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Mississippi Academic Assessment Program (MAAP)

REPORT INTERPRETATION GUIDE

SCIENCE: Grades 5 and 8

End-of-Course—Biology and U.S. History

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2018–2019

The information in this guide applies to the 2018–2019 score reports. For more information, please contact the Mississippi Department of Education, Office of Student Assessment, by phone at: (601) 359-3052.

For other resources, please refer to the following link: <https://www.mdek12.org/>

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INTRODUCTION



INTRODUCTION

This guide is designed to help teachers and administrators understand, explain, and use the results of the Mississippi Academic Assessment Program (MAAP) for Science Grade 5, Science Grade 8, Biology, and U.S. History. The MAAP results for each student are provided by subject in individual and aggregate reports for the district.

Test scores are only one measure of student achievement and should be used in conjunction with other information about the student's performance in school. In addition, individual student performance in the classroom, based on teacher observation, should be considered when reviewing a student's academic progress, as well as assessment data.

The Mississippi Academic Assessment Program Assessments

The MAAP tests are based on the following standards:

- **College- and Career-Readiness Standards for Science (2018)**
- **Social Studies Framework (2011)** (NOTE: The MS College- and Career-Readiness Standards for Social Studies (2018) were piloted during the 2018–2019 school year and will be implemented in the 2019–2020 school year.)

The standards and supporting documents are available on the Mississippi Department of Education (MDE) website at <https://www.mdek12.org/OAE/college-and-career-readiness-standards>. Standards describe what schools are expected to teach and what students are expected to learn.

Test Forms

Tests are referred to as test forms when there are two or more versions of a test that are considered interchangeable. In other words, the forms measure the same thing (i.e., they cover the same content with the same emphasis) in the same ways (i.e., they have the same administration rules such as test directions and time limits) and are intended for the same purposes and uses.

Though different test forms are used each administration, the number of items and total test points appearing on each form remains the same.

THE SCORES



THE SCORES

Two types of scores are used to report student results for the Mississippi Academic Assessment Program: Raw Scores and Scale Scores. These scores are used to identify the strengths and weaknesses of students and groups of students on the MAAP tests. These scores also determine individual student achievement in the standards for each subject.

The definitions, uses, and limitations of each of these scores are presented in this section. Understanding these score types is essential to correctly interpreting the descriptions provided in the section titled “The Reports.”

Score reports also include Performance Levels. Information explaining how performance level cut scores are determined is located on pages 5–7.

Raw Score

Each item is scored as wrong or right and has a raw score value of one or two points. The test raw scores are the sum of the core points answered correctly.

Raw scores are used to derive other scores, which are described later in this section.

A raw score by itself has no meaning. Because tests may differ in content and difficulty, raw scores across tests cannot be compared directly. The forms within a subject have been constructed to be content equivalent. Although development procedures for the MAAP control content covered by the assessment, MAAP raw scores still provide little meaningful information about the performance of students. This is because raw scores depend on a specific set of items. Contextual factors need to be considered to understand what a raw score of 15 means. Raw scores depend on the difficulty of the test items (e.g., a raw score of 15 based on 20 easy items has a different meaning than a raw score of 15 based on 20 difficult items). Therefore, any raw score must always be interpreted in relation to the specific set of questions that contributed to that score. For these reasons, inferences are better drawn from MAAP scale scores (discussed below), which accommodate for factors such as item difficulty.

Scale Score

Scale scores facilitate conversions to performance levels.

Scale scores have several advantages over raw scores. Scale scores can be compared from year to year and from form to form. Scale scores are a result of a mathematical transformation based on statistical information about items. Using these data, the number of points earned (raw score) is converted to a scale score.

Scale scores are not comparable across subjects.

Performance Levels

A performance level is assigned to a student taking any MAAP test. A performance level is reported in each *Individual Student Report*. The general performance level descriptors (PLDs) are established by State Board policy as follows:

Science and Biology

- **PL5 (Advanced)** Students at the Advanced level consistently perform in a manner clearly beyond that required to be successful in the grade or course in the content area.
- **PL4 (Proficient)** Students at the Proficient level demonstrate solid academic performance and mastery of the knowledge and skills required for success in the grade or course in the content area.
- **PL3 (Passing)** Students at the Passing level demonstrate general mastery of the knowledge and skills required for success in the grade or course in the content area.
- **PL2 (Basic)** Students at the Basic level demonstrate partial mastery of the knowledge and skills in the course and may experience difficulty in the next grade or course in the content area.
- **PL1 (Minimal)** Students performing below the Basic level inconsistently demonstrate the knowledge or skills that define Basic performance.

U.S. History

- **PL4 (Advanced)** Students at the Advanced level consistently perform in a manner clearly beyond that required to be successful in the grade or course in the content area.
- **PL3 (Proficient)** Students at the Proficient level demonstrate solid academic performance and mastery of the knowledge and skills required for success in the grade or course in the content area.
- **PL2 (Basic)** Students at the Basic level demonstrate partial mastery of the knowledge and skills in the course and may experience difficulty in the next grade or course in the content area.
- **PL1 (Minimal)** Students performing below the Basic level inconsistently demonstrate the knowledge or skills that define Basic performance.

NOTE: The content-based PLDs connect student performance on these tests to the expectation for student learning established in the standards. The content-based PLDs are not linked to the content of any particular form of the test; rather, they represent differing levels of mastery of the curriculum.

NOTE: Students at the Advanced level have demonstrated their understanding of the body of knowledge and skills described by the lower performance level descriptors as well as at least partial mastery of the body of knowledge and skills described by the Advanced performance level descriptor. Similar interpretations apply for the other performance levels.

THE SCORES

Assessment	PL1	PL2	PL3	PL4	PL5
Science Grade 5	500–540	541–549	550–564	565–588	589–650
Science Grade 8	800–840	841–849	850–864	865–888	889–950
Biology	1000–1037	1038–1049	1050–1064	1065–1094	1095–1180
U.S. History	640 and lower	641–646	647–657	658 and higher	

Conditional Standard Error of Measurement

If a single student took multiple MAAP forms at the same time, that student would not earn the same score on all the forms. This is due to several factors, with the primary factor being item sampling variability. This can either advantage or disadvantage the student. Depending on the specific set of questions present on the given form, the student may know the answer to more questions than on a different form.

Because a student only takes one MAAP form in any administration, it is unknown if the obtained score is elevated or lowered due to any of the possible outside factors. A conditional standard error of measurement (CSEM) is provided on the MAAP score reports, which indicates the degree of imprecision that exists in the MAAP scores. The CSEM suggests a possible score range that the student might receive if he or she took a different MAAP form. For example, if the CSEM was 4 and a student's score was 350, then the range of likely scores the student might receive on another MAAP form would be between 346 and 354.

There is a more detailed explanation of CSEMs provided by a report entitled "Understanding Your MAAP CSEMs," which is available from the MDE.

Choosing the Cut Scores

A standard setting took place in summer 2019 for the Science and Biology tests. Cut score values on the scale score metric for each test were recommended by each standard setting committee of Mississippi educators.

The cut scores and the resulting performance level scale score ranges for each subject were determined based on the recommendation of the standard setting committees. All final cut scores and performance level scale score ranges were approved by the Mississippi State Board of Education.

How the Scale Score is Derived

Because the MAAP forms are composed of different sets of items with varying difficulties from form to form, the form raw scores are not comparable. To make the MAAP results comparable from year to year, the forms are statistically equated. The equating process adjusts for the differences in item difficulty on the MAAP forms. MAAP scale scores are maintained through the equating process and, thus, carry the same meaning from year to year. Scale scores remove the effect of item difficulty that confounds the interpretation of raw scores. This means that any given scale score value for a grade-level and subject-area test has the same meaning in the current administration as it had in previous administrations. For this reason, the scale scores are suitable for comparing students' performances across years.

While scale scores are comparable across forms in a given subject, they are not comparable across subjects. Although these scores may look similar, each test has its own system of scale scores.

THE REPORTS



THE REPORTS

Score Report Information for 2018–2019

In 2018–2019, all students in grades 5 and 8 enrolled in Science, as well as students enrolled in Biology and U.S. History, were tested using the Mississippi Academic Assessment Program (MAAP). Sample reports for the MAAP assessment are included in this guide.

The Reports

Districts receive several score reports. This guide describes the following reports and provides samples of each one in the following section:

- *Individual Student Report*
- *Roster Report*
- *Geographic Summary Report*
- *Demographic Summary Report*

Individual Student Report (ISR)

The *Individual Student Report* provides the scores for each student tested.

- A** The banner across the top of the report displays the student’s name, enrolled grade, test administration year, MSIS ID, date of birth, district, and school.
- B** **Scale Score and Performance Level:** The student’s scale score is indicated in a box above the colored number line with “Pass” or “Did Not Pass.” The scale score is also depicted on the number line with a black dot. The color bands that make up the number line each represent a performance level. In the example, the student’s scale score falls within the blue that represents Performance Level 4 – Proficient. The lines that extend out from the dot represent the CSEM (see page 6 for more information).
- C** **School, District, and State Comparison:** A table in the middle section of the ISR shows the student’s scale score in comparison to the average scales scores in the student’s school and district, as well as the state average. If less than 10 students are reported in a group, the data will be reported as “**” to protect the privacy of the other students in that group.
- D** **Reporting Category Performance:** The bottom section of the ISR shows the student’s performance broken down to each reporting category. The table shows the number of points the student answered correctly, the number of points that were possible in each category, and the percent of points correct for each category. The reporting categories for each assessment covered by this guide are listed below:

Science Grade 5:

- Life Science – Ecology and Interdependence
- Physical Science – Organization of Matter and Chemical Interactions

- Physical Science – Motion, Forces, and Energy
- Earth and Space Science – Earth and the Universe
- Earth and Space Science – Earth’s Resources

Science Grade 8:

- Life Science – Reproduction and Heredity
- Life Science – Adaptation and Diversity
- Physical Science – Motion, Forces, and Energy
- Earth and Space Science – Earth’s Structure and History
- Earth and Space Science – Earth’s Systems and Cycles
- Earth and Space Science – Earth’s Resources

Biology:

- Cells and Energy – Cells as a System
- Cells and Energy – Energy Transfer
- Heredity and Evolution – Reproduction and Heredity
- Heredity and Evolution – Adaptations and Evolution
- Interdependence of Organisms and Their Environments

U.S. History:

- Domestic Affairs – American Political System
- Domestic Affairs – Major Social Problems
- Global Affairs – Global Position of the United States
- Civil Rights/Human Rights
- Economics – Economic Transformation of the United States
- Economics – Government Involvement in the Economy
- Culture



Mississippi Academic Assessment Program (MAAP) Science 2018-2019



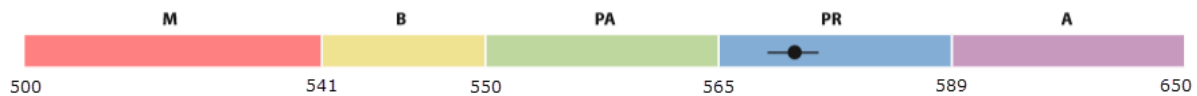
Student: JOHN W. DOE
MSIS: 123456789
Date of Birth: 01/01/2002

A

Grade: 5
District: 9999 Mississippi District
School: 999 Mississippi School

Test Date: Spring 2019 Science

B Science | Scale Score **575** **PASS**



PL4 (Proficient – 520-559): Students at the Proficient level demonstrate solid academic performance and mastery of the knowledge and skills required for success in the grade or course in the content area.

The —●— symbol shows the student’s scale score where the dark circle is the score. If the student were to test again, the student’s score would likely fall within the lines on either side of the circle.

C Science | School, District, and State Comparison

Scale Score	# Tested	M	B	PA	PR	A
JOHN'S Score		575				
School (average)	4	**				
District (average)	41	XXX				
State (average)	5,461	XXX				

■ M - Minimal (PL1) ■ B - Basic (PL2) ■ PA - Passing (PL3) ■ PR - Proficient (PL4) ■ A - Advanced (PL5)

Counts less than 10 are reported as "**"

D Science | Reporting Category Performance

Reporting Category	Points Correct	Points Possible	Percent Correct
Life Science - Ecology and Interdependence	3	7	43%
Physical Science - Organization of Matter and Chemical Interactions	2	7	29%
Physical Science - Motion, Forces, and Energy	7	12	58%
Earth and Space Science - Earth and the Universe	8	12	67%
Earth and Space Science - Earth's Resources	4	7	57%
Total Reporting Category Performance	24	45	53%



<http://www.mdek12.org>

Roster Report

The Roster Report lists each student’s whole test scale score and performance level, as well as the reporting category points earned. The roster is delivered within the Interactive Reporting interface of the DRC INSIGHT Portal. District users will see all students within their district and can filter the roster by school, teacher, or test session. The roster can also be filtered for specific scale scores or performance levels to create custom reports to fit administrator needs. The rosters also show the average reporting category results and the average scale scores for the group of students showing on the roster. If a filter is applied to the roster, the averages will update to reflect that smaller group of students. The roster reports only contain first-time testers with valid test administrations.

Roster Report for US History

Total Points Correct	Total Points Possible	Total Percent Correct	Reporting Category											
			1-Domestic Affairs - American Political System			2-Domestic Affairs - Major Social Problems			3-Domestic Affairs - Major Social Problems			4-Civil Rights/Human Rights		
Name, ID, Grade, Sc...			Total Points Correct	Total Points Possible	Total Percent Correct	Total Points Correct	Total Points Possible	Total Percent Correct	Total Points Correct	Total Points Possible	Total Percent Correct	Total Points Correct	Total Points Possible	Total Percent Correct
SAMPLE, STUDENT 985698569 11 644 Basic spring 2019			5.00	7.00	71	3.00	7.00	43	7.00	12.00	58	10.00	12.00	83
SAMPLE, STUDENT 985698569 11 639 Minimal spring 2019			2.00	7.00	29	4.00	7.00	57	5.00	12.00	42	5.00	12.00	42
SAMPLE, STUDENT 985698569 11 651 Proficient spring 2019			4.00	7.00	57	4.00	7.00	57	5.00	12.00	42	11.00	12.00	92
SAMPLE, STUDENT 985698569 11 644 Basic spring 2019			3.00	7.00	43	5.00	7.00	71	9.00	12.00	75	10.00	12.00	83
SAMPLE, STUDENT 985698569 11 665 Advanced spring 2019			6.00	7.00	86	5.00	7.00	71	8.00	12.00	67	11.00	12.00	92

Geographic Summary

The Geographic Summary report displays the performance of students by district and school. The roster is delivered within the Interactive Reporting interface of the DRC INSIGHT Portal. District users will see all students within their district and can filter the roster by school, teacher, or test session. The report displays the number of students tested, the percentage of students at each performance level, and the average percentages for the filtered level (district, school, or class). Summary reports only contain first-time testers with valid test administrations. If a group of students fewer than 10 is reported, it will be reported as “**.” Percentages less than 5% are reported as 5%, and percentages greater than 95% are reported as 95%.

District Summary Report

Only students taking the test for the first time are included in this report. Counts less than 10 are reported as “**”. Percentages less than 5% are reported as 5%. Percentages greater than 95% are reported as 95%.

District Name	School Name	# of Students	% of Minimal	% of Basic	% of Proficient	% of Advanced
SAMPLE DISTRICT	SAMPLE SCHOOL 1	73	10	27	44	19
SAMPLE DISTRICT	SAMPLE SCHOOL 2	162	10	13	49	28
SAMPLE DISTRICT	SAMPLE SCHOOL 3	112	9	20	55	16

THE REPORTS

Demographic Summary

The Demographic Summary report displays the percentage of students at each performance level for each demographic category. The roster is delivered within the Interactive Reporting interface of the DRC INSIGHT Portal. District users will see all students within their district and can filter the roster by school, teacher, or test session. The following categories are available on the report: Gender, Ethnicity, Students with Disabilities, English Learners, and Economically Disadvantaged. If a group of students fewer than 10 is reported, it will be reported as “**.” Percentages less than 5% are reported as 5%, and percentages greater than 95% are reported as 95%.

Gender					
Only students taking the test for the first time are included in this report. Counts less than 10 are reported as “**”. Percentages less than 5% are reported as 5%. Percentages greater than 95% are report...					
Gender	# of Students	% of Minimal	% of Basic	% of Proficient	% of Advanced
Female	351	20	19	44	17
Male	411	20	18	35	26
2 rows total					

Ethnicity					
Only students taking the test for the first time are included in this report. Counts less than 10 are reported as “**”. Percentages less than 5% are reported as 5%. Percentages greater than 95% are report...					
Ethnicity ↑	# of Students	% of Minimal	% of Basic	% of Proficient	% of Advanced
American Indian or Alaska Native	**	5	5	5	95
Asian	23	9	9	48	35
Black or African American	352	30	26	35	9
Hispanic	42	24	14	29	33
Multiple	**	11	5	67	22
Native Hawaiian or other Pacific Islander	**	5	5	95	5

Student Labels

Student labels are printed and shipped to district test coordinators after final reports are released. The top of the label indicates the subject and date of test administration. The following lines show the following student demographic information: name, MSIS ID, enrolled grade, and date of birth (DOB). The label also displays the district and school name. The last line on the label displays the student’s scale score, the student’s performance level, and a passing indicator (Pass or Did Not Pass).

FOR MORE INFORMATION



FOR MORE INFORMATION

For questions about accessing reports or using the Interactive Reports on the DRC INSIGHT Portal, contact DRC Customer Support:

MSHelpDesk@datarecognitioncorp.com

888-476-0264

For questions about public, state, or Department of Education policies, contact the MDE:

Office of Student Assessment

601-359-3052



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