,191	0.876	11.479	0.811
Gender	Male	5,142	0.882	11.513	0.822
	Female	5,020	0.868	11.338	0.796
	Non-Binary	24	--	--	--
Grade	9	5,480	0.884	11.315	0.817
	10	4,113	0.851	11.335	0.771
	11	429	0.877	14.342	0.880
	12	156	0.805	16.037	0.854
Ethnicity	American Indian/Alaskan Native	29	--	--	--
	Asian	741	0.862	8.498	0.620
	Black or African American	3,578	0.842	13.155	0.820
	Hispanic/Latino Ethnicity	0	--	--	--
	Native Hawaiian or Other Pacific Islander	14	--	--	--
	White	3,175	0.863	10.031	0.729
	Multiracial	0	--	--	--
Econ. Dis.	Yes	4,120	0.837	13.211	0.817
	No	6,066	0.877	10.706	0.785
Special Education (SE) Indicator	Yes	714	0.801	13.630	0.794
	No	8,466	0.875	11.369	0.806
	Exited	320	0.873	12.536	0.839
	Exited from 504	66	0.855	12.663	0.821
	504	620	0.883	11.171	0.812
English Learner (EL) Status	Yes	864	0.647	16.380	0.769
	No	8,561	0.876	11.493	0.812
	Exited	761	0.846	9.531	0.666

** Statistics not reported for sample size less than 50 (N < 50).*

Table D-15. Test Reliability Estimates for MCAP Life Science MISA Spring 2023 Operational Form 4*

		N	Alpha	SEM	IRT
Overall	Overall	5,073	0.857	12.087	0.775
Gender	Male	2,609	0.866	11.862	0.780
	Female	2,457	0.847	12.223	0.766
	Non-Binary	6	--	--	--
Grade	9	2,718	0.867	11.815	0.780
	10	2,058	0.829	12.047	0.733
	11	220	0.851	15.503	0.858
	12	73	0.867	13.054	0.819
Ethnicity	American Indian/Alaskan Native	14	--	--	--
	Asian	339	0.852	9.588	0.630
	Black or African American	1,716	0.817	13.543	0.776
	Hispanic/Latino Ethnicity	0	--	--	--
	Native Hawaiian or Other Pacific Islander	9	--	--	--
	White	1,631	0.851	10.364	0.682
	Multiracial	0	--	--	--
Econ. Dis.	Yes	2,069	0.800	14.179	0.778
	No	3,003	0.864	11.175	0.749
Special Education (SE) Indicator	Yes	367	0.806	13.238	0.753
	No	4,214	0.857	12.026	0.773
	Exited	150	0.848	12.222	0.767
	Exited from 504	45	--	--	--
	504	296	0.854	12.353	0.780
English Learner (EL) Status	Yes	420	0.637	17.674	0.764
	No	4,274	0.857	11.892	0.767
	Exited	378	0.828	11.341	0.697

** Statistics not reported for sample size less than 50 (N < 50).*

Table D-16. Test Reliability Estimates for MCAP Life Science MISA Spring 2023 Operational Form 5*

		N	Alpha	SEM	IRT
Overall	Overall	5,138	0.863	11.805	0.781
Gender	Male	2,564	0.865	11.587	0.776
	Female	2,564	0.861	11.937	0.783
	Non-Binary	9	--	--	--
Grade	9	2,777	0.871	11.791	0.793
	10	2,063	0.843	11.494	0.739
	11	207	0.820	14.647	0.818
	12	84	0.851	14.750	0.849
Ethnicity	American Indian/Alaskan Native	14	--	--	--
	Asian	405	0.852	8.544	0.553
	Black or African American	1,704	0.813	13.582	0.780
	Hispanic/Latino Ethnicity	0	--	--	--
	Native Hawaiian or Other Pacific Islander	4	--	--	--
	White	1,676	0.850	10.262	0.685
	Multiracial	0	--	--	--
Econ. Dis.	Yes	2,066	0.822	13.853	0.799
	No	3,071	0.863	10.715	0.735
Special Education (SE) Indicator	Yes	348	0.795	12.774	0.731
	No	4,317	0.862	11.767	0.778
	Exited	145	0.849	11.413	0.744
	Exited from 504	41	--	--	--
	504	286	0.874	12.338	0.814
English Learner (EL) Status	Yes	446	0.635	17.310	0.762
	No	4,310	0.863	11.635	0.775
	Exited	381	0.825	11.253	0.699

** Statistics not reported for sample size less than 50 (N < 50).*

Table D-17. Test Reliability Estimates for MCAP Life Science MISA Spring 2023 Operational Form 6*

		N	Alpha	SEM	IRT
Overall	Overall	5,130	0.866	11.619	0.782
Gender	Male	2,629	0.873	11.372	0.783
	Female	2,490	0.859	11.797	0.778
	Non-Binary	9	--	--	--
Grade	9	2,759	0.877	11.523	0.795
	10	2,095	0.839	11.639	0.742
	11	203	0.847	12.968	0.802
	12	67	0.838	15.153	0.847
Ethnicity	American Indian/Alaskan Native	14	--	--	--
	Asian	355	0.855	8.134	0.520
	Black or African American	1,808	0.826	13.481	0.794
	Hispanic/Latino Ethnicity	0	--	--	--
	Native Hawaiian or Other Pacific Islander	12	--	--	--
	White	1,588	0.854	9.814	0.670
	Multiracial	0	--	--	--
Econ. Dis.	Yes	2,094	0.827	13.599	0.799
	No	3,034	0.868	10.518	0.738
Special Education (SE) Indicator	Yes	373	0.777	14.713	0.785
	No	4,276	0.866	11.500	0.778
	Exited	155	0.861	11.815	0.782
	Exited from 504	34	--	--	--
	504	290	0.845	10.514	0.695
English Learner (EL) Status	Yes	442	0.566	16.014	0.687
	No	4,295	0.866	11.631	0.782
	Exited	391	0.830	11.000	0.698

** Statistics not reported for sample size less than 50 (N < 50).*

Table D-18. Test Reliability Estimates for MCAP Life Science MISA Spring 2023 Operational Form 7*

		N	Alpha	SEM	IRT
Overall	Overall	5,113	0.861	12.398	0.769
Gender	Male	2,621	0.869	11.978	0.765
	Female	2,481	0.852	0.000	0.771
	Non-Binary	10	--	0.000	--
Grade	9	2,790	0.871	0.000	0.772
	10	2,035	0.834	0.000	0.739
	11	217	0.858	0.000	0.833
	12	65	0.756	0.000	0.788
Ethnicity	American Indian/Alaskan Native	13	--	0.000	--
	Asian	392	0.855	0.000	0.472
	Black or African American	1,770	0.812	0.000	0.775
	Hispanic/Latino Ethnicity	0	--	0.000	--
	Native Hawaiian or Other Pacific Islander	10	--	0.000	--
	White	1,586	0.841	0.000	0.630
	Multiracial	0	--	0.000	--
Econ. Dis.	Yes	2,070	0.806	0.000	0.777
	No	3,042	0.866	0.000	0.732
Special Education (SE) Indicator	Yes	382	0.774	0.000	0.743
	No	4,251	0.860	0.000	0.762
	Exited	152	0.851	0.000	0.655
	Exited from 504	31	--	0.000	--
	504	296	0.871	0.000	0.815
English Learner (EL) Status	Yes	429	0.713	0.000	0.773
	No	4,303	0.861	0.000	0.764
	Exited	380	0.820	0.000	0.636

** Statistics not reported for sample size less than 50 (N < 50).*

Table D-19. Test Reliability Estimates for MCAP Life Science MISA Spring 2023 Operational Form 8*

		N	Alpha	SEM	IRT
Overall	Overall	5,101	0.856	0.000	0.770
Gender	Male	2,594	0.865	0.000	0.768
	Female	2,501	0.847	0.000	0.770
	Non-Binary	5	--	0.000	--
Grade	9	2,751	0.865	0.000	0.775
	10	2,062	0.831	0.000	0.737
	11	215	0.833	0.000	0.797
	12	69	0.800	0.000	0.853
Ethnicity	American Indian/Alaskan Native	19	--	0.000	--
	Asian	371	0.856	0.000	0.611
	Black or African American	1,736	0.809	0.000	0.778
	Hispanic/Latino Ethnicity	0	--	0.000	--
	Native Hawaiian or Other Pacific Islander	9	--	0.000	--
	White	1,593	0.844	0.000	0.658
	Multiracial	0	--	0.000	--
Econ. Dis.	Yes	2,094	0.813	0.000	0.786
	No	3,006	0.858	0.000	0.726
Special Education (SE) Indicator	Yes	349	0.808	0.000	0.788
	No	4,311	0.856	0.000	0.764
	Exited	149	0.854	0.000	0.745
	Exited from 504	27	--	0.000	--
	504	264	0.846	0.000	0.752
English Learner (EL) Status	Yes	464	0.628	0.000	0.744
	No	4,262	0.857	0.000	0.764
	Exited	374	0.814	0.000	0.695

** Statistics not reported for sample size less than 50 (N < 50).*

Table D-20. Test Reliability Estimates for MCAP Life Science MISA Spring 2023 Operational Form 9*

		N	Alpha	SEM	IRT
Overall	Overall	5,082	0.871	0.000	0.782
Gender	Male	2,578	0.877	0.000	0.784
	Female	2,495	0.864	0.000	0.775
	Non-Binary	8	--	0.000	--
Grade	9	2,721	0.879	0.000	0.783
	10	2,044	0.851	0.000	0.768
	11	222	0.854	0.000	0.811
	12	89	0.817	0.000	0.749
Ethnicity	American Indian/Alaskan Native	12	--	0.000	--
	Asian	374	0.877	0.000	0.661
	Black or African American	1,744	0.831	0.000	0.794
	Hispanic/Latino Ethnicity	0	--	0.000	--
	Native Hawaiian or Other Pacific Islander	3	--	0.000	--
	White	1,588	0.863	0.000	0.715
	Multiracial	0	--	0.000	--
Econ. Dis.	Yes	2,059	0.825	0.000	0.794
	No	3,022	0.875	0.000	0.746
Special Education (SE) Indicator	Yes	356	0.839	0.000	0.808
	No	4,254	0.869	0.000	0.774
	Exited	140	0.862	0.000	0.670
	Exited from 504	32	--	0.000	--
	504	299	0.876	0.000	0.808
English Learner (EL) Status	Yes	436	0.593	0.000	0.731
	No	4,248	0.872	0.000	0.780
	Exited	397	0.844	0.000	0.720

** Statistics not reported for sample size less than 50 (N < 50).*

Table D-21. Test Reliability Estimates for MCAP Life Science MISA Spring 2023 Accommodated Form*

		N	Alpha	SEM	IRT
Overall	Overall	2,675	0.687	0.000	0.576
Gender	Male	1,629	0.652	0.000	0.563
	Female	933	0.700	0.000	0.600
	Non-Binary	4	--	0.000	--
Grade	9	1,157	0.709	0.000	0.644
	10	1,187	0.641	0.000	0.516
	11	162	0.582	0.000	0.487
	12	60	0.622	0.000	0.068
Ethnicity	American Indian/Alaskan Native	13	--	0.000	--
	Asian	77	0.918	0.000	0.365
	Black or African American	923	0.697	0.000	0.590
	Hispanic/Latino Ethnicity	0	--	0.000	--
	Native Hawaiian or Other Pacific Islander	3	--	0.000	--
	White	712	0.822	0.000	0.432
	Multiracial	0	--	0.000	--
Econ. Dis.	Yes	1,379	0.563	0.000	0.556
	No	1,187	0.731	0.000	0.594
Special Education (SE) Indicator	Yes	2,242	0.611	0.000	0.477
	No	236	0.776	0.000	0.811
	Exited	10	--	0.000	--
	Exited from 504	15	--	0.000	--
	504	63	0.877	0.000	0.796
English Learner (EL) Status	Yes	606	0.580	0.000	0.675
	No	1,878	0.684	0.000	0.535
	Exited	82	0.651	0.000	0.028

** Statistics not reported for sample size less than 50 (N < 50).*

Table D-22. Test Reliability Estimates for MCAP Life Science MISA Summer 2023 Operational Form 1*

		N	Alpha	SEM	IRT
Overall	Overall	281	0.845	0.000	0.636
Gender	Male	159	0.846	0.000	0.646
	Female	121	0.842	0.000	0.616
	Non-Binary	1	--	0.000	--
Grade	9	80	0.877	0.000	0.720
	10	104	0.854	0.000	0.638
	11	40	--	0.000	--
	12	57	0.757	0.000	-1.421
Ethnicity	American Indian/Alaskan Native	0	--	0.000	--
	Asian	7	--	0.000	--
	Black or African American	142	0.796	0.000	0.567
	Hispanic/Latino Ethnicity	0	--	0.000	--
	Native Hawaiian or Other Pacific Islander	0	--	0.000	--
	White	65	0.898	0.000	0.731
	Multiracial	0	--	0.000	--
Econ. Dis.	Yes	133	0.877	0.000	0.708
	No	148	0.787	0.000	0.386
Special Education (SE) Indicator	Yes	28	--	0.000	--
	No	215	0.854	0.000	0.649
	Exited	11	--	0.000	--
	Exited from 504	2	--	0.000	--
	504	25	--	0.000	--
English Learner (EL) Status	Yes	12	--	0.000	--
	No	264	0.852	0.000	0.647
	Exited	5	--	0.000	--

** Statistics not reported for sample size less than 50 (N < 50).*

Table D-23. Test Reliability Estimates for MCAP Life Science MISA Summer 2023 Accommodated Form*

		N	Alpha	SEM	IRT
Overall	Overall	19	--	0.000	--
Gender	Male	12	--	0.000	--
	Female	7	--	0.000	--
	Non-Binary	0	--	0.000	--
Grade	9	10	--	0.000	--
	10	5	--	0.000	--
	11	1	--	0.000	--
	12	3	--	0.000	--
Ethnicity	American Indian/Alaskan Native	0	--	0.000	--
	Asian	0	--	0.000	--
	Black or African American	7	--	0.000	--
	Hispanic/Latino Ethnicity	0	--	0.000	--
	Native Hawaiian or Other Pacific Islander	1	--	0.000	--
	White	5	--	0.000	--
	Multiracial	0	--	0.000	--
Econ. Dis.	Yes	10	--	0.000	--
	No	9	--	0.000	--
Special Education (SE) Indicator	Yes	16	--	0.000	--
	No	3	--	0.000	--
	Exited	0	--	0.000	--
	Exited from 504	0	--	0.000	--
	504	0	--	0.000	--
English Learner (EL) Status	Yes	5	--	0.000	--
	No	14	--	0.000	--
	Exited	0	--	0.000	--

** Statistics not reported for sample size less than 50 (N < 50).*

Appendix E. Decision Accuracy and Consistency

Table E-1. Decision Accuracy and Consistency: MCAP Government Winter 2023 Forms

Index	Placement Scores	Beginning	Developing	Proficient	Distinguished	Category Total*
			OP Form 1 (N =9,682)			
Decision Accuracy	240 - 393	0.187	0.049	0.000	0.000	0.236
	394 - 447	0.027	0.313	0.067	0.000	0.406
	448 - 488	0.000	0.049	0.199	0.015	0.262
	489 - 650	0.000	0.000	0.034	0.061	0.095
					Estimated Proportion Accurately Classified*: Total = 0.760	
Decision Consistency	240 - 393	0.179	0.073	0.002	0.000	0.254
	394 - 447	0.034	0.264	0.083	0.001	0.383
	448 - 488	0.001	0.069	0.161	0.016	0.247
	489 - 650	0.000	0.004	0.054	0.058	0.116
					Estimated Proportion Consistently Classified*: Total = 0.662	
			Accommodated Form (N = 677)			
Decision Accuracy	240 - 393	0.449	0.103	0.000	0.000	0.551
	394 - 447	0.050	0.315	0.021	0.000	0.387
	448 - 488	0.000	0.033	0.025	0.001	0.058
	489 - 650	0.000	0.000	0.003	0.001	0.004
					Estimated Proportion Accurately Classified*: Total = 0.790	
Decision Consistency	240 - 393	0.425	0.132	0.002	0.000	0.559
	394 - 447	0.072	0.255	0.020	0.000	0.347
	448 - 488	0.003	0.059	0.021	0.001	0.083
	489 - 650	0.000	0.005	0.006	0.001	0.012
					Estimated Proportion Consistently Classified*: Total = 0.701	

** Inconsistencies between cell entries and totals are due to rounding.*

Table E-2. Decision Accuracy and Consistency: MCAP Government Spring 2023 Forms

Index	Placement Scores	Beginning	Developing	Proficient	Distinguished	Category Total*
			OP Form 1 (N = 27,090)			
Decision Accuracy	240 - 393	0.145	0.035	0.000	0.000	0.180
	394 - 447	0.025	0.336	0.061	0.000	0.422
	448 - 488	0.000	0.044	0.239	0.017	0.299
	489 - 650	0.000	0.000	0.029	0.069	0.099
					Estimated Proportion Accurately Classified*: Total = 0.789	
Decision Consistency	240 - 393	0.138	0.056	0.000	0.000	0.194
	394 - 447	0.032	0.294	0.080	0.001	0.406
	448 - 488	0.000	0.063	0.200	0.019	0.283
	489 - 650	0.000	0.001	0.049	0.066	0.117
					Estimated Proportion Consistently Classified*: Total = 0.699	
			OP Form 2 (N = 26,921)			
Decision Accuracy	240 - 393	0.144	0.034	0.000	0.000	0.178
	394 - 447	0.025	0.327	0.062	0.000	0.414
	448 - 488	0.000	0.043	0.245	0.017	0.305
	489 - 650	0.000	0.000	0.030	0.072	0.103
					Estimated Proportion Accurately Classified*: Total = 0.788	
Decision Consistency	240 - 393	0.138	0.054	0.000	0.000	0.192
	394 - 447	0.032	0.287	0.081	0.001	0.400
	448 - 488	0.000	0.062	0.205	0.020	0.287
	489 - 650	0.000	0.001	0.051	0.069	0.121
					Estimated Proportion Consistently Classified*: Total = 0.698	
			Accommodated Form (N = 2,552)			
Decision Accuracy	240 - 393	0.438	0.085	0.000	0.000	0.524
	394 - 447	0.053	0.316	0.027	0.000	0.396
	448 - 488	0.000	0.031	0.038	0.004	0.073
	489 - 650	0.000	0.000	0.004	0.004	0.008
					Estimated Proportion Accurately Classified*: Total = 0.796	
Decision Consistency	240 - 393	0.415	0.114	0.002	0.000	0.531
	394 - 447	0.074	0.259	0.028	0.001	0.362
	448 - 488	0.002	0.056	0.031	0.003	0.092
	489 - 650	0.000	0.003	0.008	0.004	0.016
					Estimated Proportion Consistently Classified*: Total = 0.710	

** Inconsistencies between cell entries and totals are due to rounding.*

Table E-3. Decision Accuracy and Consistency: MCAP Government Summer 2023 Forms

Index	Placement Scores	Beginning	Developing	Proficient	Distinguished	Category Total*
			OP Form 1 (N = 272)			
Decision Accuracy	240 - 393	0.474	0.099	0.003	0.000	0.576
	394 - 447	0.036	0.204	0.049	0.000	0.289
	448 - 488	0.001	0.047	0.058	0.002	0.108
	489 - 650	0.000	0.003	0.018	0.005	0.027
					Estimated Proportion Accurately Classified*: Total = 0.742	
Decision Consistency	240 - 393	0.456	0.120	0.011	0.000	0.587
	394 - 447	0.049	0.156	0.045	0.001	0.250
	448 - 488	0.006	0.061	0.044	0.002	0.112
	489 - 650	0.001	0.017	0.029	0.005	0.051
					Estimated Proportion Consistently Classified*: Total = 0.661	

** Inconsistencies between cell entries and totals are due to rounding.*

Table E-4. Decision Accuracy and Consistency: MCAP Life Science MISA Winter 2023 Forms

Index	Placement Scores	Beginning	Developing	Proficient	Distinguished	Category Total*
		Op. Core 1 (N = 3,615)				
Decision Accuracy	650 - 730	0.277	0.099	0.008	0.000	0.385
	731 - 749	0.045	0.200	0.083	0.001	0.330
	750 - 771	0.003	0.074	0.149	0.011	0.236
	772 - 850	0.000	0.002	0.028	0.019	0.049
					Estimated Proportion Accurately Classified*: Total = 0.645	
Decision Consistency	650 - 730	0.260	0.125	0.026	0.000	0.411
	731 - 749	0.052	0.145	0.078	0.002	0.277
	750 - 771	0.013	0.090	0.114	0.010	0.226
	772 - 850	0.001	0.015	0.051	0.019	0.085
					Estimated Proportion Consistently Classified*: Total = 0.538	
		Op. Core 2 (N = 3,606)				
Decision Accuracy	650 - 730	0.268	0.099	0.009	0.000	0.376
	731 - 749	0.045	0.199	0.087	0.001	0.333
	750 - 771	0.003	0.073	0.156	0.010	0.243
	772 - 850	0.000	0.002	0.029	0.017	0.048
					Estimated Proportion Accurately Classified*: Total = 0.641	
Decision Consistency	650 - 730	0.251	0.125	0.028	0.000	0.404
	731 - 749	0.052	0.145	0.081	0.002	0.280
	750 - 771	0.013	0.090	0.119	0.009	0.230
	772 - 850	0.001	0.015	0.053	0.017	0.086
					Estimated Proportion Consistently Classified*: Total = 0.532	
		Op. Core 3 (N = 3,605)				
Decision Accuracy	650 - 730	0.263	0.104	0.009	0.000	0.376
	731 - 749	0.045	0.204	0.086	0.001	0.335
	750 - 771	0.004	0.076	0.150	0.010	0.240
	772 - 850	0.000	0.002	0.029	0.018	0.049
					Estimated Proportion Accurately Classified*: Total = 0.635	
Decision Consistency	650 - 730	0.247	0.130	0.028	0.000	0.405
	731 - 749	0.051	0.147	0.079	0.002	0.279
	750 - 771	0.013	0.093	0.114	0.009	0.229
	772 - 850	0.001	0.016	0.053	0.017	0.087
					Estimated Proportion Consistently Classified*: Total = 0.525	
		Accommodated Form (N = 534)				
Decision Accuracy	650 - 730	0.591	0.141	0.002	0.000	0.734
	731 - 749	0.060	0.147	0.008	0.000	0.215
	750 - 771	0.004	0.036	0.007	0.001	0.048
	772 - 850	0.000	0.001	0.001	0.001	0.002
					Estimated Proportion Accurately Classified*: Total = 0.745	
Decision Consistency	650 - 730	0.548	0.149	0.004	0.000	0.701
	731 - 749	0.083	0.106	0.006	0.000	0.196
	750 - 771	0.022	0.058	0.006	0.001	0.088
	772 - 850	0.002	0.011	0.002	0.001	0.015
					Estimated Proportion Consistently Classified*: Total = 0.661	

** Inconsistencies between cell entries and totals are due to rounding.*

Table E-5. Decision Accuracy and Consistency: MCAP Life Science MISA Spring 2023 Forms

Index	Placement Scores	Beginning	Developing	Proficient	Distinguished	Category Total*
		Op. Core 1 (N = 10,280)				
Decision Accuracy	650 - 730	0.204	0.077	0.002	0.000	0.283
	731 - 749	0.051	0.266	0.084	0.000	0.401
	750 - 771	0.001	0.072	0.193	0.013	0.279
	772 - 850	0.000	0.000	0.019	0.017	0.037
					Estimated Proportion Accurately Classified*: Total = 0.680	
Decision Consistency	650 - 730	0.191	0.110	0.014	0.000	0.314
	731 - 749	0.057	0.200	0.089	0.002	0.349
	750 - 771	0.008	0.098	0.154	0.012	0.272
	772 - 850	0.000	0.006	0.042	0.017	0.065
					Estimated Proportion Consistently Classified*: Total = 0.563	
		Op. Core 2 (N = 10,191)				
Decision Accuracy	650 - 730	0.213	0.074	0.002	0.000	0.290
	731 - 749	0.053	0.257	0.083	0.000	0.393
	750 - 771	0.001	0.069	0.190	0.015	0.276
	772 - 850	0.000	0.000	0.019	0.021	0.041
					Estimated Proportion Accurately Classified*: Total = 0.681	
Decision Consistency	650 - 730	0.200	0.106	0.014	0.000	0.320
	731 - 749	0.059	0.194	0.088	0.002	0.343
	750 - 771	0.008	0.095	0.152	0.014	0.269
	772 - 850	0.000	0.006	0.041	0.021	0.068
					Estimated Proportion Consistently Classified*: Total = 0.566	
		Op. Core 3 (N = 10,191)				
Decision Accuracy	650 - 730	0.205	0.075	0.003	0.000	0.283
	731 - 749	0.051	0.250	0.089	0.000	0.390
	750 - 771	0.002	0.071	0.199	0.014	0.285
	772 - 850	0.000	0.000	0.022	0.019	0.041
					Estimated Proportion Accurately Classified*: Total = 0.673	
Decision Consistency	650 - 730	0.192	0.106	0.016	0.000	0.314
	731 - 749	0.057	0.187	0.093	0.002	0.339
	750 - 771	0.009	0.096	0.158	0.012	0.275
	772 - 850	0.000	0.007	0.045	0.019	0.071
					Estimated Proportion Consistently Classified*: Total = 0.556	
		Op. Core 4 (N = 5,073)				

continued

Index	Placement Scores	Beginning	Developing	Proficient	Distinguished	Category Total*
Decision Accuracy	650 - 730	0.198	0.080	0.004	0.000	0.283
	731 - 749	0.057	0.249	0.092	0.001	0.399
	750 - 771	0.003	0.076	0.182	0.017	0.278
	772 - 850	0.000	0.001	0.020	0.020	0.040
					Estimated Proportion Accurately Classified*: Total = 0.650	
Decision Consistency	650 - 730	0.185	0.114	0.020	0.000	0.318
	731 - 749	0.061	0.183	0.092	0.003	0.338
	750 - 771	0.012	0.101	0.143	0.015	0.270
	772 - 850	0.000	0.009	0.044	0.020	0.073
					Estimated Proportion Consistently Classified*: Total = 0.531	
		Op. Core 5 (N = 5,138)				
Decision Accuracy	650 - 730	0.190	0.076	0.004	0.000	0.270
	731 - 749	0.055	0.246	0.095	0.001	0.397
	750 - 771	0.002	0.074	0.197	0.017	0.290
	772 - 850	0.000	0.001	0.021	0.020	0.042
					Estimated Proportion Accurately Classified*: Total = 0.654	
Decision Consistency	650 - 730	0.177	0.109	0.019	0.000	0.306
	731 - 749	0.059	0.182	0.096	0.003	0.340
	750 - 771	0.011	0.098	0.155	0.015	0.279
	772 - 850	0.000	0.009	0.047	0.020	0.076
					Estimated Proportion Consistently Classified*: Total = 0.534	
		Op. Core 6 (N = 5,130)				
Decision Accuracy	650 - 730	0.199	0.076	0.003	0.000	0.278
	731 - 749	0.057	0.249	0.091	0.001	0.397
	750 - 771	0.002	0.073	0.191	0.017	0.283
	772 - 850	0.000	0.001	0.020	0.021	0.041
					Estimated Proportion Accurately Classified*: Total =0.659	
Decision Consistency	650 - 730	0.185	0.109	0.018	0.000	0.312
	731 - 749	0.062	0.184	0.093	0.003	0.341
	750 - 771	0.011	0.098	0.150	0.015	0.274
	772 - 850	0.000	0.008	0.044	0.021	0.073
					Estimated Proportion Consistently Classified*: Total = 0.540	
		Op. Core 7 (N = 5,113)				
Decision Accuracy	650 - 730	0.198	0.085	0.005	0.000	0.288
	731 - 749	0.055	0.240	0.095	0.001	0.391
	750 - 771	0.003	0.077	0.181	0.017	0.278
	772 - 850	0.000	0.001	0.022	0.020	0.043
					Estimated Proportion Accurately Classified*: Total = 0.639	

continued

Index	Placement Scores	Beginning	Developing	Proficient	Distinguished	Category Total*
Decision Consistency	650 - 730	0.184	0.117	0.023	0.000	0.325
	731 - 749	0.059	0.175	0.092	0.003	0.329
	750 - 771	0.012	0.100	0.140	0.015	0.267
	772 - 850	0.000	0.011	0.048	0.020	0.079
					Estimated Proportion Consistently Classified*: Total = 0.520	
		Op. Core 8 (N = 5,101)				
Decision Accuracy	650 - 730	0.196	0.077	0.004	0.000	0.277
	731 - 749	0.058	0.243	0.094	0.001	0.396
	750 - 771	0.003	0.075	0.188	0.019	0.284
	772 - 850	0.000	0.001	0.021	0.022	0.043
					Estimated Proportion Accurately Classified*: Total = 0.648	
Decision Consistency	650 - 730	0.182	0.110	0.020	0.000	0.313
	731 - 749	0.062	0.178	0.094	0.003	0.336
	750 - 771	0.012	0.098	0.147	0.016	0.274
	772 - 850	0.000	0.009	0.046	0.022	0.077
					Estimated Proportion Consistently Classified*: Total = 0.529	
		Op. Core 9 (N = 5,082)				
Decision Accuracy	650 - 730	0.203	0.079	0.004	0.000	0.286
	731 - 749	0.056	0.238	0.091	0.001	0.385
	750 - 771	0.003	0.075	0.184	0.019	0.281
	772 - 850	0.000	0.001	0.022	0.024	0.047
					Estimated Proportion Accurately Classified*: Total = 0.649	
Decision Consistency	650 - 730	0.189	0.111	0.020	0.000	0.321
	731 - 749	0.060	0.174	0.091	0.003	0.328
	750 - 771	0.012	0.098	0.144	0.017	0.270
	772 - 850	0.000	0.010	0.047	0.024	0.081
					Estimated Proportion Consistently Classified*: Total = 0.531	
		Accommodated Form (N = 2,675)				
Decision Accuracy	650 - 730	0.517	0.151	0.006	0.000	0.674
	731 - 749	0.082	0.173	0.028	0.000	0.284
	750 - 771	0.003	0.024	0.014	0.001	0.041
	772 - 850	0.000	0.000	0.000	0.000	0.001
					Estimated Proportion Accurately Classified*: Total = 0.704	
Decision Consistency	650 - 730	0.463	0.161	0.012	0.000	0.636
	731 - 749	0.113	0.126	0.019	0.000	0.257
	750 - 771	0.025	0.055	0.015	0.001	0.095
	772 - 850	0.001	0.006	0.003	0.000	0.011
					Estimated Proportion Consistently Classified*: Total = 0.604	

** Inconsistencies between cell entries and totals are due to rounding.*

Table E-6. Decision Accuracy and Consistency: MCAP Life Science MISA Summer 2023 Forms

Index	Placement Scores	Beginning	Developing	Proficient	Distinguished	Category Total*
		Op. Core 1 (N = 281)				
Decision Accuracy	650 - 730	0.606	0.157	0.014	0.000	0.777
	731 - 749	0.049	0.088	0.018	0.000	0.156
	750 - 771	0.010	0.036	0.014	0.000	0.059
	772 - 850	0.001	0.004	0.003	0.000	0.008
					Estimated Proportion Accurately Classified*: Total = 0.709	
Decision Consistency	650 - 730	0.557	0.153	0.018	0.000	0.728
	731 - 749	0.067	0.063	0.012	0.000	0.142
	750 - 771	0.031	0.045	0.011	0.000	0.087
	772 - 850	0.010	0.024	0.009	0.000	0.043
					Estimated Proportion Consistently Classified*: Total = 0.632	

** Inconsistencies between cell entries and totals are due to rounding.*

Appendix F. Score Reports

MCAP Government

Sample LEA- and school-level reports are for 2023 Winter, Spring, and Summer administrations and have the same design. Due to the timing of the reporting, MCAP Government report titles still refer to LEAs as Districts.

- District Summary of Schools
- District Performance Level Summary Report
- School Performance Level Summary Report
- Student Roster Report
- Student Report
- Student Labels

MCAP
Maryland Comprehensive Assessment Program

LEA SUMMARY OF SCHOOLS

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DEMONSTRATION DISTRICT A
MARYLAND

WINTER 2023

HIGH SCHOOL GOVERNMENT ASSESSMENT, 2022-2023

PERFORMANCE DISTRIBUTION BY %	NUMBER OF VALID SCORES	AVERAGE SCALE SCORE	SOCIAL STUDIES STANDARDS				
			Standard One: Civics*	Standard Two: Peoples of the Nation and World*	Standard Three: Geography*	Standard Four: Economics*	Standard Six: Skills and Processes*
STATE 18 44 30 8	9,637	433	20 43 38	22 38 40	21 45 34	24 36 40	17 30 53
LEA 13 48 35 3	31	434	19 42 39	23 39 39	26 29 45	19 42 39	23 35 42
DEMONSTRATION SCHOOL 2 13 48 35 3	31	434	19 42 39	23 39 39	26 29 45	19 42 39	23 35 42

1 Beginning Learner (240-393) | 2 Developing Learner (394-447) | 3 Proficient Learner (448-488) | 4 Distinguished Learner (489-650)

Beginning Learner | Developing Learner | Distinguished and Proficient Learners

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* Numbers are percentages

03/13/2023

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LEA PERFORMANCE LEVEL SUMMARY REPORT

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Demonstration District A
MARYLAND

WINTER 2023

HIGH SCHOOL GOVERNMENT ASSESSMENT, 2022-2023

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

	Number of Valid Scores	Average Scale Score	Performance Levels								≥ Level 3 Distinguished and Proficient Learners	
			Level 1 Beginning Learner		Level 2 Developing Learner		Level 3 Proficient Learner		Level 4 Distinguished Learner			
			#	%	#	%	#	%	#	%	#	%
State	**9,637**	**433**	**1,689**	**18**	**4,278**	**44**	**2,933**	**30**	**737**	**8**	**3,670**	**38**
District	31	434	4	13	15	48	11	35	1	3	12	39
Gender												
Female	15	436	0	0	9	60	6	40	0	0	6	40
Male	15	437	3	20	6	40	5	33	1	7	6	40
Non-Binary	1	368	1	100	0	0	0	0	0	0	0	0
Ethnicity/Race												
Hispanic or Latino	9	422	1	11	6	67	2	22	0	0	2	22
American Indian or Alaska Native	0	0	0	0	0	0	0	0	0	0	0	0
Asian	1	469	0	0	0	0	1	100	0	0	1	100
Black or African-American	8	418	2	25	5	63	1	13	0	0	1	13
Native Hawaiian or Other Pacific Islander	1	405	0	0	1	100	0	0	0	0	0	0
White	10	448	1	10	3	30	5	50	1	10	6	60
Two or more races	2	480	0	0	0	0	2	100	0	0	2	100
Not Indicated	0	0	0	0	0	0	0	0	0	0	0	0
Economic Disadvantage												
No	18	442	1	6	8	44	8	44	1	6	9	50
Yes	13	424	3	23	7	54	3	23	0	0	3	23
Students with Disabilities												
IEP - Yes	1	401	0	0	1	100	0	0	0	0	0	0
IEP - No	30	435	4	13	14	47	11	37	1	3	12	40
504	4	411	2	50	1	25	1	25	0	0	1	25
EL												
No	30	435	4	13	14	47	11	37	1	3	12	40
Yes	1	401	0	0	1	100	0	0	0	0	0	0

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MCAP
Maryland Comprehensive Assessment Program

SCHOOL PERFORMANCE LEVEL SUMMARY REPORT

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Demonstration School 2
Demonstration District A
MARYLAND

HIGH SCHOOL GOVERNMENT ASSESSMENT, 2022-2023

WINTER 2023

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

	Number of Valid Scores	Average Scale Score	Performance Levels								≥ Level 3 Distinguished and Proficient Learners	
			Level 1 Beginning Learner		Level 2 Developing Learner		Level 3 Proficient Learner		Level 4 Distinguished Learner			
			#	%	#	%	#	%	#	%	#	%
State	**9,637**	**433**	**1,689**	**18**	**4,278**	**44**	**2,933**	**30**	**737**	**8**	**3,670**	**38**
District	31	434	4	13	15	48	11	35	1	3	12	39
School	31	434	4	13	15	48	11	35	1	3	12	39
Gender												
Female	15	436	0	0	9	60	6	40	0	0	6	40
Male	15	437	3	20	6	40	5	33	1	7	6	40
Non-Binary	1	368	1	100	0	0	0	0	0	0	0	0
Ethnicity/Race												
Hispanic or Latino	9	422	1	11	6	67	2	22	0	0	2	22
American Indian or Alaska Native	0	0	0	0	0	0	0	0	0	0	0	0
Asian	1	469	0	0	0	0	1	100	0	0	1	100
Black or African-American	8	418	2	25	5	63	1	13	0	0	1	13
Native Hawaiian or Other Pacific Islander	1	405	0	0	1	100	0	0	0	0	0	0
White	10	448	1	10	3	30	5	50	1	10	6	60
Two or more races	2	480	0	0	0	0	2	100	0	0	2	100
Not Indicated	0	0	0	0	0	0	0	0	0	0	0	0
Economic Disadvantage												
No	18	442	1	6	8	44	8	44	1	6	9	50
Yes	13	424	3	23	7	54	3	23	0	0	3	23
Students with Disabilities												
IEP - Yes	1	401	0	0	1	100	0	0	0	0	0	0
IEP - No	30	435	4	13	14	47	11	37	1	3	12	40
504	4	411	2	50	1	25	1	25	0	0	1	25
EL												
No	30	435	4	13	14	47	11	37	1	3	12	40
Yes	1	401	0	0	1	100	0	0	0	0	0	0

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03/13/2023

MCAP
Maryland Comprehensive Assessment Program

STUDENT ROSTER REPORT

CONFIDENTIAL - DO NOT DISTRIBUTE

Demonstration School 2
Demonstration District A
MARYLAND
WINTER 2023

HIGH SCHOOL GOVERNMENT ASSESSMENT, 2022-2023

STUDENT	OVERALL SCALE SCORE	SOCIAL STUDIES STANDARDS				
		Standard One: Civics*	Standard Two: Peoples of the Nation and World*	Standard Three: Geography*	Standard Four: Economics*	Standard Six: Skills and Processes*
STATE	433	20 | 43 | 38	22 | 38 | 40	21 | 45 | 34	24 | 36 | 40	17 | 30 | 53
LEA	434	19 | 42 | 39	23 | 39 | 39	26 | 29 | 45	19 | 42 | 39	23 | 35 | 42
SCHOOL	434	19 | 42 | 39	23 | 39 | 39	26 | 29 | 45	19 | 42 | 39	23 | 35 | 42
LASTNAME103, FIRST103 M.	416	◒	◒	◒	◒	◒
LASTNAME105, FIRST105	414	◒	◒	○	◒	◒
LASTNAME108, FIRST108 M.	445	◒	●	●	◒	●
LASTNAME111, FIRST111 M.	430	◒	○	◒	◒	○
LASTNAME112, FIRST112 M.	487	●	●	●	●	●
LASTNAME114, FIRST114 M.	476	●	●	●	●	●
LASTNAME115, FIRST115 M.	458	●	●	◒	●	◒
LASTNAME117, FIRST117 M.	474	●	●	●	●	●

1 Beginning Learner (240-393) | 2 Developing Learner (394-447) | 3 Proficient Learner (448-488) | 4 Distinguished Learner (489-650)

○ Beginning Learner | ◒ Developing Learner | ● Distinguished and Proficient Learners

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.
* Numbers are percentages

03/13/2023

MCAP
Maryland Comprehensive Assessment Program

Student Name: FIRST103 M. LASTNAME103
SASID: D00103
Date of Birth: 03/14/2005
Administration: WINTER 2023
LEA Name: Demonstration District A
School Name: Demonstration School 2
Grade: 12

American Government
Social Studies Assessment Report, 2022-2023

This report shows whether FIRST103 demonstrated proficiency in American Government. In order to satisfy the American Government graduation requirement, a student must earn one credit in a local, state, and national government course aligned with the MCAP government assessment, and take the assessment.

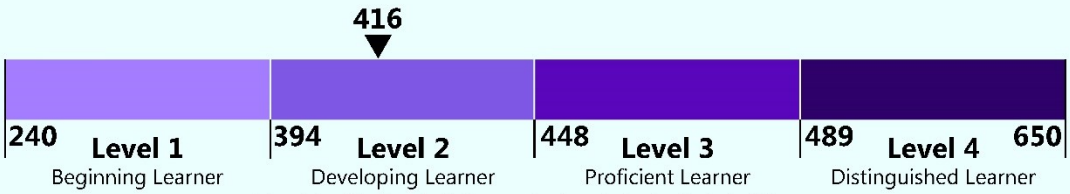
What are the learning outcomes and assessment limits for the MCAP government?
Learn more about the Maryland's American Government program:
https://www.marylandpublicschools.org/about/Pages/DAAIT/Assessment/HSA/index.aspx.

Your Child's Score
416
Level 2
Developing Learner

How did FIRST103 perform overall?

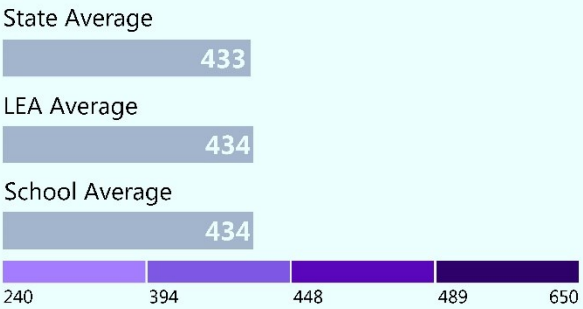
OVERALL STUDENT PERFORMANCE

Your student scored **416** on a scale of **240-650**, and performed at **LEVEL 2 - DEVELOPING LEARNER**.



A description of the Reporting Performance Levels can be found on the back of this page.

School, LEA*, and State Comparisons



* Please note that LEA stands for Local Education Agency.

How Students in Maryland Performed

Percentage of students at each performance level

Student Name: FIRST103 M. LASTNAME103

How Did Your Child Perform in the Maryland State Standards for Social Studies?

Civics	Your student performed about the same as students who **demonstrate partial proficiency**. Students **need additional academic support** to demonstrate the historical development of the fundamental concepts and processes of authority, power, and influence with particular emphasis on civic reasoning.
Peoples of the Nations and World	Your student performed about the same as students who **demonstrate partial proficiency**. Students **need additional academic support** to demonstrate knowledge of the people of the United States and the world using a historically grounded, multidisciplinary approach in order to recognize multiple narratives and acknowledge the diversity and commonality of the human experience.
Geography	Your student performed about the same as students who **demonstrate partial proficiency**. Students **need additional academic support** to demonstrate knowledge about the role of culture, technology, and the environment in the location, distribution, and impact of human activities using geographic tools and spatial thinking in order to demonstrate a significance of place.
Economics	Your student performed about the same as students who **demonstrate partial proficiency**. Students **need additional academic support** to demonstrate decisions made by individuals and groups using economic reasoning in order to understand the historical development and current status of economic principles, institutions, and processes needed to be effective citizens, consumers, and workers participating in local communities, the nation, and the world.
Skills and Processes	Your student performed about the same as students who **demonstrate partial proficiency**. Students **need additional academic support** to inquire about civics, geography, economics, history, and people and nations of the world using disciplinary literacy skills and processes to critically evaluate content through a variety of source materials across disciplines and use reading, writing, and other forms of communication to develop, defend, and critique arguments in order to take informed action.

LEGEND Your child performed about the same as: Beginning Learners; Developing Learners; Distinguished and Proficient Learners

Government Reporting Performance Level Descriptions

Level 4: Distinguished Learners

Distinguished learners *demonstrate advanced proficiency* in their understanding and ability to apply knowledge and skills about the structure and functions of United States' government and politics, and how the United States government has maintained a balance between protecting rights and maintaining order. Distinguished learners demonstrate an advanced proficiency in their understanding and ability to apply knowledge and skills about US politics and government in world affairs, the ability to analyze the relationship of geographic factors in the development of government policy, and the economic principles, institutions, and processes required to formulate government policy. Distinguished learners are well prepared in the knowledge and skills to evaluate sources and use evidence and communicate and critique conclusions.

Level 3: Proficient Learners

Proficient learners *demonstrate proficiency* in their understanding and ability to apply knowledge and skills about the structure and functions of United States' government and politics, and how the United States government has maintained a balance between protecting rights and maintaining order. Proficient learners demonstrate proficiency in their understanding and ability to apply knowledge and skills about US politics and government in world affairs, the ability to analyze the relationship of geographic factors in the development of government policy, and the economic principles, institutions, and processes required to formulate government policy. Proficient learners are prepared in the knowledge and skills to evaluate sources and use evidence and communicate and critique conclusions.

Level 2: Developing Learners

Developing learners *demonstrate partial proficiency* in their understanding and ability to apply knowledge and skills about the structure and functions of United States' government and politics, and how the United States government has maintained a balance between protecting rights and maintaining order. Developing learners demonstrate partial proficiency in their understanding and ability to apply knowledge and skills about US politics and government in world affairs, the ability to analyze the relationship of geographic factors in the development of government policy, and the economic principles, institutions, and processes required to formulate government policy. Developing learners can also demonstrate partial proficiency in the knowledge and skills to evaluate sources and use evidence and communicate and critique conclusions. Developing learners need additional academic support to ensure that they can demonstrate proficiency in the knowledge and skills to evaluate sources and use evidence and communicate and critique conclusions.

Level 1: Beginning Learners

Beginning learners *do not yet demonstrate proficiency* in their understanding and ability to apply knowledge and skills about the structure and functions of United States' government and politics, and how the United States government has maintained a balance between protecting rights and maintaining order. Beginning learners do not yet demonstrate proficiency in their understanding and ability to apply knowledge and skills about US politics and government in world affairs, the ability to analyze the relationship of geographic factors in the development of government policy, and the economic principles, institutions, and processes required to formulate government policy. Beginning learners need substantial academic support in building knowledge and skills to evaluate sources and use evidence and communicate and critique conclusions.

Winter 2023 MCAP Government

LASTNAME103, FIRST103 M.
LEA: Demonstration District A (DA)
School: Demonstration School 2 (DEM2)
Grade: 12 ID: D00103 DOB: 03/14/2005
Scale Score: 416
Performance Level: LEVEL 2 - DEVELOPING LEARNER

Winter 2023 MCAP Government

LASTNAME105, FIRST105
LEA: Demonstration District A (DA)
School: Demonstration School 2 (DEM2)
Grade: 12 ID: D00105 DOB: 11/28/2004
Scale Score: 414
Performance Level: LEVEL 2 - DEVELOPING LEARNER

Winter 2023 MCAP Government

LASTNAME108, FIRST108 M.
LEA: Demonstration District A (DA)
School: Demonstration School 2 (DEM2)
Grade: 10 ID: D00108 DOB: 02/25/2007
Scale Score: 445
Performance Level: LEVEL 2 - DEVELOPING LEARNER

Winter 2023 MCAP Government

LASTNAME111, FIRST111 M.
LEA: Demonstration District A (DA)
School: Demonstration School 2 (DEM2)
Grade: 10 ID: D00111 DOB: 09/07/2006
Scale Score: 430
Performance Level: LEVEL 2 - DEVELOPING LEARNER

Winter 2023 MCAP Government

LASTNAME112, FIRST112 M.
LEA: Demonstration District A (DA)
School: Demonstration School 2 (DEM2)
Grade: 10 ID: D00112 DOB: 06/07/2007
Scale Score: 487
Performance Level: LEVEL 3 - PROFICIENT LEARNER

Winter 2023 MCAP Government

LASTNAME114, FIRST114 M.
LEA: Demonstration District A (DA)
School: Demonstration School 2 (DEM2)
Grade: 10 ID: D00114 DOB: 10/02/2006
Scale Score: 476
Performance Level: LEVEL 3 - PROFICIENT LEARNER

Winter 2023 MCAP Government

LASTNAME115, FIRST115 M.
LEA: Demonstration District A (DA)
School: Demonstration School 2 (DEM2)
Grade: 12 ID: D00115 DOB: 05/20/2005
Scale Score: 458
Performance Level: LEVEL 3 - PROFICIENT LEARNER

Winter 2023 MCAP Government

LASTNAME117, FIRST117 M.
LEA: Demonstration District A (DA)
School: Demonstration School 2 (DEM2)
Grade: 10 ID: D00117 DOB: 01/24/2007
Scale Score: 474
Performance Level: LEVEL 3 - PROFICIENT LEARNER

Winter 2023 MCAP Government

LASTNAME120, FIRST120 M.
LEA: Demonstration District A (DA)
School: Demonstration School 2 (DEM2)
Grade: 10 ID: D00120 DOB: 03/15/2007
Scale Score: 465
Performance Level: LEVEL 3 - PROFICIENT LEARNER

Winter 2023 MCAP Government

LASTNAME18, FIRST18 M.
LEA: Demonstration District A (DA)
School: Demonstration School 2 (DEM2)
Grade: 10 ID: D00018 DOB: 07/11/2007
Scale Score: 428
Performance Level: LEVEL 2 - DEVELOPING LEARNER

MCAP Life Science MISA

Sample LEA- and school-level reports are for 2023 Winter, Spring, and Summer administrations and have the same design.

- LEA Summary of Schools
- LEA Performance Level Summary Report
- School Performance Level Summary Report
- Student Roster Report
- Student Report
- Student Labels

MCAP
Maryland Comprehensive Assessment Program

LEA SUMMARY OF SCHOOLS

CONFIDENTIAL - DO NOT DISTRIBUTE

DEMONSTRATION DISTRICT A
MARYLAND

WINTER 2023

LIFE SCIENCE ASSESSMENT, 2022-2023

PERFORMANCE DISTRIBUTION BY %	NUMBER OF VALID SCORES	AVERAGE SCALE SCORE	SCIENCE and ENGINEERING PRACTICES									LIFE SCIENCE TOPICS										
			Investigating Practices*			Sensemaking Practices*			Critiquing Practices*			Structure and Function*			Matter and Energy in Organisms and Ecosystems*			Interdependent Relationships in Ecosystems*			Inheritance and Variation of Traits*			Natural Selection and Evolution*		
STATE	10,439	741	33	36	32	24	41	35	33	36	31	32	35	33	29	30	40	35	35	30	30	35	35	42	29	28
27 41 29 3																										
LEA	28	741	29	25	46	32	36	32	32	36	32	32	29	39	36	29	36	29	32	39	29	29	43	43	29	29
25 29 46 0																										
DEMONSTRATION SCHOOL 2	28	741	29	25	46	32	36	32	32	36	32	32	29	39	36	29	36	29	32	39	29	29	43	43	29	29
25 29 46 0																										

1 Beginning Learner (650-730) 2 Developing Learner (731-749) 3 Proficient Learner (750-771) 4 Distinguished Learner (772-850)

Beginning Learner | Developing Learner | Distinguished and Proficient Learners

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* Numbers are percentages

03/13/2023

MCAP
Maryland Comprehensive Assessment Program

SCHOOL PERFORMANCE LEVEL SUMMARY REPORT

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Demonstration School 2
Demonstration District A
MARYLAND

WINTER 2023

LIFE SCIENCE ASSESSMENT, 2022-2023

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

	Number of Valid Scores	Average Scale Score	Performance Levels								≥ Level 3 Distinguished and Proficient Learners	
			Level 1 Beginning Learner		Level 2 Developing Learner		Level 3 Proficient Learner		Level 4 Distinguished Learner			
			#	%	#	%	#	%	#	%	#	%
State	**10,439**	**741**	**2,867**	**27**	**4,272**	**41**	**2,982**	**29**	**318**	**3**	**3,300**	**32**
District	28	741	7	25	8	29	13	46	0	0	13	46
School	28	741	7	25	8	29	13	46	0	0	13	46
Gender												
Female	13	743	4	31	0	0	9	69	0	0	9	69
Male	14	742	2	14	8	57	4	29	0	0	4	29
Non-Binary	1	719	1	100	0	0	0	0	0	0	0	0
Ethnicity/Race												
Hispanic or Latino	4	740	1	25	1	25	2	50	0	0	2	50
American Indian or Alaska Native	0	0	0	0	0	0	0	0	0	0	0	0
Asian	1	722	1	100	0	0	0	0	0	0	0	0
Black or African-American	8	733	4	50	1	13	3	38	0	0	3	38
Native Hawaiian or Other Pacific Islander	0	0	0	0	0	0	0	0	0	0	0	0
White	13	745	1	8	6	46	6	46	0	0	6	46
Two or more races	2	763	0	0	0	0	2	100	0	0	2	100
Not Indicated	0	0	0	0	0	0	0	0	0	0	0	0
Economic Disadvantage												
No	19	744	4	21	4	21	11	58	0	0	11	58
Yes	9	736	3	33	4	44	2	22	0	0	2	22
Students with Disabilities												
IEP - Yes	2	729	1	50	1	50	0	0	0	0	0	0
IEP - No	26	742	6	23	7	27	13	50	0	0	13	50
504	7	741	1	14	4	57	2	29	0	0	2	29
EL												
No	26	742	6	23	7	27	13	50	0	0	13	50
Yes	2	729	1	50	1	50	0	0	0	0	0	0

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03/13/2023

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Maryland Comprehensive Assessment Program

LEA PERFORMANCE LEVEL SUMMARY REPORT

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Demonstration District A
MARYLAND
WINTER 2023

LIFE SCIENCE ASSESSMENT, 2022-2023

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

	Number of Valid Scores	Average Scale Score	Performance Levels								≥ Level 3 Distinguished and Proficient Learners	
			Level 1 Beginning Learner		Level 2 Developing Learner		Level 3 Proficient Learner		Level 4 Distinguished Learner			
			#	%	#	%	#	%	#	%	#	%
State	**10,439**	**741**	**2,867**	**27**	**4,272**	**41**	**2,982**	**29**	**318**	**3**	**3,300**	**32**
District	28	741	7	25	8	29	13	46	0	0	13	46
Gender												
Female	13	743	4	31	0	0	9	69	0	0	9	69
Male	14	742	2	14	8	57	4	29	0	0	4	29
Non-Binary	1	719	1	100	0	0	0	0	0	0	0	0
Ethnicity/Race												
Hispanic or Latino	4	740	1	25	1	25	2	50	0	0	2	50
American Indian or Alaska Native	0	0	0	0	0	0	0	0	0	0	0	0
Asian	1	722	1	100	0	0	0	0	0	0	0	0
Black or African-American	8	733	4	50	1	13	3	38	0	0	3	38
Native Hawaiian or Other Pacific Islander	0	0	0	0	0	0	0	0	0	0	0	0
White	13	745	1	8	6	46	6	46	0	0	6	46
Two or more races	2	763	0	0	0	0	2	100	0	0	2	100
Not Indicated	0	0	0	0	0	0	0	0	0	0	0	0
Economic Disadvantage												
No	19	744	4	21	4	21	11	58	0	0	11	58
Yes	9	736	3	33	4	44	2	22	0	0	2	22
Students with Disabilities												
IEP - Yes	2	729	1	50	1	50	0	0	0	0	0	0
IEP - No	26	742	6	23	7	27	13	50	0	0	13	50
504	7	741	1	14	4	57	2	29	0	0	2	29
EL												
No	26	742	6	23	7	27	13	50	0	0	13	50
Yes	2	729	1	50	1	50	0	0	0	0	0	0

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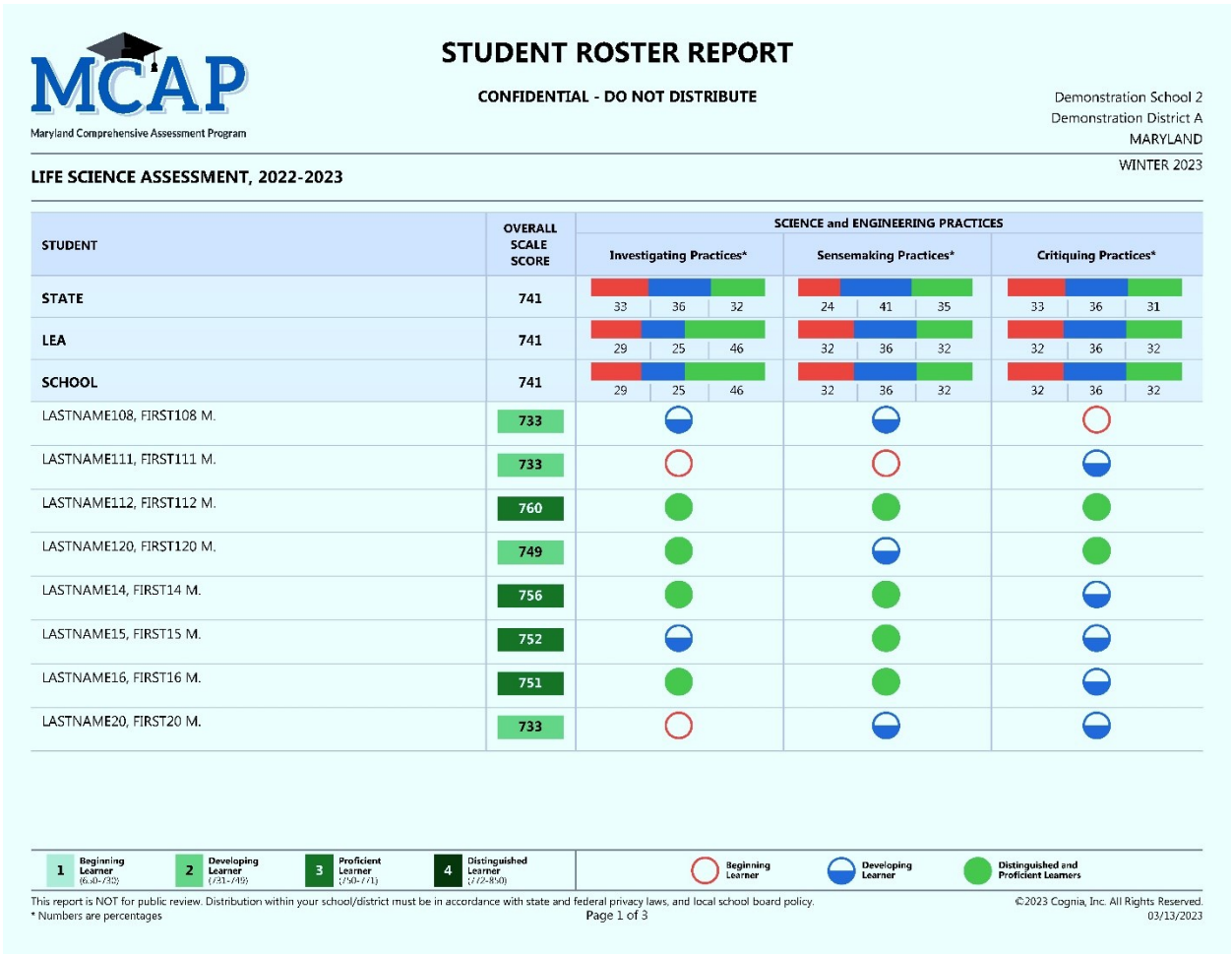
03/13/2023



MCAP
Maryland Comprehensive Assessment Program

STUDENT ROSTER REPORT

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Demonstration School 2
Demonstration District A
MARYLAND
WINTER 2023

LIFE SCIENCE ASSESSMENT, 2022-2023

STUDENT	OVERALL SCALE SCORE	SCIENCE and ENGINEERING PRACTICES		
		Investigating Practices*	Sensemaking Practices*	Critiquing Practices*
STATE	741	33 / 36 / 32	24 / 41 / 35	33 / 36 / 31
LEA	741	29 / 25 / 46	32 / 36 / 32	32 / 36 / 32
SCHOOL	741	29 / 25 / 46	32 / 36 / 32	32 / 36 / 32
LASTNAME108, FIRST108 M.	733	◒	◒	○
LASTNAME111, FIRST111 M.	733	○	○	◒
LASTNAME112, FIRST112 M.	760	●	●	●
LASTNAME120, FIRST120 M.	749	●	◒	●
LASTNAME14, FIRST14 M.	756	●	●	◒
LASTNAME15, FIRST15 M.	752	◒	●	◒
LASTNAME16, FIRST16 M.	751	●	●	◒
LASTNAME20, FIRST20 M.	733	○	◒	◒

1 Beginning Learner (650-730) | 2 Developing Learner (731-749) | 3 Proficient Learner (750-771) | 4 Distinguished Learner (772-850)

○ Beginning Learner | ◒ Developing Learner | ● Distinguished and Proficient Learners

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* Numbers are percentages

Page 1 of 3

03/13/2023

MCAP
Maryland Comprehensive Assessment Program

Student Name: FIRST108 M. LASTNAME108
SASID: D00108
Date of Birth: 02/25/2007
Administration: WINTER 2023
LEA Name: Demonstration District A
School Name: Demonstration School 2
Grade: 10

Life Science Assessment Report, 2022-2023

This report shows whether FIRST108 demonstrated proficiency in their life science course and is on track to be scientifically literate. The **Maryland Integrated Science Assessment (MISA)** is just one measure of how well your child is performing in high school science.

How Can You Use This Report?

Ask your child's teachers:

- What do you see as my child's strengths and areas for improvement in science?
- How can these assessment results be used to help my child make progress in science?

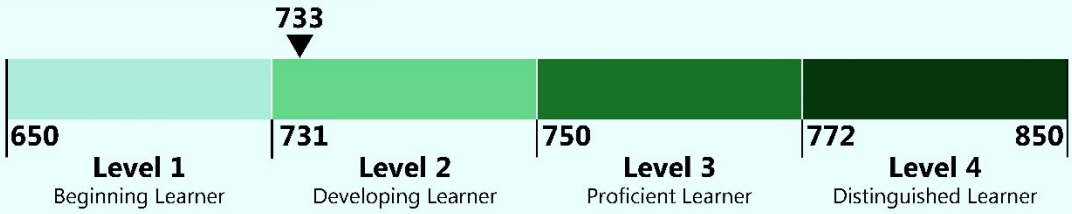
To learn more about the Maryland Science Program and the assessment please visit: http://marylandpublicschools.org/about/Pages/DAAIT/Assessment/MISA/index.aspx.

See side 2 of this report for specific information on your child's performance in science.

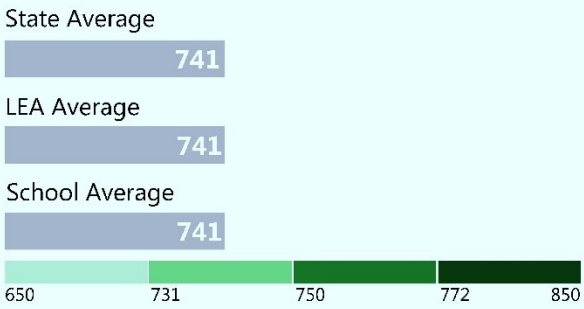
How did FIRST108 perform overall?

OVERALL STUDENT PERFORMANCE

Your student scored **733** on a scale of **650-850**, and performed at **LEVEL 2 - DEVELOPING LEARNER**.



School, LEA*, and State Comparisons



* Please note that LEA stands for Local Education Agency.

How Students in Maryland Performed

Percentage of students at each performance level

How are assessment results used? Results from the assessment give your child's teacher, school, and district information about their science performance, and provide you with some insight on how your child is meeting expectations. These results never stand alone, but can be used with other assessments and class work when gauging student performance.

Student Name: FIRST108 M. LASTNAME108

How Did Your Child Perform on the Life Science MISA?

The Life Science MISA assesses a student's ability to use the practices of scientific inquiry along with the practices of engineering design to demonstrate their understanding of life science core ideas.

Investigating Science and Engineering Practices Integrated with Life Science

Your student performed about the same as students who **demonstrate partial proficiency**. Students **need additional academic support** to ask questions and conduct investigations about the natural world. Students **need additional academic support** to think algebraically and use computational tools to analyze and model data to better understand phenomenon, natural processes and systems.

Sensemaking Science and Engineering Practices Integrated with Life Science

Your student performed about the same as students who **demonstrate partial proficiency**. Students **need additional academic support** to demonstrate the ability to construct and revise explanations about the natural world based on evidence collected from models or data. Students **need additional academic support** to analyze data using statistics, probability and models to better understand the relationships between systems or components of a system.

Critiquing Science and Engineering Practices Integrated with Life Science

Your student performed about the same as students who **do not yet demonstrate proficiency**. Students **need substantial academic support** in the ability to communicate scientific information about the natural world and to critically evaluate the validity and reliability of claims in order to determine the merits of arguments.

LEGEND

Your child performed about the same as:

Beginning Learners

Developing Learners

Distinguished and Proficient Learners

Life Science Performance Level Descriptions

Level 4: Distinguished Learner

Distinguished learners *demonstrate advanced proficiency* in applying scientific thinking to understand the natural world and engineering design to find solutions to problems. Learners at this level think critically about how systems of cells function together to support the life processes; interactions among organisms and how those interactions influence the dynamics of ecosystems; the role of energy in the cycling of matter in organisms and ecosystems; the role of DNA in the unity of life on Earth; factors causing natural selection and the process of evolution of species over time; and how to optimize design solutions. Distinguished learners are well prepared in asking questions that lead to explanations supported by evidence, using mathematics to analyze data, and applying scientific ideas to develop, test, compare, and improve design solutions.

Level 3: Proficient Learner

Proficient learners *demonstrate proficiency* in applying scientific thinking to understand the natural world and engineering design to find solutions to problems. Learners at this level explain how systems of cells function together to support the life processes; interactions among organisms and how those interactions influence the dynamics of ecosystems; the role of energy in the cycling of matter in organisms and ecosystems; the role of DNA in the unity of life on Earth; factors causing natural selection and the process of evolution of species over time; and how to optimize design solutions. Proficient learners are prepared in asking questions that can lead to reasonable predictions, using mathematics to describe data, and applying scientific ideas to evaluate a design solution.

Level 2: Developing Learner

Developing learners *demonstrate partial proficiency* in applying scientific thinking to understand the natural world and engineering design to find solutions to problems. Learners at this level describe how systems of cells function together to support the life processes; interactions among organisms and how those interactions influence the dynamics of ecosystems; the role of energy in the cycling of matter in organisms and ecosystems; the role of DNA in the unity of life on Earth; factors causing natural selection and the process of evolution of species over time; and how to optimize design solutions. Developing learners need additional academic support in asking questions about changes in an investigation, organizing simple data sets to reveal patterns, and identifying scientific evidence used to support a claim.

Level 1: Beginning Learner

Beginning learners *do not yet demonstrate proficiency* in applying scientific thinking to understand the natural world and engineering design to find solutions to problems. Learners at this level identify how systems of cells function together to support the life processes; interactions among organisms and how those interactions influence the dynamics of ecosystems; the role of energy in the cycling of matter in organisms and ecosystems; the role of DNA in the unity of life on Earth; factors causing natural selection and the process of evolution of species over time; and how to optimize design solutions. Beginning learners need substantial academic support in asking questions about changes in an investigation, organizing simple data sets to reveal patterns, and identifying scientific evidence used to support a claim.

Winter 2023 MCAP Life Science MISA

LASTNAME108, FIRST108 M.
LEA: Demonstration District A (DA)
School: Demonstration School 2 (DEM2)
Grade: 10 ID: D00108 DOB: 02/25/2007
Scale Score: 733
Performance Level: LEVEL 2 - DEVELOPING LEARNER

Winter 2023 MCAP Life Science MISA

LASTNAME111, FIRST111 M.
LEA: Demonstration District A (DA)
School: Demonstration School 2 (DEM2)
Grade: 10 ID: D00111 DOB: 09/07/2006
Scale Score: 733
Performance Level: LEVEL 2 - DEVELOPING LEARNER

Winter 2023 MCAP Life Science MISA

LASTNAME112, FIRST112 M.
LEA: Demonstration District A (DA)
School: Demonstration School 2 (DEM2)
Grade: 10 ID: D00112 DOB: 06/07/2007
Scale Score: 760
Performance Level: LEVEL 3 - PROFICIENT LEARNER

Winter 2023 MCAP Life Science MISA

LASTNAME120, FIRST120 M.
LEA: Demonstration District A (DA)
School: Demonstration School 2 (DEM2)
Grade: 10 ID: D00120 DOB: 03/15/2007
Scale Score: 749
Performance Level: LEVEL 2 - DEVELOPING LEARNER

Winter 2023 MCAP Life Science MISA

LASTNAME14, FIRST14 M.
LEA: Demonstration District A (DA)
School: Demonstration School 2 (DEM2)
Grade: 09 ID: D00014 DOB: 07/31/2008
Scale Score: 756
Performance Level: LEVEL 3 - PROFICIENT LEARNER

Winter 2023 MCAP Life Science MISA

LASTNAME15, FIRST15 M.
LEA: Demonstration District A (DA)
School: Demonstration School 2 (DEM2)
Grade: 09 ID: D00015 DOB: 06/16/2008
Scale Score: 752
Performance Level: LEVEL 3 - PROFICIENT LEARNER

Winter 2023 MCAP Life Science MISA

LASTNAME16, FIRST16 M.
LEA: Demonstration District A (DA)
School: Demonstration School 2 (DEM2)
Grade: 09 ID: D00016 DOB: 01/30/2008
Scale Score: 751
Performance Level: LEVEL 3 - PROFICIENT LEARNER

Winter 2023 MCAP Life Science MISA

LASTNAME20, FIRST20 M.
LEA: Demonstration District A (DA)
School: Demonstration School 2 (DEM2)
Grade: 11 ID: D00020 DOB: 05/17/2006
Scale Score: 733
Performance Level: LEVEL 2 - DEVELOPING LEARNER

Winter 2023 MCAP Life Science MISA

LASTNAME22, FIRST22 M.
LEA: Demonstration District A (DA)
School: Demonstration School 2 (DEM2)
Grade: 10 ID: D00022 DOB: 09/18/2006
Scale Score: 764
Performance Level: LEVEL 3 - PROFICIENT LEARNER

Winter 2023 MCAP Life Science MISA

LASTNAME23, FIRST23 M.
LEA: Demonstration District A (DA)
School: Demonstration School 2 (DEM2)
Grade: 11 ID: D00023 DOB: 10/26/2005
Scale Score: 728
Performance Level: LEVEL 1 - BEGINNING LEARNER

Appendix G. Scaled Score Summary Statistics

Table G-1. Scaled Score Summary Statistics for MCAP Government Winter Op. Core 1

		N	%	Mean	SD
Overall	Overall	9,682	100.00	422.23	63.48
Gender	Male	5,061	52.27	419.72	64.78
	Female	4,608	47.59	425.02	61.85
	Non-Binary	13	0.13	--	--
Grade	9	1,894	19.56	421.46	66.08
	10	4,419	45.64	433.34	60.55
	11	1,545	15.96	400.91	69.49
	12	1,824	18.84	414.19	56.04
Ethnicity	American Indian/Alaskan Native	25	0.26	--	--
	Asian	292	3.02	455.05	48.60
	Black or African American	3,311	34.20	401.12	65.68
	Hispanic/Latino Ethnicity	0	0.00	--	--
	Native Hawaiian or Other Pacific Islander	19	0.20	--	--
	White	3,535	36.51	446.10	52.97
	Multi-racial	0	0.00	--	--
Econ. Dis.	Yes	3,507	36.22	408.94	64.21
	No	6,175	63.78	429.78	61.81
Special Education	Yes	822	8.49	388.88	62.69
	No	7,838	80.95	425.42	62.79
	Exited	282	2.91	413.56	62.96
	Exited from 504	66	0.68	429.73	55.85
	504	674	6.96	428.74	61.21
English Learner (EL) Status	Yes	657	6.79	381.33	54.60
	No	8,638	89.22	425.30	63.36
	Exited	387	4.00	423.08	55.92

Table G-2. Scaled Score Summary Statistics for MCAP Government Winter Accommodated Form

		N	%	Mean	SD
Overall	Overall	677	100.00	384.20	52.09
Gender	Male	410	60.56	384.22	52.65
	Female	219	32.35	379.46	52.60
	Non-Binary	0	0.00	--	--
Grade	9	127	18.76	384.32	48.67
	10	285	42.10	384.96	51.53
	11	104	15.36	371.06	59.46
	12	113	16.69	385.13	52.31
Ethnicity	American Indian/Alaskan Native	0	0.00	--	--
	Asian	17	2.51	--	--
	Black or African American	205	30.28	367.86	58.46
	Hispanic/Latino Ethnicity	0	0.00	--	--
	Native Hawaiian or Other Pacific Islander	0	0.00	--	--
	White	177	26.14	399.27	45.48
	Multi-racial	0	0.00	--	--
Econ. Dis.	Yes	267	39.44	378.25	54.92
	No	362	53.47	385.75	50.73
Special Education	Yes	458	67.65	383.57	51.43
	No	156	23.04	374.81	54.94
	Exited	2	0.30	--	--
	Exited from 504	6	0.89	--	--
	504	7	1.03	--	--
English Learner (EL) Status	Yes	221	32.64	380.43	49.44
	No	393	58.05	383.54	54.43
	Exited	15	2.22	--	--

Table G-3. Scaled Score Summary Statistics for MCAP Government Spring Op. Core 1

		N	%	Mean	SD
Overall	Overall	27,090	100.00	430.89	54.58
Gender	Male	14,008	51.71	429.27	55.50
	Female	13,025	48.08	432.59	53.44
	Non-Binary	44	0.16	--	--
Grade	9	9,195	33.94	424.08	57.53
	10	15,825	58.42	436.63	51.08
	11	1,245	4.60	420.00	62.33
	12	812	3.00	414.19	57.59
Ethnicity	American Indian/Alaskan Native	90	0.33	438.79	41.44
	Asian	1,567	5.78	462.42	42.87
	Black or African American	9,969	36.80	419.82	54.99
	Hispanic/Latino Ethnicity	0	0.00	--	--
	Native Hawaiian or Other Pacific Islander	53	0.20	442.47	39.43
	White	7,855	29.00	450.51	46.90
	Multi-racial	0	0.00	--	--
Econ. Dis.	Yes	12,062	44.53	416.54	54.44
	No	15,015	55.43	442.49	51.81
Special Education	Yes	1,972	7.28	402.78	55.98
	No	22,444	82.85	432.79	53.81
	Exited	816	3.01	432.72	55.41
	Exited from 504	168	0.62	438.30	52.11
	504	1,677	6.19	437.59	53.07
English Learner (EL) Status	Yes	2,652	9.79	385.85	46.58
	No	22,531	83.17	435.34	54.01
	Exited	1,894	6.99	441.60	40.10

Table G-4. Scaled Score Summary Statistics for MCAP Government Spring Op. Core 2

		N	%	Mean	SD
Overall	Overall	26,921	100.00	431.53	54.53
Gender	Male	13,747	51.06	429.75	56.61
	Female	13,131	48.78	433.37	52.15
	Non-Binary	40	0.15	--	--
Grade	9	9,073	33.70	424.92	57.55
	10	15,741	58.47	437.04	50.97
	11	1,341	4.98	421.29	61.25
	12	763	2.83	414.87	61.23
Ethnicity	American Indian/Alaskan Native	84	0.31	429.93	56.46
	Asian	1,558	5.79	460.60	42.48
	Black or African American	9,813	36.45	421.30	54.35
	Hispanic/Latino Ethnicity	0	0.00	--	--
	Native Hawaiian or Other Pacific Islander	37	0.14	--	--
	White	8,018	29.78	450.81	47.49
	Multi-racial	0	0.00	--	--
Econ. Dis.	Yes	11,963	44.44	417.62	54.45
	No	14,955	55.55	442.67	51.98
Special Education	Yes	1,981	7.36	402.18	54.54
	No	22,244	82.63	433.51	54.00
	Exited	806	2.99	433.20	50.30
	Exited from 504	166	0.62	439.22	49.27
	504	1,721	6.39	438.35	53.76
English Learner (EL) Status	Yes	2,671	9.92	383.21	49.69
	No	22,432	83.33	436.58	53.16
	Exited	1,815	6.74	440.44	41.35

Table G-5. Scaled Score Summary Statistics for MCAP Government Spring Accommodated Form

		N	%	Mean	SD
Overall	Overall	2,552	100.00	389.48	50.62
Gender	Male	1,603	62.81	387.30	51.64
	Female	840	32.92	388.94	47.79
	Non-Binary	2	0.08	--	--
Grade	9	960	37.62	378.28	50.96
	10	1,313	51.45	394.95	49.30
	11	118	4.62	387.08	45.61
	12	54	2.12	387.57	46.66
Ethnicity	American Indian/Alaskan Native	9	0.35	--	--
	Asian	69	2.70	418.32	28.89
	Black or African American	1,054	41.30	378.81	48.35
	Hispanic/Latino Ethnicity	0	0.00	--	--
	Native Hawaiian or Other Pacific Islander	7	0.27	--	--
	White	581	22.77	403.84	48.43
	Multi-racial	0	0.00	--	--
Econ. Dis.	Yes	1,430	56.03	381.70	49.13
	No	1,015	39.77	396.54	50.76
Special Education	Yes	2,174	85.19	389.01	47.60
	No	186	7.29	359.47	63.50
	Exited	11	0.43	--	--
	Exited from 504	19	0.74	--	--
	504	55	2.16	419.07	62.79
English Learner (EL) Status	Yes	513	20.10	379.50	53.08
	No	1,845	72.30	388.44	49.59
	Exited	87	3.41	424.85	26.09

Table G-6. Scaled Score Summary Statistics for MCAP Government Summer Op. Core 1

		N	%	Mean	SD
Overall	Overall	272	100.00	370.24	78.31
Gender	Male	144	52.94	364.39	79.46
	Female	128	47.06	376.81	76.76
	Non-Binary	0	0.00	--	--
Grade	9	65	23.90	333.12	88.84
	10	103	37.87	361.90	80.97
	11	40	14.71	--	--
	12	64	23.53	405.89	34.92
Ethnicity	American Indian/Alaskan Native	1	0.37	--	--
	Asian	12	4.41	--	--
	Black or African American	136	50.00	372.29	71.71
	Hispanic/Latino Ethnicity	0	0.00	--	--
	Native Hawaiian or Other Pacific Islander	0	0.00	--	--
	White	61	22.43	357.87	94.02
	Multi-racial	0	0.00	--	--
Econ. Dis.	Yes	135	49.63	348.50	85.07
	No	137	50.37	391.66	64.47
Special Education	Yes	26	9.56	--	--
	No	221	81.25	370.91	77.85
	Exited	13	4.78	--	--
	Exited from 504	0	0.00	--	--
	504	12	4.41	--	--
English Learner (EL) Status	Yes	13	4.78	--	--
	No	251	92.28	369.16	79.87
	Exited	8	2.94	--	--

Table G-7. Scaled Score Summary Statistics for MCAP Government Summer Accommodated Form

		N	%	Mean	SD
Overall	Overall	25	100.00	--	--
Gender	Male	20	80.00	--	--
	Female	5	20.00	--	--
	Non-Binary	0	0.00	--	--
Grade	9	6	24.00	--	--
	10	8	32.00	--	--
	11	4	16.00	--	--
	12	7	28.00	--	--
Ethnicity	American Indian/Alaskan Native	0	0.00	--	--
	Asian	0	0.00	--	--
	Black or African American	8	32.00	--	--
	Hispanic/Latino Ethnicity	0	0.00	--	--
	Native Hawaiian or Other Pacific Islander	0	0.00	--	--
	White	6	24.00	--	--
	Multi-racial	0	0.00	--	--
Econ. Dis.	Yes	13	52.00	--	--
	No	12	48.00	--	--
Special Education	Yes	19	76.00	--	--
	No	6	24.00	--	--
	Exited	0	0.00	--	--
	Exited from 504	0	0.00	--	--
	504	0	0.00	--	--
English Learner (EL) Status	Yes	9	36.00	--	--
	No	16	64.00	--	--
	Exited	0	0.00	--	--

Table G-8. Scaled Score Summary Statistics for MCAP Life Science MISA Winter Op. Core 1

		N	%	Mean	SD
Overall	Overall	3,615	100.00	734.32	30.08
Gender	Male	1,842	50.95	732.45	29.54
	Female	1,768	48.91	736.31	30.48
	Non-Binary	5	0.14	--	--
Grade	9	576	15.93	730.42	36.29
	10	1,538	42.54	740.76	27.09
	11	1,018	28.16	730.01	29.89
	12	483	13.36	727.56	27.45
Ethnicity	American Indian/Alaskan Native	9	0.25	--	--
	Asian	151	4.18	751.68	23.65
	Black or African American	1,302	36.02	725.52	31.48
	Hispanic/Latino Ethnicity	0	0.00	--	--
	Native Hawaiian or Other Pacific Islander	7	0.19	--	--
	White	1,293	35.77	743.51	25.42
	Multi-racial	0	0.00	--	--
Econ. Dis.	Yes	1,216	33.64	725.01	33.00
	No	2,399	66.36	739.04	27.30
Special Education	Yes	290	8.02	714.49	33.79
	No	2,950	81.60	736.56	28.79
	Exited	93	2.57	735.70	26.07
	Exited from 504	29	0.80	--	--
	504	253	7.00	730.31	33.80
English Learner (EL) Status	Yes	222	6.14	718.72	25.18
	No	3,258	90.12	735.46	29.96
	Exited	135	3.73	732.46	33.11

Table G-9. Scaled Score Summary Statistics for MCAP Life Science MISA Winter Op. Core 2

		N	%	Mean	SD
Overall	Overall	3,606	100.00	734.68	29.93
Gender	Male	1,818	50.42	732.63	29.70
	Female	1,785	49.50	736.74	30.05
	Non-Binary	3	0.08	--	--
Grade	9	578	16.03	730.59	36.20
	10	1,553	43.07	741.39	27.18
	11	1,023	28.37	729.09	30.53
	12	452	12.53	729.53	23.59
Ethnicity	American Indian/Alaskan Native	10	0.28	--	--
	Asian	144	3.99	749.76	22.54
	Black or African American	1,251	34.69	724.19	32.03
	Hispanic/Latino Ethnicity	0	0.00	--	--
	Native Hawaiian or Other Pacific Islander	10	0.28	--	--
	White	1,292	35.83	745.72	24.07
	Multi-racial	0	0.00	--	--
Econ. Dis.	Yes	1,228	34.05	726.53	32.99
	No	2,378	65.95	738.89	27.29
Special Education	Yes	279	7.74	718.54	31.91
	No	2,945	81.67	736.19	29.24
	Exited	113	3.13	732.58	30.66
	Exited from 504	17	0.47	--	--
	504	252	6.99	735.94	29.85
English Learner (EL) Status	Yes	202	5.60	720.29	25.89
	No	3,238	89.79	735.59	29.96
	Exited	166	4.60	734.43	29.59

Table G-10. Scaled Score Summary Statistics for MCAP Life Science MISA Winter Op. Core 3

		N	%	Mean	SD
Overall	Overall	3,605	100.00	734.56	30.09
Gender	Male	1,806	50.10	732.45	30.13
	Female	1,794	49.76	736.64	29.93
	Non-Binary	5	0.14	--	--
Grade	9	591	16.39	728.51	36.22
	10	1,511	41.91	741.88	26.20
	11	1,047	29.04	730.14	30.58
	12	456	12.65	728.28	27.08
Ethnicity	American Indian/Alaskan Native	7	0.19	--	--
	Asian	139	3.86	750.58	26.94
	Black or African American	1,235	34.26	724.30	32.35
	Hispanic/Latino Ethnicity	0	0.00	--	--
	Native Hawaiian or Other Pacific Islander	6	0.17	--	--
	White	1,309	36.31	744.44	24.57
	Multi-racial	0	0.00	--	--
Econ. Dis.	Yes	1,213	33.65	725.65	33.26
	No	2,392	66.35	739.08	27.27
Special Education	Yes	293	8.13	720.11	31.46
	No	2,931	81.30	735.81	29.74
	Exited	117	3.25	737.79	26.77
	Exited from 504	20	0.55	--	--
	504	244	6.77	734.95	30.16
English Learner (EL) Status	Yes	220	6.10	720.15	26.68
	No	3,238	89.82	735.66	30.14
	Exited	147	4.08	731.83	28.19

Table G-11. Scaled Score Summary Statistics for MCAP Life Science MISA Winter Accommodated Form

		N	%	Mean	SD
Overall	Overall	543	100.00	719.30	26.72
Gender	Male	324	59.67	716.77	28.86
	Female	184	33.89	722.27	23.97
	Non-Binary	0	0.00	--	--
Grade	9	77	14.18	708.62	31.35
	10	184	33.89	722.26	24.57
	11	162	29.83	718.95	28.98
	12	85	15.65	720.01	23.68
Ethnicity	American Indian/Alaskan Native	4	0.74	--	--
	Asian	11	2.03	--	--
	Black or African American	169	31.12	712.09	29.85
	Hispanic/Latino Ethnicity	0	0.00	--	--
	Native Hawaiian or Other Pacific Islander	0	0.00	--	--
	White	115	21.18	724.45	24.47
	Multi-racial	0	0.00	--	--
Econ. Dis.	Yes	229	42.17	715.00	30.54
	No	279	51.38	721.85	23.94
Special Education	Yes	332	61.14	716.40	28.39
	No	162	29.83	722.87	24.39
	Exited	3	0.55	--	--
	Exited from 504	3	0.55	--	--
	504	8	1.47	--	--
English Learner (EL) Status	Yes	187	34.44	720.51	26.12
	No	305	56.17	717.76	27.63
	Exited	16	2.95	--	--

Table G-12. Scaled Score Summary Statistics for MCAP Life Science MISA Spring Op. Core 1

		N	%	Mean	SD
Overall	Overall	10,280	100.00	739.82	23.31
Gender	Male	5,269	51.25	738.19	23.77
	Female	4,987	48.51	741.48	22.70
	Non-Binary	23	0.22	--	--
Grade	9	5,574	54.22	742.31	23.86
	10	4,103	39.91	738.01	21.17
	11	446	4.34	730.27	28.53
	12	146	1.42	724.19	23.89
Ethnicity	American Indian/Alaskan Native	31	0.30	--	--
	Asian	744	7.24	754.64	16.20
	Black or African American	3,553	34.56	732.86	24.12
	Hispanic/Latino Ethnicity	0	0.00	--	--
	Native Hawaiian or Other Pacific Islander	20	0.19	--	--
	White	3,222	31.34	748.12	19.07
	Multi-racial	0	0.00	--	--
Econ. Dis.	Yes	4,199	40.85	732.80	24.05
	No	6,080	59.14	744.66	21.49
Special Education	Yes	717	6.97	726.73	24.31
	No	8,583	83.49	740.94	22.81
	Exited	287	2.79	738.85	25.10
	Exited from 504	67	0.65	740.24	17.05
	504	625	6.08	739.88	24.14
English Learner (EL) Status	Yes	882	8.58	723.87	21.84
	No	8,596	83.62	741.20	23.23
	Exited	801	7.79	742.55	18.63

Table G-13. Scaled Score Summary Statistics for MCAP Life Science MISA Spring Op. Core 2

		N	%	Mean	SD
Overall	Overall	10,191	100.00	739.73	23.36
Gender	Male	5,116	50.20	738.04	23.54
	Female	5,059	49.64	741.41	23.09
	Non-Binary	14	0.14	--	--
Grade	9	5,428	53.26	742.19	24.04
	10	4,169	40.91	738.18	21.20
	11	452	4.44	728.13	27.90
	12	129	1.27	727.02	23.47
Ethnicity	American Indian/Alaskan Native	28	0.27	--	--
	Asian	758	7.44	754.18	17.52
	Black or African American	3,567	35.00	732.70	23.25
	Hispanic/Latino Ethnicity	0	0.00	--	--
	Native Hawaiian or Other Pacific Islander	18	0.18	--	--
	White	3,155	30.96	748.11	19.98
	Multi-racial	0	0.00	--	--
Econ. Dis.	Yes	4,206	41.27	732.46	24.00
	No	5,983	58.71	744.84	21.48
Special Education	Yes	736	7.22	726.81	24.42
	No	8,455	82.97	740.89	22.76
	Exited	308	3.02	740.23	22.22
	Exited from 504	60	0.59	743.75	16.17
	504	630	6.18	738.65	26.47
English Learner (EL) Status	Yes	880	8.64	723.74	20.68
	No	8,512	83.52	740.96	23.38
	Exited	797	7.82	744.26	18.64

Table G-14. Scaled Score Summary Statistics for MCAP Life Science MISA Spring Op. Core 3

		N	%	Mean	SD
Overall	Overall	10,191	100.00	739.97	23.78
Gender	Male	5,142	50.46	737.95	24.46
	Female	5,020	49.26	742.01	22.86
	Non-Binary	24	0.24	--	--
Grade	9	5,480	53.77	742.61	24.16
	10	4,113	40.36	738.14	21.61
	11	429	4.21	730.97	29.80
	12	156	1.53	720.16	27.00
Ethnicity	American Indian/Alaskan Native	29	0.28	--	--
	Asian	741	7.27	755.98	16.77
	Black or African American	3,578	35.11	732.81	24.38
	Hispanic/Latino Ethnicity	0	0.00	--	--
	Native Hawaiian or Other Pacific Islander	14	0.14	--	--
	White	3,175	31.15	748.16	19.85
	Multi-racial	0	0.00	--	--
Econ. Dis.	Yes	4,120	40.43	732.86	24.13
	No	6,066	59.52	744.82	22.29
Special Education	Yes	714	7.01	726.99	22.76
	No	8,466	83.07	741.09	23.46
	Exited	320	3.14	737.62	25.74
	Exited from 504	66	0.65	738.24	24.43
	504	620	6.08	741.19	23.80
English Learner (EL) Status	Yes	864	8.48	723.34	21.49
	No	8,561	84.01	741.27	23.81
	Exited	761	7.47	744.37	17.88

Table G-15. Scaled Score Summary Statistics for MCAP Life Science MISA Spring Op. Core 4

		N	%	Mean	SD
Overall	Overall	5,073	100.00	740.05	23.48
Gender	Male	2,609	51.43	738.39	23.74
	Female	2,457	48.43	741.83	23.00
	Non-Binary	6	0.12	--	--
Grade	9	2,718	53.58	742.77	23.71
	10	2,058	40.57	738.18	21.55
	11	220	4.34	727.94	29.56
	12	73	1.44	728.22	26.16
Ethnicity	American Indian/Alaskan Native	14	0.28	--	--
	Asian	339	6.68	755.40	18.29
	Black or African American	1,716	33.83	733.38	23.49
	Hispanic/Latino Ethnicity	0	0.00	--	--
	Native Hawaiian or Other Pacific Islander	9	0.18	--	--
	White	1,631	32.15	748.02	19.75
	Multi-racial	0	0.00	--	--
Econ. Dis.	Yes	2,069	40.78	733.28	23.63
	No	3,003	59.20	744.73	22.20
Special Education	Yes	367	7.23	728.79	22.39
	No	4,214	83.07	740.95	23.35
	Exited	150	2.96	739.31	23.08
	Exited from 504	45	0.89	--	--
	504	296	5.83	740.99	23.74
English Learner (EL) Status	Yes	420	8.28	722.03	22.92
	No	4,274	84.25	741.48	23.04
	Exited	378	7.45	744.04	20.21

Table G-16. Scaled Score Summary Statistics for MCAP Life Science MISA Spring Op. Core 5

		N	%	Mean	SD
Overall	Overall	5,138	100.00	740.58	23.36
Gender	Male	2,564	49.90	738.79	23.10
	Female	2,564	49.90	742.34	23.47
	Non-Binary	9	0.18	--	--
Grade	9	2,777	54.05	742.82	24.02
	10	2,063	40.15	738.98	21.39
	11	207	4.03	731.71	25.61
	12	84	1.63	726.44	28.08
Ethnicity	American Indian/Alaskan Native	14	0.27	--	--
	Asian	405	7.88	756.68	16.34
	Black or African American	1,704	33.16	733.31	23.30
	Hispanic/Latino Ethnicity	0	0.00	--	--
	Native Hawaiian or Other Pacific Islander	4	0.08	--	--
	White	1,676	32.62	748.63	19.46
	Multi-racial	0	0.00	--	--
Econ. Dis.	Yes	2,066	40.21	733.07	24.35
	No	3,071	59.77	745.64	21.21
Special Education	Yes	348	6.77	729.16	21.07
	No	4,317	84.02	741.43	23.21
	Exited	145	2.82	739.61	21.61
	Exited from 504	41	0.80	--	--
	504	286	5.57	742.27	25.35
English Learner (EL) Status	Yes	446	8.68	723.51	22.41
	No	4,310	83.88	741.99	23.01
	Exited	381	7.42	744.63	19.91

Table G-17. Scaled Score Summary Statistics for MCAP Life Science MISA Spring Op. Core 6

		N	%	Mean	SD
Overall	Overall	5,130	100.00	740.43	23.23
Gender	Male	2,629	51.25	738.59	23.29
	Female	2,490	48.54	742.33	23.03
	Non-Binary	9	0.18	--	--
Grade	9	2,759	53.78	742.93	23.95
	10	2,095	40.84	738.29	21.38
	11	203	3.96	734.73	24.40
	12	67	1.31	721.84	27.76
Ethnicity	American Indian/Alaskan Native	14	0.27	--	--
	Asian	355	6.92	756.51	15.67
	Black or African American	1,808	35.24	733.43	23.94
	Hispanic/Latino Ethnicity	0	0.00	--	--
	Native Hawaiian or Other Pacific Islander	12	0.23	--	--
	White	1,588	30.96	749.37	18.89
	Multi-racial	0	0.00	--	--
Econ. Dis.	Yes	2,094	40.82	733.36	24.19
	No	3,034	59.14	745.33	21.22
Special Education	Yes	373	7.27	725.94	23.39
	No	4,276	83.35	741.56	23.02
	Exited	155	3.02	738.12	23.24
	Exited from 504	34	0.66	--	--
	504	290	5.65	743.45	19.65
English Learner (EL) Status	Yes	442	8.62	724.06	19.42
	No	4,295	83.72	741.84	23.24
	Exited	391	7.62	743.60	19.74

Table G-18. Scaled Score Summary Statistics for MCAP Life Science MISA Spring Op. Core 7

		N	%	Mean	SD
Overall	Overall	5,113	100.00	739.64	24.36
Gender	Male	2,621	51.26	738.30	24.18
	Female	2,481	48.52	740.99	24.47
	Non-Binary	10	0.20	--	--
Grade	9	2,790	54.57	742.08	24.56
	10	2,035	39.80	737.72	22.93
	11	217	4.24	730.79	28.71
	12	65	1.27	725.05	25.42
Ethnicity	American Indian/Alaskan Native	13	0.25	--	--
	Asian	392	7.67	756.24	16.13
	Black or African American	1,770	34.62	732.35	24.70
	Hispanic/Latino Ethnicity	0	0.00	--	--
	Native Hawaiian or Other Pacific Islander	10	0.20	--	--
	White	1,586	31.02	748.60	19.26
	Multi-racial	0	0.00	--	--
Econ. Dis.	Yes	2,070	40.49	732.09	24.81
	No	3,042	59.50	744.78	22.65
Special Education	Yes	382	7.47	726.44	23.12
	No	4,251	83.14	740.91	24.02
	Exited	152	2.97	739.62	19.96
	Exited from 504	31	0.61	--	--
	504	296	5.79	738.44	27.23
English Learner (EL) Status	Yes	429	8.39	722.91	24.61
	No	4,303	84.16	741.01	24.10
	Exited	380	7.43	742.96	19.42

Table G-19. Scaled Score Summary Statistics for MCAP Life Science MISA Spring Op. Core 8

		N	%	Mean	SD
Overall	Overall	5,101	100.00	740.41	23.47
Gender	Male	2,594	50.85	739.22	23.37
	Female	2,501	49.03	741.69	23.45
	Non-Binary	5	0.10	--	--
Grade	9	2,751	53.93	743.25	23.72
	10	2,062	40.42	738.07	21.91
	11	215	4.21	733.39	24.94
	12	69	1.35	720.46	29.38
Ethnicity	American Indian/Alaskan Native	19	0.37	--	--
	Asian	371	7.27	755.14	18.04
	Black or African American	1,736	34.03	733.21	23.89
	Hispanic/Latino Ethnicity	0	0.00	--	--
	Native Hawaiian or Other Pacific Islander	9	0.18	--	--
	White	1,593	31.23	749.20	19.22
	Multi-racial	0	0.00	--	--
Econ. Dis.	Yes	2,094	41.05	733.29	24.28
	No	3,006	58.93	745.40	21.47
Special Education	Yes	349	6.84	727.20	24.41
	No	4,311	84.51	741.52	23.13
	Exited	149	2.92	739.74	22.25
	Exited from 504	27	0.53	--	--
	504	264	5.18	740.75	22.58
English Learner (EL) Status	Yes	464	9.10	724.39	22.22
	No	4,262	83.55	741.93	23.16
	Exited	374	7.33	743.28	20.37

Table G-20. Scaled Score Summary Statistics for MCAP Life Science MISA Spring Op. Core 9

		N	%	Mean	SD
Overall	Overall	5,082	100.00	740.18	24.29
Gender	Male	2,578	50.73	738.59	24.39
	Female	2,495	49.09	741.90	23.88
	Non-Binary	8	0.16	--	--
Grade	9	2,721	53.54	742.96	24.33
	10	2,044	40.22	737.90	23.51
	11	222	4.37	732.63	26.07
	12	89	1.75	727.10	22.62
Ethnicity	American Indian/Alaskan Native	12	0.24	--	--
	Asian	374	7.36	754.40	19.47
	Black or African American	1,744	34.32	732.75	24.94
	Hispanic/Latino Ethnicity	0	0.00	--	--
	Native Hawaiian or Other Pacific Islander	3	0.06	--	--
	White	1,588	31.25	748.45	21.20
	Multi-racial	0	0.00	--	--
Econ. Dis.	Yes	2,059	40.52	732.78	24.95
	No	3,022	59.46	745.23	22.47
Special Education	Yes	356	7.01	725.28	25.84
	No	4,254	83.71	741.33	23.82
	Exited	140	2.75	742.63	19.72
	Exited from 504	32	0.63	--	--
	504	299	5.88	739.71	25.82
English Learner (EL) Status	Yes	436	8.58	723.59	21.82
	No	4,248	83.59	741.68	24.15
	Exited	397	7.81	742.42	21.41

Table G-21. Scaled Score Summary Statistics for MCAP Life Science MISA Spring Accommodated Form

		N	%	Mean	SD
Overall	Overall	2,675	100.00	724.60	21.26
Gender	Male	1,629	60.90	723.38	20.94
	Female	933	34.88	725.51	21.89
	Non-Binary	4	0.15	--	--
Grade	9	1,157	43.25	723.54	23.19
	10	1,187	44.37	724.71	19.89
	11	162	6.06	724.14	19.32
	12	60	2.24	726.17	14.34
Ethnicity	American Indian/Alaskan Native	13	0.49	--	--
	Asian	77	2.88	735.06	17.36
	Black or African American	923	34.50	720.83	21.60
	Hispanic/Latino Ethnicity	0	0.00	--	--
	Native Hawaiian or Other Pacific Islander	3	0.11	--	--
	White	712	26.62	729.29	18.37
	Multi-racial	0	0.00	--	--
Econ. Dis.	Yes	1,379	51.55	722.36	20.77
	No	1,187	44.37	726.29	21.73
Special Education	Yes	2,242	83.81	724.84	19.14
	No	236	8.82	714.39	31.80
	Exited	10	0.37	--	--
	Exited from 504	15	0.56	--	--
	504	63	2.36	735.62	30.61
English Learner (EL) Status	Yes	606	22.65	720.35	24.29
	No	1,878	70.21	724.97	20.29
	Exited	82	3.07	734.22	14.04

Table G-22. Scaled Score Summary Statistics for MCAP Life Science MISA Summer Op. Core 1

		N	%	Mean	SD
Overall	Overall	281	100.00	711.91	35.32
Gender	Male	159	56.58	710.77	35.81
	Female	121	43.06	713.93	34.41
	Non-Binary	1	0.36	--	--
Grade	9	80	28.47	693.41	40.29
	10	104	37.01	713.00	35.42
	11	40	14.23	--	--
	12	57	20.28	729.74	13.70
Ethnicity	American Indian/Alaskan Native	0	0.00	--	--
	Asian	7	2.49	--	--
	Black or African American	142	50.53	711.92	32.41
	Hispanic/Latino Ethnicity	0	0.00	--	--
	Native Hawaiian or Other Pacific Islander	0	0.00	--	--
	White	65	23.13	704.78	41.10
	Multi-racial	0	0.00	--	--
Econ. Dis.	Yes	133	47.33	700.16	39.45
	No	148	52.67	722.48	27.22
Special Education	Yes	28	9.96	--	--
	No	215	76.51	711.40	35.96
	Exited	11	3.91	--	--
	Exited from 504	2	0.71	--	--
	504	25	8.90	--	--
English Learner (EL) Status	Yes	12	4.27	--	--
	No	264	93.95	711.11	35.91
	Exited	5	1.78	--	--

Table G-23. Scaled Score Summary Statistics for MCAP Life Science MISA Summer Accommodated Form

		N	%	Mean	SD
Overall	Overall	19	100.00	--	--
Gender	Male	12	63.16	--	--
	Female	7	36.84	--	--
	Non-Binary	0	0.00	--	--
Grade	9	10	52.63	--	--
	10	5	26.32	--	--
	11	1	5.26	--	--
	12	3	15.79	--	--
Ethnicity	American Indian/Alaskan Native	0	0.00	--	--
	Asian	0	0.00	--	--
	Black or African American	7	36.84	--	--
	Hispanic/Latino Ethnicity	0	0.00	--	--
	Native Hawaiian or Other Pacific Islander	1	5.26	--	--
	White	5	26.32	--	--
	Multi-racial	0	0.00	--	--
Econ. Dis.	Yes	10	52.63	--	--
	No	9	47.37	--	--
Special Education	Yes	16	84.21	--	--
	No	3	15.79	--	--
	Exited	0	0.00	--	--
	Exited from 504	0	0.00	--	--
	504	0	0.00	--	--
English Learner (EL) Status	Yes	5	26.32	--	--
	No	14	73.68	--	--
	Exited	0	0.00	--	--

Appendix H. Demographic Information

Table H-1. Demographic Information for Winter 2023 MCAP Government

Group	Subgroup	N	Percent
Overall	Overall	10,359	100.00
Gender	Male	5,471	52.81
	Female	4,827	46.60
	Non-Binary	13	0.13
	Not Specified	48	0.46
Grade	9	2,021	19.51
	10	4,704	45.41
	11	1,649	15.92
	12	1,937	18.70
	Not Specified	48	0.46
Ethnicity	American Indian/Alaskan Native	25	0.24
	Asian	309	2.98
	Black or African American	3,516	33.94
	Hispanic/Latino Ethnicity	1,416	13.67
	Native Hawaiian or Other Pacific Islander	19	0.18
	White	3,712	35.83
	Multiracial	1,195	11.54
	Not Specified	167	1.61
Econ. Dis.	Yes	3,774	36.43
	No	6,537	63.10
	Not Specified	48	0.46
Special Education (SE) Indicator	Yes	1,280	12.36
	No	7,994	77.17
	Exited	284	2.74
	Exited from 504	72	0.70
	504	681	6.57
	Not Specified	48	0.46
English Learner (EL) Status	Yes	878	8.48
	No	9,031	87.18
	Exited	402	3.88
	Not Specified	48	0.46

Table H-2. Demographic Information for Spring 2023 MCAP Government

Group	Subgroup	N	Percent
Overall	Overall	56,563	100.00
Gender	Male	29,358	51.90
	Female	26,996	47.73
	Non-Binary	86	0.15
	Not Specified	123	0.22
Grade	9	19,228	33.99
	10	32,879	58.13
	11	2,704	4.78
	12	1,629	2.88
	Not Specified	123	0.22
Ethnicity	American Indian/Alaskan Native	183	0.32
	Asian	3,194	5.65
	Black or African American	20,836	36.84
	Hispanic/Latino Ethnicity	9,508	16.81
	Native Hawaiian or Other Pacific Islander	97	0.17
	White	16,454	29.09
	Multiracial	6,130	10.84
	Not Specified	161	0.28
Econ. Dis.	Yes	25,455	45.00
	No	30,985	54.78
	Not Specified	123	0.22
Special Education (SE) Indicator	Yes	6,127	10.83
	No	44,874	79.33
	Exited	1,633	2.89
	Exited from 504	353	0.62
	504	3,453	6.10
	Not Specified	123	0.22
English Learner (EL) Status	Yes	5,836	10.32
	No	46,808	82.75
	Exited	3,796	6.71
	Not Specified	123	0.22

Table H-3. Demographic Information for Summer 2023 MCAP Government

Group	Subgroup	N	Percent
Overall	Overall	297	100.00
Gender	Male	164	55.22
	Female	133	44.78
	Non-Binary	0	0.00
	Not Specified	0	0.00
Grade	9	71	23.91
	10	111	37.37
	11	44	14.81
	12	71	23.91
	Not Specified	0	0.00
Ethnicity	American Indian/Alaskan Native	1	0.34
	Asian	12	4.04
	Black or African American	144	48.48
	Hispanic/Latino Ethnicity	38	12.79
	Native Hawaiian or Other Pacific Islander	0	0.00
	White	67	22.56
	Multiracial	32	10.77
	Not Specified	3	1.01
Econ. Dis.	Yes	148	49.83
	No	149	50.17
	Not Specified	0	0.00
Special Education (SE) Indicator	Yes	45	15.15
	No	227	76.43
	Exited	13	4.38
	Exited from 504	0	0.00
	504	12	4.04
	Not Specified	0	0.00
English Learner (EL) Status	Yes	22	7.41
	No	267	89.90
	Exited	8	2.69
	Not Specified	0	0.00

Table H-4. Demographic Information for Winter 2023 MCAP Life Science MISA

Group	Subgroup	N	Percent
Overall	Overall	11,369	100.00
Gender	Male	5,790	50.93
	Female	5,531	48.65
	Non-Binary	13	0.11
	Not Specified	35	0.31
Grade	9	1,822	16.03
	10	4,786	42.10
	11	3,250	28.59
	12	1,476	12.98
	Not Specified	35	0.31
Ethnicity	American Indian/Alaskan Native	30	0.26
	Asian	445	3.91
	Black or African American	3,957	34.81
	Hispanic/Latino Ethnicity	1,574	13.84
	Native Hawaiian or Other Pacific Islander	23	0.20
	White	4,009	35.26
	Multiracial	1,172	10.31
	Not Specified	159	1.40
Econ. Dis.	Yes	3,886	34.18
	No	7,448	65.51
	Not Specified	35	0.31
Special Education (SE) Indicator	Yes	1,194	10.50
	No	8,988	79.06
	Exited	326	2.87
	Exited from 504	69	0.61
	504	757	6.66
	Not Specified	35	0.31
English Learner (EL) Status	Yes	831	7.31
	No	10,039	88.30
	Exited	464	4.08
	Not Specified	35	0.31

Table H-5. Demographic Information for Spring 2023 MCAP Life Science MISA

Group	Subgroup	N	Percent
Overall	Overall	63,974	100.00
Gender	Male	32,751	51.19
	Female	30,987	48.44
	Non-Binary	112	0.18
	Not Specified	124	0.19
Grade	9	34,155	53.39
	10	25,929	40.53
	11	2,773	4.33
	12	938	1.47
	Not Specified	124	0.19
Ethnicity	American Indian/Alaskan Native	187	0.29
	Asian	4,556	7.12
	Black or African American	22,099	34.54
	Hispanic/Latino Ethnicity	10,022	15.67
	Native Hawaiian or Other Pacific Islander	102	0.16
	White	19,926	31.15
	Multiracial	6,919	10.82
	Not Specified	163	0.25
Econ. Dis.	Yes	26,356	41.20
	No	37,494	58.61
	Not Specified	124	0.19
Special Education (SE) Indicator	Yes	6,584	10.29
	No	51,363	80.29
	Exited	1,816	2.84
	Exited from 504	418	0.65
	504	3,669	5.74
	Not Specified	124	0.19
English Learner (EL) Status	Yes	5,869	9.17
	No	53,239	83.22
	Exited	4,742	7.41
	Not Specified	124	0.19

Table H-6. Demographic Information for Summer 2023 MCAP Life Science MISA

Group	Subgroup	N	Percent
Overall	Overall	300	100.00
Gender	Male	171	57.00
	Female	128	42.67
	Non-Binary	1	0.33
	Not Specified	0	0.00
Grade	9	90	30.00
	10	109	36.33
	11	41	13.67
	12	60	20.00
	Not Specified	0	0.00
Ethnicity	American Indian/Alaskan Native	0	0.00
	Asian	7	2.33
	Black or African American	149	49.67
	Hispanic/Latino Ethnicity	31	10.33
	Native Hawaiian or Other Pacific Islander	1	0.33
	White	70	23.33
	Multiracial	33	11.00
	Not Specified	9	3.00
Econ. Dis.	Yes	143	47.67
	No	157	52.33
	Not Specified	0	0.00
Special Education (SE) Indicator	Yes	44	14.67
	No	218	72.67
	Exited	11	3.67
	Exited from 504	2	0.67
	504	25	8.33
	Not Specified	0	0.00
English Learner (EL) Status	Yes	17	5.67
	No	278	92.67
	Exited	5	1.67
	Not Specified	0	0.00