Local Accountability Coordinator (LAC) Guide to Interpreting the LS MISA Scores and Subscores

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1.0 General Information for LACs

1.1 Background

The Maryland Comprehensive Assessment Program (MCAP) encompasses all state and federally mandated assessments in English Language Arts/Literacy, Mathematics, Science, Social Studies, WIDA ACCESS for ELs, and Kindergarten Readiness. It provides information to educators, parents, and the public on student progress toward proficiency on the Maryland state content standards. Maryland also provides Alternate Assessments written to the Alternate Standards for those students who require this accommodation. This guide focuses on the Life Science Maryland Integrated Science Assessment (LS MISA). The LS MISA is the final assessment in a series of science assessments that a student will take aligned to the Next Generation Science Standards (NGSS).

1.2 End of Course (EOC) Assessments and Grade Conversion Scores

The LS MISA is an end of course (EOC) assessment. An EOC assessment is content specific and required to be taken at the conclusion of a high school course. MSDE has developed a psychometric approach for reporting that classifies scale scores into one of four performance levels. The scale scores are also transformed into grade conversion scale (GCS) scores, which range from 50–100. GCS scores are classified into letter grade equivalents (i.e., A, B, C, D, or F). MSDE developed a lookup table that contains the Performance Level Labels, the scale score ranges for each performance level, the grade conversion score, and the associated letter grade equivalent.

Beginning in the 2023–2024 school year, the grade conversion score will be included as 20% of a student's final course grade. A cohort is a group of students who have the same grade level within a given year.

	9th Grade Students	10th Grade Students	11th Grade Students	12th Grade Students
2023–2024	EOC = 20% of course grade	EOC is participation only	EOC is participation only	EOC is participation only
2024–2025	EOC = 20% of course grade	EOC = 20% of course grade	EOC is participation only	EOC is participation only
2025–2026	EOC = 20% of course grade	EOC = 20% of course grade	EOC = 20% of course grade	EOC is participation only
2026–2027	EOC = 20% of course grade	EOC = 20% of course grade	EOC = 20% of course grade	EOC = 20% of course grade

By the 2026–2027 school year, all 9th, 10th, 11th, and 12th grade students will have the EOC count as 20% of their EOC course's final grade. Local Education Agencies (LEAs) determine their own curricular course sequence and local grading policies. More information on the EOC assessments can be found at the following link: marylandpublicschools.org/about/Pages/DAAIT/Assessment/EOCs/index.aspx.

1.3 Confidentiality of Reporting Results

The Family Education Rights and Privacy Act (FERPA) requires that access to individual student information be restricted to the student, his/her parents/caregivers, and authorized school personnel. As a user of the MCAP Government & LS MISA Portal, you are responsible for maintaining the privacy and security of all student records. Individual accounts, usernames, and passwords should not be shared.

1.4 Purpose of this Guide

This guide provides additional information on the scale scores, subscores, and grade conversion scores provided for the LS MISA assessments. For additional information on interpreting the reports, please reference the *Educator Guide to Interpreting the LS MISA Reports*. Guides can be accessed on the Maryland Help & Support site at the following link: maryland.onlinehelp.cognia.org/guides.

2.0 Understanding the LS MISA Scores and Subscores

2.1 Types of Reports for LS MISA

Student performance on the Life Science Maryland Integrated Science Assessment (LS MISA) is described using scale scores, performance levels, subscore performance indicators, and grade conversion scores. Please note that the state, LEA, and school average results are included in relevant sections of reports to help Maryland stakeholders understand how their student's performance compares to that of other students. In some instances, a dash (-) appears in place of average results for a school and/or LEA. This indicates that there are too few students to maintain student privacy and therefore results are not reported.

For LS MISA, the following reports are produced: Individual Student Reports, Score Labels, Student Roster Report, School Performance Level Summary Report, LEA Summary of Schools Report. Please refer to the *Educator Guide to Interpreting the LS MISA Reports* for a detailed interpretation of these reports.

The reports are available via the following locations:

- Individual Student Reports – MSDE Secure Server (msde.sftp.md.gov)
- Score Labels – MSDE Secure Server (msde.sftp.md.gov)
- Student Roster Report – Data Interaction (DI) (https://lsmisagovportal.cognia.org/)
- School Performance Level Summary – Data Interaction (DI) (https://lsmisagovportal.cognia.org/)
- LEA Summary of Schools – Data Interaction (DI) (https://lsmisagovportal.cognia.org/)
- Final Student Results File (available to LEAs after each administration) – MSDE Secure Server (msde.sftp.md.gov)

2.2 Scale Score

A scale score is a numerical value that summarizes student performance. The scale score for the LS MISA ranges from 650 to 850. For each test administration, the assessment is built with a consistent distribution of questions across each of the standards. Scores are converted from a raw score into a scale score. The conversion of a raw score to a scale score helps provide a more precise measurement of a student's achievement and also assures that tests given at different times are comparable. Questions are weighted in terms of difficulty and other psychometric criteria. The overall scale score for the LS MISA determines a student's performance level.

A student who earns an overall scale score of 450 on one form of the LS MISA would be expected to earn an overall scale score of 450 on any other form of the LS MISA. Furthermore, the student's overall scale score and level of mastery of concepts and skills would be comparable to a student who took the same assessment the previous or following year.

2.3 Performance Level

Performance Level Descriptors (PLDs) describe the knowledge, skills, and practices that students should know and be able to demonstrate at each performance level.

Each performance level is a broad, categorical level defined by a student's overall scale score and is used to report overall student performance by describing how well students met the expectations for their course. Each performance level is defined by a range of overall scale scores for the assessment. There are four performance levels for the LS MISA assessment:

Performance Level	Scale Score Range
Level 4: Distinguished Learner	772–850
Level 3: Proficient Learner	750–771
Level 2: Developing Learner	731–749
Level 1: Beginning Learner	650–730

2.4 Subscore Performance Indicator

Subscore performance indicates how the student performed relative to the overall performance of students who met expectations for the content area. In Maryland, there are eight science subscores.

- 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

On the Individual Student Report (ISR), Student Roster Report, and LEA Summary of Schools, subscore performance is reported using graphical representations that indicate how the student performed relative to the overall performance of students who met expectations for the content area. Performance levels 3 (Proficient Learner) and 4 (Distinguished Learner) have been combined for reporting purposes in subscore reporting.

Performance Level	Scale Score Range	Performance Level Indicator
Level 3 & 4: Distinguished and Proficient Learner	750–850	
Level 2: Developing Learner	731–749	
Level 1: Beginning Learner	650–730	

2.5 Subscore Scale Score

Subscores for each of the five standards are provided to LEAs from MSDE in the Final Student Results File at the conclusion of each administration. In the Final Student Results File, the following subscore abbreviations are used.

TestCode	SubScoreID	SubScore Description	SubScore Abbreviation
LSMISA	1	Investigating Practices	ISEP
LSMISA	2	Sensemaking Practices	SSEP
LSMISA	3	Critiquing Practices	CSEP
LSMISA	4	Structure and Function	SF
LSMISA	5	Matter and Energy in Organisms and Ecosystems	MEOE
LSMISA	6	Interdependent Relationships in Ecosystems	IRE
LSMISA	7	Inheritance and Variation of Traits	IVT
LSMISA	8	Natural Selection and Evolution	NSE

There are eight Science and Engineering Practices identified in the Next Generation Science Standards (NGSS). It would take a much longer state summative assessment to report individual student results on each practice. In order to provide data on the Science and Engineering Practices, they are grouped together into three broader categories. The Science and Engineering Practices that are in each category are indicated:

- Investigating Practices:
    - Asking Questions and defining problems
    - Planning and carrying out investigations
    - Using mathematics and computational thinking

- Sensemaking Practices:
    – Developing and using models
    – Analyzing and interpreting data
    – Constructing explanations and designing solutions
- Critiquing Practices:
    – Engaging in argument from evidence
    – Obtaining, evaluating, and communicating information.

The remaining subscores are the five high school life science topics in the NGSS. These topics may be arranged in any order within a life science course.

Subscores are provided in columns CA–CH. Each subscore column has a number that corresponds to a subscore ID (1–8) and the abbreviation "SS", which standards for "scale score".

CA	CB	CC	CD	CE	CF	CG	CH
Subscore 1 SS	Subscore 2 SS	Subscore 3 SS	Subscore 4 SS	Subscore 5 SS	Subscore 6 SS	Subscore 7 SS	Subscore 8 SS
753	756	754	753	765	744	749	762

Each subscore is reported on the same scale as the overall scale score. For LS MISA, the scale is 650–850. For example, a student who gets a 773 on Subscore 1 SS, has achieved a performance level 4, Distinguished Learner. Please refer to the table in Section 2.3 Performance Level on page 4 for the scale score ranges associated with each performance level.

Each subscore also has an associated performance level. Since performance levels 3 (Proficient Learner) and 4 (Distinguished Learner) have been combined for reporting purposes in subscore reporting, each subscore has a performance level of 1–3. Subscore performance levels are provided in columns CW–DD. Each subscore column has a number that corresponds to a subscore ID (1–8) and the abbreviation "CAT", which standard for "performance category".

CW	CX	CY	CZ	DA	DB	DC	DD
Subscore 1 CAT	Subscore 2 CAT	Subscore 3 CAT	Subscore 4 CAT	Subscore 5 CAT	Subscore 6 CAT	Subscore 7 CAT	Subscore 8 CAT
3	3	3	3	3	2	2	3