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Maryland
STATE DEPARTMENT OF EDUCATION

Parent Guide to Interpreting the Life Science Maryland Integrated Science Assessment (LS MISA) Reports

COGNIA/MSDE

Maryland Comprehensive Assessment Program

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1.0 General Information for Parents and Educators

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.

1.2 LS MISA

The Life Science Maryland Integrated Science Assessment (LS MISA) is the final assessment in a series of science assessments that a student will take aligned to the Next Generation Science Standards. The LS MISA is an end of course (EOC) assessment that comprises 20 percent of the student's grade in that course. Starting in the 2023–2024 school year with the ninth-grade cohort, students will have the LS MISA EOC count as 20 percent of their final grade. The cohort is a group of students who are in the same grade in a given year.

	9th graders	10th graders	11th graders	12th graders
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.

More information on the LS MISA can be found at the following link: marylandpublicschools.org/about/Pages/DAAIT/Assessment/MISA/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, their parents/caregivers, and authorized school personnel.

1.4 Purpose of this Guide

This guide provides information on the individual student reports provided for LS MISA results.

The sample report included in this guide is for illustration purposes only. It is provided to show the basic layout of the reports and the information they provide. The sample report does not include actual data from any administration.

2.0 Understanding the LS MISA Individual Student Report (ISR)

2.1 Types of Scores on the LS MISA ISR

Student performance on the LS MISA is described on the individual student report using scale scores, and performance levels. State, Local Education Agency (LEA), and school average results are included in relevant sections of the report to help parents understand how their student's performance compares to that of other students. In some instances, a dash (–) appears in place of average results for a school and/or LEA. This indicates that there are too few students to maintain student privacy and therefore results are not reported.

2.1.1 Scale Score

A scale score is a numerical value that summarizes student performance. The LS MISA scale scores range from 650 to 850. For each administration, the assessment is built with a consistent distribution of questions across each of the standard. 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.

Therefore, a student who earns an overall scale score of 800 on one form of the LS MISA would be expected to earn an overall scale score of 800 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 year or following year. The overall scale score for the LS MISA determines a student's performance level.

2.1.2 Performance Level

Performance Level Descriptors (PLDs) describe the knowledge, skills, and practices that students should 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:

- Level 4: Distinguished Learner
- Level 3: Proficient Learner
- Level 2: Developing Learner
- Level 1: Beginning Learner

2.1.3 End of Course and Exam Grade Conversion Scores

The LS MISA is content specific and is required to be taken at the conclusion of the high school life science 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 to 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, and the grade conversion score and associated letter grade equivalents. Beginning in 2023–2024, the grade conversion score will be included as 20% of a student's final grade.

3.0 Sample Report

3.1 Sample LS MISA Individual Student Report

MCAP
Maryland Comprehensive Assessment Program

A

Student Name: PREFERRED100 M. LASTNAME100
SASID: D00100
Date of Birth: 07/26/2009
Administration: WINTER 2025
LEA Name: Demonstration District A
School Name: Demonstration School 2
Grade: 09

B

Life Science Assessment Report, 2024-2025

This report shows whether PREFERRED100 demonstrated proficiency in their life science course and is on track to be scientifically literate. The **Life Science end of course (EOC) assessment** comprises 20% of your child's final grade in their life science course. The assessment is just one measure of how well your child is performing in high school science. In order to satifsy the science graduation requirement, a student must pass a life science course and take the MCAP life science assessment.

C

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 Integrated Science 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.

PERFORMANCE LEVEL	SCALE SCORE
LEVEL 4 DISTINGUISHED LEARNER	779

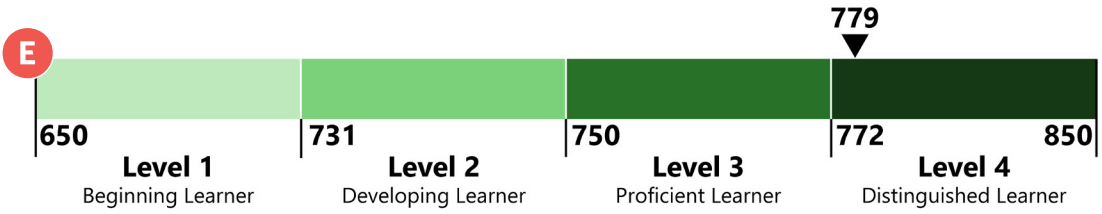
D

How did PREFERRED100 perform overall?

OVERALL STUDENT PERFORMANCE

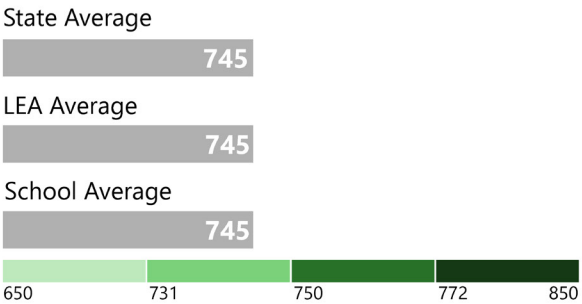
Your student scored **779** on a scale of **650-850**, and performed at **LEVEL 4 - DISTINGUISHED LEARNER**.

E



F

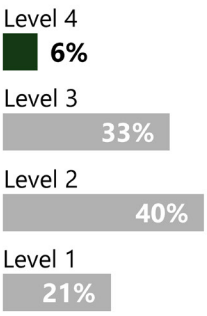
School, LEA*, and State Comparisons



G

How Students in Maryland Performed

Percentage of students at each performance level



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* Please note that LEA stands for Local Education Agency.

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.

09/25/2024

Maryland STATE DEPARTMENT OF EDUCATION **Student Name:** PREFERRED100 M. LASTNAME100

H How Did Your Child Perform on the Life Science Assessment?

The Life Science end of course (EOC) assessment 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 proficiency**. Students **are prepared** to demonstrate the ability to construct and revise explanations about the natural world based on evidence collected from models or data. Students **are prepared** 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 **demonstrate proficiency**. Students **are prepared** 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

I 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.

3.2 Description of Individual Student Reports

3.2.1 General Information

A Identification Information

An Individual Student Report lists the student's name, date of birth, state student ID, grade level when assessed, LEA name, school name, and state.

B Description of Report

The description of the report provides the content area (Life Science) assessed and assessment year. It also provides a general overview of the assessment and score report.

C How to Use the Report

This section provides direction for how parents can use the report to start a discussion with their student's teacher(s). It is important for parents and educators to have regular check-ins to ensure students are learning the necessary skills to stay on track. Parents can use the information in the report to understand their student's strengths and needs and to work with educators to identify resources to support their education.

3.2.2 Overall Assessment Scores

D Overall Scale Score and Performance Level

This section of the report provides the student's overall scale score and performance level. Students receive an overall scale score and, based on that score, are placed in one of four performance levels, with Level 4 indicating the student is a distinguished learner, Level 3 indicating the student is a proficient learner, Level 2 indicating the student is a developing learner, and Level 1 indicating the student is a beginning learner.

E Graphical Representation of Overall Performance: Overall Scale Score and Performance Level

This graphic provides an illustration of the four performance levels and where the student's overall scale score is positioned along the performance scale. The student's score is indicated by the black triangle positioned along the range of overall scale scores that define each performance level. The ranges of overall scale scores are indicated underneath the graphic.

F Average of School, LEA, State, and Cross-State

The average overall scale scores of the school, LEA, and state are shown below the overall scale score and performance level graphic. This allows for comparing a student's overall scale score to the average overall scale score of students at the school, LEA, and state levels for the same grade level/course and content area.

G Percentage of Students at Each Performance Level

This section provides a bar graph showing the percentage of students within the state that performed at each of the four performance levels.

H Performance by Practice Group

This section provides the student's performance on each of the life science practices. Each category has a circle that indicates the performance level of the specific group of science practices: investigating science and engineering practices, sensemaking science and engineering practices, and critiquing science and engineering practices. The four main performance levels are used for the reporting of each group of practices. Levels 3 (Proficient) and 4 (Distinguished) have been combined for reporting purposes.

Performance Level Label	Circle Indicator
Distinguished Learners and Proficient Learners	
Developing Learners	
Beginning Learners	

Performance Level Descriptions

Performance Level Descriptors (PLDs) describe the knowledge and skills that students should be able to demonstrate at each performance level in each content area, and at each grade level/course.