



Advanced 7th Grade

2020-2021 Mathematics Mastery Map

[7th Grade Math Resources](#)

[8th Grade Resources](#)

Module 1 Number and Number Sense

[8.2](#) The student will describe the relationships between the subsets of the real number system.

Suggested length of time: 1 week

Module 2 Number and Number Sense

[8.1](#) The student will compare and order real numbers.

Suggested length of time: 1 week

Module 3 Number and Number Sense

[8.3](#) The student will

- a) estimate and determine the two consecutive integers between which a square root lies;
- b) determine both the positive and negative square roots of a given perfect square.

Suggested length of time: 1 week

Module 4 Patterns, Functions, and Algebra

[7.11](#) The student will evaluate algebraic expressions for given replacement values of the variables.

[8.14](#) The student will

- a) evaluate an algebraic expression for given replacement values of the variables;

Suggested length of time: 1 week

Module 5 Patterns, Functions, and Algebra

[8.14](#) The student will

- b) simplify algebraic expressions in one variable.

Suggested length of time: 1/2 week

Module 6 Patterns, Functions, and Algebra

[8.17](#) The student will solve multistep linear equations in one variable with the variable on one or both sides of the equation, including practical problems that require the solution of a multistep linear equation in one variable.

Suggested length of time: 1 week

Module 7 Patterns, Functions, and Algebra

[8.18](#) The student will solve multistep linear inequalities in one variable with the variable on one or both sides of the inequality symbol, including practical problems, and graph the solution on a number line.

Suggested length of time: 1 week

Module 8 Patterns, Functions, and Algebra

7.10 The student will

- a) determine the slope, m , as rate of change in a proportional relationship between two quantities and write an equation in the form $y = mx$ to represent the relationship;

Suggested length of time: 1/2 week

Module 9 Patterns, Functions, and Algebra

7.10 The student will

- b) graph a line representing a proportional relationship between two quantities given the slope and an ordered pair, or given the equation in $y = mx$ form where m represents the slope as rate of change;

- c) determine the y -intercept, b , in an additive relationship between two quantities and write an equation in the form $y = x + b$ to represent the relationship;

Suggested length of time: 1/2 week

Module 10 Patterns, Functions, and Algebra

7.10 The student will

- d) graph a line representing an additive relationship between two quantities given the y -intercept and an ordered pair, or given the equation in the form $y = x + b$, where b represents the y -intercept; and

Suggested length of time: 1/2 week

Module 11 Patterns, Functions, and Algebra

7.10 The student will

- e) make connections between and among representations of a proportional or additive relationship between two quantities using verbal descriptions, tables, equations, and graphs.

Suggested length of time: 1/2 week

Module 12 Patterns, Functions, and Algebra

[8.15](#) The student will

- a) determine whether a given relation is a function; and

Suggested length of time: 1/2 week

Module 13 Patterns, Functions, and Algebra

[8.15](#) The student will

- b) determine the domain and range of a function.

Suggested length of time: 1/2 week

Module 14 Patterns, Functions, and Algebra

[8.16](#) The student will

- a) recognize and describe the graph of a linear function with a slope that is positive, negative,

or zero;

b) identify the slope and y-intercept of a linear function, given a table of values, a graph, or an equation in $y = mx + b$ form;

Suggested length of time: 1/2 week

Module 15 Patterns, Functions, and Algebra

[8.16](#) The student will

c) determine the independent and dependent variable, given a practical situation modeled by a linear function;

Suggested length of time: 1/2 week

Module 16 Patterns, Functions, and Algebra

[8.16](#) The student will

d) graph a linear function given the equation in $y = mx + b$ form; and

Suggested length of time: 1/2 week

Module 17 Patterns, Functions, and Algebra

[8.16](#) The student will

e) make connections between and among representations of a linear function using verbal descriptions, tables, equations, and graphs.

Suggested length of time: 1/2 week

Module 18 Computation and Estimation

[8.4](#) The student will solve practical problems involving consumer applications.

Suggested length of time: 1 weeks

Module 19 Probability and Statistics

7.9 The student, given data in a practical situation, will

[a](#)) represent data in a histogram;

[b](#)) make observations and inferences about data represented in a histogram; and

[c](#)) compare histograms with the same data represented in stem-and-leaf plots, line plots, and circle graphs.

Suggested length of time: 1 week

Supplemental

Measurement and Geometry

[6.9](#) The student will determine congruence of segments, angles, and polygons.

Measurement and Geometry

[7.5](#) The student will solve problems, including practical problems, involving the relationship between corresponding sides and corresponding angles of similar quadrilaterals and triangles.

Measurement and Geometry

7.6 The student will

- [a\)](#) compare and contrast quadrilaterals based on their properties; and
- [b\)](#) determine unknown side lengths or angle measures of quadrilaterals.

Measurement and Geometry

[7.7](#) The student will apply translations and reflections of right triangles or rectangles in the coordinate plane.

[8.7](#) The student will

- a) given a polygon, apply transformations, to include translations, reflections, and dilations, in the coordinate plane; and
- b) identify practical applications of transformations.

Measurement and Geometry

[8.5](#) The student will use the relationships among pairs of angles that are vertical angles, adjacent angles, supplementary angles, and complementary angles to determine the measure of unknown angles.

Measurement and Geometry

[8.9](#) The student will

- a) verify the Pythagorean Theorem; and
- b) apply the Pythagorean Theorem.

Measurement and Geometry

6.7 The student will

- [a\)](#) derive π (pi);
- [b\)](#) solve problems, including practical problems, involving circumference and area of a circle;
- [c\)](#) solve problems, including practical problems, involving area and perimeter of triangles and rectangles.

Measurement and Geometry

[8.10](#) The student will solve area and perimeter problems, including practical problems, involving composite plane figures.

Measurement and Geometry

[8.8](#) The student will construct a three-dimensional model, given the top or bottom, side, and front views.

Measurement and Geometry

7.4 The student will

- [a\)](#) describe and determine the volume and surface area of rectangular prisms and cylinders;
- [b\)](#) solve problems, including practical problems, involving the volume and surface area of rectangular prisms and cylinders.

Measurement and Geometry

[8.6](#) The student will

- a) solve problems, including practical problems, involving volume and surface area of cones

and square-based pyramids; and

b) describe how changing one measured attribute of a rectangular prism affects the volume and surface area.

Probability and Statistics

7.8 The student will

a) determine the theoretical and experimental probabilities of an event; and

b) investigate and describe the difference between the experimental probability and theoretical probability of an event.

Probability and Statistics

8.11 The student will

a) compare and contrast the probability of independent and dependent events; and

b) determine probabilities for independent and dependent events.

Suggested length of time: 1 week

Probability and Statistics

8.12 The student will

a) represent numerical data in boxplots;

b) make observations and inferences about data represented in boxplots; and

c) compare and analyze two data sets using boxplots.

Suggested length of time: 1 week

Probability and Statistics

8.13 The student will

a) represent data in scatterplots;

b) make observations about data represented in scatterplots; and

c) use a drawing to estimate the line of best fit for data represented in a scatterplot.

Suggested length of time: 1 week

**The standards are listed in a suggested order. Teachers and students have the flexibility to cover the material in any order. Teachers can access curriculum guide materials by following the link attached to each SOL. The SOLs listed from the previous grade level were those covered during distance learning in 2019-2020.*

**Supplemental SOLs are a continuation of the priority standards. These standards have been removed from the pacing in order to allow for depth of instruction, rather than rushing to cover all SOLs. Teachers have the flexibility to insert these topics into their instruction on an individual or whole class basis, as appropriate.*