

# Instructional Guidance for Transition to the New B.E.S.T. Standards for Mathematics

The purpose of this document is to provide educators with an overview of major changes in mathematical concepts within the courses incorporating the Benchmarks for Excellent Student Thinking (B.E.S.T.) Standards for Mathematics as compared to the current courses utilizing the Mathematics Florida Standards (MAFS). It is important for educators to understand these changes in courses to ensure that students do not have any generational learning gaps during implementation of the B.E.S.T. Standards for Mathematics during the 2022-2023 school year.



# Table of Contents

3
5
7
9
12
17
19
21
23
25
27
29
31
33
34



# Kindergarten

Starting in the 2022-2023 school year, the B.E.S.T. Kindergarten Mathematics instructional time will emphasize three areas:

- (1) developing an understanding of counting to represent the total number of objects in a set and to order the objects within a set;
- (2) developing an understanding of addition and subtraction and the relationship of these operations to counting; and
- (3) measuring, comparing and categorizing objects according to various attributes, including their two- and three-dimensional shapes.

# Planning for Student Learning and Instruction in the 2021-2022 School Year

In the 2021-2022 school year, Kindergarten Mathematics students will still receive instruction in the current MAFS. To prepare for implementation of the B.E.S.T. Standards for Mathematics, the Department has identified possible mathematical concepts that may cause gaps in future courses aligned to the B.E.S.T. Standards for Mathematics. Below is a table of concepts, by strand within the B.E.S.T. Standards, that could be embedded within instruction of the MAFS to ensure students will be successful in Grade 1 Mathematics in the 2022-2023 school year. Please note that this list is not comprehensive and educators are encouraged to find other changes from the current MAFS course to the B.E.S.T. course. Each concept is referenced as the following:

- B.E.S.T. benchmark coding scheme
  - o B.E.S.T. benchmark language
    - Identifies the new concept or changes to the current expectation

# **Number Sense and Operations**

- *MA.K.NSO.1.3* 
  - o Identify positions of objects within a sequence using the words "first," "second," "third," "fourth" or "fifth."
    - New to Kindergarten.
- MA.K.NSO.1.4
  - o Compare the number of objects from 0 to 20 in two groups using the terms less than, equal to or greater than.
    - Number range is now from 0 to 20.
- MA.K.NSO.2.1
  - o Recite the number names to 100 by ones and by tens. Starting at a given number, count forward within 100 and backward within 20.
    - Counting backward within 20 is new to Kindergarten.
- MA.K.NSO.2.3
  - Locate, order and compare numbers from 0 to 20 using the number line and terms less than, equal to or greater than.
    - Number range is now from 0 to 20 and the use of the number line to compare is new to Kindergarten.



# **Number Sense and Operations**

- MA.K.NSO.3.2
  - Add two one-digit whole numbers with sums from 0 to 10 and subtract using related facts with procedural reliability.
    - Number range is now from 0 to 10 and instruction focuses on helping a student choose a method they can use reliably.

# **Algebraic Reasoning**

- MA.K.AR.2.1
  - o Explain why addition or subtraction equations are true using objects or drawings.
    - New to Kindergarten.

### Measurement

- MA.K.M.1.1
  - o Identify the attributes of a single object that can be measured such as length, volume or weight.
    - Concept of volume is new to Kindergarten.
- MA.K.M.1.3
  - o Express the length of an object, up to 20 units long, as a whole number of lengths by laying non-standard objects end to end with no gaps or overlaps.
    - Measurement lengths up to 20 units long is new to Kindergarten.

# Geometric Reasoning

Within Geometric Reasoning, figures are now limited to circles, triangles, rectangles, squares, spheres, cubes, cones and cylinders.

# Data Analysis and Probability

- MA.K.DP.1.1
  - Collect and sort objects into categories and compare the categories by counting the objects in each category. Report the results verbally, with a written numeral or with drawings.
    - Report the results verbally, with a written numeral or with drawings is new to Kindergarten.



Starting in the 2022-2023 school year, the B.E.S.T. Grade 1 Mathematics instructional time will emphasize four areas:

- (1) understanding the place value of tens and ones within two-digit whole numbers;
- (2) extending understanding of addition and subtraction and the relationship between them;
- (3) developing an understanding of measurement of physical objects, money and time; and
- (4) categorizing, composing and decomposing geometric figures.

# Planning for Student Learning and Instruction in the 2021-2022 School Year

In the 2021-2022 school year, Grade 1 Mathematics students will still receive instruction in the current MAFS. To prepare for implementation of the B.E.S.T. Standards for Mathematics, the Department has identified possible mathematical concepts that may cause gaps in future courses aligned to the B.E.S.T. Standards for Mathematics. Below is a table of concepts, by strand within the B.E.S.T. Standards, that could be embedded within instruction of the MAFS to ensure students will be successful in Grade 2 Mathematics in the 2022-2023 school year. Please note that this list is not comprehensive and educators are encouraged to find other changes from the current MAFS course to the B.E.S.T. course. Each concept is referenced as the following:

- B.E.S.T. benchmark coding scheme
  - o B.E.S.T. benchmark language
    - Identifies the new concept or changes to the current expectation

# Number Sense and Operations

- MA.1.NSO.1.1
  - o Starting at a given number, count forward and backwards within 120 by ones. Skip count by 2s to 20 and by 5s to 100.
    - Counting backwards within 120 by ones, and skip counting by 2s to 20 and by 5s to 100 are new to grade 1.
- MA.1.NSO.1.2
  - Read numbers from 0 to 100 written in standard form, expanded form and word form. Write numbers from 0 to 100 using standard form and expanded form.
    - Reading numbers in word form and expanded form, and writing numbers in expanded form are new to grade 1.
- MA.1.NSO.1.4
  - o Plot, order and compare whole numbers up to 100.
    - Plotting and ordering numbers are new to grade 1.
- MA.1.NSO.2.1
  - o Recall addition facts with sums to 10 and related subtraction facts with automaticity.
    - Recall with automaticity is new to grade 1.



# **Number Sense and Operations**

- MA.1.NSO.2.5
  - o Explore subtraction of a one-digit number from a two-digit number.
    - New to grade 1.

# **Algebraic Reasoning**

- MA.1.AR.1.1
  - o Apply properties of addition to find a sum of three or more whole numbers.
    - Adding more than three addends is new to grade 1.

#### Measurement

- MA.1.M.1.1
  - Estimate the length of an object to the nearest inch. Measure the length of an object to the nearest inch or centimeter.
    - Measuring an object to the nearest centimeter is new to grade 1.
- MA.1.M.2.3
  - Find the value of combinations of pennies, nickels and dimes up to one dollar, and the value of combinations of one, five and ten dollar bills up to \$100. Use the ¢ and \$ symbols appropriately.
    - Finding the value of combinations of coins with nickels and the combination of one, five and ten dollar bills are new to grade 1.

# **Geometric Reasoning**

- MA.1.GR.1.1
  - o Identify, compare and sort two- and three-dimensional figures based on their defining attributes. Figures are limited to circles, semi-circles, triangles, rectangles, squares, trapezoids, hexagons, spheres, cubes, rectangular prisms, cones and cylinders.
    - Using formal and informal language to describe the defining attributes of figures when comparing and sorting; identifying two- and three-dimensional figures; and the addition of semi-circles and spheres are new to grade 1.
- MA.1.GR.1.4
  - Given a real-world object, identify parts that are modeled by two- and three-dimensional figures. Figures are limited to semi-circles, triangles, rectangles, squares and hexagons, spheres, cubes, rectangular prisms, cones and cylinders.
    - New to grade 1.

# **Data Analysis and Probability**

Within Data Analysis and Probability, tally marks, and connecting them to skip counting, are new to grade 1.



Starting in the 2022-2023 school year, the B.E.S.T. Grade 2 Mathematics instructional time will emphasize four areas:

- (1) extending understanding of place value in three-digit numbers;
- (2) building fluency and algebraic reasoning with addition and subtraction;
- (3) extending understanding of measurement of objects, time and the perimeter of geometric figures; and
- (4) developing spatial reasoning with number representations and two-dimensional figures.

# Planning for Student Learning and Instruction in the 2021-2022 School Year

In the 2021-2022 school year, Grade 2 Mathematics students will still receive instruction in the current MAFS. To prepare for implementation of the B.E.S.T. Standards for Mathematics, the Department has identified possible mathematical concepts that may cause gaps in future courses aligned to the B.E.S.T. Standards for Mathematics. Below is a table of concepts, by strand within the B.E.S.T. Standards, that could be embedded within instruction of the MAFS to ensure students will be successful in Grade 3 Mathematics in the 2022-2023 school year. Please note that this list is not comprehensive and educators are encouraged to find other changes from the current MAFS course to the B.E.S.T. course. Each concept is referenced as the following:

- B.E.S.T. benchmark coding scheme
  - o B.E.S.T. benchmark language
    - Identifies the new concept or changes to the current expectation

# Number Sense and Operations

- MA.2.NSO.1.3
  - o Plot, order and compare whole numbers up to 1,000.
    - Plotting and ordering is new to grade 2.
- MA.2.NSO.1.4
  - o Round whole numbers from 0 to 100 to the nearest 10.
    - New to grade 2.

#### Fractions

- MA.2.FR.1.2
  - o Partition rectangles into two, three or four equal-sized parts in two different ways showing that equal-sized parts of the same whole may have different shapes.
    - Partitioning in two different ways to show equal size parts is new to grade 2.

# Algebraic Reasoning

- MA.2.AR.2.1
  - Determine and explain whether equations involving addition and subtraction are true or false.
    - New to grade 2.



#### Measurement

- MA.2.M.2.1
  - Using analog and digital clocks, tell and write time to the nearest five minutes using a.m. and p.m. appropriately. Express portions of an hour using the fractional terms half an hour, half past, quarter of an hour, quarter after and quarter til.
    - Expressing portions of an hour using the fractional terms half an hour, half past, quarter of an hour, quarter after and quarter til, and the use of a.m. and p.m. are new to grade 2.

# **Geometric Reasoning**

- MA.2 GR.1.1
  - o Identify and draw two-dimensional figures based on their defining attributes. Figures are limited to triangles, rectangles, squares, pentagons, hexagons and octagons.
    - Octagons and drawing using rulers and straight edges are new to grade 2.
- MA.2.GR.1.2
  - o Categorize two-dimensional figures based on the number and length of sides, number of vertices, whether they are closed or not and whether the edges are curved or straight.
    - New to grade 2.
- MA.2.GR.1.3
  - o Identify line(s) of symmetry for a two-dimensional figure
    - New to grade 2.
- MA.2.GR.2.1
  - Explore perimeter as an attribute of a figure by placing unit segments along the boundary without gaps or overlaps. Find perimeters of rectangles by counting unit segments.
    - New to grade 2.
- MA.2.GR.2.2
  - Find the perimeter of a polygon with whole-number side lengths. Polygons are limited to triangles, rectangles, squares and pentagons.
    - New to grade 2.

# Data Analysis and Probability

- MA.2.DP.1.1
  - o Collect, categorize and represent data using tally marks, tables, pictographs or bar graphs. Use appropriate titles, labels and units.
    - Scales using fives and tens are new to grade 2.
- MA.2.DP.1.2
  - o Interpret data represented with tally marks, tables, pictographs or bar graphs including solving addition and subtraction problems.
    - Scales using fives and tens are new to grade 2.



Starting in the 2022-2023 school year, the B.E.S.T. Grade 3 Mathematics instructional time will emphasize three areas:

- (1) adding and subtracting multi-digit whole numbers, including using a standard algorithm;
- (2) building an understanding of multiplication and division, the relationship between them and the connection to area of rectangles;
- (3) developing an understanding of fractions; and
- (4) extending geometric reasoning to lines and attributes of quadrilaterals.

# Planning for Student Learning and Instruction in the 2021-2022 School Year

In the 2021-2022 school year, Grade 3 Mathematics students will still receive instruction in the current MAFS. To prepare for implementation of the B.E.S.T. Standards for Mathematics, the Department has identified possible mathematical concepts that may cause gaps in future courses aligned to the B.E.S.T. Standards for Mathematics. Below is a table of concepts, by strand within the B.E.S.T. Standards, that could be embedded within instruction of the MAFS to ensure students will be successful in Grade 4 Mathematics in the 2022-2023 school year. Please note that this list is not comprehensive and educators are encouraged to find other changes from the current MAFS course to the B.E.S.T. course. Each concept is referenced as the following:

- B.E.S.T. benchmark coding scheme
  - o B.E.S.T. benchmark language
    - Identifies the new concept or changes to the current expectation

# **Number Sense and Operations**

- MA.3.NSO.1.1
  - Read and write numbers from 0 to 10,000 using standard form, expanded form and word form.
    - New to grade 3.
- MA.3.NSO.1.2
  - Compose and decompose four-digit numbers in multiple ways using thousands, hundreds, tens and ones. Demonstrate each composition or decomposition using objects, drawings and expressions or equations.
    - New to grade 3.
- MA.3.NSO.1.3
  - o Plot, order and compare whole numbers up to 10,000.
    - New to grade 3.
- MA.3.NSO.1.4
  - o Round whole numbers from 0 to 1,000 to the nearest 10 or 100.
    - Whole number range is now from 0 to 1000.



# **Number Sense and Operations**

- MA.3.NSO.2.2
  - Explore multiplication of two whole numbers with products from 0 to 144, and related division facts.
    - Product range is now from 0 to 144.
- MA.3.NSO.2.3
  - o Multiply a one-digit whole number by a multiple of 10, up to 90, or a multiple of 100, up to 900, with procedural reliability.
    - Multiplying a one-digit whole number by a multiple of 100 up to 900 is new to grade 3.
- MA.3.NSO.2.4
  - Multiply two whole numbers from 0 to 12 and divide using related facts with procedural reliability.
    - Multiplication facts now range from 0 to 12.

#### Fractions

Within Fractional Reasoning in grade 3, denominators are now limited to 2, 3, 4, 5, 6, 8, 10, and 12.

- MA.3.FR.1.3
  - Read and write fractions, including fractions greater than one, using standard form, numeral-word form and word form.
    - New to grade 3.

# Algebraic Reasoning

- MA.3.AR.2.2
  - Determine and explain whether an equation involving multiplication or division is true or false.
    - New to grade 3.
- MA.3.AR.3.1
  - o Determine and explain whether a whole number from 1 to 1,000 is even or odd.
    - New to grade 3.
- MA.3.AR.3.2
  - O Determine whether a whole number from 1 to 144 is a multiple of a given one-digit number.
    - New to grade 3.
- MA.3.AR.3.3
  - o Identify, create and extend numerical patterns.
    - Creating and extending numerical patterns are new to grade 3.



# Measurement

- MA.3.M.1.1
  - Select and use appropriate tools to measure the length of an object, the volume of liquid within a beaker and temperature.
    - Units of measure of centimeter, half inch, quarter inch, degree, milliliter, half cup and quarter cup are new to grade 3.
- MA.3.M.1.2
  - o Solve real-world problems involving any of the four operations with whole number lengths, masses, weights, temperatures or liquid volumes.
    - Including appropriate units; the comparison of attributes measured in the same units; and unit measures of yards, feet, inches, meters, centimeters, pounds, ounces, kilograms, grams, degrees Fahrenheit, degrees Celsius, gallons, quarts, pints, cups, liters, and milliliters are new to grade 3.

# Geometric Reasoning

- MA.3.GR.1.1
  - O Describe and draw points, lines, line segments, rays, intersecting lines, perpendicular lines and parallel lines. Identify these in two-dimensional figures.
    - New to grade 3.
- MA.3.GR.1.3
  - o Draw line(s) of symmetry in a two-dimensional figure and identify line-symmetric two-dimensional figures.
    - New to grade 3.

# Data Analysis and Probability

- MA.3.DP.1.2
  - o Interpret data with whole-number values represented with tables, scaled pictographs, circle graphs, scaled bar graphs or line plots by solving one- and two-step problems.
    - Use of circle graphs and line plots are new to grade 3.



Starting in the 2022-2023 school year, the B.E.S.T. Grade 4 Mathematics instructional time will emphasize four areas:

- (1) extending understanding of multi-digit multiplication and division;
- (2) developing the relationship between fractions and decimals and beginning operations with both;
- (3) classifying and measuring angles; and
- (4) developing an understanding for interpreting data to include mode, median and range.

# Planning for Student Learning and Instruction in the 2021-2022 School Year

In the 2021-2022 school year, Grade 4 Mathematics students will still receive instruction in the current MAFS. To prepare for implementation of the B.E.S.T. Standards for Mathematics, the Department has identified possible mathematical concepts that may cause gaps in future courses aligned to the B.E.S.T. Standards for Mathematics. Below is a table of concepts, by strand within the B.E.S.T. Standards, that could be embedded within instruction of the MAFS to ensure students will be successful in Grade 5 Mathematics in the 2022-2023 school year. Please note that this list is not comprehensive and educators are encouraged to find other changes from the current MAFS course to the B.E.S.T. course. Each concept is referenced as the following:

- *B.E.S.T. benchmark coding scheme* 
  - o B.E.S.T. benchmark language
    - Identifies the new concept or changes to the current expectation

# **Number Sense and Operations**

- MA.4.NSO.1.1
  - Express how the value of a digit in a multi-digit whole number changes if the digit moves one place to the left or right.
    - Relationships can be increasing or decreasing in value.
- MA.4.NSO.1.3
  - o Plot, order and compare multi-digit whole numbers up to 1,000,000.
    - Plotting multi-digit numbers is new to grade 4.
- MA.4.NSO.1.4
  - o Round whole numbers from 0 to 10,000 to the nearest 10, 100 or 1,000.
    - Rounding is to the nearest 10, 100 or 1,000 is new to grade 4.
- MA.4.NSO.1.5
  - o Plot, order and compare decimals up to the hundredths.
    - Plotting and ordering decimals are new to grade 4.
- MA.4.NSO.2.1
  - Recall multiplication facts with factors up to 12 and related division facts with automaticity.
    - New to grade 4.



# **Number Sense and Operations**

- MA.4.NSO.2.5
  - Explore the multiplication and division of multi-digit whole numbers using estimation, rounding and place value.
    - New to grade 4.
- MA.4.NSO.2.6
  - o Identify the number that is one-tenth more, one-tenth less, one-hundredth more and one-hundredth less than a given number.
    - New to grade 4.
- MA.4.NSO.2.7
  - Explore the addition and subtraction of multi-digit numbers with decimals to the hundredths.
    - New to grade 4.

### **Fractions**

- MA.4.FR.1.2
  - Use decimal notation to represent fractions with denominators of 10 or 100, including mixed numbers and fractions greater than 1, and use fractional notation with denominators of 10 or 100 to represent decimals.
    - Representing mixed numbers and fractions greater than one is included in decimal notation is new in grade 4.
- MA.4.FR.1.4
  - o Plot, order and compare fractions, including mixed numbers and fractions greater than one, with different numerators and different denominators. Mixed number and fractions
    - Plotting and ordering fractions is new to grade 4.

### Algebraic Reasoning

- MA.4.AR.3.1
  - O Determine factor pairs for a whole number from 0 to 144. Determine whether a whole number from 0 to 144 is prime, composite or neither.
    - Factor pairs from 0 to 144 is new to grade 4.

#### Measurement

- MA.4.M.1.1
  - Select and use appropriate tools to measure attributes of objects.
    - New to grade 4.
- MA.4.M.1.2
  - Convert within a single system of measurement using the units: yards, feet, inches;
     kilometers, meters, centimeters, millimeters; pounds, ounces; kilograms, grams; gallons,
     quarts, pints, cups; liter, milliliter; and hours, minutes, seconds.
    - Converting smaller units to larger units is new to grade 4.



# **Geometric Reasoning**

- MA.4.GR.1.1
  - o Informally explore angles as an attribute of two-dimensional figures. Identify and classify angles as acute, right, obtuse, straight or reflex.
    - Reflex angles are new to grade 4.
- MA.4.GR.1.3
  - Solve real-world and mathematical problems involving unknown whole-number angle measures. Write an equation to represent the unknown.
    - New to grade 4.
- MA.4.GR.2.2
  - o Solve problems involving rectangles with the same perimeter and different areas or with the same area and different perimeters.
    - New to grade 4.

# Data Analysis and Probability

- MA.4.DP.1.2
  - o Determine the mode, median or range to interpret numerical data including fractional values, represented with tables, stem-and-leaf plots or line plots.
    - New to grade 4.



Starting in the 2022-2023 school year, the B.E.S.T. Grade 5 Mathematics instructional time will emphasize three areas:

- (1) multiplying and dividing multi-digit whole numbers, including using a standard algorithm;
- (2) adding and subtracting fractions and decimals with procedural fluency, developing an understanding of multiplication and division of fractions and decimals;
- (3) developing an understanding of the coordinate plane and plotting pairs of numbers in the first quadrant;
- (4) extending geometric reasoning to include volume; and
- (5) extending understanding of data to include the mean.

# Planning for Student Learning and Instruction in the 2021-2022 School Year

In the 2021-2022 school year, Grade 5 Mathematics students will still receive instruction in the current MAFS. To prepare for implementation of the B.E.S.T. Standards for Mathematics, the Department has identified possible mathematical concepts that may cause gaps in future courses aligned to the B.E.S.T. Standards for Mathematics. Below is a table of concepts, by strand within the B.E.S.T. Standards, that could be embedded within instruction of the MAFS to ensure students will be successful in Grade 6 Mathematics in the 2022-2023 school year. Please note that this list is not comprehensive and educators are encouraged to find other changes from the current MAFS course to the B.E.S.T. course. Each concept is referenced as the following:

- B.E.S.T. benchmark coding scheme
  - o B.E.S.T. benchmark language
    - Identifies the new concept or changes to the current expectation

### Number Sense and Operations

- MA.5.NSO.1.5
  - o Round multi-digit numbers with decimals to the thousandths to the nearest hundredth, tenth or whole number.
    - Specific place values for rounding is new to grade 5.
- MA.5.NSO.2.2
  - O Divide multi-digit whole numbers, up to five digits by two digits, including using a standard algorithm with procedural fluency. Represent remainders as fractions.
    - Representing remainders as a fraction and using a standard algorithm for division are new to grade 5.

#### **Fractions**

No new major concepts within Fractions for grade 5.



# **Algebraic Reasoning**

- MA.5.AR.2.3
  - Determine and explain whether an equation involving any of the four operations is true or false.
    - New to grade 5.
- MA.5.AR.2.4
  - o Given a mathematical or real-world context, write an equation involving any of the four operations to determine the unknown whole number with the unknown in any position.
    - New to grade 5.

# Measurement

- MA.5.M.2.1
  - o Solve multi-step real-world problems involving money using decimal notation.
    - New to grade 5.

# **Geometric Reasoning**

- MA.5.GR.1.2
  - Identify and classify three-dimensional figures into categories based on their defining attributes. Figures are limited to right pyramids, right prisms, right circular cylinders, right circular cones and spheres.
    - Defining specific attributes is new to grade 5.

# **Data Analysis and Probability**

- MA.5.DP.1.2
  - o Interpret numerical data, with whole-number values, represented with tables or line plots by determining the mean, mode, median or range.
    - Mean, mode, median and range are new to grade 5.



Starting in the 2022-2023 school year, the B.E.S.T. Grade 6 Mathematics instructional time will emphasize five areas:

- (1) performing all four operations with integers, positive decimals and positive fractions with procedural fluency;
- (2) exploring and applying concepts of ratios, rates and percent to solve problems;
- (3) creating, interpreting and using expressions and equations;
- (4) extending geometric reasoning to plotting points on the coordinate plane, area and volume of geometric figures; and
- (5) extending understanding of statistical thinking.

# **Key Changes in the Grade 6 Mathematics Course**

The table below describes the major key changes of the Grade 6 mathematics course with the transition from the current MAFS to the B.E.S.T. Standards for Mathematics. Please note that this list is not comprehensive and educators are encouraged to find other changes from the current MAFS course to the B.E.S.T. course.

<b>New Topics Introduced in Grade 6 Starting</b>	Topics No Longer in Grade 6 Starting in
in the 22-23 SY	the 22-23 SY
<ul> <li>Convert fractions to terminating decimals</li> <li>Integer operations</li> <li>Solving one-step equations with integers</li> <li>Evaluating algebraic expressions with integers</li> <li>Prime factorization</li> <li>Exponents with integer bases</li> <li>Operations with absolute value</li> </ul>	<ul> <li>Division of whole numbers (moves to grade 5)</li> <li>Representing real-world context in two variables - proportional relationships (moves to grade 7)</li> <li>Determining equivalent linear expressions (moves to grade 7)</li> <li>Ratio of circumference to diameter as related to pi (moves to grade 7)</li> <li>Mean Absolute Deviation (not in the B.E.S.T. Standards)</li> </ul>



In the 2021-2022 school year, Grade 6 Mathematics students will still receive instruction in the current MAFS. To prepare for implementation of the B.E.S.T. Standards for Mathematics, the Department has identified possible mathematical concepts that may cause gaps in future courses aligned to the B.E.S.T. Standards for Mathematics. Below is a list of concepts that could be embedded within instruction of the MAFS to ensure students will be successful in Grade 7 Mathematics in the 2022-2023 school year. Please note that this list is not comprehensive and educators are encouraged to find other possible gaps.

- Convert fractions to terminating decimals
- Integer operations
- Solving one-step equations with integers
- Evaluating algebraic expressions with integers
- Prime factorization
- Exponents with integer bases
- Operations with absolute value

# Planning for Student Learning and Instruction in the 2022-2023 School Year

In the 2022-2023 school year, Grade 6 Mathematics students will receive instruction on the B.E.S.T. Standards for Mathematics. The Department has identified possible mathematical concepts that may cause gaps due to the transition from the MAFS to the B.E.S.T. Standards. Below is a list of concepts that were previously in the MAFS Grade 6 that are now taught in elementary grades with the B.E.S.T. Standards for Mathematics. Students may need additional support on this concept to be successful in Grade 6 Mathematics. Please note that this list is not comprehensive and educators are encouraged to find other possible gaps.

• Division of whole numbers (moved to grade 5)



Starting in the 2022-2023 school year, the B.E.S.T. Grade 7 Mathematics instructional time will emphasize five areas:

- (1) recognizing that fractions, decimals and percentages are different representations of rational numbers and performing all four operations with rational numbers with procedural fluency;
- (2) creating equivalent expressions and solving equations and inequalities;
- (3) developing understanding of and applying proportional relationships in two variables;
- (4) extending analysis of two- and three-dimensional figures to include circles and cylinders; and
- (5) representing and comparing categorical and numerical data and developing understanding of probability.

# **Key Changes in the Grade 7 Mathematics Course**

The table below describes the major key changes of the Grade 7 mathematics course with the transition from the current MAFS to the B.E.S.T. Standards for Mathematics. Please note that this list is not comprehensive and educators are encouraged to find other changes from the current MAFS course to the B.E.S.T. course.

New Topics Introduced in Grade 7 Starting in the 22-23 SY	Topics No Longer in Grade 7 Starting in the 22-23 SY
<ul> <li>Order of Operations with absolute value</li> <li>Law of Exponents</li> <li>Ratio of circumference to diameter as related to pi</li> <li>Conversion of units across different measurement systems</li> <li>Surface area and volume of cylinders</li> <li>Circle Graphs</li> <li>Stem-and-Leaf Plots</li> </ul>	<ul> <li>Calculating terminating decimals (moves to grade 6)</li> <li>Integer operations (moves to grade 6)</li> <li>Supplementary, complementary, vertical or adjacent angles (moves to grade 8)</li> <li>Solve two-step linear inequalities (moves to grade 8)</li> <li>Cross sections (moves to HS Geometry)</li> <li>Find theoretical and experimental probability of repeated events (moves to grade 8)</li> <li>Triangle inequality theorem (moves to grade 8)</li> <li>Volume of right rectangular pyramids (moves to HS Geometry)</li> </ul>



In the 2021-2022 school year, Grade 7 Mathematics students will still receive instruction in the current MAFS. To prepare for implementation of the B.E.S.T. Standards for Mathematics, the Department has identified possible mathematical concepts that may cause gaps in future courses aligned to the B.E.S.T. Standards for Mathematics. Below is a list of concepts that could be embedded within instruction of the MAFS to ensure students will be successful in Grade 8 Pre-Algebra in the 2022-2023 school year. Please note that this list is not comprehensive and educators are encouraged to find other possible gaps.

- Order of Operations with absolute value
- Law of Exponents
- Ratio of circumference to diameter as related to pi
- Conversion of units across different measurement systems
- Surface area and volume of cylinders
- Circle Graphs
- Stem-and-Leaf Plots

# Planning for Student Learning and Instruction in the 2022-2023 School Year

In the 2022-2023 school year, Grade 7 Mathematics students will receive instruction on the B.E.S.T. Standards for Mathematics. The Department has identified possible mathematical concepts that may cause gaps due to the transition from the MAFS to the B.E.S.T. Standards. Below is a list of concepts that were previously in the MAFS Grade 7 that are now taught in Grade 6 with the B.E.S.T. Standards for Mathematics. Students may need additional support on these concepts to be successful in Grade 7 Mathematics. Please note that this list is not comprehensive and educators are encouraged to find other possible gaps.

- Calculating terminating decimals
- Integer operations



Starting in the 2022-2023 school year, the B.E.S.T. Grade 8 Mathematics instructional time will emphasize six areas:

- (1) representing numbers in scientific notation and extending the set of numbers to the system of real numbers, which includes irrational numbers;
- (2) generate equivalent numeric and algebraic expressions including using the Laws of Exponents;
- (3) creating and reasoning about linear relationships including modeling an association in bivariate data with a linear equation;
- (4) solving linear equations, inequalities and systems of linear equations;
- (5) developing an understanding of the concept of a function; and
- (6) analyzing two-dimensional figures, particularly triangles, using distance, angle and applying the Pythagorean Theorem.

# **Key Changes in the Grade 8 Mathematics Course**

The table below describes the major key changes of the Grade 8 Mathematics course with the transition from the current MAFS to the B.E.S.T. Standards for Mathematics. Please note that this list is not comprehensive and educators are encouraged to find other changes from the current MAFS course to the B.E.S.T. course.

New Topics Introduced in Grade 8 Starting in the 22-23 SY	Topics No Longer in Grade 8 Starting in the 22-23 SY
<ul> <li>Laws of Exponents to generate equivalent monomials</li> <li>Solve and graph two-step linear inequalities</li> <li>Supplementary, complementary, vertical or adjacent angles</li> <li>Sum of interior angles of a polygon</li> <li>Triangle inequality theorem</li> <li>Find theoretical and experimental probability of repeated events</li> <li>Factor a common monomial from the sum of two algebraic expressions</li> </ul>	<ul> <li>Solving systems of equations algebraically (moves to Algebra 1)</li> <li>Volume of cylinders (moves to grade 7)</li> <li>Constructing and interpreting two-way frequency tables (moves to Algebra 1)</li> </ul>



In the 2021-2022 school year, Grade 8 Mathematics students will still receive instruction in the current MAFS. To prepare for implementation of the B.E.S.T. Standards for Mathematics, the Department has identified possible mathematical concepts that may cause gaps in future courses aligned to the B.E.S.T. Standards for Mathematics. Below is a list of concepts that could be embedded within instruction of the MAFS to ensure students will be successful in Grade 8 Mathematics in the 2022-2023 school year. Please note that this list is not comprehensive and educators are encouraged to find other possible gaps.

- Laws of Exponents to generate equivalent monomials
- Sum of interior angles
- Factor a common monomial from the sum of two algebraic expressions

# Planning for Student Learning and Instruction in the 2022-2023 School Year

In the 2022-2023 school year, Grade 8 Mathematics students will receive instruction on the B.E.S.T. Standards for Mathematics. The Department has identified possible mathematical concepts that may cause gaps due to the transition from the MAFS to the B.E.S.T. Standards. Below is a concept that was previously in the MAFS Grade 8 Mathematics that is now taught in Grade 7 with the B.E.S.T. Standards for Mathematics. Students may need additional support on this concept to be successful in Grade 8 Mathematics. Please note that this list is not comprehensive and educators are encouraged to find other possible gaps.

• Volume of cylinders



# Algebra 1

Starting in the 2022-2023 school year, the B.E.S.T. Algebra 1 instructional time will emphasize five areas:

- (1) performing operations with polynomials and radicals, and extending the Laws of Exponents to include rational exponents;
- (2) extending understanding of functions to linear, quadratic and exponential functions and using them to model and analyze real-world relationships;
- (3) solving quadratic equations in one variable and systems of linear equations and inequalities in two variables;
- (4) building functions, identifying their key features and representing them in various ways;
- (5) representing and interpreting categorical and numerical data with one and two variables.

# **Key Changes in the Algebra 1 Course**

The table below describes the major key changes of the Algebra 1 course with the transition from the current MAFS to the B.E.S.T. Standards for Mathematics. Please note that this list is not comprehensive and educators are encouraged to find other changes from the current MAFS course to the B.E.S.T. course.

New Topics Introduced in Algebra 1	Topics No Longer in Algebra 1 Starting in
Starting in the 22-23 SY	the 22-23 SY
<ul> <li>Starting in the 22-23 SY</li> <li>Dividing polynomials by monomials</li> <li>Given the x-intercepts and another point on the graph of a quadratic function, write the equation for the function (using factored form)</li> <li>Representing and interpreting categorical and numerical data with one and two variables, expanding beyond dot plots, histograms, and box plots</li> <li>Solving real-world problems with univariate and bivariate data</li> <li>Writing equations of lines that are parallel/perpendicular to a line and going through a specific point</li> <li>Solving systems of equations using elimination and substitution</li> <li>Solving real world problems involving simple, compound, and continuously compounding interest</li> </ul>	<ul> <li>Proving the solution of systems of two equations in two variables</li> <li>Comparing two data sets (moves to Probability and Statistics Honors)</li> <li>Writing arithmetic and geometric sequences (moves to Algebra 2 Honors)</li> <li>Recognizing that sequences are functions (moves to Precalculus Honors)</li> <li>Constructing arithmetic and geometric sequences (moves to Precalculus Honors)</li> </ul>



New Topics Introduced in Algebra 1 Starting in the 22-23 SY	Topics No Longer in Algebra 1 Starting in the 22-23 SY
<ul> <li>Relating compound interest and continuously compounding interest to exponential growth</li> <li>Writing and solving one-variable absolute value equations</li> <li>Graphing absolute value functions and determining its key features</li> </ul>	

In the 2021-2022 school year, Algebra 1 students will still receive instruction in the current MAFS. To prepare for implementation of the B.E.S.T. Standards for Mathematics, the Department has identified possible mathematical concepts that may cause gaps in future courses aligned to the B.E.S.T. Standards for Mathematics. Below is a concept that could be embedded within instruction of the MAFS to ensure students will be successful in Geometry or Geometry Honors in the 2022-2023 school year. Please note that this list is not comprehensive and educators are encouraged to find other possible gaps.

• Write equations of lines parallel/perpendicular to a line and through a given point.

# Planning for Student Learning and Instruction in the 2022-2023 School Year

In the 2022-2023 school year, Algebra 1 students will receive instruction on the B.E.S.T. Standards for Mathematics. The Department has identified possible mathematical concepts that may cause gaps due to the transition from the MAFS to the B.E.S.T. Standards. Below is a list of concepts that was previously in the MAFS Algebra 1 that are now taught in Grade 8 with the B.E.S.T. Standards for Mathematics. Students may need additional support on these concepts to be successful in Algebra 1. Please note that this list is not comprehensive and educators are encouraged to find other possible gaps.

- Understanding common factors
- Rewriting expressions using common factors
- Graphing linear equations, including systems



# **Algebra 1 Honors**

Starting in the 2022-2023 school year, the B.E.S.T. Algebra 1 Honors instructional time will emphasize five areas:

- (1) performing operations with polynomials and radicals, and extending the Laws of Exponents to include rational exponents;
- (2) extending understanding of functions to linear, quadratic and exponential functions and using them to model and analyze real-world relationships;
- (3) solving quadratic equations in one variable and systems of linear equations and inequalities in two variables;
- (4) building functions, identifying their key features and representing them in various ways;
- (5) representing and interpreting categorical and numerical data with one and two variables.

### **Key Changes in the Algebra 1 Honors Course**

The table below describes the major key changes of the Algebra 1 Honors course with the transition from the current MAFS to the B.E.S.T. Standards for Mathematics. Please note that this list is not comprehensive and educators are encouraged to find other changes from the current MAFS course to the B.E.S.T. course.

New Topics Introduced in Algebra	a 1
<b>Honors Starting in the 22-23 SY</b>	

- Dividing polynomials by monomials
- Given the *x*-intercepts and another point on the graph of a quadratic function, write the equation for the function (using factored form)
- Representing and interpreting categorical and numerical data with one and two variables, expanding beyond dot plots, histograms, and box plots
- Solving real-world problems with univariate and bivariate data
- Writing equations of lines that are parallel/perpendicular to a line and going through a specific point
- Solving systems of equations using elimination and substitution
- Solving real world problems involving simple, compound, and continuously compounding interest
- Relating simple interest to linear growth

# **Topics No Longer in Algebra 1 Honors Starting in the 22-23 SY**

- Applying the Remainder Theorem (moves to Algebra 2 Honors)
- Proving polynomial identities
- Solving simple rational and radical equations (moves to Algebra 2)
- Rewriting rational expressions (moves to Algebra 2)
- Proving the solution of systems of two equations in two variables
- Comparing two data sets (moves to Probability and Statistics Honors and other courses)
- Deriving the formula for the sum of a finite geometric series and using the formula to solve problems (moves to Precalculus Honors)
- Writing arithmetic and geometric sequences (moves to Algebra 2 Honors).
- Recognizing that sequences are functions (moves to Precalculus Honors)
- Constructing arithmetic and geometric sequences (moves to Precalculus Honors)



New Topics Introduced in Algebra 1	Topics No Longer in Algebra 1 Honors
Honors Starting in the 22-23 SY	Starting in the 22-23 SY
<ul> <li>Relating compound interest and continuously compounding interest to exponential growth</li> <li>Writing and solving one-variable absolute value equations</li> <li>Graphing absolute value functions and determining its key features</li> </ul>	Using the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages (moves to Probability and Statistics Honors and other courses)

In the 2021-2022 school year, Algebra 1 Honors students will still receive instruction in the current MAFS. To prepare for implementation of the B.E.S.T. Standards for Mathematics, the Department has identified possible mathematical concepts that may cause gaps in future courses aligned to the B.E.S.T. Standards for Mathematics. Below is a concept that could be embedded within instruction of the MAFS to ensure students will be successful in Geometry or Geometry Honors in the 2022-2023 school year. Please note that this list is not comprehensive and educators are encouraged to find other possible gaps.

• Write equations of lines parallel/perpendicular to a line and through a given point.

### Planning for Student Learning and Instruction in the 2022-2023 School Year

In the 2022-2023 school year, Algebra 1 Honors students will receive instruction on the B.E.S.T. Standards for Mathematics. The Department has identified possible mathematical concepts that may cause gaps due to the transition from the MAFS to the B.E.S.T. Standards. Below is a list of concepts that were previously in the MAFS Algebra 1 Honors that are now taught in Grade 8 with the B.E.S.T. Standards for Mathematics. Students may need additional support on this concept to be successful in Algebra 1 Honors. Please note that this list is not comprehensive and educators are encouraged to find other possible gaps.

- Understanding common factors
- Rewriting expressions using common factors
- Graphing linear equations, including systems



# **Geometry**

Starting in the 2022-2023 school year, the B.E.S.T. Geometry instructional time will emphasize five areas:

- (1) proving and applying relationships and theorems involving two-dimensional figures using Euclidean geometry and coordinate geometry;
- (2) establishing congruence and similarity using criteria from Euclidean geometry and using rigid transformations;
- (3) extending knowledge of geometric measurement to two-dimensional figures and three-dimensional figures;
- (4) creating and applying equations of circles in the coordinate plane; and
- (5) developing an understanding of right triangle trigonometry.

### **Key Changes in the Geometry Course**

The table below describes the major key changes of the Geometry course with the transition from the current MAFS to the B.E.S.T. Standards for Mathematics. Please note that this list is not comprehensive and educators are encouraged to find other changes from the current MAFS course to the B.E.S.T. course.

New Topics Introduced in Geometry	<b>Topics No Longer in Geometry Starting in</b>
Starting in the 22-23 SY	the 22-23 SY
<ul> <li>Determining how dilations affect the area of two-dimensional figures and the surface area or volume of three-dimensional figures</li> <li>Proving relationships and theorems about trapezoids</li> <li>Solving problems involving trapezoids</li> <li>Determining the weighted average of two or more points on a line</li> <li>Identifying and interpreting "ifthen," "if and only if," "all" and "not" statements</li> <li>Finding the converse, inverse and contrapositive of a statement</li> <li>Judging the validity of arguments and giving counterexamples to disprove statements</li> </ul>	<ul> <li>Proving that all circles are similar (Moves to Geometry Honors)</li> <li>Converting between degrees and radians (moves to Precalculus Honors)</li> </ul>



In the 2021-2022 school year, Geometry students will still receive instruction in the current MAFS. To prepare for implementation of the B.E.S.T. Standards for Mathematics, the Department has identified possible mathematical concepts that may cause gaps in future courses aligned to the B.E.S.T. Standards for Mathematics. Below is a concept that could be embedded within instruction of the MAFS to ensure students will be successful in any mathematics courses in the 2022-2023 school year. Please note that this list is not comprehensive and educators are encouraged to find other possible gaps.

• When working with formulas in Geometry, make the connection to rearranging formulas from Algebra 1.

# Planning for Student Learning and Instruction in the 2022-2023 School Year

In the 2022-2023 school year, Geometry students will receive instruction on the B.E.S.T. Standards for Mathematics. The Department has identified possible mathematical concepts that may cause gaps due to the transition from the MAFS to the B.E.S.T. Standards. Below is a concept that was previously in the MAFS Geometry that is now also taught in Algebra 1 and Algebra 1 Honors with the B.E.S.T. Standards for Mathematics. Students may need additional support on this concept to be successful in Geometry. Please note that this list is not comprehensive and educators are encouraged to find other possible gaps.

• Writing equations of lines that are parallel or perpendicular to a line through a given point.



# **Geometry Honors**

Starting in the 2022-2023 school year, the B.E.S.T. Geometry Honors instructional time will emphasize five areas:

- (1) proving and applying relationships and theorems involving two-dimensional figures using Euclidean geometry and coordinate geometry;
- (2) establishing congruence and similarity using criteria from Euclidean geometry and using rigid transformations;
- (3) extending knowledge of geometric measurement to two-dimensional figures and three-dimensional figures;
- (4) creating and applying equations of circles in the coordinate plane; and
- (5) developing an understanding of right triangle trigonometry.

### **Key Changes in the Geometry Honors Course**

The table below describes the major key changes of the Geometry Honors course with the transition from the current MAFS to the B.E.S.T. Standards for Mathematics. Please note that this list is not comprehensive and educators are encouraged to find other changes from the current MAFS course to the B.E.S.T. course.



In the 2021-2022 school year, Geometry Honors students will still receive instruction in the current MAFS. To prepare for implementation of the B.E.S.T. Standards for Mathematics, the Department has identified possible mathematical concepts that may cause gaps in future courses aligned to the B.E.S.T. Standards for Mathematics. Below is a concept that could be embedded within instruction of the MAFS to ensure students will be successful in any mathematics courses in the 2022-2023 school year. Please note that this list is not comprehensive and educators are encouraged to find other possible gaps.

• When working with formulas in Geometry Honors, make the connection to rearranging formulas from Algebra 1.

# Planning for Student Learning and Instruction in the 2022-2023 School Year

In the 2022-2023 school year, Geometry Honors students will receive instruction on the B.E.S.T. Standards for Mathematics. The Department has identified possible mathematical concepts that may cause gaps due to the transition from the MAFS to the B.E.S.T. Standards. Below is a concept that was previously in the MAFS Geometry Honors that is now also taught in Algebra 1 and Algebra 1 Honors with the B.E.S.T. Standards for Mathematics. Students may need additional support on this concept to be successful in Geometry Honors. Please note that this list is not comprehensive and educators are encouraged to find other possible gaps.

• Writing equations of lines that are parallel or perpendicular to a line through a given point.



# Algebra 2

Starting in the 2022-2023 school year, the B.E.S.T. Algebra 2 instructional time will emphasize five areas:

- (1) extending arithmetic operations with algebraic expressions to include radical and rational expressions and polynomial division;
- (2) graphing and analyzing functions including polynomials, absolute value, radical, rational, exponential and logarithmic;
- (3) building functions using compositions, inverses and transformations;
- (4) extending systems of equations and inequalities to include non-linear expressions; and
- (5) developing understanding of the complex number system, including complex numbers as roots of polynomial equations.

# **Key Changes in the Algebra 2 Course**

The table below describes the major key changes of the Algebra 2 course with the transition from the current MAFS to the B.E.S.T. Standards for Mathematics. Please note that this list is not comprehensive and educators are encouraged to find other changes from the current MAFS course to the B.E.S.T. course.

New Topics Introduced in Algebra 2	Topics No Longer in Algebra 2 Starting in
Starting in the 22-23 SY	the 22-23 SY
<ul> <li>Solving problems involving simple, compound and continuously compounded interest</li> <li>Relating simple interest to linear growth</li> <li>Relating compound interest and continuously compounding interest to exponential growth</li> </ul>	<ul> <li>Applying the Remainder Theorem (moves to Algebra 2 Honors)</li> <li>Proving polynomial identities</li> <li>Proving the solution of systems of two equations in two variables</li> <li>Comparing two data sets (moves to Probability and Statistics Honors and other courses)</li> <li>Deriving the formula for the sum of a finite geometric series and using the formula to solve problems (moves to Precalculus Honors)</li> <li>Writing arithmetic and geometric sequences (moves to Algebra 2 Honors)</li> <li>Recognizing that sequences are functions (moves to Precalculus Honors)</li> <li>Constructing arithmetic and geometric sequences (moves to Precalculus Honors)</li> <li>Using the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages (moves to Probability and Statistics Honors and other courses)</li> </ul>



New Topics Introduced in Algebra 2 Starting in the 22-23 SY	Topics No Longer in Algebra 2 Starting in the 22-23 SY
	<ul> <li>Converting from radians to degrees (moves to Precalculus Honors)</li> <li>Modeling trigonometric functions (moves to Precalculus Honors)</li> <li>Proving Pythagorean identities (moves to Precalculus Honors)</li> </ul>



# **Algebra 2 Honors**

Starting in the 2022-2023 school year, the B.E.S.T. Algebra 2 Honors instructional time will emphasize five areas:

- (1) extending arithmetic operations with algebraic expressions to include radical and rational expressions and polynomial division;
- (2) graphing and analyzing functions including polynomials, absolute value, radical, rational, exponential and logarithmic;
- (3) building functions using compositions, inverses and transformations;
- (4) extending systems of equations and inequalities to include non-linear expressions; and
- (5) developing understanding of the complex number system, including complex numbers as roots of polynomial equations.

### **Key Changes in the Algebra 2 Honors Course**

The table below describes the major key changes of the Algebra 2 Honors course with the transition from the current MAFS to the B.E.S.T. Standards for Mathematics. Please note that this list is not comprehensive and educators are encouraged to find other changes from the current MAFS course to the B.E.S.T. course.

New Topics Introduced in Algebra 2	Topics No Longer in Algebra 2 Honors
Honors Starting in the 22-23 SY	Starting in the 22-23 SY
<ul> <li>Solving problems involving simple,</li> </ul>	Proving polynomial identities
compound and continuously compounded	Comparing two data sets (moves to
interest	Probability and Statistics Honors and
• Relating simple interest to linear growth	other courses)
Relating compound interest and	Deriving the formula for the sum of a
continuously compounding interest to	finite geometric series and using the
exponential growth	formula to solve problems (moves to
	Precalculus Honors)
	Recognizing that sequences are functions
	(moves to Precalculus Honors)
	Constructing arithmetic and geometric
	sequences (moves to Precalculus Honors)
	Using the mean and standard deviation of
	a data set to fit it to a normal distribution
	and to estimate population percentages
	(moves to Probability and Statistics
	Honors and other courses)
	Converting from radians to degrees
	(moves to Precalculus Honors)
	Modeling trigonometric functions (moves
	to Precalculus Honors)
	Proving Pythagorean identities (moves to
	Precalculus Honors)



#### **Precalculus Honors**

Starting in the 2022-2023 school year, the B.E.S.T. Precalculus Honors instructional time will emphasize five areas:

- (1) extending right triangle trigonometry to unit circle trigonometry and trigonometric functions;
- (2) extending understanding of functions to trigonometric;
- (3) developing understanding of conic sections;
- (4) representing and performing operations with complex numbers and vectors in the coordinate plane;
- (5) extending understanding of relations in the plane using parametric representations, including polar coordinates; and
- (6) analyzing arithmetic and geometric sequences and series.

# **Key Changes in the Precalculus Honors Course**

The table below describes the major key changes of the Precalculus Honors course with the transition from the current MAFS to the B.E.S.T. Standards for Mathematics. Please note that this list is not comprehensive and educators are encouraged to find other changes from the current MAFS course to the B.E.S.T. course.

New Topics Introduced in Precalculus	<b>Topics No Longer in Precalculus Honors</b>
<b>Honors Starting in the 22-23 SY</b>	Starting in the 22-23 SY
<ul> <li>Modeling with exponential, logarithmic, polynomial, radical, rational and piecewise functions</li> <li>Applying theorems for polynomials</li> <li>Solving systems consisting of two-variable linear or nonlinear, including conics, equations</li> <li>Comparing key features of two or more functions</li> <li>Writing and solving problems involving arithmetic sequences and series and geometric sequences and series</li> <li>Connecting conic sections to the result of slicing two cones</li> <li>Representing vectors in component, linear and trigonometric form</li> <li>Calculating the distance and midpoint on the complex coordinate plane</li> <li>Multiplying complex numbers in trigonometric form</li> <li>Defining, plotting and writing polar coordinates</li> </ul>	<ul> <li>Proving polynomial identities</li> <li>Operations with rational expressions (moves to Algebra 2)</li> <li>Estimating and finding limits, including limits of sums, differences, products and quotients and one-sided limits (moves to Calculus Honors)</li> <li>Determining if a function is continuous at a point and finding types of discontinuities (moves to Calculus Honors)</li> <li>Applying the Intermediate Value Theorem and the Extreme Value Theorem(moves to Calculus Honors)</li> <li>Finding the conjugate of a complex number and using them to determine moduli and quotients of complex numbers</li> </ul>



New Topics Introduced in Precalculus	Topics No Longer in Precalculus Honors
Honors Starting in the 22-23 SY	Starting in the 22-23 SY
<ul> <li>Converting from polar to rectangular and from rectangular to polar</li> <li>Graphing equations in the polar coordinate system, including special polar equations</li> <li>Converting from parametric to rectangular and from rectangular to parametric</li> </ul>	