



Missouri

DEPARTMENT OF ELEMENTARY & SECONDARY

EDUCATION™

End-of-Course Assessments

Guide to Interpreting Results 2019–2020

Algebra I
Algebra II
Geometry
English I
English II
Biology
Physical Science
Personal Finance

Version 3



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2.0 Change Log

Date Updated	Description	Version
6/2019	Initial Posting	1
10/2019	Science updates	2
4/2020	Spring 2020 updates	3

3.0 Educational Assessment: A Primary Tool

Assessment, or testing, fulfills a vital role in today’s educational environment. As a primary tool for educators and policymakers, assessment is used for many important purposes. Educators use assessment results to help improve teaching and learning and to evaluate programs and schools. Assessment is also used to generate the data upon which policy decisions are made. Because of the important place it occupies in education, assessment is a foundation activity in every school, district, and state. It is vital to foster innovation, achieve higher standards, and attain educational excellence.

The End-of-Course (EOC) Assessments are based on the Missouri Learning Standards (MLS). When the content associated with a particular course is covered, the associated EOC Assessment can be administered regardless of student grade level. EOC Assessment items are aligned with the Missouri Learning Standards, which are available on the DESE website (<http://dese.mo.gov/college-career-readiness/curriculum/missouri-learning-standards>). The responsibility and authority for testing students belongs to the school district. The Missouri Department of Elementary and Secondary Education (DESE) uses the information obtained through the EOC Assessments to monitor the progress of Missouri’s students in meeting the state and national standards, to inform the public and the state legislature about students’ performance, and to help make informed decisions about educational issues. In May 2016, the Missouri State Board of Education approved a schedule for implementing assessments aligned to the newly adopted expectations. Initial operational administration of new English language arts and mathematics assessments took place in the 2017–2018 school year, followed by science in 2018–2019 and social studies in 2019–2020. See image below for details.

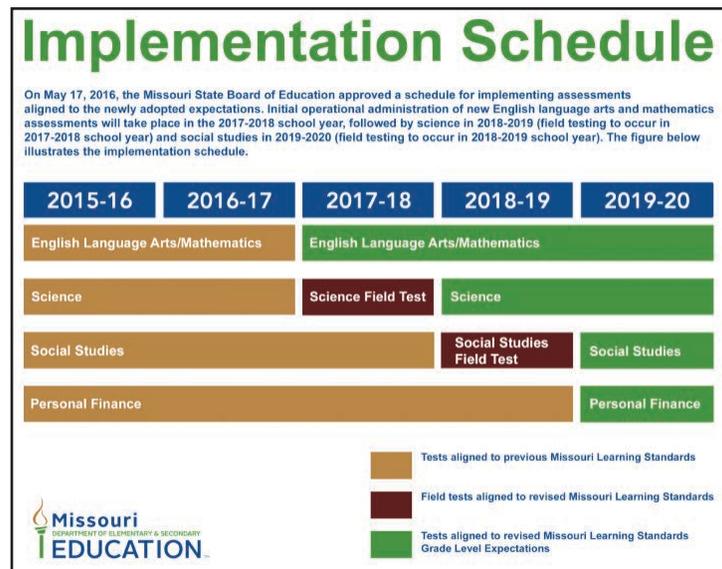


Figure 3.1

In 2018–2019, EOC Assessments included: Algebra I, Algebra II, Geometry, English I, English II, American History, Government, Biology, and Physical Science. Because the assessment development schedule for Government and American History is set to begin in 2019–2020, the 2018–2019 administration year was a full census Field Test. Due to this, there were no reports available for Government and American History during the 2018–2019 administration year.

The Missouri Assessment Program (MAP) End-of-Course reports provide useful information for determining the performance of students in a particular school and classroom. For example, these reports can help identify students who are below proficiency in a particular test area so that a course of action may be determined that will meet the students’ specific needs. Additionally, districts may use locally designed assessments aligned to the Missouri Learning Standards to provide more detailed information for each student in specific test areas.

Students who are taking a course in which the Personal Finance competencies are embedded are required to take the Personal Finance assessment. For students who are enrolled in a stand-alone Personal Finance course, the assessment is optional. Districts have the flexibility to set their own passing rate for all other students who take the Personal Finance assessment. Districts have the option to allow students to “test out” in order to receive the ½ unit of credit in Personal Finance. To “test out,” a student must attain a score of 90% or higher on the Personal Finance assessment. Personal Finance does report out achievement levels.

Final Raw Score Rosters are available for Personal Finance within five business days of the district testing.

Due to the cancellation of the Spring 2020 EOC Assessments, there will be no 2019–2020 American History or Government Final Individual Student Reports or Final Class Rosters available. Any Spring administered assessments, except for Social Studies, will only have percent correct reports, as there were not enough administrations to adequately post-equate. At this time, Social Studies EOC Assessments will utilize the 2020–2021 academic year to set performance levels during a Summer 2021 performance level setting event.

3.1 Scale Scores

Questar Assessment uses the students’ correct responses and points earned to derive the EOC scale score. Students receive an EOC scale score when they have a valid attempt in any test session. For Algebra I, Algebra II, Geometry, English I, English II, Biology, and Physical Science, EOC scale scores have values starting at 325 with 400 as the threshold of the proficient achievement level. Currently, no maximum scale score has been established in order to monitor the possibility of growth. The EOC scale score determines the student’s achievement level.

3.2 Achievement Levels

Student performance is reported in terms of four performance (or achievement) levels that describe a pathway to proficiency, and these achievement levels are outlined on the following pages. Each achievement level represents standards of performance for each assessed content area; achievement levels describe what students can do in terms of the content and skills on the assessment. Panels comprised of Missouri educators, school administrators, postsecondary faculty, and community business members determined the achievement level cut scores. These scores are a means of comparing test results with standards of academic performance.

3.3 Standard Error of Measurement

No test provides a perfect measure of a student's ability. This situation is expected because all tests have a known Standard Error of Measurement (SEM). The SEM reports the amount of variability that can be expected in a student's test score due to the inherent imprecision of the test. In other words, the SEM represents a range of scale scores in which the student's score would likely fall if the student took the same test again.

4.0 Missouri Learning Standards

MO EOC items are aligned with the Missouri Learning Standards. The Missouri Learning Standards are grouped by content and course.

4.1 English I MLS Strands

In English I, students in Missouri public schools will acquire a solid foundation which includes knowledge and proficiency in

1. Reading Literary Texts
2. Reading Informational Texts
3. Writing

4.2 English II MLS Strands

In English II, students in Missouri public schools will acquire a solid foundation which includes knowledge and proficiency in

1. Reading Literary Texts
2. Reading Informational Texts
3. Writing

4.3 Algebra I MLS Strands

In Algebra I, students in Missouri public schools will acquire a solid foundation which includes knowledge and proficiency in

1. Algebra
2. Functions
3. Number/Quantity and Statistics

4.4 Algebra II MLS Strands

In Algebra II, students in Missouri public schools will acquire a solid foundation which includes knowledge and proficiency in

1. Algebra
2. Functions
3. Number/Quantity and Statistics

4.5 Geometry MLS Strands

In Geometry, students in Missouri public schools will acquire a solid foundation which includes knowledge and proficiency in

1. Congruence/Similarity, Coordinate Geometry, and Circles
2. Geometric Measurement and Modeling
3. Statistics and Probability

4.6 Biology MLS Strands

In Biology, students in Missouri public schools will acquire a solid foundation which includes knowledge and proficiency in

1. From Molecules to Organisms: Structure and Process
2. Ecosystems: Interactions, Energy, and Dynamics
3. Heredity: Inheritance and Variation of Traits
4. Biological Evolution: Unity and Diversity
5. Earth and Human Activity

4.7 Physical Science MLS Strands

In Physical Science, students in Missouri public schools will acquire a solid foundation which includes knowledge and proficiency in

1. Matter and Its Interactions
2. Motion and Stability: Forces and Interactions
3. Energy
4. Earth and the Universe

4.8 Government MLS Stands

In Government, students in Missouri public schools will acquire a solid foundation which includes knowledge and proficiency in

1. Tools of Social Science Inquiry
2. Historical Foundations
3. Structure of Government
4. Government in Action

4.9 American History MLS Strands

In American History, students in Missouri public schools will acquire a solid foundation which includes knowledge and proficiency in

1. Tools of Social Science Inquiry
2. Re-Emerging America
3. Emerging Globally
4. The Great Depression and WWII
5. The American Stage
6. Contemporary America

4.10 Personal Finance MLS Strands

In Personal Finance, students in Missouri public schools will acquire a solid foundation which includes knowledge and proficiency in

1. Financial Decision Making/Earning Income
2. Buying Goods and Services
3. Savings/Using Credit
4. Protecting and Insuring/Financial Investing

5.0 Achievement-Level Descriptors

5.1 Algebra I Achievement-Level Descriptors

Advanced: Students performing at the Advanced level on the Missouri Algebra I End-of-Course Assessment demonstrate advanced proficiency in the knowledge and skills identified in the Missouri Learning Standards. The students are able to justify understanding of the properties of rational exponents as an extension of the properties of integer exponents; critiques the reasoning of others' representation when solving problems involving expressions with rational exponents or radicals; critiques the validity of conjectures about a data set various forms; discusses possible associations and trends in data. Analyzes and manipulates the structure of polynomials and exponentials; structure of expressions and equations to determine the optimal method of solving or creating equivalent expressions; analyzes and interprets constraints in the context of the solutions to model a mathematical or real-world problem that may limit possible solutions. Connects mathematical ideas and real-world situations through modeling of arithmetic on polynomials.

Scale Score: 409 and higher

Proficient: Students performing at the Proficient level on the Missouri Algebra I End-of-Course Assessment demonstrate proficiency in the knowledge and skills identified in the Missouri Learning Standards. The students are able to add, subtract and multiply multivariable polynomials; divide polynomials by monomials; rewrite expressions with rational exponents or radicals using the properties of exponents; reasons abstractly and contextually when solving multi-step problems involving quantities. Explains the steps in solving an inequality; solve quadratic equations using various methods; selects and uses appropriate strategies to solve a system of equations; interpret parameters of exponential functions; translates between different but equivalent forms of quadratic functions; compares properties of two functions given different representations. Constructs quadratic and exponential functions given multiple representations; Compares, interprets and analyzes sets of data using statistical measures or graphs; recognizes the presence and effects of outliers.

Scale Score: 400–408

Basic: Students performing at the Basic level on the Missouri Algebra I End-of-Course Assessment demonstrate partial proficiency in the knowledge and skills identified in the Missouri Learning Standards. The students are able to identify key terms in expressions and equations; uses mathematical models; factors a simple ($a=1$) quadratic expression; rewrite expressions with rational exponents or radicals using the properties of exponents. Explains the steps in solving an equation; solves a system of linear equations algebraically and graphically; solves a system of a linear and quadratic graphically; graphs the solution to a linear inequality in two variables. Creates and graphs linear equations and inequalities; graphs exponential and quadratic equations in two variables. Understands that the domain and range values of a function corresponding to (x, y) values on the Cartesian coordinate plane. Recognize and distinguishes between situations that can be modeled with linear or exponential functions; writes explicit functions that generate arithmetic and geometric sequences. **Scale Score: 389–399**

Below Basic: Students performing at the Below Basic level on the Missouri Algebra I End-of-Course Assessment do not yet demonstrate proficiency in the knowledge and skills identified in the Missouri Learning Standards. The students are able to identify parts of an expression to write it in standard form; equivalent radicals and rational exponent expressions and add and subtract polynomials; multiply a single variable monomial and a single variable polynomial. Use given expressions and equations to solve problems; uses conversion rates within a system to solve problems involving multiple quantities. Graph linear and equations in two variables; exponential equations in two-variable where the lead coefficient is 1. Constructs linear functions; calculate terms of a given sequence; evaluates a given function for a specified value in the domain; calculates the average rate (slope) of change in a linear situation given two data points. Calculates statistical measures of center and spread for a given data set. **Scale Score: 325–388**

5.2 Algebra II Achievement-Level Descriptors

Advanced: Students performing at the Advanced level on the Missouri Algebra II End-of-Course Assessment demonstrate advanced proficiency in the knowledge and skills identified in the Missouri Learning Standards. The students are able to analyze; extraneous solutions applied to the Fundamental Theorem of Algebra, logarithmic scales in the context of the situation, decisions and strategies using data and probability concepts and mathematical relationships of functions to make a connection to real world situations. Students use quantitative reasoning, recognize and use counterexamples to justify conclusions, able to construct viable arguments to justify the advantages of particular method over another and evaluate reports by analyzing the statistics, including bias and validity of resources.

Scale Score: 411 and higher

Proficient: Students performing at the Proficient level on the Missouri Algebra II End-of-Course Assessment demonstrate proficiency in the knowledge and skills identified in the Missouri Learning Standards. The students are able to simplify expressions & solve equations involving rational exponents and/or radicals; logarithmic expressions; solves logarithmic & exponential equations; problems requiring computing with complex numbers; knows the Fundamental Theorem of Algebra. Create new functions using the four arithmetic operations, including composition and inverses of functions considering the effects on the domain and range; use them to solve applications of quadratic and exponential function modeling problems; solve non-linear equations & inequalities including absolute value. Make inferences and justify conclusions from sample surveys and experiments; justifies the importance of randomization in survey studies; analyzes whether a given data set fits a normal distribution using its mean and standard deviation. **Scale Score: 400–410**

Basic: Students performing at the Basic level on the Missouri Algebra II End-of-Course Assessment demonstrate partial proficiency in the knowledge and skills identified in the Missouri Learning Standards. The students are able to create new functions using the operations of addition, subtraction, and multiplication; identify the effects of single transformations in various functions; which model would represent a given situation; key characteristics of polynomial functions. Solve problems involving the addition and subtraction of complex numbers; uses powers and roots to include rational exponents; translate between radical and exponential forms of expressions. Solves equations & inequalities, including absolute value; rational equations; systems that include nonlinear equations and inequalities (linear to quadratic); quadratic equations in one variable that results in a pure imaginary solution. Determine whether a model fits a data set; recognize how the relative size of a sample affects the margin of error. **Scale Score: 388–399**

Below Basic: Students performing at the Below Basic level on the Missouri Algebra II End-of-Course Assessment do not yet demonstrate proficiency in the knowledge and skills identified in the Missouri Learning Standards. The students know definition of a complex number and logarithms based on properties of exponents. Identify the zeros of a polynomial in a completely factored polynomial; single transformation performed on various functions; identify which model (linear, quadratic, and exponential) would represent a given situation graphically. Solves linear system of equations; linear inequalities; exponential equations that do not require logarithms and graph functions. Distinguish between normal distributions and other types of distributions; define a margin of error.

Scale Score: 325–387

5.3 Geometry Achievement-Level Descriptors

Advanced: Students performing at the Advanced level on the Missouri Geometry End-of-Course Assessment demonstrate advanced proficiency in the knowledge and skills identified in the Missouri Learning Standards. The students are able to apply geometric method to create and solve design mathematical modeling problems given constraints; determines flaws in reasoning used to solve probability problems in context; analyze others' geometric theorems and properties of rigid motions, lines, angles, triangles, and parallelograms when solving problems; determines the validity of geometric arguments and revise invalid geometric arguments. Articulates reasoning to prove that all circles are similar through similarity transformations and their properties; provide an informal argument for a formula related to the volume of a cylinder, pyramid, or cone; critique volume formulas to solve mathematical and contextual problems that involve cylinders.

Scale Score: 414 and higher

Proficient: Students performing at the Proficient level on the Missouri Geometry End-of-Course Assessment demonstrate proficiency in the knowledge and skills identified in the Missouri Learning Standards. The students are able to describe and apply the properties of segments and angles formed by chords of circles; relationships between the tangent and the radius; constructs an inscribed and circumscribed circle of a triangle. Derives the equation of a circle with a given center and radius using the Pythagorean Theorem. Solve mathematical and contextual problems that involve the volume of composite figures. Finds areas of regular polygons; uses modeling with and real-world ideas such as density to solve problems involving area, volume, and design problems; calculate probabilities for events, including independent, conditional and joint probabilities.

Scale Score: 400–413

Basic: Students performing at the Basic level on the Missouri Geometry End-of-Course Assessment demonstrate partial proficiency in the knowledge and skills identified in the Missouri Learning Standards. The students are able to identify key components from the equation of a circle; equations of lines as parallel, perpendicular, or neither; coordinates of the midpoint of a line segment. Students are able to apply properties and theorems of angles, segments, and arcs in circles to solve problems. Solve mathematical and contextual problems that involve the volume of cylinders, pyramids, cones, and spheres; Uses permutations and combinations to solve problems; constructs a two-way frequency table with given data using appropriate categories; calculates relative frequencies from a two-way table. **Scale Score: 387–399**

Below Basic: Students performing at the Below Basic level on the Missouri Geometry End-of-Course Assessment do not yet demonstrate proficiency in the knowledge and skills identified in the Missouri Learning Standards. The students are able to identify translations in the coordinate plane; reflections and rotations; lines of symmetry; basic geometric constructions; line distance along a line and distance around a circular arc; transformation relationships in simple geometric figures; parts of a right triangle; an inscribed angle, radius, and chords of a circle; arcs, sectors, tangents and secants of a circle. The student can define angle, circle, perpendicular line, line segment, and ray based on undefined notions of a point; solve problems involving area and circumference of a circle and find slope and distance between two points. **Scale Score: 325–386**

5.4 English I Achievement-Level Descriptors

Advanced: Students performing at the Advanced level on the Missouri English I End-of-Course Assessment consistently and independently demonstrate a thorough command of the skills and processes identified in the Missouri Learning Standards. They demonstrate these skills completely and thoroughly in reading processes, in responding to both literary and informational texts in a variety of media, in writing effectively, and in listening/speaking. In addition to demonstrating, understanding, and applying the skills at the Proficient level, students performing at the Advanced level use a range of strategies to comprehend, interpret, analyze, and synthesize a variety of grade-appropriate texts; demonstrate a thorough understanding of craft and structure; and consistently apply different strategies for accessing and summarizing information. They demonstrate an effective and thorough ability to organize and develop writing and exhibit an adequate command of the conventions of English. They employ effective listening/speaking skills.

Scale Score: 415 and higher

Proficient: Students performing at the Proficient level on the Missouri English I End-of-Course Assessment independently demonstrate an adequate command of the skills and processes identified in the Missouri Learning Standards. They demonstrate these skills adequately in reading processes, in responding to both literary and informational texts in a variety of media, in writing, and in listening/speaking. In addition to demonstrating, understanding, and applying the skills at the Basic level, students performing at the Proficient level use a range of strategies to comprehend, interpret, analyze, and synthesize a variety of grade-appropriate texts; demonstrate an understanding of craft and structure; and apply strategies for accessing and summarizing information. They demonstrate an adequate ability to organize and develop writing and exhibit an adequate command of the conventions of English. They employ effective listening/speaking skills. **Scale Score: 400–414**

Basic: Students performing at the Basic level on the Missouri English I End-of-Course Assessment independently demonstrate a partial or uneven command of the skills and processes identified in the Missouri Learning Standards. They demonstrate these skills inconsistently in reading processes, in responding to both literary and informational texts in a variety of media, in writing, and in listening/speaking. In addition to demonstrating, understanding, and applying the skills at the Below Basic level, students performing at the Basic level use some strategies to comprehend, interpret, analyze, and synthesize a variety of grade-appropriate texts; demonstrate a partial understanding of craft and structure; and inconsistently apply few strategies for accessing and summarizing information. They demonstrate an inconsistent ability to organize and/or develop writing or exhibit a command of the conventions of English. They demonstrate emerging listening/speaking skills. **Scale Score: 384–399**

Below Basic: Students performing at the Below Basic level on the Missouri English I End-of-Course Assessment independently demonstrate a minimal command of the skills and processes identified in the Missouri Learning Standards. They demonstrate these skills at a foundational level in reading processes, in responding to literary and informational texts in a variety of media, in writing, and in listening/speaking. Students performing at the Below Basic level exhibit few strategies to comprehend, interpret, analyze, and synthesize grade-appropriate texts; demonstrate little understanding of craft and structure; and apply few strategies for accessing information. They demonstrate rudimentary organization, development, and/or command of the conventions of English. They demonstrate emerging listening/speaking skills. **Scale Score: 325–383**

5.5 English II Achievement-Level Descriptors

Advanced: Students performing at the Advanced level on the Missouri English II End-of-Course Assessment consistently and independently demonstrate a thorough command of the skills and processes identified in the Missouri Learning Standards. They demonstrate these skills completely and thoroughly in reading processes, in responding to both literary and informational texts in a variety of media, in writing effectively, and in listening/speaking. In addition to demonstrating, understanding, and applying the skills at the Proficient level, students performing at the Advanced level use a range of strategies to comprehend, interpret, analyze, and synthesize a variety of grade-appropriate texts; demonstrate a thorough understanding of craft and structure; and consistently apply different strategies for accessing and summarizing information. They demonstrate an effective and thorough ability to research, organize, and develop writing and exhibit an adequate command of the conventions of English. They employ effective listening/speaking skills.

Scale Score: 420 and higher

Proficient: Students performing at the Proficient level on the Missouri English II End-of-Course Assessment independently demonstrate an adequate command of the skills and processes identified in the Missouri Learning Standards. They demonstrate these skills adequately in reading processes, in responding to both literary and informational texts in a variety of media, in writing, and in listening/speaking. In addition to demonstrating, understanding, and applying the skills at the Basic level, students performing at the Proficient level use a range of strategies to comprehend, interpret, analyze, and synthesize a variety of grade-appropriate texts; demonstrate an understanding of craft and structure; and apply strategies for accessing and summarizing information. They demonstrate an adequate ability to research, organize, and develop writing and exhibit an adequate command of the conventions of English. They employ effective listening/speaking skills. **Scale Score: 400–419**

Basic: Students performing at the Basic level on the Missouri English II End-of-Course Assessment independently demonstrate a partial or uneven command of the skills and processes identified in the Missouri Learning Standards. They demonstrate these skills inconsistently in reading processes, in responding to both literary and informational texts in a variety of media, in writing, and in listening/speaking. In addition to demonstrating, understanding, and applying the skills at the Below Basic level, students performing at the Basic level use some strategies to comprehend, interpret, analyze, and synthesize a variety of grade-appropriate texts; demonstrate a partial understanding of craft and structure; and inconsistently apply few strategies for accessing and summarizing information. They demonstrate an inconsistent ability to research, organize, and/or develop writing or exhibit a command of the conventions of English. They demonstrate emerging listening/speaking skills.

Scale Score: 384–399

Below Basic: Students performing at the Below Basic level on the Missouri English II End-of-Course Assessment independently demonstrate a minimal command of the skills and processes identified in the Missouri Learning Standards. They demonstrate these skills at a foundational level in reading processes, in responding to literary and informational texts in a variety of media, in writing, and in listening/speaking. Students performing at the Below Basic level exhibit few strategies to comprehend, interpret, analyze, and synthesize grade-appropriate texts; demonstrate little understanding of craft and structure; and apply few strategies for accessing information. They demonstrate rudimentary research, organization, development, and/or command of the conventions of English. They demonstrate emerging listening/speaking skills. **Scale Score: 325–383**

5.6 Biology Achievement-Level Descriptors

Advanced: A student performing at Advanced effectively, consistently, and appropriately applies science and engineering practices to explain phenomena and design solutions to problems in the natural and the designed world. The student uses information to evaluate patterns in data and revise models that support scientific claims, explain relationships among variables, and predict, based on scientific principles and reasoning, how the variables will change over time. The student revises the design of investigations in order to collect data that can describe quantitative relationships among variables. The student analyzes patterns in data to determine which solution best meets the criteria and constraints of a problem. The student uses data, mathematical and computational thinking, and scientific principles to construct explanations of scientific processes and arguments about stability and change within systems. **Scale Score: 411 and higher**

Proficient: A student performing at Proficient effectively applies science and engineering practices to explain phenomena and design solutions to problems in the natural and the designed world. The student develops models and uses information and patterns in data to support scientific arguments, describe relationships among variables, and predict how the variables will change over time. The student plans investigations to determine proportional relationships among variables. The student analyzes patterns in data to evaluate how well a solution meets the criteria and constraints of a problem. The student uses data, mathematical and computational thinking, and scientific principles to construct explanations of scientific processes and arguments about how systems and system parts will change over time. **Scale Score: 400–410**

Basic: A student performing at Basic applies, with support, science and engineering practices to explain phenomena and design solutions to problems in the natural and the designed world. The student uses models, information, and patterns in data to support scientific arguments, identify the relationship between two variables, and make predictions about how changes to one variable will affect other variables. The student describes the data to collect in an investigation in order to identify proportional relationships among variables. The student uses patterns in data to identify a solution that meets given criteria and constraints of a problem. The student uses data, basic algebraic thinking, and scientific principles to support explanations of scientific processes and arguments about how systems and system parts will change over time. **Scale Score: 381–399**

Below Basic: A student performing at Below Basic seldom applies science and engineering practices to explain phenomena and design solutions to problems in the natural and the designed world. The student occasionally identifies models, information, and patterns in data to describe relationships between two variables and make predictions about how changes to one variable will affect other variables. The student infrequently recognizes trends in the data collected during an investigation in order to identify the relationships among variables. The student can sometimes use patterns in data to identify a solution to a problem. The student occasionally uses data and basic algebraic thinking to explain how systems and system parts change over time. **Scale Score: 325–380**

5.7 Physical Science Achievement-Level Descriptors

Advanced: A student performing at Advanced effectively, consistently, and appropriately applies science and engineering practices to explain phenomena and design solutions to problems in the natural and the designed world. The student uses information to evaluate patterns in data and revise models that support scientific claims, explain relationships among variables, and predict, based on scientific principles and reasoning, how the variables will change over time. The student revises the design of investigations in order to collect data that can describe quantitative relationships among variables. The student analyzes patterns in data to determine which solution best meets the criteria and constraints of a problem. The student uses data, mathematical and computational thinking, and scientific principles to construct explanations of scientific processes and arguments about stability and change within systems. **Scale Score: 417 and higher**

Proficient: A student performing at Proficient effectively applies science and engineering practices to explain phenomena and design solutions to problems in the natural and the designed world. The student develops models and uses information and patterns in data to support scientific arguments, describe relationships among variables, and predict how the variables will change over time. The student plans investigations to determine proportional relationships among variables. The student analyzes patterns in data to evaluate how well a solution meets the criteria and constraints of a problem. The student uses data, mathematical and computational thinking, and scientific principles to construct explanations of scientific processes and arguments about how systems and system parts will change over time. **Scale Score: 400–416**

Basic: A student performing at Basic applies, with support, science and engineering practices to explain phenomena and design solutions to problems in the natural and the designed world. The student uses models, information, and patterns in data to support scientific arguments, identify the relationship between two variables, and make predictions about how changes to one variable will affect other variables. The student describes the data to collect in an investigation in order to identify proportional relationships among variables. The student uses patterns in data to identify a solution that meets given criteria and constraints of a problem. The student uses data, basic algebraic thinking, and scientific principles to support explanations of scientific processes and arguments about how systems and system parts will change over time. **Scale Score: 382–399**

Below Basic: A student performing at Below Basic seldom applies science and engineering practices to explain phenomena and design solutions to problems in the natural and the designed world. The student occasionally identifies models, information, and patterns in data to describe relationships between two variables and make predictions about how changes to one variable will affect other variables. The student infrequently recognizes trends in the data collected during an investigation in order to identify the relationships among variables. The student can sometimes use patterns in data to identify a solution to a problem. The student occasionally uses data and basic algebraic thinking to explain how systems and system parts change over time. **Scale Score: 325–381**

6.0 Sample Reports

6.1 Preliminary Reporting

The Preliminary Roster Report provides districts and schools with a quick initial metric on student performance. While the operational EOCs continue to be post-equated, this Preliminary Roster is intended to aid districts, schools, teachers, and students and provide interim data until Final Individual Student Reports are released.

Available within 5 business days from the close of the districts testing window, Preliminary Rosters will include a percent of points earned. The Preliminary Roster is available by class, school, and district. For 2019–2020, no Preliminary Rosters will be available for Government or American History.

Field Sequence	Field Length	Field Name	Field Heading (names of each field in row 1)	Field Description
1	7	District Code	DISTRICT_CODE	This field must contain the district code
2	75	District Name	DISTRICT_NAME	This field must contain the district name, associated to the district number
3	4	School Code	SCHOOL_CODE	This field must contain the school code
4	75	School Name	SCHOOL_NAME	This field must contain the school name, associated to the school number
5	2	Grade	GRADE	This field indicates the grade of the student.
6	35	Examiner Name	EXAMINER_NAME	This field must contain the proctor, examiner, or teacher name. This field can be a last name or a first and last name.
7	10	State Student ID Number	MOSIS	A unique number or alphanumeric code assigned to a student by the state
8	35	Student Last Name	STUDENT_LAST	This field must contain the student full legal last name
9	35	Student First Name	STUDENT_FIRST	This field must contain the student full legal first name
10	1	Student Middle Initial	STUDENT MIDDLE	This field must contain the student middle initial
11	10	Student Date of Birth	BIRTH_DATE	This field must contain the date of birth of the student.
12	15	Administration	ADMINISTRATION	This field identifies the administration.
13	20	Subject Assessed	SUBJECT_NAME	This field contains the subject or domain that the student was assessed in.
14	3	Student Total Points Possible	POINTS_POSSIBLE	This field must contain the total number of points possible that a student could earn. Note: Field Test items are not included in this total.

Field Sequence	Field Length	Field Name	Field Heading (names of each field in row 1)	Field Description
15	3	Student Total Points Earned	POINTS_EARNED	This field must contain the total number of points earned by the student. This field is only populated for Personal Finance. Note: Field Test items are not included in this total.
16	3	Student Percentage Points Earned	PERCENT_POINTS_EARNED	This field will contain the percentage of points earned by the student. This is calculated as follows: (points earned / points possible) x 100

Table 6.1

6.2 Individual Student Report

The Individual Student Report provides information about performance on the End-of-Course Assessment, describing the results in terms of four levels of achievement in a content area. It is used for measuring and reflecting an individual student's mastery toward postsecondary readiness for a content area. It is used as a point of reference in instructional planning during a parent/teacher conference and for permanent record keeping. Other sources of information should be used along with this report when determining the student's areas of strength or need.

Achievement-level scores describe what students can do in terms of the Course-Level Expectations for the content and skills assessed by the End-of-Course Assessment. Students in the Proficient or Advanced levels have met the standard. Students in the Below Basic or Basic levels need to work on the skills described for their level on pages 6–16, as well as on skills in the next higher level.

The next page includes a sample of the Individual Student Report. The following areas on the sample have been identified to better explain the results that are being reported:

- [A] The heading of the Individual Student Report includes the content area for the results being presented. A separate report is produced for each content area tested.
- [B] The Student Information section contains the biographic data for the individual student taking the assessment. Identifying information for the MOSIS ID, date of birth, grade, test date, district, and school are listed.
- [C] The narrative describes the student performance characteristics corresponding to the level of achievement obtained. The text is specific to the content area tested. At the bottom of the page is the URL, which provides additional information for all of the achievement levels for the content area.
- [D] The individual student's results are presented numerically as a three-digit scale score with the standard error (SE). An accompanying bar graph illustrates the achievement level obtained by the student. Achievement levels (whether Advanced, Proficient, Basic, or Below Basic) are based on the scale score ranges listed beneath this section.
- [E] The mean scale scores for the student's building and district are displayed in the two rows below the student's individual results. The mean scale score, with an associated SE, and the bar graph provide a way to view the individual's results in contrast to the group's results for the content area during the same test period.



Sarah's Overall Results

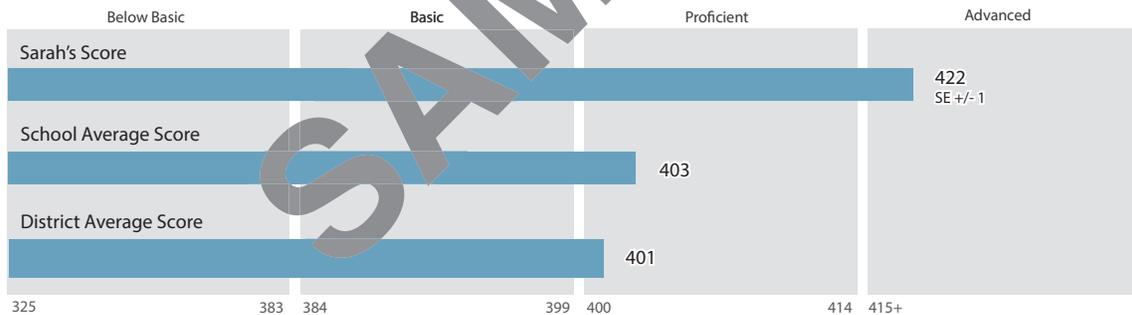
ADVANCED

Name: Sarah Johnson
 MOSIS: 999999999
 Birth Date: mm-dd-yyyy
 Grade: 11
 Test Date: 2020 Spring EOC
 District: Missouri School District
 School: Missouri School



Sarah's Achievement Level: Advanced

Students performing at the Advanced level on the Missouri English I End-of-Course Assessment consistently and independently demonstrate a thorough command of the skills and processes identified in the Missouri Learning Standards. They demonstrate these skills completely and thoroughly in reading processes, in responding to both literary and informational texts in a variety of media, in writing effectively, and in listening/speaking. In addition to demonstrating, understanding, and applying the skills at the Proficient level, students performing at the Advanced level use a range of strategies to comprehend, interpret, analyze, and synthesize a variety of grade-appropriate texts; demonstrate a thorough understanding of craft and structure; and consistently apply different strategies for accessing and summarizing information. They demonstrate an effective and thorough ability to organize and develop writing and exhibit an adequate command of the conventions of English. They employ effective listening/speaking skills.



Below Basic 325-383	Basic 384-399	Proficient 400-414	Advanced 415+
Students demonstrate little understanding of the skills and processes identified in the Course Level Expectations for English I.	Students demonstrate an incomplete understanding of the skills and processes identified in the Course Level Expectations for English I.	Students demonstrate an understanding of the skills and processes identified in the Course Level Expectations for English I.	Students demonstrate a thorough understanding of the skills and processes identified in the Course Level Expectations for English I.

For more information about achievement levels, please visit the following web site:
<http://dese.mo.gov/college-career-readiness/assessment/end-course>



Figure 6.1

6.3 Class Roster Data File

The Class Roster file is a CSV file that contains the list of students within the class. Along with demographic information, this roster file contains all the necessary reporting information also found on Individual Student Reports. This file type is also available at the school and district level. The table below explains the meaning of each field on the roster file.

Field Sequence	Field Length	Field Name	Field Heading (names of each field in row 1)	Field Description
1	7	District Code	DISTRICT_CODE	This field must contain the district code
2	75	District Name	DISTRICT_NAME	This field must contain the district name, associated to the district number
3	4	School Code	SCHOOL_CODE	This field must contain the school code
4	75	School Name	SCHOOL_NAME	This field must contain the school name, associated to the school number
5	2	Grade	GRADE	This field indicates the grade of the student.
6	35	Examiner Name	EXAMINER_NAME	This field must contain the proctor, examiner, or teacher name. This field can be a last name or a first and last name.
7	10	State Student ID Number	MOSIS	A unique number or alphanumeric code assigned to a student by the state
8	35	Student Last Name	STUDENT_LAST	This field must contain the student full legal last name
9	35	Student First Name	STUDENT_FIRST	This field must contain the student full legal first name
10	1	Student Middle Initial	STUDENT MIDDLE	This field must contain the student middle initial
11	10	Student Date of Birth	BIRTH_DATE	This field must contain the date of birth of the student.
12	15	Administration	ADMINISTRATION	This field identifies the administration.
13	20	Subject Assessed	SUBJECT_NAME	This field contains the subject or domain that the student was assessed in.
14	3	Total Possible Points	POINTS_POSSIBLE	This field must contain the total number of points possible that a student could earn. Note: Field Test items are not included in this total.
15	3	Student Total Points Earned	POINTS_EARNED	This field must contain the total number of points earned by the student. Note: Field Test items are not included in this total.
16	3	Student Percentage Points Earned	PERCENT_POINTS_EARNED	This field will contain the percentage of points earned by the student. This is calculated as follows: (points earned / points possible) x 100
17	3	Student Scale Score	SCALE_SCORE	This field must contain the Scale Score earned by the student. This is derived from the raw score to scale score conversion table. Right justify, no leading zero.
18	12	Student Proficiency Classification	PERFORMANCE_LEVEL	This field must contain the Proficiency Level attained by the student. This is derived from the Scale Score Cut Points.

Table 6.2

6.4 Student Score Label

The Student Score Label provides a summary of a student's results on the End-of-Course Assessment. A separate label is produced for each content area tested. The individual label provides the student's biographic data, scale score, and achievement level. The labels have adhesive backing so that they can be easily transferred onto the student record folders.

A sample label is shown below.

[A] The top right side of the label shows the content area tested.

[B] The student's name and identifying information are provided on the left side of the label.

[C] The student's scale score and achievement level are provided on the bottom right side of the label.

B	LNAME1, FNAME1	<i>Missouri End-of-Course</i>	A
	MOSIS ID: 1234567890	<i>English I</i>	
	Building: Missouri School		
	District: Missouri District	Scale Score: 404	C
Test Period: 2020 Spring	Achievement Level: Proficient		

Figure 6.2

