Proposed 2024 Math Extended

Wyoming Math Extended Standards & Achievement Level Descriptors

Effective - xx, 2025

To be Fully Implemented in Districts by the Beginning of School Year 2027-28

The Wyoming Extended Standards (WYES) provide a common set of goals and expectations for all students with the most significant cognitive disabilities (SMSCD) in Wyoming—approximately 1% of students. The WYES define the essential knowledge and skills that allow SMSCD to achieve high academic expectations and to access the general academic curriculum. These WYES are extended from the Math WYCPS. Students learning the Extended Standards are assessed with the WY-ALT assessments.

Notes for Accessibility:
For best results—if using screen reader technology to access this document—adjust punctuation settings/speech verbosity to read parentheses and other special characters aloud.

Kindergarten Math Extended Standards

Counting and Cardinality

Know number names and the count sequence.

EEK.CC.1 Starting with one, count to 10 by ones.

- Level IV Students will: Starting with one, count to 20 by ones.
- Level III Students will: Starting with one, count to 10 by ones.
- Level II Students will: Starting with one, count by ones to five.
- Level I Students will: Count from one to two.

EEK.CC.3 Count a number of objects and match with the numerical symbol 1 to 10.

- Level IV Students will: Count a given number of objects between 1 to 10 **and** write the numerical symbol.
- Level III Students will: Count a number of objects **and** match with the numerical symbol 1 to 10.
- Level II Students will: Match the numerical symbol to a quantity of objects up to 5.
- Level I Students will: Match the numerical symbol to a quantity of objects up to 2.

Count to tell the number of objects.

EEK.CC.4 Demonstrate one-to-one correspondence, by counting 10 objects.

- Level IV Students will: Demonstrate one-to-one correspondence counting any number of objects within 10 **and** show one more or one less.
- Level III Students will: Demonstrate one-to-one correspondence, by counting 10 objects.
- Level II Students will: Demonstrate one-to-one correspondence by counting 5 objects.
- Level I Students will: Demonstrate one-to-one correspondence by counting 2 objects.

Operations and Algebraic Thinking

Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.

EEK.OA.2 Using word problems, demonstrate addition as "putting together" or subtraction as "taking from" with quantities to 5.

- Level IV Students will: Using word problems, demonstrate addition as "putting together" or subtraction as "taking from" with quantities to 7.
- Level III Students will: Using word problems, demonstrate addition as "putting together" or subtraction as "taking from" with quantities to 5.
- Level II Students will: Using word problems, demonstrate addition as "putting together" by adding one and subtraction as "taking from" by taking away 1.
- Level I Students will: Using word problems, demonstrate addition as "putting together" by adding 1.

EEK.OA.3 Decompose numbers into sub- parts to equal 5.

- Level IV Students will: Decompose numbers less than or equal to 5 in more than one way.
- Level III Students will: Decompose numbers into sub-parts to equal 5.
- Level II Students will: Decompose numbers into sub-parts to equal 3.
- Level I Students will: Match sub-parts for a sum less than 3.

EEK.OA.4 For any number from 1 to 4, find the number that makes 5 when added to the given number.

- Level IV Students will: For any number from 1 to 6, find the number that makes 7 when added to the given number.
- Level III Students will: For any number from 1 to 4, find the number that makes 5 when added to the given number.
- Level II Students will: For the numbers 1 or 2, find the number that makes 3 when added to the given number.
- Level I Students will: Match the numbers 1 and 2, to show the sum 3.

EEK.OA.5 Fluently add and subtract within 3.

- Level IV Students will: Fluently add and subtract within 4.
- Level III Students will: Fluently add and subtract within 3.
- Level II Students will: Fluently add and/or subtract within 2.
- Level I Students will: Fluently add and/or subtract within 1.

Measurement and Data

Classify objects and count the number of objects in each category.

EEK.MD.3 Sort 5 objects into categories to determine which objects are bigger/smaller and longer/shorter.

- Level IV Students will: Sort 5 objects into categories to determine which number of objects are bigger/smaller, longer/shorter, and heavier/lighter.
- Level III Students will: Sort 5 objects into categories to determine which number of objects are bigger/smaller and longer/shorter.
- Level II Students will: Sort 5 objects into categories to determine which number of objects are bigger/smaller.
- Level I Students will: Sort 3 objects into categories to determine which number of objects are bigger/smaller.

Geometry

Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres).

EEK.G.2 Correctly identify 4 shapes (circle, square, rectangle, and triangle).

- Level IV Students will: Correctly identify 4 two-dimensional shapes (circle, square, rectangle, **and** triangle) **and** 1 three-dimensional shape (cube, sphere, cylinder, cone).
- Level III Students will: Correctly identify 4 shapes (circle, square, rectangle, **and** triangle).
- Level II Students will: Correctly identify 2 out of 4 shapes (circle, square, rectangle, **or** triangle).
- Level I Students will: Correctly match 2 out of 4 shapes (circle, square, rectangle, **or** triangle).

Analyze, compare, create, and compose shapes.

EEK.G.4 Sort two- and three-dimensional shapes.

- Level IV Students will: Sort two- **and** three-dimensional shapes to describe similarities (square/cube **and** circle/sphere).
- Level III Students will: Sort two- **and** three-dimensional shapes.
- Level II Students will: Sort two-dimensional shapes.
- Level I Students will: Match similar 2 two-dimensional shapes to each other.

EEK.G.6 Use 2 to 4 equally shaped parts to compose squares and rectangles with a template.

- Level IV Students will: Use 2 to 4 equally shaped parts to compose squares **or** rectangles without a template.
- Level III Students will: Use 2 to 4 equally shaped parts to compose squares **and** rectangles with a template.
- Level II Students will: Use simple shapes to compose a square **or** a rectangle using a template.
- Level I Students will: Use simple shapes to compose a square using a template.

Grade 1 Math Extended Standards

Operations and Algebraic Thinking

Represent and solve problems involving addition and subtraction.

EE1.OA.1 When solving problems with sums up to 7, students will use math strategies of "putting together" and "taking from/taking apart."

- Level IV Students will: When solving problems with sums up to 10, students will use math strategies of "putting together" and "taking from/taking apart."
- Level III Students will: When solving problems with sums up to 7, students will use math strategies of "putting together" and "taking from/taking apart."
- Level II Students will: When solving problems with sums up to 5, students will use math strategies of "putting together."
- Level I Students will: When solving problems with sums up to 3, students will use math strategies of "putting together."

EE1.OA.6 Fluently add within 10.

- Level IV Students will: Fluently add **and** subtract within 10.
- Level III Students will: Fluently add within 10.

- Level II Students will: Fluently add within 5.
- Level I Students will: Fluently add within 3.

Work with addition and subtraction equations.

EE1.OA.7 Understand the meaning of the equal sign involving addition equations sums of 10.

- Level IV Students will: Understand the meaning of the equal sign involving addition **and** subtraction equations with sums/differences to 20.
- Level III Students will: Understand the meaning of the equal sign involving addition equations with sums to 10.
- Level II Students will: Understand the meaning of the equal sign involving groups of no more than 5 objects.
- Level I Students will: Match equal groups using no more than 5 objects in each group.

Number and Operations in Base Ten

Extend the counting sequence.

EE1.NBT.1a Starting at a given number, other than 1, count forward by ones to 20.

- Level IV Students will: Starting at a given number, other than 1, count forward by ones to 30.
- Level III Students will: Starting at a given number, other than 1, count forward by ones to 20.
- Level II Students will: Starting at a given number, other than 1, count forward by ones to 10.
- Level I Students will: Count forward by ones to 5.

EE1.NBT.1b Count backwards from 10.

- Level IV Students will: Count backwards from 20.
- Level III Students will: Count backwards from 10.
- Level II Students will: Count backwards from 5.
- Level I Students will: Count backwards from 3.

EE1.NBT.1c Identify numbers 1 to 20.

- Level IV Students will: Identify and write numbers 1 to 30.
- Level III Students will: Identify numbers 1 to 20.
- Level II Students will: Identify numbers 1 to 10.
- Level I Students will: Match numbers 1 to 10.

EE1.NBT.1d Count a number of objects then match with a numerical symbol 1 to 20.

- Level IV Students will: Count a number of objects then match with a numerical symbol 1 to 30.
- Level III Students will: Count a number of objects then match with a numerical symbol 1 to 20.
- Level II Students will: Count a number of objects then match with a numerical symbol 1 to 10.
- Level I Students will: Count a number of objects then match with a numerical symbol 1 to 5.

Understand place value.

EE1.NBT.2 Given a multiple of 10, create bundles of ten to represent that number.

- Level IV Students will: Compose numbers from 11 to 19 by using a set of ten and more ones, or create 20, 30, 40, or 50 using sets of ten.
- Level III Students will: Given a multiple of 10, create bundles of ten to represent that number.
- Level II Students will: Create one set of 10.
- Level I Students will: Match a given set of 10 to another set of 10.

Use place value understanding and properties of operations to add and subtract.

EE1.NBT.4 Add within 15 using models or manipulatives based on "place value" and using one digit and two digit numbers.

- Level IV Students will: Add within 20 using models or manipulatives based on "place value" and using one digit and two digit numbers.
- Level III Students will: Add within 15 using models or manipulatives based on "place value" and using one digit and two digit numbers.
- Level II Students will: Identify the number(s) in the tens and ones places in an addition problem whose sum is greater than 10 but less than 15.
- Level I Students will: Given a 2 digit number between 10 and 15, identify the tens and ones places.

Measurement and Data

Tell and write time.

EE1.MD.3a Tell time in hours using a digital clock.

- Level IV Students will: Tell time in hours using a digital clock **and** an analog clock.
- Level III Students will: Tell time in hours using a digital clock.
- Level II Students will: Match hour **and** half-hour times on a digital clock.
- Level I Students will: Match hour times on a digital clock.

EE1.MD.3b Identify 2 out of 4 U.S. coins and their values (pennies, nickels, dimes, quarters).

- Level IV Students will: Identify 3 out of 4 U.S. coins and their values (pennies, nickels, dimes, quarters).
- Level III Students will: Identify 2 out of 4 U.S. coins and their values (pennies, nickels, dimes, quarters).
- Level II Students will: Sort U.S. coins according to value.
- Level I Students will: Match U.S. coin with a given U.S. coin.

Geometry

Reason with shapes and their attributes.

EE.1.G.1 Identify the defining attributes of 2-dimensional shapes.

- Level IV Students will: Identify the defining **and** non-defining attributes of 2-dimensional shapes.
- Level III Students will: Identify the defining attributes of 2-dimensional shapes.
- Level II Students will: Identify the defining attributes of a circle **and** a square.
- Level I Students will: Identify the defining attributes by matching circles to circles and squares to squares.

EE.1.G.3 Partition circles **or** rectangles into two equal shares.

- Level IV Students will: Partition circles **and** rectangles into two and four equal shares.
- Level III Students will: Partition circles **or** rectangles into two equal shares.
- Level II Students will: Match 2 pieces to make a circle **and** a rectangle.
- Level I Students will: Match 2 pieces to make a circle **or** a rectangle.

Grade 2 Math Extended Standards

Operations and Algebraic Thinking

Represent and solve problems involving addition and subtraction.

EE2.OA.1 Use addition and subtraction within 30 to solve word problems involving situations of adding to, taking from, putting together, and taking apart.

- Level IV Students will: Use addition **and** subtraction within 40 to solve word problems involving situations of adding to, taking from, putting together, and taking apart.
- Level III Students will: Use addition **and** subtraction within 30 to solve word problems involving situations of adding to, taking from, putting together, and taking apart.
- Level II Students will: Use addition within 20 to solve word problems involving situations of adding to and putting together.
- Level I Students will: Use addition within 10 to solve word problems.

EE2.OA.2 Fluently add to 20 and subtract within 10.

- Level IV Students will: Fluently add to 20 **and** subtract within 20.
- Level III Students will: Fluently add to 20 **and** subtract within 10.
- Level II Students will: Fluently add to 10 **and** subtract within 5.
- Level I Students will: Fluently add to 5 **and** subtract within 3.

Number and Operations in Base Ten

Understand place value.

EE2.NBT.1 Identify the digits in the one and tens place to 99. Demonstrate that 100 can be thought of as a bundle of 10 tens - called a "hundred."

- Level IV Students will: Understand that bundles of two-digit objects represent ones and tens (from 50 to 99). Demonstrate that:
  - 100 can be thought of as a bundle of 10 tens - called a "hundred."
  - The numbers 100, 200, 300, 400, or 500 can be thought of as bundles of 100.
- Level III Students will: Identify the digits in the one **and** tens place to 99. Demonstrate that 100 can be thought of as a bundle of 10 tens - called a "hundred."
- Level II Students will: Match given digits to the correct ones **and** tens place to 50. Complete a model using bundles of 10 to show 50, 60, 70, 80, 90, **and** 100.
- Level I Students will: Match bundles of ten to show 50.

EE2.NBT.4 Compare sets of objects or numbers (up to 50) using appropriate vocabulary ("greater/more than", "less than", "equal to").

- Level IV Students will: Compare numbers (up to 100) using appropriate vocabulary ("greater/more than", "less than", "equal to") **and** the symbols ">", "<", "=".
- Level III Students will: Compare sets of objects **or** numbers (up to 50) using appropriate vocabulary ("greater/more than", "less than", "equal to").
- Level II Students will: Compare sets of objects **or** numbers (up to 30) using appropriate vocabulary ("greater/more than", "less than", "equal to").
- Level I Students will: Compare sets of objects **or** numbers (up to 15) using appropriate vocabulary ("greater/more than" or "less than").

Use place value understanding and properties of operations to add and subtract.

EE2.NBT.5 Add and subtract within 30 using strategies based on place value, properties of addition, and/or the relationship between addition and subtraction.

- Level IV Students will: Add **and** subtract within 50 using strategies based on place value, properties of addition, **and/or** the relationship between addition and subtraction.
- Level III Students will: Add **and** subtract within 30 using strategies based on place value, properties of addition, **and/or** the relationship between addition and subtraction.
- Level II Students will: Add **and** subtract within 20 using strategies based on place value, properties of addition, **and/or** the relationship between addition and subtraction.
- Level I Students will: Add **and** subtract within 10 using strategies based on place value, properties of addition, **and/or** the relationship between addition and subtraction.

EE2.NBT.7 Add and subtract within 100, using concrete models, manipulatives, or drawings and strategies based on place value, or properties of addition.

- Level IV Students will: Add **and** subtract within 300, using concrete models, manipulatives, or drawings and strategies based on place value, or properties of addition.
- Level III Students will: Add **and** subtract within 100, using concrete models, manipulatives, or drawings and strategies based on place value, or properties of addition.
- Level II Students will: Add **and** subtract within 50, using concrete models, manipulatives, or drawings and strategies based on place value, or properties of addition.
- Level I Students will: Add **and** subtract within 30, using concrete models, manipulatives, or drawings and strategies based on place value, or properties of addition.

Measurement and Data

Measure and estimate lengths in standard units.

EE2.MD.1 Measure an object to the nearest whole unit of length using a ruler, yardstick, or other tool.

- Level IV Students will: Measure multiple objects to the nearest whole unit of length using a ruler, yardstick, measuring tape, or other tool.
- Level III Students will: Measure an object to the nearest whole unit of length using a ruler, yardstick, or other tool.
- Level II Students will: Match 2 unlike objects of the same length.
- Level I Students will: Match 2 like objects of the same length.

Work with time and money.

EE2.MD.7 Tell or write time to the hour using an analog clock or digital clock.

- Level IV Students will: Tell or write time to the half-hour using an analog clock **or** digital clock.
- Level III Students will: Tell or write time to the hour using an analog clock **or** digital clock.
- Level II Students will: Identify which digit(s) **or** hand marks the hour on a clock.
- Level I Students will: Identify a measurement tool that tells time.

EE2.MD.8 Solve word problems up to $1, involving pennies and dimes, using the cents (¢) symbol.

- Level IV Students will: Solve word problems up to $1 involving pennies, nickels, dimes, **and** quarters using the ¢ (cents) symbol.
- Level III Students will: Solve word problems up to $1, involving pennies **and** dimes, using the ¢ (cents) symbol.
- Level II Students will: Identify the values of coins (pennies, nickels, dimes, quarters) **and** identify the ¢ (cents) symbol.
- Level I Students will: Identify coins (pennies, nickels, dimes, quarters).

Geometry

Reason with shapes and their attributes.

EE2.G.2 Given a partitioned rectangle, count the number of same-sized squares.

- Level IV Students will: Given a partitioned rectangle, count the number of same-sized squares, columns, **and** rows.
- Level III Students will: Given a partitioned rectangle, count the number of same-sized squares.
- Level II Students will: Given a partitioned rectangle, place same-sized squares to complete the interior of the figure.
- Level I Students will: Given a partitioned rectangle, match the same-sized squares to the interior of the figure.

EE2.G.3 Partition circles **and** rectangles into two **and** four equal shares.

- Level IV Students will: Partition circles **and** rectangles into two, three, **and** four equal shares. Describe the shares using the words halves, thirds, **and** fourths.
- Level III Students will: Partition circles **and** rectangles into two **and** four equal shares.
- Level II Students will: Partition circles **and** rectangles into two **or** four equal shares.
- Level I Students will: Match 2 or 4 pieces to make a circle **or** a rectangle.

Grade 3 Math Extended Standards

Operations and Algebraic Thinking

Multiply and divide within 100.

EE3.OA.7 Multiply **and** divide with factors 1 to 10 using strategies.

- Level IV Students will: Fluently multiply **or** divide with factors 1 to 10 using strategies.
- Level III Students will: Multiply **and** divide with factors 1 to 10 using strategies.
- Level II Students will: Multiply **or** divide with factors 1 to 10 using strategies.
- Level I Students will: Multiply **or** divide with factors 1 to 5 using strategies.

Solve problems involving the four operations, and identify and explain patterns in arithmetic.

EE3.OA.8 Solve one-step addition/subtraction **and** multiplication/division word problems by representation **or** using models.

- Level IV Students will: Solve two step addition/subtraction **or** multiplication/division word problems by representation **or** using models.
- Level III Students will: Solve one step addition/subtraction **and** multiplication/division word problems by representation **or** using models.
- Level II Students will: Solve one step addition/subtraction **or** multiplication/division word problems by representation **or** using models.
- Level I Students will: Identify one step word problems as addition/subtraction.

Number and Operations in Base Ten

Use place value understanding and properties of operations to perform multi-digit arithmetic (a range of algorithms may be used).

EE3.NBT.2 Add **or** subtract from 51 to 100 using strategies or algorithms.

- Level IV Students will: Add **and** subtract from 51 to 100 using strategies or algorithms.

- Level III Students will: Add **or** subtract from 51 to 100 using strategies or algorithms.
- Level II Students will: Add **and** subtract within 50 using strategies or algorithms.
- Level I Students will: Add **or** subtract within 50 using strategies or algorithms.

Number and Operations - Fractions

Develop understanding of fractions as numbers.

EE3.NF.1 Create a whole using halves, thirds and fourths.

- Level IV Students will: Identify a given fractional part of a whole (e.g., ½ , ⅓, ¼).
- Level III Students will: Create a whole using halves, thirds, and fourths.
- Level II Students will: Given a whole using halves, thirds, and fourths, identify how many equal parts.
- Level I Students will: Identify the whole.

EE3.NF.2 Identify fractions with a denominator of 2, 3, & 4 on a number line.

- Level IV Students will: On an open number line place the fraction one-half **and** one-fourth.
- Level III Students will: Identify fractions with a denominator of 2, 3, 4 on a number line.
- Level II Students will: Identity 0, 1, and ½ on the number line.
- Level I Students will: Match fractions with their models on the number line.

EE3.NF.3 Use a visual fraction model to identify fractions with denominators of 2, 3, & 4.

- Level IV Students will: Use a visual fraction model to compare fractions with denominators of 2, 3, & 4.
- Level III Students will: Use a visual fraction model to identify fractions with denominators of 2, 3, & 4.
- Level II Students will: Use a visual fraction model to compare one whole **and** one half.
- Level I Students will: Use a visual fraction model to identify one whole **and** one half.

Measurement and Data

Solve problems involving measurement and estimation of intervals of time, liquid, volumes and masses of objects.

EE3.MD.4 Use a ruler to measure objects to the nearest inch.

- Level IV Students will: Use a ruler to measure objects to the nearest half-inch.
- Level III Students will: Use a ruler to measure objects to the nearest inch.
- Level II Students will: Given a picture model, interpret the given measurement for the object to the nearest inch.
- Level I Students will: Select an appropriate tool for measuring length.

Geometric measurement: understand concepts of area and relate area to multiplication and addition.

EE3.MD.7 Find the area of rectangles with whole number side lengths by counting unit squares of an area up to 30.

- Level IV Students will: Find the length **and** width of a rectangle using unit squares of an area up to 30.
- Level III Students will: Find the area of rectangles with whole number side lengths by counting unit squares of an area up to 30.
- Level II Students will: Find the area of rectangles with whole number side lengths by counting unit squares of an area up to 20.
- Level I Students will: Find the area of rectangles with whole number side lengths by counting unit squares of an area up to 10.

Geometry

Reason with shapes and their attributes.

EE3.G.1 Identify rhombuses, rectangles, and squares.

- Level IV Students will: Compare rhombuses, rectangles, **and** squares.
- Level III Students will: Identify rhombuses, rectangles, **and** squares.
- Level II Students will: Identify rhombuses, rectangles, **or** squares.
- Level I Students will: When given a set of shapes, match like shapes (e.g., rhombuses, rectangles, **and** squares).

Grade 4 Math Extended Standards

Operations and Algebraic Thinking

Use the four operations with whole numbers to solve problems.

EE4.OA.3 Solve given multiplication and division problems using appropriate strategies. *Note: Standards 4.OA.2 and 4.OA.3 were combined due to the similar nature of solving word problems.*

- Level IV Students will: Match a given multiplication **or** division equation with an appropriate one-step word problem.
- Level III Students will: Solve given multiplication **and** division problems using appropriate strategies.
- Level II Students will: Solve given multiplication **or** division problems using appropriate modeling strategies.
- Level I Students will: Identify an equation as a multiplication **or** division problem.

Number and Operations in Base Ten

Generalize place value understanding for multi-digit whole numbers. (limited to numbers less than or equal to 1,000,000)

EE4.NBT.2 Compare 2 multi-digit numbers within one thousand. [Extended expectations in this domain are limited to whole numbers up to but not including 1,000].

- Level IV Students will: Use symbols to compare 2 multi-digit numbers within one thousand (<, >, =).
- Level III Students will: Compare 2 multi-digit numbers within one thousand.
- Level II Students will: Compare 2 multi-digit numbers within one hundred.
- Level I Students will: Compare 2 two-digit numbers within fifty.

EE4.NBT.3 Round two-digit numbers from 10 to 100, to the nearest 10.

- Level IV Students will: Round three-digit numbers to the nearest 100.
- Level III Students will: Round two-digit numbers from 10 to 100, to the nearest 10.
- Level II Students will: Round two-digit numbers from 10 to 50, to the nearest 10.
- Level I Students will: When given numbers 1 through 9, determine if the given number should be rounded down to 0 or up to 10.

Use place value understanding and properties of operations to perform multi-digit arithmetic.

EE4.NBT.5 Multiply one digit by two digit numbers by using arrays, equations, or models.

- Level IV Students will: Multiply one digit by three digit numbers.
- Level III Students will: Multiply one digit by two digit numbers by using arrays, equations, or models.

- Level II Students will: Build and use an array to demonstrate a one digit by one digit multiplication problem.
- Level I Students will: Use a multiplication table to multiply one digit numbers with one digit numbers.

EE4.NBT.6 Given a number up to 30, determine if a number is divisible by 5 and/or 10, using strategies, arrays, **or** area models.

- Level IV Students will: Given a number up to 50, determine if a number is divisible by 2, 5, **and** 10.
- Level III Students will: Given a number up to 30, determine if a number is divisible by 5 and/or 10, using strategies, arrays, **or** area models.
- Level II Students will: Use repeated addition to solve a given division problem with dividends to 20.
- Level I Students will: When given multiples of 10 break it into equal groups of 5 or 10.

Number and Operations - Fractions

Extend understanding of fraction equivalence and ordering.

EE4.NF.1-3 Use a visual fraction model to identify fractions with denominators of 2, 3, 4, 5, and 10. [Extended expectations in this domain are limited to fractions with denominators 2, 3, 4, 5, 10].

- Level IV Students will: Use a visual fraction model to compare equivalent fractions with denominators of 2, 3, 4, 5, and 10.
- Level III Students will: Use a visual fraction model to identify fractions with denominators of 2, 3, 4, 5, and 10.
- Level II Students will: Use a visual fraction model to compare one whole and one half.
- Level I Students will: Use a visual fraction model to identify one whole and one half.

EE4.NF.7 Identify the hundredths place.

- Level IV Students will: Identify a fraction with a denominator of ten as a decimal.
- Level III Students will: Identify the hundredths place.
- Level II Students will: Identify the tenths place.
- Level I Students will: Identify a decimal.

Measurement and Data

Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.

EE4.MD.3 Find the perimeter of a rectangle within the range of 4 to 20.

- Level IV Students will: Find the perimeter of a rectangle within the range of 4 to 50.
- Level III Students will: Find the perimeter of a rectangle within the range of 4 to 20.
- Level II Students will: Identify a strategy to find the perimeter of a rectangle.
- Level I Students will: Identify the perimeter of a rectangle.

Geometric measurement: understand concepts of angle and measure angles.

EE4.MD.7 Solve addition and subtraction problems to find unknown angles on a diagram of a 90 degree angle given labeled smaller angles.

- Level IV Students will: Identify two angles from a variety of smaller angles to make any given angle.
- Level III Students will: Add and/or subtract two labeled smaller angles of a 90 degree angle to make a 90 degree angle.

- Level II Students will: Identify two sets of two labeled angles to make a 90 degree angle.
- Level I Students will: Identify one set of two labeled angles to make a 90 degree angle

Draw and identify lines and angles and classify shapes by properties of their lines and angles.

EE4.G.2 Identify points, lines, **and** angles.

- Level IV Students will: Draw one of the following: point, line, **or** angle.
- Level III Students will: Identify points, lines, **and** angles.
- Level II Students will: Identify two of the following: points, lines, **or** angles.
- Level I Students will: Identify one of the following: points, lines, **or** angles.

Grade 5 Math Extended Standards

Operations and Algebraic Thinking

Write, interpret, and/or evaluate numerical expressions.

EE5.OA.1-2 Identify the first step in solving a two-step number sentence using parentheses.

- Level IV Students will: Accurately complete the first step in a two-step number sentence with parentheses.
- Level III Students will: Identify the first step in solving a two-step number sentence using parentheses.
- Level II Students will: Identify parentheses in a number sentence.
- Level I Students will: Solve single digit addition **and** subtraction problems within a sum or difference of 10 to 20.

Number and Operations in Base Ten

Understand the place value system.

EE5.NBT.1 Identify the tenths, hundredths, and thousandths place value.

- Level IV Students will: Identify the value of the digit in the tenths place.
- Level III Students will: Identify the tenths, hundredths, **and** thousandths place value.
- Level II Students will: Identify the tenths **and** hundredths place value.
- Level I Students will: Identify the tenths **or** hundredths place value.

EE5.NBT.2 Order multiples of one-thousand ranging from 1,000 to 9,000, from least to greatest.

- Level IV Students will: Use multiples of ten, one-hundred, or one-thousand, and extend a pattern within the range of 10 to 9,000.
- Level III Students will: Order multiples of one-thousand ranging from 1,000 to 9,000, from least to greatest.
- Level II Students will: Order multiples of one-hundred ranging from 100 to 900, from least to greatest.
- Level I Students will: Order multiples of ten ranging from 10 to 90, from least to greatest.

Perform operations with multi-digit whole numbers and with decimals to hundredths.

EE5.NBT.7 Add decimals in the tenths place.

- Level IV Students will: Add **and** subtract decimals in the tenths place.
- Level III Students will: Add decimals in the tenths place.
- Level II Students will: Match decimal models of addition **and** subtraction to their sum or difference.
- Level I Students will: Identify decimals to the tenths place.

Number and Operations - Fractions

Use equivalent fractions as a strategy to add and subtract fractions.

EE5.NF.2 Add fractions with like denominators (halves, thirds, fourths).

- Level IV Students will: Add and subtract fractions with like denominators (halves, thirds, fourths).
- Level III Students will: Add fractions with like denominators (halves, thirds, fourths).
- Level II Students will: Identify halves, thirds, **and** fourths.
- Level I Students will: Match halves, thirds, **and** fourths.

Apply and extend previous understandings of multiplication and division to multiply and divide fractions.

EE5.NF.3 Interpret a fraction as division of the numerator by the denominator. Represent division problems as fractions.

- Level IV Students will: Solve problems involving division of whole numbers leading to answers in the form of whole numbers or simple fractions (kitchen basic fractions).
- Level III Students will: Represent division problems as fractions.
- Level II Students will: Identify the numerator and the denominator of a fraction.
- Level I Students will: Identify the numerator or denominator of a fraction.

EE5.NF.6 Use commutative property of multiplication (repeated addition) to add fractions with like denominators (halves, thirds, fourths).

- Level IV Students will: Add and subtract fractions with like denominators (halves, thirds, fourths).
- Level III Students will: Use commutative property of multiplication (repeated addition) to add fractions with like denominators (halves, thirds, fourths).
- Level II Students will: Identify halves, thirds, and fourths.
- Level I Students will: Match halves, third, and fourths.

EE5.NF.7 Students will compute by dividing a whole by halves, thirds, and fourths.

- Level IV Students will: When given the outline of a whole and various parts of a whole the student can duplicate the whole with a variety of fractions.
- Level III Students will: Students will compute by dividing a whole by halves, thirds, and fourths.
- Level II Students will: When given a whole, can identify halves, thirds, and fourths of the whole.
- Level I Students will: Recognize a whole can be broken into parts.

Measurement and Data

Geometric measurement: understand concepts of volume and relate volume to multiplication & to addition.

EE5.MD.5 Determine the volume of a rectangular prism by counting unit cubes up to a total volume of 30.

- Level IV Students will: Determine that volume can be measured in different units: including but not limited to cubic cm, cubic in, cubic ft.
- Level III Students will: Determine the volume of a rectangular prism by counting unit cubes up to a total volume of 30.
- Level II Students will: Identify three-dimensional figures have volume.
- Level I Students will: Identify three-dimensional figures.

Geometry

Graph points on the coordinate plane to solve real-world and mathematical problems.

EE5.G.2 Interpret plotted points in the first quadrant of the coordinate plane. (e.g., Which point is the farthest away from (0,0)?)

- Level IV Students will: Interpret (in context) plotted points in the first quadrant of the coordinate plane.
- Level III Students will: Interpret plotted points (more than 3) in the first quadrant of the coordinate plane. (e.g., Which point is farthest away from (0, 0)?)
- Level II Students will: Interpret a plotted point in the first quadrant of the coordinate plane.
- Level I Students will: Identify a plotted point in the first quadrant of the coordinate plane.

Grade 6 Math Extended Standards

Ratios and Proportional Relationships

Understand ratio concepts and use ratio reasoning to solve problems.

EE6.RP.3 Understand that a percentage is a rate per 100 involving wholes, parts, and percentages.

- Level IV Students will: Understand that a percentage is a rate per 100 and apply to solve real world problems involving wholes, parts, and percentages.
- Level III Students will: Understand that a percentage is a rate per 100 involving wholes, parts, and percentages.
- Level II Students will: Recognize a percent from a rate per 100.
- Level I Students will: Select the percent sign from a variety of math symbols/signs.

The Number System

Apply and extend previous understandings of multiplication and division to divide fractions by fractions.

EE6.NS.1 Use a fraction model to compute the quotient of a natural number, up to 20, divided by a fraction. Limit divisors to ¼ , ⅓, ½.

- Level IV Students will: Solve a word problem using a fraction model to compute the quotient of a natural number, up to 20, divided by a fraction. Limit divisors to ¼ , ⅓, ½.
- Level III Students will: Use a fraction model to compute the quotient of a natural number, up to 20, divided by a fraction. Limit divisors to ¼ , ⅓, ½.
- Level II Students will: Use a fraction model to divide a natural number, up to 10, into halves and quarters with no remainders.
- Level I Students will: Match a fraction to the corresponding model of the fraction.

Compute fluently with multi-digit numbers and find common number factors and multiples.

EE6.NS.3 Add and subtract two multi-digit numbers with decimals up to the hundredths place.

- Level IV Students will: Multiply two multi-digit numbers with decimals up to the tenths place.
- Level III Students will: Add and subtract two multi-digit numbers with decimals up to the hundredths place.
- Level II Students will: Add and subtract two multi-digit numbers up to the tenths place without regrouping.
- Level I Students will: Add two multi-digit numbers up to the tenths place without regrouping.

Apply and extend previous understandings of numbers to the system of rational numbers.

EE6.NS.7 Understand ordering of rational numbers using a model.

- Level IV Students will: Interpret statements of inequality using rational numbers in real-world contexts.
- Level III Students will: Understand ordering of rational numbers using a model.
- Level II Students will: Understand ordering of positive rational numbers using a model.
- Level I Students will: Understand ordering of whole numbers using a model.

EE6.NS.8 Find the vertical and horizontal distance from (0,0) to given points in the coordinate plane.

- Level IV Students will: Find the vertical and horizontal distance from (0, 0) to given points in the coordinate plane in a real-world context.
- Level III Students will: Find the vertical and horizontal distance from (0, 0) to given points in the coordinate plane.
- Level II Students will: Find the vertical or horizontal distance from (0, 0) to a given point in the coordinate plane.
- Level I Students will: Identify (0,0) in a coordinate plane.

Expressions and Equations

Apply and extend previous understandings of arithmetic to algebraic expressions.

EE6.EE.2a Evaluate an expression in which a letter stands for a number.

- Level IV Students will: Write and evaluate an expression in which a letter stands for a number.
- Level III Students will: Evaluate an expression in which a letter stands for a number.
- Level II Students will: Given an expression with an unknown, produce a model which represents the expression.
- Level I Students will: Use a picture to give meaning to a letter that represents a number.

EE6.EE.2b Use Order of Operations to list the sequence of operations needed to evaluate algebraic expressions with whole numbers.

- Level IV Students will: Use Order of Operations to list the sequence of operations needed to evaluate algebraic expressions with whole numbers and whole number exponents.
- Level III Students will: Use Order of Operations to list the sequence of operations needed to evaluate algebraic expressions with whole numbers.
- Level II Students will: Use Order of Operations, not including exponents and parentheses, to list the sequence of operations needed to evaluate algebraic expressions with whole numbers.
- Level I Students will: Use Order of Operations, not including exponents and parentheses, to list the sequence of operations needed to evaluate algebraic expressions with whole numbers.

EE6.E.3 When comparing two equivalent expressions, select which one property of operations is used.

- Level IV Students will: Formulate an expression that represents one of the properties of operations.
- Level III Students will: When comparing two equivalent expressions, select which one property of operations is used.
- Level II Students will: When comparing two equivalent expressions, determine whether the distributive or commutative property is used.
- Level I Students will: Match equivalent expressions using the commutative property.

Reason about and solve one-variable equations and inequalities.

EE6.EE.6 When given a real-world problem, use a variable to represent an unknown number.

- Level IV Students will: Use a variable to write an expression that represents a real-world problem.
- Level III Students will: When given a real-world problem, use a variable to represent an unknown number.
- Level II Students will: Match models to a set of variables.
- Level I Students will: Match a model to a specified variable.

EE6.EE.7 Recognize a one-step linear equations in a real-world context.

- Level IV Students will: Solve a one-step linear equation in a real-world context.
- Level III Students will: Recognize a one-step linear equation in a real-world context.
- Level II Students will: Recognize a one-step linear equation involving natural numbers.
- Level I Students will: Identify a linear pattern.

EE6.EE.8 Choose the one-step inequality that is modeled by a number line.

- Level IV Students will: Illustrate the one-step inequality that is modeled by a number line.
- Level III Students will: Choose the one-step inequality that is modeled by a number line.
- Level II Students will: Identify one solution to a one-step inequality.
- Level I Students will: Select inequalities from a given list that includes one-step equations.

Geometry

Solve real-world and mathematical problems involving area, surface area, and volume.

EE6.G.1 Given formulas and a labeled diagram with height, find the area of triangles and quadrilaterals.

- Level IV Students will: Given formulas, find the area of triangles and quadrilaterals in a real-world context.
- Level III Students will: Given formulas and a labeled diagram with height, find the area of triangles and quadrilaterals.
- Level II Students will: Given formulas and a labeled diagram with height, find the area of a square and rectangle.
- Level I Students will: Given a formula and a labeled diagram, find the area of a square.

EE6.G.4 Represent three-dimensional figures using nets made up of rectangles. Given formulas, use the nets to find the surface area.

- Level IV Students will: In a real-world context, represent three-dimensional figures using nets made up of rectangles. Given formulas, use the nets to find the surface area.
- Level III Students will: Represent three-dimensional figures using nets made up of rectangles. Given formulas, use the nets to find the surface area.
- Level II Students will: Represent a cube using a net made up of squares. Given formulas, use the net to find the surface area.
- Level I Students will: Sort three-dimensional shapes and two-dimensional shapes.

Statistics and Probability

Summarize and describe distributions.

EE6.SP.4 Recognize a visual example of a number line, dot plot (line plot), and histogram.

- Level IV Students will: Display data using one of the following charts: number line, dot plot (line plot), or histogram.

- Level III Students will: Recognize a visual example of a number line, dot plot (line plot), and histogram.
- Level II Students will: Recognize a visual example of two of the following three representations: a number line, dot plot (line plot), or histogram.
- Level I Students will: Recognize a visual example of one of the following three representations: a number line, dot plot (line plot), or histogram.

EE6.SP.5 Find data attributes which include outliers, clusters, sample size, mean, median, mode, and range from a visual representation of the data.

- Level IV Students will: Find and discuss data attributes which include outliers, clusters, sample size, mean, median, mode, and range from a visual representation of the data in a real-world context.
- Level III Students will: Find data attributes which include outliers, clusters, sample size, mean, median, mode, and range from a visual representation of the data.
- Level II Students will: Identify any outliers, clusters, and the sample size from a visual representation.
- Level I Students will: Identify any outliers and clusters from a visual representation.

Grade 7 Math Extended Standards

Ratios and Proportional Relationships

Analyze proportional relationships and use them to solve real-world and mathematical problems.

EE7.RP.2 Recognize and represent proportional relationships between quantities.

EE7.RP.2a Decide whether two positive, integer quantities in a table or graph are in a proportional relationship.

EE7.RP.2b Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and/or verbal descriptions of proportional relationships.

EE7.RP.2c Represent proportional relationships (tables, graphs, diagrams, or verbal descriptions) with equations. The proportional relationship will have integer coefficients.

EE7.RP.2d Determine the meaning of specific points (x, y) (where x and y are integers), of a graphed proportional relationship, with special attention to the points (0, 0) or (1, r) where r is the unit rate.

- Level IV Students will: Recognize and represent proportional relationships between quantities and can do all of the following:
  - Decide whether two positive, integer quantities in a table or graph are in a proportional relationship.
  - Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and/or verbal descriptions of proportional relationships.
  - Represent proportional relationships (tables, graphs, diagrams, or verbal descriptions) with equations. The proportional relationship will have integer coefficients.
  - Determine the meaning of specific points (x, y) (where x and y are integers), of a graphed proportional relationship, with special attention to the points (0, 0) or (1, r) where r is the unit rate.

- Level III Students will: Recognize and represent proportional relationships between quantities and can do three of the following:
  - Decide whether two positive, integer quantities in a table or graph are in a proportional relationship.
  - Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and/or verbal descriptions of proportional relationships.
  - Represent proportional relationships (tables, graphs, diagrams, or verbal descriptions) with equations. The proportional relationship will have integer coefficients.
  - Determine the meaning of specific points (x, y) (where x and y are integers), of a graphed proportional relationship, with special attention to the points (0, 0) or (1, r) where r is the unit rate.
- Level II Students will: Recognize and represent proportional relationships between quantities and can do two of the following:
  - Decide whether two positive, integer quantities in a table or graph are in a proportional relationship.
  - Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and/or verbal descriptions of proportional relationships.
  - Represent proportional relationships (tables, graphs, diagrams, or verbal descriptions) with equations. The proportional relationship will have integer coefficients.
  - Determine the meaning of specific points (x, y) (where x and y are integers), of a graphed proportional relationship, with special attention to the points (0, 0) or (1, r) where r is the unit rate.
- Level I Students will: Recognize and represent proportional relationships between quantities and can do one of the following:
  - Decide whether two positive, integer quantities in a table or graph are in a proportional relationship.
  - Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and/or verbal descriptions of proportional relationships.
  - Represent proportional relationships (tables, graphs, diagrams, or verbal descriptions) with equations. The proportional relationship will have integer coefficients.
  - Determine the meaning of specific points (x, y) (where x and y are integers), of a graphed proportional relationship, with special attention to the points (0, 0) or (1, r) where r is the unit rate.

EE7.RP.3 Solve a real-world two-step problem involving common ratios and/or common percentages. (e.g., 10%, 25%, 50%, 25/100, 50/100, 75/100, etc.).

- Level IV Students will: Solve a real-world two-step problem involving common ratios (e.g., 1/10, 25/50, 1/2, 75/100, etc.) and/or percentages.
- Level III Students will: Solve a real-world two-step problem involving common ratios and/or common percentages (e.g., 10%, 25%, 50%, 25/100, 50/100, 75/100, etc.).
- Level II Students will: Solve a two-step problem involving common percentages. (e.g., 10%, 25%, 50%, etc.).
- Level I Students will: Solve a one-step problem involving common percentages. (e.g., 10%, 25%, 50%, etc.).

The Number System

Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.

EE7.NS.3 Apply the concepts of all four operations with positive rational numbers to solve one-step, real-world and mathematical problems.

- Level IV Students will: Apply the concepts of all four operations with positive rational numbers to solve two-step, real-world and mathematical problems.
- Level III Students will: Apply the concepts of all four operations with positive rational numbers to solve one-step, real-world and mathematical problems.
- Level II Students will: Apply the concepts of the operations of multiplication and division with positive rational numbers to solve one-step, real-world and mathematical problems.
- Level I Students will: Apply the concepts of the operations of addition and subtraction with positive rational numbers to solve one-step, real world and mathematical problems.

Expressions and Equations

Use properties of operations to generate equivalent expressions.

EE7.EE.1 Apply properties of operations as strategies to add, subtract, factor, or expand linear expressions with integer coefficients.

- Level IV Students will: Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with integer coefficients.
- Level III Students will: Apply properties of operations as strategies to add, subtract, factor, or expand linear expressions with integer coefficients.
- Level II Students will: Identify the operations that exists within 'two-step' expressions (e.g., 3x – 5, (2x) / 5).
- Level I Students will: Identify the operation that exists within simple expressions (e.g., 3x, x + 4).

EE7.EE.4 Apply the concepts of linear equations and inequalities in one variable to mathematical situations.

- Level IV Students will: Solve one-step inequalities and graph the solution on a number line.
- Level III Students will: Graph linear inequalities in one variable.
- Level II Students will: Identify and justify two-step linear equations and two-step inequalities in one variable.
- Level I Students will: Identify and justify the steps for solving one-step linear equations or one-step inequalities in one variable.

Geometry

Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.

EE7.G.4 Given the formulas for the area and circumference of a circle use them to solve problems.

- Level IV Students will: Given the formulas for the area and circumference of a circle, use them to solve problems for real-world problems.
- Level III Students will: Given the formulas for the area and circumference of a circle, use them to solve problems.
- Level II Students will: Identify the parts of a circle within the formulas for area and circumference.
- Level I Students will: Identify the parts of a circle (diameter, radius, and circumference).

EE7.G.5 Use facts about pairs of vertical, adjacent, supplementary, and/or complementary angles to find missing angles.

- Level IV Students will: Find missing angles using all of the following:
  - Vertical Angles;
  - Adjacent Angles;
  - Supplementary Angles;
  - Complementary Angles.
- Level III Students will: Find missing angles using three of the following:
  - Vertical Angles;
  - Adjacent Angles;
  - Supplementary Angles;
  - Complementary Angles.
- Level II Students will: Find missing angles using two of the following:
  - Vertical Angles;
  - Adjacent Angles;
  - Supplementary Angles;
  - Complementary Angles .
- Level I Students will: Find missing angles using one of the following:
  - Vertical Angles;
  - Adjacent Angles;
  - Supplementary Angles;
  - Complementary Angles.

EE7.G.6 When given the formulas, solve mathematical problems involving area of 2-dimensional objects and problems involving volume and surface area of three-dimensional objects composed of triangles, quadrilaterals, rectangular prisms, and triangular prisms.

- Level IV Students will: Solve problems involving area of two-dimensional objects and surface area and volume of three-dimensional objects composed of all of the following:
  - Triangles;
  - Quadrilaterals;
  - Rectangular Prisms;
  - Triangular Prisms.
- Level III Students will: Solve problems involving area of two-dimensional objects and surface area and volume of three-dimensional objects composed of three of the following:
  - Triangles;
  - Quadrilaterals;
  - Rectangular Prisms;
  - Triangular Prisms.
- Level II Students will: Solve problems involving area of two-dimensional objects and surface area and volume of three-dimensional objects composed of two of the following:
  - Triangles;
  - Quadrilaterals;
  - Rectangular Prisms;
  - Triangular Prisms.

- Level I Students will: Solve problems involving area of two-dimensional objects and surface area and volume of three-dimensional objects composed of one of the following:
  - Triangles;
  - Quadrilaterals;
  - Rectangular Prisms;
  - Triangular Prisms.

Statistics and Probability

Use random sampling to draw inferences about a population.

EE7.SP.1 Understand that a sample is a subset of a population. Distinguish between populations and samples; random and non-random samples.

- Level IV Students will: Understand that a sample is a subset of a population. Distinguish between populations and samples. Distinguish between random and nonrandom samples.
- Level III Students will: Understand that a sample is a subset of a population. Identify populations and samples. Identify random and nonrandom samples.
- Level II Students will: Distinguish between a population or a sample.
- Level I Students will: Distinguish between a whole and a part.

Draw informal comparative inferences about two populations.

EE7.SP.4 Given measures of center and variability (mean, median, mode, and/or range), for numerical data, make inferences about two populations using the same measure to compare the populations.

- Level IV Students will: Given all measures of center and variability, make inferences about two populations:
  - Mean;
  - Median;
  - Mode;
  - Range.
- Level III Students will: Given three measures of center and/or variability, make inferences about two populations:
  - Mean;
  - Median;
  - Mode;
  - Range.
- Level II Students will: Given two measures of center and/or variability, make inferences about two populations:
  - Mean;
  - Median;
  - Mode;
  - Range.
- Level I Students will: Given one measures of center and/or variability, make inferences about two populations:
  - Mean;
  - Median;
  - Mode;
  - Range.

Investigate chance processes and develop, use, and evaluate probability models.

EE7.SP.5 Identify the likelihood of a simple event.

- Level IV Students will: Identify the likelihood of an event given a model; (e.g., impossible, unlikely, 50-50, likely, certain). For example, given a tree diagram showing the possible outcomes for flipping a coin two times, identify the likelihood of landing on heads twice in a row as unlikely.
- Level III Students will: Identify the likelihood of an event (e.g., impossible, unlikely, 50-50, likely, certain).
- Level II Students will: Determine which section the spinner is the most likely to land on, given a probability model represented as a spinner with different- sized sections labeled A, B, C, etc. Prioritized focus: spinner models that show 2, 3 or 4 sections.
- Level I Students will: Determine which section of a spinner with different sized sections labeled as A, B, C, etc. given as a probability model, is the largest or smallest. Prioritized focus: spinner models that show 2, 3 or 4 sections.

EE7.SP.6 Given a real-world situation (a coin tossed or a dice rolled) students will determine the theoretical probability of an event occurring (e.g., impossible, unlikely, 50-50, likely, certain).

- Level IV Students will: Given an experiment (a coin tossed or a dice rolled) students will determine the experimental probability of an event occurring (e.g., impossible, unlikely, 50-50, likely, certain) and compare it to the theoretical probability. Describe the discrepancy (if it exists).
- Level III Students will: Given a real-world situation (a coin tossed or a dice rolled) students will determine the theoretical probability of an event occurring (e.g., impossible, unlikely, 50-50, likely, certain).
- Level II Students will: Compare actual results of simple experiment with the theoretical probability of the experiment.
- Level I Students will: Match the theoretical probability of an event to a common experiment (a coin tossed or a dice rolled).

Grade 8 Math Extended Standards

The Number System

Know that there are numbers that are not rational, and approximate them by rational numbers.

EE8.NS.A.1 Identify both terminating and repeating decimal patterns as rational.

- Level IV Students will: Identify decimals that neither terminate nor repeat as irrational, such as pi or $\sqrt{2}$.
- Level III Students will: Identify both terminating and repeating decimal patterns as rational.
- Level II Students will: Identify a terminating decimal as rational.
- Level I Students will: Convert simple fractions to decimal form, such as $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{1}{8}$, $\frac{1}{10}$.

Expressions and Equations

Understand the connections between proportional relationships, lines, and linear equations.

EE8.EE.5 When given data, create a graph and determine if the rate of change has a positive or negative relationship.

- Level IV Students will: Collect data, create a graph and determine if the rate of change has a positive or negative relationship.

- Level III Students will: When given data, create a graph and determine if the rate of change has a positive or negative relationship.
- Level II Students will: When given multiple graphs determine which graphs have rates of change that are positive/negative.
- Level I Students will: Given a graph determine if the relationship is positive or negative.

Analyze and solve linear equations and pairs of simultaneous linear equations.

EE8.EE.7 Given a linear equation or the graph of a linear equation, determine if an ordered pair is a solution or not.

- Level IV Students will: Given a linear equation, match it to the appropriate graph and determine if an ordered pair is a solution or not.
- Level III Students will: Given a linear equation or the graph of a linear equation, determine if an ordered pair is a solution or not.
- Level II Students will: Solve two-step linear equations and solve two-step inequalities in one variable.
- Level I Students will: Solve one-step linear equations or solve one-step inequalities in one variable.

EE8.EE.8 Given the graph of a system of two linear equations, name the solution as an ordered pair.

- Level IV Students will: Given two functions, graph the functions and determine the solution for that system of equations.
- Level III Students will: Given the graph of a system of two linear equations, name the solution as an ordered pair.
- Level II Students will: Match a solution (an ordered pair) to the proper graph from a selection of graphed systems of equations.
- Level I Students will: Given a graph of a system of equations, identify the intersection.

Functions

Define, evaluate, and compare functions.

EE8.F.2 Compare two functions (non-linear vs linear) using the same representation (graphs, tables).

- Level IV Students will: Compare two different representations of functions (graphs, tables, equations).
- Level III Students will: Compare two functions (non-linear vs linear) using the same representation (graphs, tables). (e.g., exponential vs linear functions).
- Level II Students will: Compare two linear functions using the same representation (graphs, tables).
- Level I Students will: Given two graphs identify the linear function.

Use functions to model relationships between quantities.

EE8.F.4 Given a linear graph, determine the slope and y-intercept.

- Level IV Students will: Given a linear graph, construct a function in slope-intercept form and relate it to a real-world situation.
- Level III Students will: Given a linear graph, determine the slope and y-intercept.
- Level II Students will: Given a linear graph through the origin, determine the slope and y-intercept.
- Level I Students will: When given a linear graph, determine the slope.

Geometry

Understand congruence and similarity using physical models, transparencies, or geometry software.

EE8.G.2 Use a transformation to align two objects to determine if they are congruent.

- Level IV Students will: Use transformations to align objects to determine which objects are congruent to one another.
- Level III Students will: Use a transformation to align two objects to determine if they are congruent.
- Level II Students will: Use transformation to align two congruent objects.
- Level I Students will: Determine if two objects are congruent.

EE8.G.5 When given a diagram of a triangle with the measurements for 2 angles within a triangle, find the measurement of the third angle.

- Level IV Students will: Given a diagram of a triangle with an interior angle and two exterior angles, find the missing interior angles.
- Level III Students will: When given a diagram of a triangle with the measurements for 2 angles within a triangle, find the measurement of the third angle.
- Level II Students will: Understand that all angles of a triangle add up to 180°.
- Level I Students will: When shown a right triangle, determine which angle is a right angle and apply the right angle symbol.

Understand and apply the Pythagorean Theorem.

EE8.G.7 Use the Pythagorean theorem to calculate the length of the hypotenuse given side a and side b.

- Level IV Students will: Use the Pythagorean theorem to calculate the length of a side given a side and hypotenuse.
- Level III Students will: Use the Pythagorean theorem to calculate the length of the hypotenuse given side a and side b.
- Level II Students will: Put in the values for sides a, b, and c into the correct locations for the Pythagorean theorem.
- Level I Students will: Given the Pythagorean formula with numbers entered for the values of a, b, and c have the student determine which value is the hypotenuse.

EE8.G.8 Given a straight line between two points, students will construct a right triangle with that line as the hypotenuse.

- Level IV Students will: Determine the length of the sides and b in the coordinate plane and calculate the hypotenuse "side c" on a coordinate plane.
- Level III Students will: Plotting at least 3 points on the scatter plot, student will then be able to create a linear model that best represents the data.
- Level II Students will: Put the values into the correct locations of the equation on a coordinate plane.
- Level I Students will: Identify the sides of a right angle (specifically identifying the difference between the sides and hypotenuse) on a coordinate plane.

Statistics and Probability

Investigate patterns of association in bivariate data.

EE8.SP.3 Plotting at least 3 points on the scatter plot, student will then be able to create a linear model that best represents the data.

- Level IV Students will: Plotting at least 5 points on the scatter plot, student will draw a linear line of best fit that best represents the data and identifies the y-intercept.

- Level III Students will: Plotting at least 3 points on the scatter plot, student will be able to draw a linear line of best fit that best represents the data.
- Level II Students will: Given a scatter plot, draw a linear line that best represents a line of best fit.
- Level I Students will: When provided with a scatter plot, determine if the general direction is positive/negative.

EE8.SP.4a Complete a table with at least 3 given data points and denote the pattern (e.g., positive relationship, no relationship, negative relationship).

- Level IV Students will: Complete a table with at least 5 data points and decipher the pattern occurring within the table between all the data points.
- Level III Students will: Complete a table with at least 3 given data points and denote the pattern.
- Level II Students will: Recognize a pattern within a set of data points.
- Level I Students will: Organize a collection of data points, no more than 3.

EE8.SP.4b Not Applicable.

High School Math Extended Standards

Number and Quantity

The Real Number System

Extend the properties of exponents to rational exponents.

EEN.RN.1 Demonstrate the extension of integer exponents to rational exponents on a number line.

- Level IV Students will: Demonstrate the extension of integer exponents to rational exponents on a number line **written in exponential or radical form**.
- Level III Students will: Demonstrate the extension of integer exponents to rational exponents on a number line.
- Level II Students will: Demonstrate the extension of integer exponents **with common denominators** to rational exponents on a number line.
- Level I Students will: Demonstrate the extension of integer exponents **with unit fractions** to rational exponents on a number line.

EEN.RN.2 Match the radical representation to its rational exponent form. Exponents limited to $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$.

- Level IV Students will: Given either the radical or rational exponent representation, write its equivalent representation.
- Level III Students will: Match the radical representation to its rational exponent form. Exponents limited to $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$. (e.g., $\sqrt{(x)} = x^{1/2}$).
- Level II Students will: Identify the radical representation and/or rational exponential form.
- Level I Students will: Recognize the radical representation.

Quantities

Reason quantitatively and use units to solve problems.

EEN.Q.1 Choose and use an appropriate unit of measure to model and/or solve problems.

- Level IV Students will: Choose and use an appropriate unit of measure to model and/or solve multi-step problems.

- Level III Students will: Choose and use an appropriate unit of measure to model and/or solve problems.
- Level II Students will: Identify the attribute to be measured (e.g., weight, length, temperature) and select the appropriate unit of measure.
- Level I Students will: Identify measurement tools.

The Complex Number System

Use complex numbers in polynomial identities and equations.

EEN.CN.7 Identify real solutions given a graph with whole-number values.

- Level IV Students will: Determine if quadratic functions have complex solutions given a graph.
- Level III Students will: Identify real solutions given a graph with whole-number values.
- Level II Students will: Recognize the number of real solutions (0, 1, or 2) of a quadratic function given a graph with whole-number values.
- Level I Students will: Recognize quadratic functions given a graph.

Algebra

Seeing Structure in Expressions

Write expressions in equivalent forms to solve problems.

EEA.EES.3 Given an equation in slope-intercept form, identify the constant as the y-intercept and coefficient as the slope of a line.

- Level IV Students will: Given an equation in slope-intercept form, identify the constant as the y-intercept and coefficient as the slope of a line, which may be increasing (positive), decreasing (negative), or constant (zero).
- Level III Students will: Given an equation in slope-intercept form, identify the constant as the y-intercept and coefficient as the slope of a line.
- Level II Students will: Given an equation in slope-intercept form, identify both the constant and coefficient.
- Level I Students will: Given an equation in slope-intercept form, identify the constant.

Arithmetic with Polynomials and Rational Expressions

Perform arithmetic operations on polynomials.

EEA.APR.1 Add and subtract polynomials.

- Level IV Students will: Add, subtract, and multiply polynomials.
- Level III Students will: Add and subtract polynomials.
- Level II Students will: Add polynomials.
- Level I Students will: Identify a polynomial, limited to monomial, binomial and trinomial.

Understand the relationship between zeros and factors of polynomials.

EEA.APR.3 Identify zeros of a polynomial in factored form applying the zero-product property with one- or two-step equations.

- Level IV Students will: Identify solutions with multiplicity greater than one (even/odd) from a graph or from factored form. Technology/calculator is allowed as necessary.
- Level III Students will: Identify zeros of a polynomial in factored form applying the zero-product property with one- or two-step equations.
- Level II Students will: Identify zeros of a polynomial given a graph.
- Level I Students will: Recognize polynomials given algebraic representation and/or a graph.

Creating Equations

Create equations that describe numbers or relationships.

EEA.CED.1 Solve a one-step equation or inequality with one variable.

- Level IV Students will: Create and solve an equation or inequality with one variable.
- Level III Students will: Solve a one-step equation or inequality with one variable.
- Level II Students will: Solve a one-step equation with one variable.
- Level I Students will: Identify the variable within an equation.

EEA.CED.2 Given an equation in slope-intercept form and its related table, graph a line.

- Level IV Students will: Given an equation in slope-intercept form, graph a line.
- Level III Students will: Given an equation in slope-intercept form and its related table, graph a line.
- Level II Students will: Given an equation in slope-intercept form and its related table, plot the y-intercept.
- Level I Students will: Recognize points in a table as ordered pairs (x, y).

EEA.CED.3 Identify constraints that are represented graphically.

- Level IV Students will: Given a list of possible solutions, determine which are viable/non-viable given constraints.
- Level III Students will: Identify constraints that are represented graphically.
- Level II Students will: Recognize constraints that are represented graphically.
- Level I Students will: Recognize when solutions are viable or non-viable.

Reasoning with Equations and Inequalities

Understand solving equations as a process of reasoning and explain the reasoning.

EEA.REI.2 Recognize when there is potential for extraneous solutions to exist (variables in radicals and variables in the denominator of a rational equation).

- Level IV Students will: Evaluate solutions to determine if they are extraneous or not. (Mathematical Practice 1: "mathematically proficient students check their answers...")
- Level III Students will: Recognize when there is potential for extraneous solutions to exist (variables in radicals and variables in the denominator of a rational equation).
- Level II Students will: Identify equations with variables in the denominator or under a radical.
- Level I Students will: Identify variables, denominators, and/or radicals.

Solve equations and inequalities in one variable.

EEA.REI.3 Solve a two-step, linear equation in one variable.

- Level IV Students will: Solve a two-step, linear inequality in one variable, containing a positive, whole number coefficient.
- Level III Students will: Solve a two-step, linear equation in one variable.
- Level II Students will: Solve a one-step equation containing a whole number coefficient. (e.g., 15 = 3x).
- Level I Students will: Solve a one-step equation using addition or subtraction. (e.g., 5 = x + 2).

EEA.REI.4 Given a table, identify the solution(s) of the quadratic function when all solutions are whole-numbers.

- Level IV Students will: Given a quadratic equation, complete a table to find solution(s) and/or other key points of the graph when all solutions are whole-numbers.

- Level III Students will: Given a table, identify the solution(s) of the quadratic function when all solutions are whole-numbers.
- Level II Students will: Recognize the number of solution(s) of a quadratic function when all solutions are whole-numbers.
- Level I Students will: Recognize quadratic functions in any form.

Solve systems of equations.

EEA.REI.6 Locate the solution to a system of linear equations by naming the point of intersection.

- Level IV Students will: Create two intersecting lines and estimate the point of intersection.
- Level III Students will: Locate the solution to a system of linear equations by naming the point of intersection (e.g., a graph showing two lines that intersect).
- Level II Students will: Locate both the x- and y- axes.
- Level I Students will: Locate the intersection.

EEA.REI.7 Identify solutions given a graph of a linear-quadratic system (with whole number values only).

- Level IV Students will: Determine if a point is a solution of a linear-quadratic system (given a graph, tables, and/or equations).
- Level III Students will: Identify solutions given a graph of a linear-quadratic system (with whole number values only).
- Level II Students will: Identify the number of solutions of a linear-quadratic system given a graph (0, 1, 2).
- Level I Students will: Identify linear-quadratic systems given graphical representations.

Functions

Interpreting Functions

Understand the concept of a function and use function notation.

EEF.IF.1 Given a function table and rule, determine missing input and output values.

- Level IV Students will: Determine whether a table containing data is a function.
- Level III Students will: Given a function table and rule, determine missing input and output values.
- Level II Students will: Using a table and provided an input, find the output.
- Level I Students will: Identify the input and output values within a table.

EEF.IF.2 Match expressions (e.g., 2x+4) with given x-values (e.g., x=3) to functions written using function notation (e.g., f(3) = 2(3) + 4).

- Level IV Students will: Students will complete a table provided a function and x-values, where they are asked to fill in the given inputs into the function without evaluating the function.
- Level III Students will: Match expressions (e.g., 2x+4) with given x-values (e.g., x=3) to functions written using function notation (e.g., f(3) = 2(3) + 4).
- Level II Students will: Match equations written in y= form to equations written in function notation.
- Level I Students will: Recognize when an equation is written in function notation.

Interpret functions that arise in applications in terms of the context.

EEF.IF.4 For a function, interpret key features of a graph and/or table, including whether the function is increasing, decreasing, or constant.

- Level IV Students will: Interpret key features of a graph and/or table, which may include intercepts and/or intervals.

- Level III Students will: For a function, interpret key features of a graph and/or table, including whether the function is increasing, decreasing, or constant.
- Level II Students will: Using a graph, identify whether a function is increasing, decreasing, or constant.
- Level I Students will: Using a graph, recognize whether a function is increasing.

Analyze functions using different representations.

EEF.IF.7 Identify key feature(s) of two types of functions:

- Linear and Exponential functions;
  - » Growth (linear vs. exponential);
  - » Intercepts.
- Quadratics;
  - » Minima/Maxima;
  - » Intercepts.
- Polynomials;
  - » End Behavior;
  - » Intercepts.

Note: For the following levels, we are asking that students (given a graph of a linear, exponential, quadratic, or polynomial function) can answer questions pertaining to each type of function, not all key features of each type of function.

- Level IV Students will: Identify key feature(s) of all of the following types of functions:
  - Linear and Exponential functions;
    - » Growth (linear vs. exponential);
    - » Intercepts.
  - Quadratics;
    - » Minima/Maxima;
    - » Intercepts.
  - Polynomials;
    - » End Behavior;
    - » Intercepts.
- Level III Students will: Identify key feature(s) of two types of functions:
  - Linear and Exponential functions;
    - » Growth (linear vs. exponential);
    - » Intercepts.
  - Quadratics;
    - » Minima/Maxima;
    - » Intercepts.
  - Polynomials;
    - » End Behavior;
    - » Intercepts.
- Level II Students will: Identify key feature(s) of one type of function:
  - Linear and Exponential functions;
    - » Growth (linear vs. exponential);
    - » Intercepts.
  - Quadratics;
    - » Minima/Maxima;
    - » Intercepts.

- Polynomials;
  - » End Behavior;
  - » Intercepts.

- Level I Students will: Identify linear, exponential, quadratic, and polynomial functions given graphs.

EEF.IF.9 Compare properties of two functions both represented in the same way using whole number values. Students can utilize two of the following representations:
- Graphically;
- Algebraically;
- Using a Table.

- Level IV Students will: Compare properties of two functions both represented in the same way using whole number values. Students can utilize all of the following representations:
  - Graphically;
  - Algebraically;
  - Using a Table.
- Level III Students will: Compare properties of two functions both represented in the same way using whole number values. Students can utilize two of the following representations:
  - Graphically;
  - Algebraically;
  - Using a Table.
- Level II Students will: Compare properties of two functions both represented in the same way using whole number values. Students can utilize one of the following representations:
  - Graphically;
  - Algebraically;
  - Using a Table.
- Level I Students will: Identify properties of functions.

Building Functions

Build a function that models a relationship between two quantities.

EEF.BF.1 Match a function that describes a relationship between the input and output, within a context.
- Level IV Students will: Write a function that describes the relations, within a context.
- Level III Students will: Match a function that describes a relationship between the input and output, within a context.
- Level II Students will: Describe how the input and output are related.
- Level I Students will: Identify key information.

Build new functions from existing functions.

EEF.BF.3 Identify the correct representation of a horizontal rigid transformation (graphically or algebraically).
- Level IV Students will:Identify the correct representation of a vertical or horizontal (graphically and algebraically).
- Level III Students will: Identify the correct representation of a horizontal rigid transformation (graphically or algebraically).
- Level II Students will: Identify the correct representation of a vertical rigid transformation (graphically or algebraically).
- Level I Students will: Identify when a horizontal and/or vertical rigid transformation has taken place (graphically or algebraically).

Linear, Quadratic, and Exponential Models

Construct and compare linear, quadratic, and exponential models and solve problems.

EEF.LE.1 Compare growth descriptively between two linear functions or two exponential functions (graph-to-graph, table-to-table, equation-to-equation).

- Level IV Students will: Compare growth descriptively between two linear functions and two exponential functions (graph-to-graph, table-to-table, equation-to-equation).
- Level III Students will: Compare growth descriptively between two linear functions or two exponential functions (graph-to-graph, table-to-table, equation-to-equation).
- Level II Students will: Identify functions as growing linearly and/or exponentially functions (represented in multiple ways).
- Level I Students will: Identify functions as growing linearly and/or exponentially (represented in one way - graphically, using a table, or algebraically).

EEF.LE.2 Construct a linear function using a table.

- Level IV Students will: Construct a linear function using a situation, or rule.
- Level III Students will: Construct a linear function using a table.
- Level II Students will: Using x- and y- coordinates from a table, plot one point.
- Level I Students will: Identify the input and output as the x- and y- coordinates, respectively.

Geometry

Congruence

Experiment with transformations in the plane.

EEG.CO.3 Given a rectangle, parallelogram, trapezoid, or regular polygon identify the rotation and reflection that carries a figure (having symmetry) onto itself.

- Level IV Students will: Given a rectangle, parallelogram, trapezoid, or regular polygon identify the combination of rotations and/or reflections that carry a figure (having symmetry) onto itself.
- Level III Students will: Given a rectangle, parallelogram, trapezoid, or regular polygon identify the rotation and reflection that carries a figure (having symmetry) onto itself.
- Level II Students will: Given a rectangle, parallelogram, trapezoid, or regular polygon identify the rotation that carries a figure (having symmetry) onto itself.
- Level I Students will: Given a rectangle, parallelogram, trapezoid, or regular polygon identify the reflection that carries a figure (having symmetry) onto itself.

Understand congruence in terms of rigid motions.

EEG.CO.8 Given two congruent triangles, identify two criteria (ASA, SAS, SSS) that prove triangle congruence in terms of rigid motions.

- Level IV Students will: Given two congruent triangles, identify all criteria (ASA, SAS, SSS) that prove triangle congruence in terms of rigid motions.
- Level III Students will: Given two congruent triangles, identify two criteria (ASA, SAS, SSS) that prove triangle congruence in terms of rigid motions.
- Level II Students will: Given two congruent triangles, identify one criterion (ASA, SAS, SSS) that proves triangle congruence in terms of rigid motions.
- Level I Students will: Identify corresponding congruent angles and corresponding congruent sides in a set of congruent triangles.

Prove geometric theorems.

EEG.CO.9 Utilize theorems about lines and angles to solve problems from diagrams and/or in context from any three of the following categories.

- Vertical angles are congruent.
- When a transversal crosses parallel lines, alternate interior angles are congruent.
- When a transversal crosses parallel lines, corresponding angles are congruent.
- Points on a perpendicular bisector of a line segment are exactly equidistant from the segment's endpoints.

- Level IV Students will: Utilize theorems about lines and angles to solve problems from diagrams and/or in context from all of the following categories.
  - Vertical angles are congruent.
  - When a transversal crosses parallel lines, alternate interior angles are congruent.
  - When a transversal crosses parallel lines, corresponding angles are congruent.
  - Points on a perpendicular bisector of a line segment are exactly equidistant from the segment's endpoints.
- Level III Students will: Utilize theorems about lines and angles to solve problems from diagrams and/or in context from any three of the following categories.
  - Vertical angles are congruent.
  - When a transversal crosses parallel lines, alternate interior angles are congruent.
  - When a transversal crosses parallel lines, corresponding angles are congruent.
  - Points on a perpendicular bisector of a line segment are exactly equidistant from the segment's endpoints.
- Level II Students will: Utilize theorems about lines and angles to solve problems from diagrams and/or in context from any two of the following categories.
  - Vertical angles are congruent.
  - When a transversal crosses parallel lines, alternate interior angles are congruent.
  - When a transversal crosses parallel lines, corresponding angles are congruent.
  - Points on a perpendicular bisector of a line segment are exactly equidistant from the segment's endpoints.
- Level I Students will: Utilize theorems about lines and angles to solve problems from diagrams and/or in context from one of the following categories.
  - Vertical angles are congruent.
  - When a transversal crosses parallel lines, alternate interior angles are congruent.
  - When a transversal crosses parallel lines, corresponding angles are congruent.
  - Points on a perpendicular bisector of a line segment are exactly equidistant from the segment's endpoints.

EEG.CO.10 Utilize theorems about triangles to solve problems from diagrams and/or in context from any three of the following categories.

- Measures of interior angles of a triangle sum to 180 degrees.
- Base angles of isosceles triangles are congruent.
- The segment joining midpoints of two sides of a triangle is parallel to the third side and half the length.
- The medians of a triangle meet at a point.

- Level IV Students will: Utilize theorems about triangles to solve problems from diagrams and/or in context from all of the following categories.
  - Measures of interior angles of a triangle sum to 180 degrees.

- Base angles of isosceles triangles are congruent.
- The segment joining midpoints of two sides of a triangle is parallel to the third side and half the length.
- The medians of a triangle meet at a point.

- Level III Students will: Utilize theorems about triangles to solve problems from diagrams and/or in context from any three of the following categories.
  - Measures of interior angles of a triangle sum to 180 degrees.
  - Base angles of isosceles triangles are congruent.
  - The segment joining midpoints of two sides of a triangle is parallel to the third side and half the length.
  - The medians of a triangle meet at a point.
- Level II Students will: Utilize theorems about triangles to solve problems from diagrams and/or in context from any two of the following categories.
  - Measures of interior angles of a triangle sum to 180 degrees.
  - Base angles of isosceles triangles are congruent.
  - The segment joining midpoints of two sides of a triangle is parallel to the third side and half the length.
  - The medians of a triangle meet at a point.
- Level I Students will: Utilize theorems about triangles to solve problems from diagrams and/or in context from one of the following categories.
  - Measures of interior angles of a triangle sum to 180 degrees.
  - Base angles of isosceles triangles are congruent.
  - The segment joining midpoints of two sides of a triangle is parallel to the third side and half the length.
  - The medians of a triangle meet at a point.

Similarity, Right Triangles, and Trigonometry

Prove theorems involving similarity.

EEG.SRT.5 Use congruence and similarity criteria for triangles within other geometric figures to solve problems from diagrams.

- Level IV Students will: Use congruence and similarity criteria for triangles within other geometric figures to solve problems from diagrams and in context.
- Level III Students will: Use congruence and similarity criteria for triangles within other geometric figures to solve problems from diagrams.
- Level II Students will: Use congruence criteria for triangles within other geometric figures to solve problems from diagrams.
- Level I Students will: Identify the similar and congruent triangles within diagrams of other geometric figures (e.g., a parallelogram with diagonals drawn).

Define trigonometric ratios and solve problems involving right triangles.

EEG.SRT.8 Given a diagram and technology, use the Pythagorean Theorem to find any missing sides of a right triangle or identify the correct trigonometric ratio that should be used to solve the triangle.

- Level IV Students will: Given a diagram and technology, use the Pythagorean Theorem to find any missing sides of a right triangle and identify the correct trigonometric ratio that should be used to solve the triangle.

- Level III Students will: Given a diagram and technology, use the Pythagorean Theorem to find any missing sides of a right triangle or identify the correct trigonometric ratio that should be used to solve the triangle.
- Level II Students will: Given a diagram and technology, use the Pythagorean Theorem to find any side of a right triangle given a diagram.
- Level I Students will: Identify the sides of a triangle as leg, leg, hypotenuse given a right triangle and identify the sides of a triangle as opposite, adjacent, hypotenuse given a triangle with a labeled acute angle.

Circles

Find arc lengths and areas of sectors of circles.

EEG.C.5 Compute the area of a unit sector given the area of the circle and a diagram. Sectors will be identifiable unit fractions of circles (e.g., ½, ⅓, ¼).

- Level IV Students will: Compute the area of a sector given the area of the circle and a problem in context. Sectors will be identifiable unit fractions of circles (e.g., ½, ⅓, ¼).
- Level III Students will: Compute the area of a unit sector given the area of the circle and a diagram. Sectors will be identifiable unit fractions of circles (e.g., ½, ⅓, ¼).
- Level II Students will: Identify the formula that matches the area of a sector given the area of a circle and a diagram. Sectors will be identifiable unit fractions of circles (e.g., ½, ⅓, ¼).
- Level I Students will: Identify a sector of a circle given diagrams.

Expressing Geometric Properties With Equations

Use coordinates to prove simple geometric theorems algebraically.

EEG.GPE.5 Determine slopes of parallel and perpendicular lines given equations of lines, diagrams, and/or contextual problems.

- Level IV Students will: Identify the equation of a parallel and perpendicular line that matches a geometric problem (diagram, equation, and/or in context).
- Level III Students will: Determine slopes of parallel and perpendicular lines given equations of lines, diagrams, and/or contextual problems.
- Level II Students will: Determine slopes of parallel and perpendicular lines given equations of lines, diagrams, and/or contextual problems.
- Level I Students will: Identify slopes of lines given equations of lines, diagrams, and contextual problems.

Geometric Measurement and Dimension

Explain volume formulas and use them to solve problems.

EEG.GMD.3 Provided formulas and measurements, calculate the volume of three dimensional objects including cubes, rectangular prisms, cylinders, spheres, or cones to solve real-world problems.

- Level IV Students will: Provided formulas and measurements, predict volumes of non-similar, three-dimensional objects and verify the prediction through calculation.
- Level III Students will: Provided formulas and measurements, calculate the volume of three dimensional objects including cubes, rectangular prisms, cylinders, spheres, or cones to solve real-world problems.
- Level II Students will: Using two similar, three-dimensional objects, predict which has a greater volume and verify the prediction. (e.g., fill containers with water, rice, use a formula).
- Level I Students will: Match the three-dimensional object with its appropriate math term.

Statistics And Probability

Interpreting Categorical and Quantitative Data

Summarize, represent, and interpret data on a single count or measurement variable.

EES.ID.2 Given a graph, determine measures of central tendency, which may include mean, median, mode, or other measures such as range or outliers.

- Level IV Students will:Given a graph or data, describe how an outlier would impact any measure of central tendency.
- Level III Students will: Given a graph or data, determine measures of central tendency, which may include mean, median, mode, or other measures such as range or outliers.
- Level II Students will: Given a graph or data, determine the mean or median.
- Level I Students will: Given a graph or data, determine the mode.

Summarize, represent, and interpret data on two categorical and quantitative variables.

EES.ID.6 Given multiple linear trendlines, determine which one best represents the data.

- Level IV Students will: Given a scatter plot, place a linear trendline and justify its placement.
- Level III Students will: Given multiple linear trendlines, determine which one best represents the data.
- Level II Students will: Differentiate between a scatter plot that is increasing versus decreasing.
- Level I Students will: Identify a scatter plot that is increasing.

Interpret linear models.

EES.ID.7 Given a graph, identify the slope as increasing (positive), decreasing (negative), or constant (zero) and find the y-intercept.

- Level IV Students will: Given a graph, interpret the slope or y-intercept within a context.
- Level III Students will: Given a graph, identify the slope as increasing (positive), decreasing (negative), or constant (zero) and find the y-intercept.
- Level II Students will: Identify the y-intercept as the point where a line intersects the y-axis.
- Level I Students will: Identify the slope of a line as increasing (positive) or decreasing (negative).

EES.ID.9 Describe the relationship, in context, between the independent and dependent variables (positive, negative, no relationship).

- Level IV Students will: Given specific, clearly-defined examples of relationships, identify if the relationship is an example of correlation or causation.
- Level III Students will: Describe the relationship, in context, between the independent and dependent variables (positive, negative, no relationship).
- Level II Students will: Identify dependent variables.
- Level I Students will: Identify independent variables.

Conditional Probability and the Rules of Probability

Understand independence and conditional probability and use them to interpret data.

EES.CP.1 List the possible outcomes of an event.

- Level IV Students will: Compare theoretical and experimental outcomes.
- Level III Students will: List the possible outcomes of an event.
- Level II Students will: Identify the chance of an event as more, less, or equally likely.
- Level I Students will: Identify the chance of an event as impossible, possible, or certain.