1.0 General Information for Parents and Educators

1.1 Background of the Maryland Integrated Science Assessment
In 2013, the Maryland State Board of Education adopted the Next Generation Science Standards (NGSS) as the new Maryland Science Standards. To assess progress toward these standards for students in grades 5 and 8, the Maryland State Department of Education (MSDE) developed the Maryland Integrated Science Assessment (MISA).

The Spring 2018 MISA assessments were administered in either computer-based or paper-based format. The tests assessed student mastery of the three dimensions necessary to understand science: Science and Engineering Practices (SEP), Crosscutting Concepts (CCC), and Disciplinary Core Ideas (DCI). Students demonstrated their mastery by interacting with a stimulus such as a video, chart, or diagram, and then responding to several items supported by the stimulus.

1.2 Confidentiality of Reporting Results
Individual student performance results are confidential and may be released only in accordance with the Family Educational Rights and Privacy Act of 1974 (20 U.S.C. Section 1232g). Aggregated student performance data are made available to the public and do not contain the names of individual students or teachers. The State Summary of Districts Report and School Evidence Analysis Reports are for use at a state, district, and school level and are not intended for public distribution.

1.3 Purpose of this Guide
This guide provides information on the Preliminary Student Reports, Individual Student Reports, school reports, district reports, and state reports provided for MISA results. Section 3.0, which outlines and explains elements of the Individual Student Report, may be shared with parents. This section will help parents understand their child's test results. Section 4.0 outlines and explains elements of the school and district reports. Section 5.0 includes reports for use at a state, district, and school level.

Sample reports included in this guide are for illustration purposes only. They are provided to show the basic layout of the reports and the information they provide. Sample reports do not include actual data from any test administration.
2.0 Understanding the Preliminary Student Report

2.1 Types of Scores on the MISA Preliminary Student Report

The MISA Preliminary Student Report is an on-demand report in PearsonAccessnext. Student performance on MISA is described on the Preliminary Student Report using scale scores, performance levels, and subcategory performance indicators.

2.1.1 Scale Score

A scale score is a numerical value that summarizes student performance. Not all students respond to the same set of test items, so each student's raw score (actual points earned on test items) is adjusted for the slight differences in difficulty among the various forms and administrations of the test. The resulting scale score allows for an accurate comparison across test forms and administration years within a grade or course and content area. MISA reports provide overall scale scores for the science assessment, which determine a student's performance level. MISA scale scores range from 650 to 850 for all tests.

For example, a student who earns an overall scale score of 750 on one form of the grade 5 science assessment would be expected to earn an overall scale score of 750 on any other form of the grade 5 science assessment. 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.

2.1.2 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 grade band/course. Each performance level is defined by a range of overall scale scores for the assessment. There are four performance levels for MISA:

- Level 5: Exceeded expectations
- Level 4: Met expectations
- Level 3: Approached expectations
- Level 2: Partially met expectations

Students performing at levels 4 and 5 met or exceeded expectations and are on track for the next grade band. Additional information pertaining to the test performance levels can be found in Appendix A.

Performance Level Descriptors (PLDs) describe the knowledge, skills, and practices that students should know and be able to demonstrate at each performance level in science. PLDs are available at http://www.marylandpublicschools.org/about/Pages/DCAA/Science/index.aspx.

2.1.3 Dimensions of Science Performance Indicators

Mastery of the dimensions of science is reported using graphical representations that indicate how the student performed relative to the overall performance of students who met or approached expectations for the content area.

Performance for each of the three dimensions is reported using categories rather than scale scores or performance levels. The three categories are: Met or Exceeded Expectations, Approached Expectations, and Did Not Yet Meet Expectations.
### 2.2 Preliminary Student Report

#### Test Details

<table>
<thead>
<tr>
<th>Test Details</th>
<th></th>
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<tbody>
<tr>
<td><strong>Test Name</strong></td>
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<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### How Did MARY Perform Overall?

Maryland Integrated Science Assessment Report 2017-2018

This report shows whether MARY met grade band expectations in science and is on track for the next grade band. The Maryland Integrated Science Assessment (MISA) is just one measure of how well your child is performing academically.

#### How Did Your Child Perform in Science?

<table>
<thead>
<tr>
<th>Reporting Item</th>
<th>Performance Level Indicator</th>
</tr>
</thead>
<tbody>
<tr>
<td>--&gt; Physical Science</td>
<td>Met or Exceeded Expectations</td>
</tr>
<tr>
<td>--&gt; Earth and Space Science</td>
<td>Approached Expectations</td>
</tr>
<tr>
<td>--&gt; Life Science</td>
<td>Approached Expectations</td>
</tr>
<tr>
<td>--&gt; Science and Engineering Pracices</td>
<td>Met or Exceeded Expectations</td>
</tr>
<tr>
<td>--&gt; Crosscutting Concepts</td>
<td>Did Not Yet Meet Expectations</td>
</tr>
</tbody>
</table>

Results provided in PearsonAccessOnDemand Reports are preliminary. Official results will be reported by your state.

Produced on 5/10/2018

### 2.3 Description of Preliminary Student Report

**A. Identification Information**

The student's name, state student-ID, grade band when assessed, date of birth, state, district name, and school name are provided.
B. Overall Scale Score
The student's overall scale score is shown in this section.

C. Graphical Representation of Overall Performance: Overall Scale Score and Performance Level
This graphic provides an illustration of the four performance levels (Exceeded Expectations, Approached Expectations, Met Expectations, and Partially Met Expectations) 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. Refer to Appendix A for the full list of scale score ranges for each performance level.

D. Description of Report
The description of the report includes the content area assessed and the assessment year. It also provides a general overview of the score report.

E. How Did Your Child Perform in Science?
This section of the report shows the student’s performance in the three dimensions of science: Disciplinary Core Ideas (DCI), Science and Engineering Practices (SEP), and Crosscutting Concepts (CC). Performance in DCI is shown through three subcategories: Physical Science, Life Science, and Earth and Space Sciences. The performance level achieved for each dimension and subcategory is shown at the right side of the box. Performance in the dimensions of science is reported using the following categories rather than scale scores or performance levels:

- Met or Exceeded Expectations: Students in this category are likely academically well prepared to engage successfully in further studies in the dimension of science content area and may need instructional enrichment.
- Approached Expectations: Students in this category likely need academic support to engage successfully in further studies in the dimension of science content area.
- Did Not Yet Meet Expectations: Students in this category are likely not academically well prepared to engage successfully in further studies in the dimension of science content area. Such students likely need instructional interventions to increase achievement in the dimension of science content area.
3.0 Understanding the MISA Individual Student Report

3.1 Types of Scores on the MISA Individual Student Report

Student performance on MISA is described on the Individual Student Report using scale scores, performance levels, and subcategory performance indicators. State, district, and school average results are included in relevant sections of the report to help parents understand how their child’s performance compares to that of other students. In some instances, a dash (—) will appear in place of average results for a school and/or district. This indicates that there are too few students to maintain student privacy and therefore results are not reported.

3.1.1 Scale Score

A scale score is a numerical value that summarizes student performance. Not all students respond to the same set of test items, so each student’s raw score (actual points earned on test items) is adjusted for the slight differences in difficulty among the various forms and administrations of the test. The resulting scale score allows for an accurate comparison across test forms and administration years within a grade or course and content area. MISA reports provide overall scale scores for the science assessment, which determine a student’s performance level. MISA scale scores range from 650 to 850 for all tests.

For example, a student who earns an overall scale score of 750 on one form of the grade 5 science assessment would be expected to earn an overall scale score of 750 on any other form of the grade 5 science assessment. 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.

3.1.2 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 grade band/course. Each performance level is defined by a range of overall scale scores for the assessment. There are four performance levels for MISA:

- Level 5: Exceeded expectations
- Level 4: Met expectations
- Level 3: Approached expectations
- Level 2: Partially met expectations

Students performing at levels 4 and 5 met or exceeded expectations and are on track for the next grade band. Additional information pertaining to the test performance levels can be found in Appendix A.

Performance Level Descriptors (PLDs) describe the knowledge, skills, and practices that students should know and be able to demonstrate at each performance level in science. PLDs are available at [http://www.marylandpublicschools.org/about/Pages/DCAA/Science/index.aspx](http://www.marylandpublicschools.org/about/Pages/DCAA/Science/index.aspx).

3.1.3 Dimensions of Science Performance Indicators

Mastery of the dimensions of science is reported using graphical representations that indicate how the student performed relative to the overall performance of students who met or approached expectations for the content area.
Performance for each of the three dimensions is reported using categories rather than scale scores or performance levels.

- Met or Exceeded Expectations – represented by an up arrow 
- Approached Expectations – represented by a bidirectional arrow
- Did Not Yet Meet Expectations – represented by a down arrow

### 3.2 Sample Individual Student Report

**GRADE 5 SCIENCE**

Science Assessment Report, 2017-2018

This report shows whether **FIRSTNAME** met grade band expectations in science and is on track for the next grade band. The **Maryland Integrated Science Assessment (MISA)** is just one measure of how well your child is performing academically.

To learn more about the test and to view sample questions and practice tests, visit [http://mdk12.msde.maryland.gov/assessments/fk/index.html](http://mdk12.msde.maryland.gov/assessments/fk/index.html)

**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?

**How Did FIRSTNAME Perform Overall?**

**Performance Level 4**

Your child's score

764

**State Average**

- 730

**District Average**

- 734

**School Average**

- 764

**How Students in Maryland Performed**

<table>
<thead>
<tr>
<th>Level 2</th>
<th>Level 3</th>
<th>Level 4</th>
<th>Level 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>30%</td>
<td>35%</td>
<td>20%</td>
<td>15%</td>
</tr>
</tbody>
</table>

The probable range of your child's overall score on this test is plus or minus 7.3 points. This is the amount of change that would be expected in your child's score if he/she were to take the test many times. Small differences in scores should not be overinterpreted.
3.3 Description of Individual Student Reports

A. Identification Information
An Individual Student Report lists the student’s name, date of birth, state student ID, grade band when assessed, district name, school name, and state.

B. Description of Report
The description of the report provides the grade band/course assessed, content area 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 guidance for how parents can use the report to start a discussion with their child'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 child's strengths and needs and to work with educators to identify resources to support his or her education.

D. Overall Scale Score and Performance Level
This section of the report provides the student's overall scale score and performance level (refer to Section 3.1). Students receive an overall scale score and, based on that score, are placed in one of four performance levels, from Level 5, indicating the student exceeded expectations, to Level 2, indicating the student partially met expectations.

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. The scale scores needed to reach each performance level vary slightly between grades 5 and 8. Refer to Appendix A for the full list of scale score ranges for each performance level.

F. Average of School, District, and State
The average overall scale scores of the school, district, 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, district, and state levels for the same grade band.

G. Percentage of Students at Each Performance Level
This section provides a bar graph showing the percentage of students within the state who performed at each of the four performance levels.

H. Probable Range
The probable range of scores is based on the standard error of measurement, which reflects the variability that would be expected in the scores that your student would likely receive if the same form of the assessment was taken multiple times. The probable range of scores differs across forms and across level of performance within forms.

I. Dimensions of Science Reporting Categories
The report shows the student's performance for the three dimensions of science: Disciplinary Core Ideas (DCI), Science and Engineering Practices (SEP), and Crosscutting Concepts (CCC). In addition, there are three subcategories in the DCI dimension: Physical Science, Life Science, and Earth and Space Sciences. Each dimension of science is indicated by a large, black header. The DCI subcategories are indicated by a smaller black header.

J. Dimension of Science Performance Indicators
A student's dimension of science performance indicators represent how well the student performed in the dimensions of science. As with overall category scores, a measure of student proficiency for each dimension is estimated on a common, underlying measurement scale. Student performance in the dimensions of science is reported using categories rather than scale scores or performance levels.
• Met or Exceeded Expectations – represented by an up arrow 🡿
• Approached Expectations – represented by a bidirectional arrow ↔
• Did Not Yet Meet Expectations – represented by a down arrow ⬇

K. Description of Dimensions of Science Performance Indicator Graphics
Student performance for each dimension is marked with a performance indicator.

a. An up arrow for the specified dimension indicates that the student “Met or Exceeded Expectations. Students in this category are likely academically well prepared to engage successfully in further studies in the dimension of science content area and may need instructional enrichment.

b. A bidirectional arrow for the specified dimension indicates that the student “Approached Expectations.” Students in this category likely need academic support to engage successfully in further studies in the dimension of science content area.

c. A down arrow for the specified dimension indicates that the student “Did Not Yet Meet Expectations.” Students in this category are likely not academically well prepared to engage successfully in further studies in the dimension of science content area. Such students likely need instructional interventions to increase achievement in the dimension of science content area.

L. Description of the Maryland Integrated Science Assessments
This section provides a brief description of the MISA. It also includes information on how teachers, schools, and districts use the reports to make improvements to educational programming.
### Grade 5 Science

<table>
<thead>
<tr>
<th>Level</th>
<th>Cut</th>
<th>Level Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level 2 Cut</td>
<td>650</td>
<td>Level 2 Range 650–728</td>
</tr>
<tr>
<td>Level 3 Cut</td>
<td>729</td>
<td>Level 3 Range 729–749</td>
</tr>
<tr>
<td>Level 4 Cut</td>
<td>750</td>
<td>Level 4 Range 750–771</td>
</tr>
<tr>
<td>Level 5 Cut</td>
<td>772</td>
<td>Level 5 Range 772–850</td>
</tr>
</tbody>
</table>

### Grade 8 Science

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<tr>
<th>Level</th>
<th>Cut</th>
<th>Level Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level 2 Cut</td>
<td>650</td>
<td>Level 2 Range 650–725</td>
</tr>
<tr>
<td>Level 3 Cut</td>
<td>726</td>
<td>Level 3 Range 726–749</td>
</tr>
<tr>
<td>Level 4 Cut</td>
<td>750</td>
<td>Level 4 Range 750–772</td>
</tr>
<tr>
<td>Level 5 Cut</td>
<td>773</td>
<td>Level 5 Range 773–850</td>
</tr>
</tbody>
</table>
Appendix B
Performance Level Descriptors
Performance Level Descriptors

Grades 5 and 8 Science
Performance Level Descriptors (PLDs) for grade 5 science and grade 8 science are available on the following websites:

Maryland Public Schools:
http://www.marylandpublicschools.org/about/Pages/DCAA/Science/index.aspx

Maryland Integrated Science Assessment:
http://mdk12.msde.maryland.gov/assessments/k_8/index_b.html

Maryland Report Card website:
http://reportcard.msde.maryland.gov/