HAWAII ALTERNATE ASSESSMENT

PERFORMANCE LEVEL DESCRIPTORS

MATHEMATICS

PERFORMANCE LEVEL DESCRIPTORS

(REVISED MARCH 2021)

Selected HSA-Alt Range Performance Level Descriptors include a new  symbol, which denotes standards that may be associated with the workplace, and, therefore, address needs identified in the Workforce Innovation and Opportunity Act (WIOA). The Workforce Innovation and Opportunity Act (WIOA) "seeks to increase the employment, career advancement, and economic self-sufficiency of people with disabilities through collaborative federal, state, and local partnerships" (Thurlow, Nye-Lengerman, and Lazarus, 2019). The *Workforce Innovation and Opportunity Act Appendix* within this document lists the identified standard, essence statement, and "Meets" Performance Level Descriptor for that standard, as well as the associated skills that students would demonstrate when engaged in postsecondary education and competitive integrated employment.

GRADE 3
MATHEMATICS

GRADE 3 MATHEMATICS

		Performance Level Descriptors			
Common Core Standard	**Essence Statement**	**Well Below**	**Approaches**	**Meets**	**Exceeds**
CCSS.MATH.CONTENT.3.OA.A.1 Interpret products of whole numbers (e.g., interpret 5 × 7 as the total number of objects in 5 groups of 7 objects each). For example, describe a context in which a total number of objects can be expressed as 5 × 7.	Represent or interpret a multiplication expression or product within an equal groups context (factors less than 10).	Represent addition of 2 single-digit whole numbers. Suggested scaffolds: concrete materials or visuals.	Represent repeated addition of single-digit whole numbers (e.g., 2+2+2). Suggested scaffolds: concrete materials or visuals.	Represent multiplication facts of two single-digit whole numbers. Suggested scaffolds: concrete materials or visuals.	Match a multiplication expression to an equal groups context.
CCSS.MATH.CONTENT.3.OA.A.2 Interpret whole-number quotients of whole numbers (e.g., interpret 56 ÷ 8 as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each). For example, describe a context in which a number of shares or a number of groups can be expressed as 56 ÷ 8.	Represent or interpret division as an equal partitioning of a group or as determining how many shares of a specified amount exist.	Represent subtraction of whole numbers. Prioritized focus: subtrahend $\leq$ 10. Suggested scaffolds: concrete materials or visuals.	Represent repeated subtraction. Prioritized focus: subtrahend $\leq$ 10. Suggested scaffolds: concrete materials or visuals.	Determine how many whole number groups a number can be divided into. Prioritized focus: dividend $\leq$ 20. Suggested scaffolds: concrete materials or visuals.	Match a division expression to a described partitive or quotative division scenario.
CCSS.MATH.CONTENT.3.OA.A.3 Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities. For example, use drawings and equations with a symbol for the unknown number to represent the problem.	Solve multiplication and division word problems involving equal groups, area, and arrays.	Solve addition word problems. Prioritized focus: sums to 20. Suggested scaffolds: concrete materials, visuals, or symbolic expression.	Solve subtraction word problems. Prioritized focus: differences within 20. Suggested scaffolds: concrete materials, visuals, or symbolic expression.	Solve multiplication word problems. Prioritized focus: product to 30 and factors $\leq$ 10. Suggested scaffolds: concrete materials or visuals.	Solve division word problems. Prioritized focus: dividend to 50 and factors $\leq$ 10. Suggested scaffolds: concrete materials or visuals.
CCSS.MATH.CONTENT.3.OA.A.4 Determine the unknown whole number in a multiplication or division equation relating three whole numbers. For example, determine the unknown number that makes the equation true in each of the equations 8 × ? = 48, 5 = _ ÷ 3, 6 × 6 = ?	Determine the unknown whole number in an equation.	Determine the unknown whole number in an addition equation. Suggested scaffolds: concrete materials, visuals, or symbolic expression.	Determine the unknown whole number in a subtraction equation. Suggested scaffolds: concrete materials, visuals, or symbolic expression.	Determine the unknown whole number in a multiplication equation. Suggested scaffolds: concrete materials, visuals, or symbolic expression.	Determine the unknown whole number in a division equation. Suggested scaffolds: concrete materials, visuals, or symbolic expression.
CCSS.MATH.CONTENT.3.OA.B.5 Apply properties of operations as strategies to multiply and divide. Examples: If 6 × 4 = 24 is known, then 4 × 6 = 24 is also known (commutative property of multiplication). If 3 × 5 × 2 can be found by 3 × 5 = 15, then 15 × 2 = 30, or by 5 × 2 = 10, then 3 × 10 = 30 (associative property of multiplication). Knowing that 8 × 5 = 40 and 8 × 2 = 16, one can find 8 × 7 as 8 × (5 + 2) = (8 × 5) + (8 × 2) = 40 + 16 = 56 (distributive property).	Identify equivalent expressions that apply the commutative property.	Identify equivalent addition expressions. Prioritized focus: commutative property and no more than two addends. Suggested scaffolds: concrete materials, visuals, or symbolic expression.	Identify equivalent addition expressions. Prioritized focus: commutative property and no more than four addends.	Identify equivalent multiplication expressions. Prioritized focus: commutative property and no more than four factors. Suggested scaffolds: concrete materials, visuals, or symbolic expression.	Identify equivalent addition or multiplication expressions. Prioritized focus: commutative property and no more than four factors.

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CCSS.Math.Content.3.OA.B.6 Understand division as an unknown-factor problem. For example, find 32 ÷ 8 by finding the number that makes 32 when multiplied by 8.	Identify related multiplication and division expressions/ equations.	Identify the related addition expression/ equation given a subtraction expression/ equation. Suggested scaffolds: concrete materials, visuals, or symbolic expression.	Identify the related addition or subtraction expression/ equation given a subtraction or addition expression/equation.	Identify the related multiplication expression/ equation given a division expression/equation. Suggested scaffolds: concrete materials, visuals, or symbolic expression.	Identify the related multiplication or division expression/ equation given a division or multiplication expression/equation.
CCSS.Math.Content.3.OA.C.7 Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (i.e., knowing that 8 × 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations. By the end of grade 3, know from memory all products of two one-digit numbers.	Demonstrate basic multiplication and division facts.	Represent repeated addition of single-digit whole numbers. Prioritized focus: single-digit addends and sums within 20 or addends of 10 and sums within 50. Suggested scaffolds: concrete materials (coins: pennies, nickels, and dimes as repeated addition entities), visuals, or symbolic expression.	Represent repeated subtraction of single-digit whole numbers to find how many groups of a specified size/amount exist within a set. Prioritized focus: single-digit minuends and subtrahends within 25 or minuends of 10 and sums within 100; subtrahend amounts that are a multiple of one coin type. Suggested scaffolds: concrete materials (coins), visuals, or symbolic expression.	Multiply or divide single-digit whole numbers. Prioritized focus: single-digit factors that multiply to 25. Suggested scaffolds: visual representations of nickels, quarters, dimes, and pennies, along with other variations of visual representations.	Multiply or divide single-digit whole numbers. Prioritized focus: single-digit factors that multiply to 50. Suggested scaffolds: visual representations of nickels, quarters, dimes, and pennies, along with other variations of visual representations.
CCSS.Math.Content.3.OA.D.8 (W) Solve two-step word problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.	Model a problem involving any of the four operations.	Identify which operation should be used to solve a one-step addition or subtraction problem. Suggested scaffolds: concrete materials, visuals, or real-world context.	Identify which operation should be used to solve a one-step problem. Suggested scaffolds: scaffolds: concrete materials, visuals, or real-world context.	Solve a one-step word problem. Suggested scaffolds: concrete materials, visuals, real-world context or symbolic expression.	Solve a two-step word problem using addition and/or subtraction. Suggested scaffolds: concrete materials, visuals, or real-world context.
CCSS.Math.Content.3.OA.D.9 Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations. For example, observe that 4 times a number is always even, and explain why 4 times a number can be decomposed into two equal addends.	Identify a rule for an arithmetic pattern.	Identify the next picture, shape, or symbol in the given pattern.	Identify a rule or pattern for an addition or subtraction sequence, given at least 3 numbers in the sequence. Prioritized focus: adding or subtracting 1, 2, 5, or 10. Suggested scaffolds: concrete materials or visuals.	Identify a rule or pattern for an addition or subtraction sequence, given at least 3 numbers in the sequence. Prioritized focus: adding or subtracting 1, 2, 5, or 10.	Identify a rule or pattern for an addition or subtraction sequence. Prioritized focus: adding or subtracting numbers 1- 10.

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CCSS.Math.Content.3.NBT.A.1 Use place value understanding to round whole numbers to the nearest 10 or 100.	Apply place value understanding to round whole numbers to the nearest 10. Limit to whole numbers 1 to 100.	Given a visually displayed whole number between 0 and 10, determine if the number is closer to 0 or 10.	Using a visual model (e.g., number line), determine which ten a number is closer to, or if it is closer to 0. Limit to whole numbers 0 to 50.	Round whole numbers to the nearest 10 within 100. Suggested scaffolds: concrete material or visuals.	Use place value understanding to round whole numbers to the nearest 10 within 100.
CCSS.Math.Content.3.NBT.A.2 Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.	Add and subtract numbers within 100.	Identify equivalent addition expressions. Prioritized focus: decomposing the original addition expression. For example, 29 + 13 = 20 + 9 + 10 + 3. Suggested scaffolds: concrete materials or visuals.	Add two double-digit numbers that are within 100. Prioritized focus: addition problems that do not require regrouping. Suggested scaffolds: concrete materials or visuals.	Subtract two double-digit numbers within 100. Prioritized focus: subtraction problems that do not require regrouping. Suggested scaffolds: concrete materials or visuals.	Add or subtract within 100 with regrouping. Suggested scaffolds: concrete materials or visuals.
CCSS.Math.Content.3.NBT.A.3 Multiply one-digit whole numbers by multiples of 10 in the range 10–90 (e.g., 9 × 80, 5 × 60) using strategies based on place value and properties of operations.	Multiply single-digit numbers by multiples of 10.	Identify multiples (groups) of 10. Suggested scaffolds: concrete materials or visuals.	Multiply single-digit numbers by multiples of 10 in the range of 10–30. Prioritized focus: single digits 1, 2, and 5. Suggested scaffolds: concrete materials or visuals.	Multiply single-digit numbers by multiples of 10 in the range of 10–50. Prioritized focus: single digit up to 5. Suggested scaffolds: concrete materials or visuals.	Multiply single-digit numbers by multiples of 10 in the range of 10–100.
CCSS.Math.Content.3.NF.A.1 Understand a fraction 1/b as the quantity formed by 1 part when a whole is partitioned into b equal parts. Understand a fraction a/b as the quantity formed by a part of size 1/b.	Recognize that fractions represent parts of a whole.	Determine how many equal parts there are in a given model. Prioritized focus: area or set fraction models using circle(s), square(s), or rectangle(s).	Identify the numerator (the number of parts being considered of the whole). For example, how many parts are shaded in the fraction model? Suggested scaffolds: concrete materials, visuals, or symbols.	Identify the denominator (the number of parts that make up the whole). Suggested scaffolds: concrete materials, visuals, or symbols.	Identify the fraction. Prioritized focus: numerators and and denominators 1, 2, 3, or 4, with no fractions greater than one whole. Suggested scaffolds: concrete materials, visuals, or symbols.
CCSS.Math.Content.3.NF.A.2a Represent a fraction 1/b on a number line diagram by defining the interval from 0 to 1 as the whole and partitioning it into b equal parts. Recognize that each part has size 1/b and that the endpoint of the part based at 0 locates the number 1/b on the number line.	Identify equal partitioning on a number line to represent fractions.	Identify a number line that shows equal spacing of whole numbers.	Identify equal partitioning on a number line to represent fractions with denominators of 2, 3, and 4.	Match a point shown on a number line with the fraction it represents or vice versa. Prioritized focus: unit fractions with denominators of 2, 3, and 4.	Match a point shown on a number line with the fraction it represents or vice versa. Prioritized focus: fractions with denominators of 2, 3, and 4.

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CCSS.Math.Content.3.NF.A.3 Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size.	Identify or compare fractions represented visually or numerically by reasoning about their size or relationship values.	Identify the denominator (the number of equal-sized parts a whole has been divided into) of a fraction. Suggested scaffolds: concrete materials, visuals, or symbols.	Identify the fraction that is smaller or larger. Prioritized focus: fractions with the same denominator. Suggested scaffolds: concrete materials, visuals, or symbols.	Compare the size of fractions with the same denominator.	Identify a fraction that is smaller, larger, or equal to a given fraction.
CCSS.Math.Content.3.MD.A.1 Tell and write time to the nearest minute and measure time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes. For example, represent the problem on a number line diagram.	Match the time on a schedule to the time on an analog clock.	Match the time on a schedule to the time on a clock. Prioritized focus: time to the hour.	Match the time on a schedule to the time on a clock. Prioritized focus: time to the half-hour.	Match the time on a schedule to the time on a clock. Prioritized focus: time to the quarter-hour.	Match the time on a schedule to the time on a clock. Prioritized focus: time to 5 minutes.
CCSS.Math.Content.3.MD.A.2 Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l). Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units. For example, use drawings (such as a beaker with a measurement scale) to represent the problem.	Measure and add liquid volumes using customary units (i.e., c., pt., qt., gal.) and metric units (i.e., mL, L) to the nearest whole unit. Measure and add masses using customary units (i.e., oz., lb.) and metric units (i.e., g, kg) to the nearest whole unit.	Recognize, identify, or match the attribute being measured (liquid volume or mass) with an appropriate tool of measurement or unit of measure.	Determine the volume(s) or mass(es) of objects. Suggested scaffolds: concrete materials, visuals, or measures.	Find the sum of two volumes or masses. Prioritized focus: numbers within 20. Suggested scaffolds: concrete materials, visuals, or measures.	Find the sum or difference of two volumes or masses.
CCSS.Math.Content.3.MD.B.3 Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step "how many more" and "how many less" problems using information presented in scaled bar graphs. For example, draw a bar graph in which each square in the bar graph might represent 5 pets.	Represent or interpret data from a picture graph or bar graph.	Identify, describe, or represent information found on a picture or bar graph: e.g., title, labels, data, key, or symbols. Prioritized focus: two category bar graph with single unit grid increments.	Identify the number of objects from a picture graph or a bar graph. Prioritized focus: two category bar graphs with grid increments of 1, 2, or 5.	Identify the number of objects from a picture graph or a bar graph. Prioritized focus: three category bar graphs with grid increments of 1, 2, 5, or 10 (up to 50).	Interpret data from a picture graph or bar graph (e.g., how many more or how many less?)
CCSS.Math.Content.3.MD.B.4 Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot where the horizontal scale is marked off in appropriate units (i.e., whole numbers, halves, or quarters).	Identify measured lengths shown on line plots.	Identify the length of an object or line segment to the nearest whole unit.	Identify the line plot that shows the given measurement data. Prioritized focus: whole numbers.	Identify the length of an object or line segment to the nearest half inch.	Identify the line plot that shows the given measurement data. Prioritized focus: halves, whole numbers, and mixed numbers with halves.

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CCSS.Math.Content.3.MD.C.6 Measure areas by counting unit squares (square cm, square m, square in, square ft., and improvised units).	Understand that the area of a figure can be found by counting the total number of square units that it is composed of.	Identify which method should be used to find the area. For example, how do you find the area of a shape? Weigh it, count the units, etc.	Select the highlighted part of the shape that corresponds to its area given a single shape. For example, highlight inside, outside, one of the sides, etc.	Count unit squares to find the area of a rectangle or square. Prioritized focus: squares with a maximum area of 16.	Count unit squares to find the area of a figure composed of rectangles or squares. Prioritized focus: figures with a maximum area of 25.
CCSS.Math.Content.3.MD.C.7d Recognize area as additive. Find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts, applying this technique to solve real-world problems.	Understand that rectilinear figures can be decomposed into non-overlapping rectangles. The area of a rectilinear figure can be found by adding the areas of the non-overlapping rectangles.	Find the area of a tiled square. Prioritized focus: areas less than or equal to 9 square units.	Find the area of a tiled rectilinear figure. Prioritized focus: L or T shape with areas less than or equal to 12 square units.	Find the area of an un-tiled rectilinear figure. Prioritized focus: areas less than or equal to 16 square units.	Find the total area of two un-tiled rectilinear figures. Prioritized focus: areas less than or equal to 25 square units.
CCSS.Math.Content.3.MD.D.8 Solve real-world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.	Solve real-world problems involving perimeter.	Identify addition as the operation used to find perimeter.	Find the perimeter for an equilateral triangle or square. Prioritized focus: side lengths to 1–5 and 10. Suggested scaffolds: concrete materials, visuals with all side lengths labeled.	Find the perimeter for a triangle, rectangle, or pentagon. Suggested scaffolds: concrete materials, visuals with all side lengths labeled, real-world context.	Given two side lengths of a rectangle or one side of a square, determine the perimeter.
CCSS.Math.Content.3.G.A.1 Understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories.	Identify shared attributes found between shapes with an emphasis on the shared attributes of quadrilaterals; e.g., rhombuses, rectangles, and/or squares.	Identify the number of sides or vertices (corners) in a given shape. Limit to six sides.	Identify the shape that doesn't belong; e.g., distinguish between quadrilaterals and non-quadrilaterals.	Identify a shared attribute found between shapes; e.g., rhombuses, rectangles, and squares have four sides.	Distinguish between rhombuses, rectangles, and squares.
CCSS.Math.Content.3.G.A.2 Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole. For example, partition a shape into four parts with equal area, and describe the area of each part as 1/4 of the area of the shape.	Identify the equally partitioned shape that represents halves or fourths.	Identify the shape that is divided into equal parts.	Identify the area model that is divided into halves.	Identify the area model that is divided into halves or fourths.	Identify the fraction represented by the shaded part of an area model.

GRADE 4
MATHEMATICS

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CCSS.MATH.CONTENT.4.OA.A.1 Interpret a multiplication equation as a comparison (e.g., interpret 35 = 5 × 7 as a statement that 35 is 5 times as many as 7 and 7 times as many as 5). Represent verbal statements of multiplicative comparisons as multiplication equations.	Identify multiplicative comparisons.	Identify manipulatives, drawings, or symbols that represent repeated addition.	Identify manipulatives, drawings, or symbols that represent multiplication.	Identify multiplicative comparisons. Suggested scaffolds: concrete materials, visual models, or real-world context.	Identify the expression or equation that represents the given multiplicative comparison (in words).
CCSS.MATH.CONTENT.4.OA.A.2 Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.	Solve word problems involving multiplicative comparison.	Identify visuals that represent "twice as" many objects. Prioritized focus: sets up to 5 objects.	Identify visuals that represent such as "twice as many" objects. Prioritized focus: sets up to 10 objects.	Solve multiplicative comparison problems such as "twice as many." Suggested scaffolds: concrete materials, visual models, or real-world context. Prioritized focus: whole numbers with factors up to 10.	Solve multiplicative comparison problems such as "three times as many." Suggested scaffolds: concrete materials, visual models, or real-world context. Prioritized focus: whole numbers with factors up to 10.
CCSS.MATH.CONTENT.4.OA.A.3 Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.	Solve one- or two-step word problems involving the four operations.	Solve one-step addition or subtraction word problem. Suggested scaffolds: concrete materials, visual model, or equation.	Solve one-step addition, subtraction, or multiplication word problem. Suggested scaffolds: concrete materials, visual model, or equation.	Solve a two-step word problem involving addition, subtraction, or multiplication. Solve a one-step division word problem (without remainders). Suggested scaffolds: concrete materials, visual model, or equation.	Solve a one-step word problem involving division that yields a remainder (may include the interpretation of the remainder). Suggested scaffolds: concrete materials, visual model, or equation.
CCSS.MATH.CONTENT.4.OA.B.4 Find all factor pairs for a whole number in the range 1-100. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1-100 is a multiple of a given one-digit number. Determine whether a given whole number in the range 1-100 is prime or composite.	Identify factor pairs.	Identify factor pairs for products within 12. Suggested scaffolds: concrete materials, visual model, or equation.	Identify factor pairs for products within 25. Suggested scaffolds: concrete materials, visual model, or equation.	Identify factor pairs for a whole number (within 50).	Identify factor pairs for a whole number (within 100). Determine whether a number is prime or composite.

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CCSS.MATH.CONTENT.4.OA.C.5 (W) Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself. For example, given the rule "add 3" and the starting number 1, generate terms in the resulting sequence and observe that the terms appear to alternate between odd and even numbers. Explain informally why the numbers will continue to alternate in this way.	Identify a rule that generates a shape or number pattern. Use a rule to extend a pattern.	Identify the next one, two, three, or four shapes given a pattern.	Identify the next one, two, three, or four number(s) given a number pattern or a rule. Prioritized focus on the rule: adding 1, 2, 3, 4, 5, or 10.	Identify the next two or three numbers in sequence of numbers with a given rule (given at least 3 numbers in the sequence; limit to addition or subtraction by: 1, 2, 3, 4, 5, 10, and 100). Note: For patterns where -/+ 10, numbers should be multiples of 10 and patterns where -/+ 100, numbers should be multiples of 100.	Given a number sequence, identify the given rule and continue the sequence (given at least 4 numbers in the sequence; limit to addition or subtraction by: 1, 2, 3, 4, 5, 10, and 100).
CCSS.MATH.CONTENT.4.NBT.A.1 Recognize that in a multi-digit whole number, a digit in one place represents 10 times what it represents in the place to its right. For example, recognize that 700 ÷ 70 = 10 by applying concepts of place value and division.	Determine 10 times as many.	Identify the visual that represents ten times a number. Prioritized focus: single digit numbers less than or equal to 3. Suggested scaffolds: concrete materials, visual model, or equation.	Identify the visual that represents ten times a number. Prioritized focus: whole numbers less than or equal to 5. Suggested scaffolds: concrete materials, visual model, or equation.	Determine which number is 10 times as many as a given number. Prioritized focus: whole numbers less than or equal to 10. Suggested scaffolds: concrete materials, visual model, or equation.	Determine which number is 10 times as many as a given number. Prioritized focus: whole numbers less than or equal to 10.
CCSS.MATH.CONTENT.4.NBT.A.2 (W) Read and write multi-digit whole numbers using base 10 numerals, number names, and expanded form. Compare two multi-digit numbers based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.	Identify or compare numbers expressed as visuals, number names, base 10 numerals, or numbers in expanded form.	Identify the place value for a single digit within a two-digit number. Suggested scaffolds base 10 blocks or a place value chart.	Identify the place value for a single digit within a three-digit number. Suggested scaffolds base 10 blocks or a place value chart.	Compare two numbers (up to three-digits) using the symbols >, <, = or the words that represent these symbols, greater than, less than, equals. Suggested scaffolds base 10 blocks, place value chart, or expanded form representation.	Compare two multi-digit numbers using the symbols >, <, = or match number names to numeric or visual representation. Suggested scaffolds base 10 blocks, place value chart, or expanded form representation.
CCSS.MATH.CONTENT.4.NBT.A.3 Use place value understanding to round multi-digit whole numbers to any place.	Round single and multi-digit whole numbers.	Given a number line model for a one- or two-digit number, identify if the number should be rounded up or down to the next or previous group of 10 or zero.	Round two-digit whole numbers to the nearest ten. Suggested scaffold: number line model or 100s chart.	Round three-digit whole numbers to the nearest hundred. Suggested scaffold: number line model or 100s chart.	Round any multi-digit number to the nearest thousand. Suggested scaffold: number line model or 100s chart.
CCSS.MATH.CONTENT.4.NBT.B.4 Fluently add and subtract multi-digit whole numbers using the standard algorithm.	Add and subtract multi-digit numbers.	Add and subtract single-digit numbers within 10 with no visuals.	Add and subtract whole numbers up to 50.	Add and subtract multi-digit whole numbers within 100.	Add and subtract multi-digit whole numbers within 1000.

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CCSS.MATH.CONTENT.4.NBT.B.5 Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.	Multiply two-digit numbers by one-digit numbers.	Identify grouping and repeated addition to solve multiplication problems; e.g., three groups of two make six.	Identify equivalent addition or multiplication expressions. For example, 5 × 6 is the same as 6 × 5 or 5 + 6 is the same as 6 + 5.	Multiply two-digit numbers by one-digit numbers. Suggested scaffolds: rectangular arrays or area models. Prioritized focus: digits 0-3.	Multiply two-digit numbers by one-digit numbers. Suggested scaffolds: rectangular arrays or area models. Prioritized focus: digits 0–5.
CCSS.MATH.CONTENT.4.NBT.B.6 Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.	Solve division problems.	Identify the picture that shows equal groups. Suggested scaffolds: concrete objects or visuals.	Divide a set of objects into equal groups. Prioritized focus: set sizes up to 20 and divisors of 2, 5, and 10. Suggested scaffolds: concrete objects, visuals, equation, and/or real-world context.	Solve problems involving division without remainders. Prioritized focus: two-digit dividends. Suggested scaffolds: concrete objects, visuals, equation, and/or real-world context.	Solve problems involving division with remainders. Prioritized focus: two-digit dividends. Suggested scaffolds: concrete objects, visuals, equation, and/or real-world context.
CCSS.MATH.CONTENT.4.NF.A.1 Explain why a fraction a/b is equivalent to a fraction (n × a)/(n × b) by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.	Identify equivalent fractions.	Compare unit fractions to determine which is smaller, larger, or equal. Prioritized focus: area models. Suggested scaffolds: concrete materials, visual model, or symbols.	Identify equivalent fractions. Prioritized focus: fractions with denominators 2 and 4 and 3 and 6. Suggested scaffolds: concrete materials, visual model, or symbols.	Identify equivalent fractions. Prioritized focus: fractions with denominators 2, 4, 8, and 3 and 6. Suggested scaffolds: concrete materials, visual model, or symbols.	Identify equivalent fractions. Prioritized focus: fractions with denominators 2, 4, 8, 3 and 6, and 5 and 10. Suggested scaffolds: concrete materials, visual model, or symbols.
CCSS.MATH.CONTENT.4.NF.A.2 Compare two fractions with different numerators and different denominators (i.e., by creating common denominators or numerators, or by comparing to a benchmark fraction such as 1/2). Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols >, =, or <, and justify the conclusions (i.e., by using a visual fraction model).	Recognize and use fraction parts (numerator and denominator) to match or compare fractions. Suggested scaffolds: concrete materials and/or visuals.	Recognize the numerator or denominator of a fraction. Suggested scaffolds: visual or the definition for numerator or denominator; e.g., how many parts of the whole are shaded or how many parts is the whole divided into?	Compare visual fraction model to the benchmark fractions of one-half or one whole.	Compare two fractions, using the language or symbols >, =, or <. Prioritized focus: fractions with denominators 2, 4, 8, and 5 and 10. Suggested scaffolds: concrete materials such as fraction circles and/or visual models.	Compare two fractions, using the language or symbols >, =, or <. Prioritized focus: fractions with denominators 2, 4, 8, 3 and 6, 5 and 10, and 100. Suggested scaffolds: concrete materials such as fraction circles or base-10 blocks and/or visuals.

		GRADE 4 MATHEMATICS			
		Performance Level Descriptors			
Common Core Standard	**Essence Statement**	**Well Below**	**Approaches**	**Meets**	**Exceeds**
CCSS.MATH.CONTENT.4.NF.B.3b Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. Justify decompositions by using a visual fraction model. Examples: 3/8 = 1/8 + 1/8 + 1/8; 3/8 = 1/8 + 2/8; 2 1/8 = 1 + 1 + 1/8 = 8/8 + 8/8 + 1/8.	Decompose a fraction in more than one way (same denominators).	Identify a fraction that has the same denominator as a given fraction.	Given a fraction, identify an equivalent addition expression, using unit fractions, that represents that fraction. Prioritized focus: denominators 3 and 4.	Given a fraction, identify an equivalent addition expression that represents that fraction. Prioritized focus: denominators 3, 4, 6, and 8.	Decompose a fraction into a sum of two fractions.
CCSS.MATH.CONTENT.4.NF.B.3c Add and subtract mixed numbers with like denominators (i.e., by replacing each mixed number with an equivalent fraction, and/or by using properties of operations and the relationship between addition and subtraction).	Add or subtract mixed numbers and whole numbers.	Match a visual representation of a fraction to its numerical representation.	Match a visual representation of a mixed number to its numerical representation.	Add a whole number and a fraction or subtract a mixed number and a whole number or mixed number and its fractional part; e.g., 2 + ½, 1 ½ - 1, or 3 ½ - ½. Suggested scaffolds: concrete materials, visual model, real-world context or symbols.	Add a whole number and a fraction or subtract a mixed number and a whole number or mixed number and its fractional part; e.g., 2 + ½, 1 ½ - 1, or 3 ½ - ½. (no visuals). Prioritized focus: denominators of 2, 3, and 4. Suggested scaffolds: real-world context or symbols.
CCSS.MATH.CONTENT.4.NF.B.3d Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators, e.g., by using visual fraction models and equations to represent the problem.	Solve word problems involving the addition or subtraction of fractions with like denominators. Suggested scaffolds: concrete objects or visuals.	Match a visual or object model to a simple one-step word problem. Prioritized focus: unit fractions with like denominators of 2, 3, and 4.	Solve one-step addition word problems involving unit fractions. Prioritized focus: like denominators of 2, 3 or 4. Suggested scaffolds: concrete objects or visuals.	Solve one-step fraction addition or subtraction word problems. Prioritized focus: like denominators. Suggested scaffolds: concrete objects or visuals.	Solve one-step word problems involving addition or subtraction of fractions. Prioritized focus: like denominators of 2, 3, 4, 5, 6, or 8.
CCSS.MATH.CONTENT.4.NF.B.4c Solve word problems involving multiplication of a fraction by a whole number by using visual fraction models and equations to represent the problem. For example, if each person at a party will eat 3/8 of a pound of roast beef, and there will be five people at the party, how many pounds of roast beef will be needed? Between what two whole numbers does your answer lie?	Solve word problems involving multiplying a unit fraction by a whole number.	Find the product of any single digit number multiplied by 1.	Find the product of two single-digit numbers. Suggested scaffold: visual or word problem context.	Solve word problems involving multiplying a unit fraction by a single digit whole number.	Solve word problems involving multiplying a unit fraction (denominators ≤10) by two-digit whole numbers.

		Performance Level Descriptors			
Common Core Standard	**Essence Statement**	**Well Below**	**Approaches**	**Meets**	**Exceeds**
CCSS.MATH.CONTENT.4.NF.C.5 Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100. For example, express 3/10 as 30/100, and add 3/10 + 4/100 = 34/100.	Add fractions with denominators of 10.	Match visual models to fractions with the denominator 10.	Match visual models to fractions with the denominators 10 or 100.	Add fractions with denominators of 10. Suggested scaffolds: concrete objects or visuals.	Add fractions with denominators of 100. Suggested scaffolds: concrete objects or visuals.
CCSS.MATH.CONTENT.4.NF.C.6 (W) Use decimal notation for fractions with denominators 10 or 100. For example, rewrite 0.62 as 62/100; describe a length as 0.62 meters; locate 0.62 on a number line diagram.	Identify decimal notation for coin value, monetary amount, or fraction with denominator of 10 or 100.	Identify the decimal notation value of a penny, dime, or dollar. For example: 0.01, 0.10, and 1.00. Suggested scaffold: concrete objects or visuals.	Identify the decimal notation value of coins: penny, nickel, dime, quarter or a dollar. Suggested scaffold: concrete objects or visuals.	Identify the decimal notation value for monetary amounts; e.g., two dollar bills and three quarters is matched to $2.75. Suggested scaffold: concrete objects or visuals.	Identify decimal notation for fractions with denominators of 10 and 100.
CCSS.MATH.CONTENT.4.NF.C.7 (W) Compare two decimals to hundredths by reasoning about their size. Recognize that comparisons are valid only when the two decimals refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions (i.e., by using a visual model).	Compare two decimals. Suggested scaffolds: coins or money context.	Compare the value of a penny and a dime represented in decimal notation using words or symbols.	Compare the value of two coins represented in decimal notation using words or symbols.	Compare the value of two coins or a coin and a dollar by selecting the correct inequality statement that compares their decimal equivalents.	Compare the value of two decimals (limit to hundredths).
CCSS.MATH.CONTENT.4.MD.A.1 Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb., oz.; l, ml; hr., min., sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table. For example, know that 1 ft. is 12 times as long as 1 in. Express the length of a 4 ft. snake as 48 in. Generate a conversion table for feet and inches listing the number pairs (1, 12), (2, 24), (3, 36), ...	Recognize units of measure or measurement equivalence. Convert measurement units within one system (larger unit to smaller unit).	Identify a unit of measure for the following attributes: length/distance, time, money, liquid volume, and/or mass. For example, what do we measure time with? Minutes, feet, pounds…	Identify smaller units that make a larger unit within a single system of measurement (i.e., a foot is made up of inches; a minute is made up of seconds).	Recognize common measurement conversions, larger unit to smaller unit (e.g., 1 minute = 60 seconds, 1 foot = 12 inches).	Complete a table to convert measurement units. Suggested scaffold: provide unit conversion.

		Grade 4 Mathematics			
		Performance Level Descriptors			
Common Core Standard	**Essence Statement**	**Well Below**	**Approaches**	**Meets**	**Exceeds**
CCSS.MATH.CONTENT.4.MD.A.2 (W) Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.	Use the four operations to solve word problems involving time and money.	Determine the amount of elapsed time. Prioritized focus on whole-hour increment(s). Suggested scaffold: digital time display, schedule, play clock, or timeline. Match the decimal value for a single coin to that coin. Suggested scaffold: concrete objects (coins) or visuals.	Determine the amount of elapsed time. Prioritized focus on minute increment(s) that do not require "trading in." Suggested scaffold: digital time display, schedule, play clock, or timeline. Determine the total for a given amount of coins or dollars. Prioritized focus: whole dollars or problems involving a single coin type. Suggested scaffold: concrete objects (money) or visuals.	Determine the amount of elapsed time. Prioritized focus on five- or ten-minute increment(s) that do not require "trading in." Suggested scaffold: digital time display, schedule, play clock, or timeline. Determine the total cost of two items. Suggested scaffolds: concrete objects (money), cash register, or calculator.	Determine the amount of elapsed time. Prioritized focus on half hour or quarter hour. Suggested scaffold: digital time display, schedule, play clock, or timeline. Determine the total cost of two or more items or calculate the amount of change due after purchase. Suggested scaffolds: concrete objects (money), cash register, or calculator.
CCSS.MATH.CONTENT.4.MD.A.3 Apply the area and perimeter formulas for rectangles in real-world and mathematical problems. For example, find the width of a rectangular room given the area of the flooring and the length, by viewing the area formula as a multiplication equation with an unknown factor.	Solve problems related to finding the perimeter and/or area of rectangles.	Find the perimeter of a rectangle or square when given all side lengths for the figure.	Find the perimeter of a rectangle or a square when given one or two lengths. Suggested scaffolds: visual and/or real-world context.	Find the area of a rectangle or square given two side lengths. Suggested scaffolds: visual and/or real-world context.	Find the area of a square given one side length. Given the perimeter of a square, find one of its side lengths. Suggested scaffolds: visual and/or real-world context.
CCSS.MATH.CONTENT.4.MD.B.4 Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Solve problems involving addition and subtraction of fractions by using information presented in line plots. For example, from a line plot, find and interpret the difference in length between the longest and shortest specimens in an insect collection.	Collect, display, and/or compare linear measurements, linear measurement data, and linear measurement displays of data presented in a line plot.	Find the length of an object or compare length measures. Match objects to correct measures or measurement data sets to the correct line plot. Prioritized focus: whole numbers.	Solve one-step addition measurement problems by using information presented in a line plot. Prioritized focus: whole unit measures and data sets with five or less points.	Solve one-step addition or subtraction measurement problems by using information presented in a line plot. Prioritized focus: whole unit measures and data sets with five or less points.	Solve one-step addition problems by using information presented in a line plot. Prioritized focus: whole and half-unit measures and data sets with four or less points
CCSS.MATH.CONTENT.4.MD.C.6 Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.	Measure angles with a protractor.	Recognize a protractor as a tool used to measure angles.	Identify an angle measure as larger, smaller, or the same as another angle measure.	Identify a correctly placed protractor over an angle measure.	Identify the measure of an angle given the image of a protractor correctly overlaid. Prioritized focus: right-facing angles, angle vertices on 0, angle increments of 5 or 10 degrees.

		Performance Level Descriptors			
Common Core Standard	**Essence Statement**	**Well Below**	**Approaches**	**Meets**	**Exceeds**
CCSS.MATH.CONTENT.4.MD.C.7 Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts. Solve addition and subtraction problems to find unknown angles on a diagram in real-world and mathematical problems, i.e., by using an equation with a symbol for the unknown angle measure.	Solve problems involving angle addition.	Find the total length of a line segment containing three points on the same line segment with the distances between each consecutive pair of points provided. Suggested Scaffolds: visual and/or real-world context,	Find the missing distance on a line segment when given the total line segment length and the distance between two of three labeled points. Suggested scaffolds: visual and/or real-world context.	Solve problems involving the sum of two angle measures. Prioritized focus: angle sums within 180 degrees.	Solve problems involving the addition or subtraction of two (or more) angle measures. Prioritized focus: angle sums within 180 degrees.
CCSS.MATH.CONTENT.4.G.A.1 Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.	Identify features of two-dimensional figures such as points (vertices), angles, right angles, line segments, and parallel and perpendicular lines.	Identify a point or a line.	Identify a line, line segment, ray, or angle.	Identify right angles, and/or parallel and perpendicular line segments in a two-dimensional figure. Suggested scaffold: geometric notation for a right angle showing a square in the corner of the shape.	Identify right, acute, obtuse angles, points, or lines segments in a two-dimensional figure.
CCSS.MATH.CONTENT.4.G.A.2 Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a specified size. Recognize right triangles as a category, and identify right triangles.	Identify parallel and perpendicular lines.	Identify lines.	Identify parallel lines.	Identify pairs of parallel or perpendicular lines.	Identify pairs of parallel or perpendicular sides in shapes.
CCSS.MATH.CONTENT.4.G.A.3 Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts. Identify line-symmetric figures and draw lines of symmetry.	Identify lines of symmetry.	Identify the missing half image, given a half image of a circle, triangle, or heart, and a vertical line of symmetry.	Identify the missing half image, given a half image of a symmetrical object, and a vertical or horizontal line of symmetry.	Identify a correctly drawn line of symmetry for a rectangle or square. Prioritized focus: horizontal or vertical lines rather than diagonals lines through the vertices.	Identify a correctly drawn line of symmetry for a shape. Prioritized focus: horizontal or vertical lines rather than diagonals lines through the vertices.

GRADE 5
MATHEMATICS

		GRADE 5 MATHEMATICS			
		Performance Level Descriptors			
Common Core Standard	**Essence Statement**	**Well Below**	**Approaches**	**Meets**	**Exceeds**
CCSS.Math.Content.5.OA.A.1 Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.	Evaluate numerical expressions using grouping symbols (only parentheses).	Add pictorial expressions. Sum should also be represented as pictures.	Add pictorial expressions with parentheses. Sum should also be represented as pictures.	Evaluate addition and subtraction expressions using parentheses.	Evaluate expressions using parentheses. Prioritized focus: no more than three terms.
CCSS.Math.Content.5.OA.A.2 Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them. For example, express the calculation “add 8 and 7, then multiply by 2” as 2 × (8 + 7). Recognize that 3 × (18932 + 921) is three times as large as 18932 + 921, without having to calculate the indicated sum or product.	Match simple verbal expressions to numerical expressions and operations.	Identify the operation symbols or numerical expression that matches the verbal description of a one-step addition problem. Prioritized focus: verbal descriptions of addition as 'sum', 'add to', and 'plus'.	Identify the operation symbols or numerical expression that matches the verbal description of a one-step subtraction problem. Prioritized focus: verbal descriptions of subtraction as 'difference', 'subtract' ' and 'minus'.	Identify the operation symbol or numerical expression that matches the verbal description of a one-step multiplication problem. Prioritized focus: verbal descriptions of multiplication as 'product', 'multiplied by', and 'times'.	Identify the operation symbols or numerical expression that matches the verbal description of a one-step division problem. Prioritized focus: verbal descriptions of division as 'quotient' or 'divided by'.
CCSS.Math.Content.5.OA.B.3 Generate two numerical patterns using two given rules. Identify apparent relationships between corresponding terms. Form ordered pairs consisting of corresponding terms from the two patterns, and graph the ordered pairs on a coordinate plane. For example, given the rule “add 3” and the starting number 0, and given the rule “add 6” and the starting number 0, generate terms in the resulting sequences, and observe that the terms in one sequence are twice the corresponding terms in the other sequence. Explain informally why this is so.	Identify the next term of the sequence(s) when given one or two number sequences.	Identify the next number(s) in a given sequence. Identify the next number(s) when given a rule and a start number.	Identify the rule when given a sequence.	Identify the next term of each sequence when given two sequences.	Create an ordered pair when given two number sequences.
CCSS.Math.Content.5.NBT.A.1 Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and 1/10 of what it represents in the place to its left.	Understand place value involving multi-digit numbers (for digits to the left and right of a given digit).	Identify the digit in the ones, tens, or hundreds place.	Identify the digit in the tenths or hundredths place.	Identify the number that is ten times greater than a given a number. Prioritized focus: numbers with no more than three-digits.	Identify the number that is one-tenth the value of a given a number that is a multiple of 10. Prioritized focus: numbers with no more than four-digits.

		Performance Level Descriptors			
Common Core Standard	**Essence Statement**	**Well Below**	**Approaches**	**Meets**	**Exceeds**
CCSS.Math.Content.5.NBT.A.2 (W) Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10.	Identify patterns found when multiplying a number by 10^1, 10^2, and 10^3 or 10, 100, or 1,000.	Identify simple number patterns.	Identify patterns or find products that result from multiplying numbers (1-5) by 10. Suggested scaffold: concrete materials or visuals with dimes.	Identify patterns or find products that result from multiplying numbers (1-9) by 10^1, 10^2, and 10^3 or 10, 100, or 1000.	Identify patterns or find products that result from multiplying two-digit numbers by 10^1, 10^2, and 10^3 or 10, 100, or 1000.
CCSS.Math.Content.5.NBT.A.3a Read and write decimals to thousandths using base 10 numerals, number names, and expanded form (e.g., 347.392 = 3 × 100 + 4 × 10 + 7 × 1 + 3 × (1/10) + 9 × (1/100) + 2 × (1/1000)).	Match number names to decimal numbers. Match whole numbers to numbers written in expanded form.	Match number names to numbers. Prioritized focus: numbers with no more than three digits.	Match number names to decimal numbers. Limit to four digits, including tenths.	Match number names to decimal numbers (limit to five digits, including hundredths). Write whole numbers in expanded form (limit to three digits including hundredths).	Match number names to decimal numbers (limit to six digits, including hundredths). Write whole numbers in expanded form (limit to four digits, including hundredths).
CCSS.Math.Content.5.NBT.A.3b (W) Compare two decimals to thousandths based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.	Compare decimals using symbols, >, =, <, or words. Suggested scaffolds: visual model or money context.	Compare two whole numbers using symbols or words. Prioritized focus: one- or two-digit numbers. Suggested scaffold: visual model or concrete materials (coins).	Compare two whole numbers using symbols or words. Prioritized focus: two or three-digit numbers. Suggested scaffold: visual model or concrete materials (coins).	Compare two decimal numbers (limit to tenths) using symbols or words. Prioritized focus: two or three-digit numbers. Suggested scaffold: visual model or concrete materials (coins).	Compare two decimal numbers (limit to hundredths) using symbols or words. Prioritized focus: three- or four-digit numbers. Suggested scaffold: visual model or money context.
CCSS.Math.Content.5.NBT.A.4 (W) Use place value understanding to round decimals to any place.	Round decimals to the nearest whole number.	Round whole numbers. Suggested scaffold: number line model.	Use a number line to place a decimal to the tenths place and/or determine if the decimal is closer to zero or one.	Round decimals to tenths to the nearest whole number. Suggested scaffold: number line model.	Round decimals to hundredths to the nearest whole number. Suggested scaffold: money context ; e.g., a person needs $4 to buy something that is $3.69.
CCSS.Math.Content.5.NBT.B.5 Fluently multiply multi-digit whole numbers using the standard algorithm.	Multiply a two- or three-digit whole number by a one-digit whole number.	Multiply a one-digit whole number by 10.	Multiply a one-digit whole number by 100 or a two-digit whole number by 10 or 100.	Multiply a two- or three-digit whole number by a one-digit whole number.	Multiply a two-digit whole number by a two-digit whole number.
CCSS.Math.Content.5.NBT.B.6 Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.	Divide multi-digit whole numbers using any strategy.	Divide a two-digit whole number by a whole number with no remainder. Suggested scaffolds: concrete materials, visuals or real-world context. Prioritized focus on numbers up to 25 with divisors 2 or 5.	Divide a two-digit whole number by a whole number with no remainder. Suggested scaffolds: concrete materials, visuals or real-world context. Prioritized focus on numbers up to 50 with divisors: 2, 5, and 10.	Divide a two-digit whole number by a whole number with no remainder. Suggested scaffolds: concrete materials, visuals or real-world context. Prioritized focus on numbers up to 100 with divisors: 2, 4, 5, and 10.	Divide a two-digit whole number by a whole number with no remainder. Prioritized focus on numbers up to 100 with divisors: 2, 4, 5, and 10.

		Performance Level Descriptors			
Common Core Standard	**Essence Statement**	**Well Below**	**Approaches**	**Meets**	**Exceeds**
CCSS.Math.Content.5.NBT.B.7 Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.	Add and subtract decimals. Prioritized focus: money sums or differences (i.e., perform calculations with money).	Find decimal sum or money sum. Suggested scaffolds: coins, calculator, or visuals.	Find decimal difference or money difference. Suggested scaffolds: coins, cash register, calculator, or visuals.	Add and subtract decimal numbers. Prioritized focus: money sums or differences. Suggested scaffolds: coins, cash register, calculator, or visuals.	Multiply coin denominations or dollar and cent amounts. Prioritized focus: dollar, dime or nickel increments multiplied by a whole number. Suggested scaffolds: coins, cash register, calculator, or visuals.
CCSS.Math.Content.5.NF.A.1 Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. For example, 2/3 + 5/4 = 8/12 + 15/12 = 23/12. (In general, a/b + c/d = (ad + bc)/bd.)	Add and subtract fractions with unlike denominators. Suggested scaffolds: concrete objects (pattern blocks/fraction bars/circles) and visuals.	Identify fractions with like and unlike denominators. Suggested scaffolds: concrete objects (pattern blocks/fraction bars/circles) and visuals.	Identify the common denominator of two fractions with unlike denominators. Prioritized focus: denominators of 2, 3, 4, 6, and 8. Suggested scaffolds: concrete objects (pattern blocks/fraction bars/circles) and visuals.	Add and subtract fractions with unlike denominators. Prioritized focus: denominators of 2, 3, 4, 6, and 8. Suggested scaffolds: concrete objects (pattern blocks/fraction bars/circles) and visuals.	Add and subtract fractions with unlike denominators. Prioritized focus: denominators of 2, 3, 4, 5, 6, 8, and 10.
CCSS.Math.Content.5.NF.A.2 (W) Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators (i.e., by using visual fraction models or equations to represent the problem). Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers. For example, recognize an incorrect result 2/5 + 1/2 = 3/7, by observing that 3/7 < 1/2.	Solve addition or subtraction word problems involving fractions. Suggested scaffolds: concrete objects (fraction bars/circles) and visuals.	Solve addition word problems involving unit fractions with like denominators Prioritized focus: denominators of 2, 3, and 4. Suggested scaffolds: concrete objects (fraction bars/circles) and visuals.	Solve addition and subtraction word problems involving non-unit fractions with like denominators. Prioritized focus: denominators of 2, 3, and 4. Suggested scaffolds: concrete objects (fraction bars/circles) and visuals.	Solve addition or subtraction word problems involving unit fractions with unlike denominators. Prioritized focus: denominators: 2, 3, 4, 6, and 8. Suggested scaffolds: concrete objects (fraction bars/circles) and visuals.	Solve addition or subtraction word problems involving fractions. Suggested scaffold: expression.

		Performance Level Descriptors			
Common Core Standard	**Essence Statement**	**Well Below**	**Approaches**	**Meets**	**Exceeds**
CCSS.Math.Content.5.NF.B.3 Interpret a fraction as division of the numerator by the denominator (a/b = a ÷ b). Solve word problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers (e.g., by using visual fraction models or equations to represent the problem). For example, interpret 3/4 as the result of dividing 3 by 4, noting that 3/4 multiplied by 4 equals 3, and that when 3 wholes are shared equally among 4 people, each person has a share of size 3/4. If 9 people want to share a 50-pound sack of rice equally by weight, how many pounds of rice should each person get? Between what two whole numbers does your answer lie?	Match a division story that results in a fraction answer to a division representation, expression, or equation.	Match a division story that results in a whole number answer to a division representation or expression. Prioritized focus: division within 20. Suggested scaffolds: concrete objects and visuals.	Match a division story that results in a unit fraction answer to a division representation. Prioritized focus: division expressions, 1 ÷ 2, 1 ÷ 3, or 1 ÷ 4 matched to fraction models showing 1/2, 1/3, or 1/4. For example, “Bob has 1 pizza. The pizza is divided in two. Which picture shows Bob's pizza?”	Match a division story that results in a unit fraction answer to a division expression or equation. Prioritized focus: division expressions, 1 ÷ 2, 1 ÷ 3, or 1 ÷ 4.	Match a division story that results in a non-unit fraction answer to a division representation, expression, or equation. For example, “three pizzas are shared by four people” matched to an area model visual showing three circles divided into four parts with four color-coded people each receiving three quarters or 3 ÷ 4 = ¾.
CCSS.Math.Content.5.NF.B.4 Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction.	Multiply a unit-fraction by a whole number.	Add two unit fractions with like denominators. Suggested scaffolds: concrete objects (fraction bars/circles) and visuals.	Add unit fractions with like denominators.	Multiply a unit-fraction by a whole number. Prioritized focus: multiply by the numbers 1-4. Suggested scaffold: visual model or real-world context.	Multiply a unit-fraction by a whole number.
CCSS.Math.Content.5.NF.B.4b Find the area of a rectangle with fractional side lengths by tiling it with unit squares of the appropriate unit fraction side lengths, and show that the area is the same as would be found by multiplying the side lengths. Multiply fractional side lengths to find areas of rectangles, and represent fraction products as rectangular areas.	Find the area of a rectangle with fractional side lengths by tiling.	Find the area of a tiled rectangle with whole number side lengths.	Find the area of a tiled rectangle where one side is a fractional length and the other side is an even whole number length. Prioritized focus: fractional side length of ½ unit.	Find the area of a tiled rectangle where one side is a fractional length and the other side is a whole number length. Prioritized focus: fractional side length of ½ unit or mixed numbers with a fractional part of ½ unit.	Find the area of a tiled rectangle where one side is a fractional or mixed number length and the other side is a whole number length that is a multiple of the fractional side length’s denominator.

		GRADE 5 MATHEMATICS			
		Performance Level Descriptors			
Common Core Standard	Essence Statement	Well Below	Approaches	Meets	Exceeds
CCSS.Math.Content.5.NF.B.6 Solve real-world problems involving multiplication of fractions and mixed numbers, for example, by using visual fraction models or equations to represent the problem.	Identify expressions that match real-world contexts that require multiplying a fraction by a whole number.	Identify a mixed number shown in a model. Prioritized focus: one-half, one-third, or one-quarter.	Identify a mixed number shown in a model. Prioritized focus: non-unit fractions with a denominator of 2, 3, and 4.	Identify expressions that match real-world contexts that require multiplying a unit fraction by a whole number. For example, a 1/4 mile X 4-person relay race or doubling/tripling a recipe which calls for 1/2 cup or 1/3 cup ingredient measures.	Identify expressions that match real-world contexts that require multiplying a mixed number that is made of a whole number and unit fraction by a whole number (whole number must be equivalent to the unit fraction's denominator). For example, doubling or tripling a recipe which calls for 1 1/2 cup or 1 1/3 cup ingredient measures.
CCSS.Math.Content.5.NF.B.7 Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions.	Solve problems involving dividing whole numbers by a unit fraction. Prioritized focus: whole numbers to 1-4. Suggested scaffolds: visual model and/or real-world context.	Identify the number of halves, thirds, or quarters shown in a visual area model of 2/3, 3/3, or 4/4.	Solve problems involving dividing one by a unit fraction. Prioritized focus: unit fractions with denominators of 2, 3, and 4. Suggested scaffolds: visual model and/or real-world context.	Solve problems involving dividing whole numbers by a unit fraction. Prioritized focus: whole numbers to 1-4, and unit fractions with denominators of 2, 3, and 4. Suggested scaffolds: visual model and/or real-world context. For example, given an area model, ask how many 1/4 pie slices are inside two whole pies?	Solve problems involving dividing unit fractions by a whole number. Prioritized focus: unit fractions with denominators of 2, 3, and 4, and whole numbers, 2, 3, and 4. Suggested scaffolds: visual model and/or real-world context.
CCSS.Math.Content.5.MD.A.1 Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real-world problems.	Use measurement conversions to solve real world problems.	Identify measurements that are related and can be converted from one to another (e.g., hr<->min<->sec, yds<->ft<->in, km<->m<->cm).	Identify measurement equivalents: 1 hour = 60 min; 1 foot = 12 inches; 1 meter = 100 cm.	Convert measurements from a larger to a smaller unit within a single system of measurement (i.e., hr.-> min., ft.-> in., qt.-> cups, m-> cm). Suggested scaffold: table with unit conversion shown,	Convert measurements within a single system of measurement (i.e., hr.<-> min., ft.<->in., qt.<->cups, m<->cm). Suggested scaffold: table with unit conversion shown,

		Performance Level Descriptors			
Common Core Standard	**Essence Statement**	**Well Below**	**Approaches**	**Meets**	**Exceeds**
CCSS.Math.Content.5.MD.B.2 Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Use operations on fractions for this grade to solve problems involving information presented in line plots. For example, given different measurements of liquid in identical beakers, find the amount of liquid each beaker would contain if the total amount in all the beakers were redistributed equally.	Solve one-step addition or subtraction measurement problems involving line plots with fractions.	Identify the line plot that shows given data. Prioritized focus: whole numbers.	Solve one-step addition or subtraction measurement problems by using information presented in a line plot. Prioritized focus: whole numbers.	Solve one-step addition or subtraction measurement problems by using information presented in a line plot. Prioritized focus: whole numbers and halves.	Solve one-step addition or subtraction measurement problems by using information presented in a line plot. Prioritized focus: whole numbers, halves, and fourths.
CCSS.Math.Content.5.MD.C.4 Measure volume by counting unit cubes, using cubic cm, cubic in, cubic ft., and improvised units.	Measure volume by counting unit cubes.	Distinguish between a line segment, a square, and a cube.	Recognize that square units are the units of measure for area. Find the area by counting unit squares.	Recognize a cubic unit as the unit of measure for volume. Find volume by counting unit cubes.	Identify the units of measure for length, area, and volume, as linear distance, square units, or cubic units.
CCSS.Math.Content.5.MD.C.5a Find the volume of a right rectangular prism with whole-number side lengths by packing it with unit cubes, and show that the volume is the same as would be found by multiplying the edge lengths, equivalently by multiplying the height by the area of the base. Represent threefold whole-number products as volumes (i.e., to represent the associative property of multiplication).	Find the volume of right rectangular prisms with whole-number side-lengths by packing.	Identify the number of unit cubes that make up the base of the rectangular prism, given a visual.	Identify rectangular prisms with the same base area, given a visual. Suggested scaffolds: concrete materials or grid paper.	Find the volume of a rectangular prism that is packed with unit cubes. Prioritized focus: volumes of 12 cubic units or less.	Identify the rectangular prism with the same volume, given a rectangular prism with unit cubes shown.
CCSS.Math.Content.5.MD.C.5b Apply the formulas V = l × w × h and V = b × h for rectangular prisms to find volumes of right rectangular prisms with whole-number edge lengths in the context of solving real-world and mathematical problems.	Understand the volume formulas for rectangular prisms.	Find the area of a rectangle. Suggested scaffolds: tiled interior, visual model.	Find the area of the base of a rectangular prism or cube. Suggested scaffolds: visual model, formula for area.	Match visuals of rectangular prisms to the correct *l* X *w* X *h* formula. Prioritized focus: volumes of 12 units or less.	Apply *l* X *w* X *h* or *Base Area* X *h* formula for rectangular prisms to find volume.
CCSS.Math.Content.5.MD.C.5c Recognize volume as additive. Find volumes of solid figures composed of two non-overlapping right rectangular prisms by adding the volumes of the non-overlapping parts, applying this technique to solve real-world problems.	Find the total volume of two rectangular prisms (non-overlapping).	Find the area of a given rectilinear shape. Prioritized focus: areas less than or equal to 25. Suggested scaffolds: visual model and/or formula for area.	Calculate the total area of two given rectilinear shapes. Prioritized focus: areas less than or equal to 25. Suggested scaffolds: visual model and/or formula for area.	Find the total volume, when given the volume of two rectangular prisms or cubes. Suggested scaffolds: visual model and/or formula for volume.	Find the total volume, when given the volume of one rectangular prism and the labeled dimensions for a second rectangular prism. Suggested scaffolds: visual model and/or formula for volume.

		GRADE 5 MATHEMATICS			
		Performance Level Descriptors			
Common Core Standard	Essence Statement	Well Below	Approaches	Meets	Exceeds
CCSS.Math.Content.5.G.A.1 Use a pair of perpendicular number lines, called axes, to define a coordinate system, with the intersection of the lines (the origin) arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates. Understand that the first number indicates how far to travel from the origin in the direction of one axis, and the second number indicates how far to travel in the direction of the second axis, with the convention that the names of the two axes and the coordinates correspond (e.g., x-axis and x-coordinate, y-axis and y-coordinate).	Understand the coordinate plane.	Identify a number line.	Identify the x- and y-axes.	Find the origin, and x- and y- axes, given a coordinate plane.	Identify a point in the first quadrant, given a coordinate plane.
CCSS.Math.Content.5.G.A.2 Represent real-world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation.	Identify the coordinates of a point plotted in the first quadrant.	Identify a point on a horizontal or vertical number line.	Identify the x or y coordinates of a point plotted in the first quadrant.	Identify the coordinates of a point plotted in the first quadrant.	Identify or plot a set of points in the first quadrant.
CCSS.Math.Content.5.G.B.3 Understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category. For example, all rectangles have four right angles, and squares are rectangles, so all squares have four right angles.	Understand categories and subcategories of two-dimensional shapes.	Group shapes by the number of sides or the number of angles.	Identify shapes that have parallel sides, perpendicular sides, or right angle(s).	Group shapes by the presence/absence of parallel sides, perpendicular sides, or right angle. Find the shape that is different from the other shape(s) in the set.	Group shapes by two or more attributes.
CCSS.Math.Content.5.G.B.4 Classify two-dimensional figures in a hierarchy based on properties.	Classify two-dimensional shapes based on their properties.	Distinguish triangles from quadrilaterals.	Identify different types of quadrilaterals.	Classify two-dimensional figures based on the properties of their sides or angles. Prioritized focus on quadrilaterals.	Classify two-dimensional figures based on the properties of their sides or angles. Prioritized focus on triangles and quadrilaterals.

GRADE 6
MATHEMATICS

		GRADE 6 MATHEMATICS			
		Performance Level Descriptors			
Common Core Standard	**Essence Statement**	**Well Below**	**Approaches**	**Meets**	**Exceeds**
CCSS.Math.Content.6.RP.A.1 Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. For example, "The ratio of wings to beaks in the bird house at the zoo was 2:1, because for every 2 wings there was 1 beak." "For every vote candidate A received, candidate C received nearly three votes."	Identify or describe ratios within a context. Suggested scaffolds: objects or visuals.	Identify the number of objects in a group, including the object label. Suggested scaffolds: objects or visuals. Match a description to a visual display of objects using ratio language. Prioritized focus: one set of no more than five objects.	Identify the number of objects in two groups (e.g., 1 apple, 3 bananas). Suggested scaffolds: objects or visuals. Match a description to a visual display of two sets of objects using ratio language. Prioritized focus: no more than 8 total objects displayed.	Identify the ratio that matches the given picture or description. Suggested scaffolds: objects/visuals to illustrate. Prioritized focus: numbers up to 10. Match a visually presented ratio with its description.	Explain the context of a ratio when relating to a real-world situation.
CCSS.Math.Content.6.RP.A.3a Make tables of equivalent ratios relating quantities with whole-number measurements, find missing values in the tables, and plot the pairs of values on the coordinate plane. Use tables to compare ratios.	Identify missing values in ratio tables.	Identify a ratio. Suggested scaffolds: concrete objects, visuals, or real-world context.	Determine the ratio between two quantities. Prioritized focus: whole numbers up to 20.	Identify one missing value in a table of equivalent ratios in context. Prioritized focus: whole numbers up to 20.	Identify two missing values in a table of equivalent ratios in context. Prioritized focus: whole numbers.
CCSS.Math.Content.6.RP.A.3b (W) Solve unit rate problems including those involving unit pricing and constant speed. For example, if it took 7 hours to mow 4 lawns, then at that rate, how many lawns could be mowed in 35 hours? At what rate were lawns being mowed?	Identify the unit rate in context.	Identify a rate. Suggested scaffolds: concrete objects, visuals, or real-world context.	Identify a unit rate. Suggested scaffolds: concrete objects, visuals, or real-world context.	Identify a unit rate in context. Prioritized focus: Ratio of one to a whole number. Suggested scaffolds: concrete objects, visuals, or real-world context.	Solve a unit rate problem in context.
CCSS.Math.Content.6.RP.A.3c Find a percent of a quantity as a rate per 100 (i.e., 30% of a quantity means 30/100 times the quantity); solve problems involving finding the whole, given a part and the percent.	Represent fractions as percentages.	Recognize a percent. Suggested scaffolds: concrete objects, visuals, or real-world context.	Recognize percent means out of 100. Suggested scaffolds: concrete objects, visuals, or real-world context.	Represent a fraction as a percent and vice versa. Prioritized focus: fractions out of 100.	Find a given percent of a whole. Prioritized focus: the whole equals 20, 50, or 100 and the benchmark percentages of 10%, 20%, and 50% are applied; e.g., find 10% of 50.
CCSS.Math.Content.6.RP.A.3d (W) Use ratio reasoning to convert measurement units; manipulate and transform units appropriately when multiplying or dividing quantities.	Use ratios to convert measurement units.	Identify measurements (e.g., hr., min., sec., ft., in., qt., cups, m, cm, kg, g).	Identify measurement equivalents: 1 hour = 60 min.; 1 min = 60 sec.; 1 foot = 12 in.; 1 m = 100 cm; 1 qt. = 3 cups; 1 kg = 1,000 g).	Convert measurements from a larger to a smaller unit within a single system of measurement (i.e., hr.-> min., min-> seconds, ft.->in., qt.->cups, m->cm, kg -> g). Suggested scaffold: unit conversion provided.	Convert measurements within a single system of measurement (i.e., hr.<-> min., min<-> seconds, ft.<->in., qt.<->cups, m<->cm, kg <-> g). Suggested scaffold: unit conversion provided.

		Performance Level Descriptors			
Common Core Standard	**Essence Statement**	**Well Below**	**Approaches**	**Meets**	**Exceeds**
CCSS.Math.Content.6.NS.A.1 Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions (i.e., by using visual fraction models and equations to represent the problem). For example, create a story context for 2/3 ÷ 3/4 and use a visual fraction model to show the quotient; use the relationship between multiplication and division to explain that 2/3 ÷ 3/4 = 8/9 because 3/4 of 8/9 is 2/3. (In general, a/b ÷ c/d = ad/bc.) How much chocolate will each person get if 3 people share 1/2 lb. of chocolate equally? How many 3/4-cup servings are in 2/3 of a cup of yogurt? How wide is a rectangular strip of land with length 3/4 mi and area 1/2 sq. mi?	Solve problems involving dividing a whole number by a unit fraction. Suggested scaffolds: concrete objects, visuals or real-world context.	Add and subtract unit fractions with like denominators. Prioritized focus: denominators 2–4. Suggested scaffolds: concrete objects, visuals or real-world context.	Divide one whole by a unit fraction. Prioritized focus: denominators 2–4. Suggested scaffolds: concrete objects, visuals or real-world context.	Divide whole numbers by unit fractions. Prioritized focus: denominators 2–4. Suggested scaffolds: concrete objects, visuals or real-world context.	Divide non-unit fractions by unit fractions. For example, "When cooking, how many ¼ cup measures are inside a ¾ cup measuring cup? How many fourths are inside three-fourths?" Match to 3/4 ÷ 1/4 = 3. Prioritized focus: fractions with like denominators and denominators from 2–4. Suggested scaffolds: concrete objects, visuals or real-world context.
CCSS.Math.Content.6.NS.B.2 Fluently divide multi-digit numbers using the standard algorithm.	Divide multi-digit numbers by numbers 1-10.	Use visual models or manipulatives to divide sets of objects into equal groups.	Divide two-digit numbers by numbers 1 – 10 without remainders (limit quotient to single-digit).	Divide three-digit numbers by numbers 1 – 10 (without remainders).	Divide three-digit numbers by numbers 1-10 (with remainders).
CCSS.Math.Content.6.NS.B.3 (W) Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation.	Add, subtract, and multiply decimals.	Add decimal values associated with coins; e.g., 0.01, 0.05, 0.10, and 0.25. Suggested scaffolds: concrete objects (money), cash register, calculator, real-world context.	Add or subtract numbers with decimals up to the hundredths place. Suggested scaffolds: concrete objects (money), cash register, calculator, real-world context.	Multiply a decimal number by a whole number. Prioritized focus: money values that are an increment of .05 , .10, and .25 and whole numbers 2, 3, 4, 5, and 10. Suggested scaffolds: concrete objects (money), cash register, calculator, real-world context.	Add, subtract, multiply, or divide decimals up to the hundredths place. Suggested scaffolds: concrete objects (money), cash register, calculator, real-world context.
CCSS.Math.Content.6.NS.B.4 Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12. Use the distributive property to express a sum of two whole numbers 1-100 with a common factor as a multiple of a sum of two whole numbers with no common factor. For example, express 36 + 8 as 4 (9 + 2).	Identify a common factor or the least common multiple of two whole numbers.	Identify a factor pair for a single-digit number.	Identify a factor pair for a number. Prioritized focus: whole numbers, 1–24.	Identify a common factor for two whole numbers. Prioritized focus: whole numbers to 1–24 or the least common multiple of even whole numbers within 10.	Identify common factors of two whole numbers. Prioritized focus: whole numbers to 1–50 or the least common multiple of whole numbers 2–5, and 10.

		Performance Level Descriptors			
Common Core Standard	**Essence Statement**	**Well Below**	**Approaches**	**Meets**	**Exceeds**
CCSS.Math.Content.6.NS.C.6 Understand a rational number as a point on the number line. Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative number coordinates.	Represent integers in a coordinate plane.	Identify the location of the origin on a coordinate plane.	Identify the coordinates of a point plotted in the first quadrant.	Identify the coordinates of a point plotted in any of the four quadrants.	Identify the quadrant that a given point lies within.
CCSS.Math.Content.6.NS.C.7b (W) Write, interpret, and explain statements of order for rational numbers in real-world contexts. For example, write -3 ˚C > -7 ˚C to express the fact that -3 ˚C is warmer than -7 ˚C.	Order integers from least to greatest or greatest to least.	Compare two whole numbers. Prioritized focus: real-world context. Suggested scaffold: number line model.	Order whole numbers from least to greatest or greatest to least. Prioritized focus: real-world context. Suggested scaffold: number line model.	Order integers from least to greatest or greatest to least (limit to +/- 3). Prioritized focus: real-world context. Suggested scaffold: number line model.	Interpret statements of order for integers in real-world contexts (for example, -3 degrees is warmer than -7 degrees).
CCSS.Math.Content.6.NS.C.7c Understand the absolute value of a rational number as its distance from 0 on the number line; interpret absolute value as magnitude for a positive or negative quantity in a real-world situation. For example, for an account balance of -30 dollars, write |-30| = 30 to describe the size of the debt in dollars.	Understand that the absolute value of a number is its distance from 0. Suggested scaffold: number line model.	Identify which whole number on a number line is at a given distance from 0.	Identify which two integers on a number line are at a given distance from 0. Prioritized focus integers from + 5 to -5.	Recognize that a negative integer, *-n*, is located *n* units from zero; i.e., -5 is five units away from or five units below zero.	Represent or match the absolute value of a given number to a real-world context, number line representation as distance from zero, or symbolic representation such as |-3| = 3.
CCSS.Math.Content.6.NS.C.8 Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate.	Find the distance between integer points using a number line.	Find the distance between whole number points using a number line. Prioritized focus: whole numbers within 10.	Locate a negative integer or find the distance between a negative integer and zero using a number line. Prioritized focus: integers from +10 to -10.	Find the distance between opposite integers using a number line. Prioritized focus paired integers from + 5 to -5.	Find the distance between a negative and a positive integer using a number line. Prioritized focus integers from + 5 to -5. Find the distance between two negative integers using a number line. Prioritized focus: integers from -1 to -10.
CCSS.Math.Content.6.EE.A.1 Write and evaluate numerical expressions involving whole-number exponents.	Evaluate numerical expressions involving exponents.	Identify the exponent in a numerical expression.	Evaluate numerical expressions involving exponents. Prioritized focus: base 10 and exponents 2 and 3.	Evaluate numerical expressions involving exponents. Prioritized focus: whole number bases 1-5 and 10, and exponents 2 and 3.	Evaluate numerical expressions involving whole-number exponents. Prioritized focus: two-step evaluations.

		GRADE 6 MATHEMATICS			
		Performance Level Descriptors			
Common Core Standard	**Essence Statement**	**Well Below**	**Approaches**	**Meets**	**Exceeds**
CCSS.Math.Content.6.EE.A.2a Write expressions that record operations with numbers and with letters standing for numbers. For example, express the calculation, “Subtract y from 5” as 5 - y.	Translate verbal phrases into algebraic expressions.	Translate verbal phrases into one-step numerical expressions.	Identify the variable in a given one-step algebraic expression.	Translate verbal phrases into one-step algebraic expressions with any of the four operations.	Translate verbal phrases into two-step algebraic expressions with any of the four operations. Prioritized focus: expressions with one variable.
CCSS.Math.Content.6.EE.A.2b Identify parts of an expression using mathematical terms (sum, term, product, factor, quotient, coefficient); view one or more parts of an expression as a single entity. For example, describe the expression 2 (8 + 7) as a product of two factors; view (8 + 7) as both a single entity and a sum of two terms.	Identify the parts of an expression in mathematical terms.	Identify the parts of an expression in mathematical terms: sum or difference. Suggested scaffolds: concrete objects, visuals, or symbols.	Identify the parts of an expression in mathematical terms: sum, difference, product, term, and variable. Suggested scaffolds: concrete objects, visuals, or symbols.	Identify the parts of an expression in mathematical terms: sum, difference, product, factor, quotient, and variable. Prioritized focus: single variable expressions with one operation.	Identify the parts of an expression in mathematical terms: sum, difference, product, factor, quotient, coefficient, term, and variable. Prioritized focus: single variable expressions with two operations.
CCSS.Math.Content.6.EE.A.2c Evaluate expressions at specific values of their variables. Include expressions that arise from formulas used in real-world problems. Perform arithmetic operations, including those involving whole-number exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations). For example, use the formulas $V = s^3$ and $A = 6 s^2$ to find the volume and surface area of a cube with sides of length s = 1/2.	Evaluate algebraic expressions involving formulas used in real-world problems.	Find the missing addend in a numerical equation. Prioritized focus: sums within 10.	Identify the variable in a given two-step algebraic expression (e.g., y is the variable in 2y + 3).	Evaluate algebraic expressions. Prioritized focus: The formulas: area of a rectangle (A = bh) and volume of a rectangular prism (V= lwh) and single-digit whole numbers. Suggested scaffolds: visuals, real-world context, or formula.	Evaluate algebraic expressions. Prioritized focus: The formulas: area of a triangle (A = 1/2 bh), perimeter of a rectangle (P = 2l + 2w), or area of a square ($A = s^2$) and whole numbers 1-5 and 10. Suggested scaffolds: visuals, real-world context, or formula.
CCSS.Math.Content.6.EE.A.3 Apply the properties of operations to generate equivalent expressions. For example, apply the distributive property to the expression 3 (2 + x) to produce the equivalent expression 6 + 3x; apply the distributive property to the expression 24x + 18y to produce the equivalent expression 6 (4x + 3y); apply properties of operations to y + y + y to produce the equivalent expression 3y.	Apply the commutative, associative, and/or the distributive properties of addition and/or multiplication to generate equivalent expressions.	Apply the commutative or associative properties of addition to generate or model equivalent expressions. Suggested scaffolds: visuals, real-world context, or formula.	Apply the associative or commutative properties of addition or multiplication to generate or model equivalent expressions. Suggested scaffolds: visuals, real-world context, or formula.	Apply the associative/ commutative properties of addition/ multiplication and distributive property of multiplication to generate equivalent expressions. Suggested scaffolds: visuals, real-world context, or formula.	Apply the associative or commutative properties of addition/multiplication and distributive property of multiplication to generate equivalent expressions.

		GRADE 6 MATHEMATICS			
		Performance Level Descriptors			
Common Core Standard	Essence Statement	Well Below	Approaches	Meets	Exceeds
CCSS.Math.Content.6.EE.B.5 Understand solving an equation or inequality as a process of answering a question: Which values from a specified set, if any, make the equation or inequality true? Use substitution to determine whether a given number in a specified set makes an equation or inequality true.	Solve an equation that contains a variable. Use substitution to determine whether a given number makes an equation or inequality true.	Find the sum for an equation that contains a variable. Compare whole numbers using >,<, or =. Suggested scaffolds: manipulatives, drawings, words or symbols.	Find the sum or difference for an equation that contains a variable. Compare whole numbers using >,<, or =. Suggested scaffolds: manipulatives, drawings, words or symbols.	Substitute a given number into an equation or inequality and determine if the statement is true. Prioritized focus: one-step algebraic equations and zero-step inequalities that have more than one solution; e.g., x > 4.	Substitute a given number into an equation or inequality and determine if the statement is true.
CCSS.Math.Content.6.G.A.1 Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems.	Find the area of right triangles and quadrilaterals.	Identify the shapes that any parallelogram or trapezoid could be composed of (show lines drawn in each to display the triangles or rectangles within).	Find the area of a rectangle or square.	Find the area of a right triangle. Suggested scaffold: visual presentation showing the triangle as a shaded portion of a rectangular frame. Prioritized focus: dimensions that yield an even whole number product for the rectangle's area.	Find the area of decomposed parallelograms and right trapezoids.
CCSS.Math.Content.6.G.A.2 Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths, and show that the volume is the same as would be found by multiplying the edge lengths of the prism. Apply the formulas V = l w h and V = b h to find volumes of right rectangular prisms with fractional edge lengths in the context of solving real-world and mathematical problems.	Find the volume of a right rectangular prism.	Find the area of the base of a rectangular prism or cube.	Find the volume of a cube-filled rectangular prism. Suggested scaffold: labeled visual.	Find the volume of a rectangular prism. Prioritized focus: whole number side lengths. Suggested scaffolds: labeled visual, context, or formula, V = lwh.	Find the volume of a rectangular prism. Prioritized focus: prisms with one fractional edge length of 1/2, 1/3, or 1/4 unit paired with second edge length that is a multiple of the denominator and third edge length of 1, 2, or 10 units.
CCSS.Math.Content.6.G.A.3 Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to find the length of a side joining points with the same first coordinate or the same second coordinate. Apply these techniques in the context of solving real-world and mathematical problems.	Find the side lengths for a rectangle shown on a coordinate plane.	Find the side lengths of a rectangle on a rectangular grid. Identify the coordinates for the endpoints of a line segment.	Find the length of a vertical or horizontal line segment on a coordinate plane or shown against a measuring device in which both ends of the object line up with non-zero whole numbers.	Find the side lengths of a rectangle on a coordinate plane. Prioritized focus: whole number coordinates.	Identify the vertical or horizontal distance between two locations, given a set of points that represent different locations on a map and /or a coordinate plane. Prioritized focus: whole number coordinates.

		Performance Level Descriptors			
Common Core Standard	**Essence Statement**	**Well Below**	**Approaches**	**Meets**	**Exceeds**
CCSS.Math.Content.6.G.A.4 Represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world and mathematical problems.	Identify a three-dimensional figure using its net (two-dimensional deconstructed representation of a three-dimensional figure).	Identify prisms, cubes, pyramids, and cylinders.	Identify the two-dimensional shape that forms the base of a three-dimensional figure.	Identify the net for a cube, triangular prism, or rectangular prism or vice versa.	Identify the net for a triangular prism or a rectangular (or square) pyramid or vice versa.
CCSS.Math.Content.6.SP.A.1 Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers. For example, “How old am I?” is not a statistical question, but “How old are the students in my school?” is a statistical question because one anticipates variability in students’ ages.	Identify a topic or question that may have been asked to produce a numeric data display (e.g, bar graph or dot plot).	Locate the title or labels for a numeric data display.	Identify the title, labels, or units for a numeric data display.	Identify a topic or question that may have been asked to obtain the data shown in a numeric data display.	Identify a statistical question.
CCSS.Math.Content.6.SP.A.2 Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center, spread, and overall shape.	Find the mode, range, or median of a given data set.	Find the mode of a given data set. Prioritized focus: ordered data set with no more than one mode.	Find the minimum, maximum, or range of a given data set.	Find the median of a given data set. Prioritized focus: ordered data set with either 3 or 5 data points.	Find the mean of a given data set. Prioritized focus: ordered data set with no more than 5 single-digit data points.
CCSS.Math.Content.6.SP.B.4 Display numerical data in plots on a number line, including dot plots, histograms, and box plots.	Match numeric data sets to numeric data displays.	Match a data set to a number line plot. Prioritized focus: plots with three data points.	Match a data set to a dot plot. Prioritized focus: plots with five data points.	Match a data set to a dot plot.	Match a data set to a histogram or box plot.
CCSS.Math.Content.6.SP.B.5 Summarize numerical data sets in relation to their context, such as by: a) reporting the number of observations, b) Describing the nature of the attribute under investigation, including how it was measured and its units of measurement, c) giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered, d) relating the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered.	Interpret a numeric data set within context.	Identify the appropriate unit of measure for a given real-world context.	Determine the number of observations in a given numeric data set. Prioritized focus: two data categories and single-digit number of observations.	Identify the appropriate unit of measure for a given real-world context and a numeric data set.	Determine range, mode, median or mean. for a given numeric data set. Suggested scaffold: real-world context.

GRADE 7
MATHEMATICS

		Grade 7 Mathematics			
		Performance Level Descriptors			
Common Core Standard	**Essence Statement**	**Well Below**	**Approaches**	**Meets**	**Exceeds**
CCSS.Math.Content.7.RP.A.1 Compute unit rates associated with ratios of fractions, including ratios of lengths, areas, and other quantities measured in like or different units. For example, if a person walks 1/2 mile in each 1/4 hour, compute the unit rate as the complex fraction 1/2/1/4 miles per hour, equivalently 2 miles per hour.	Use a ratio to describe a relationship or solve a problem.	Identify the unit rate in a problem. Prioritized focus: whole numbers. Suggested scaffolds: real-world context and/or visual.	Solve a unit rate problem. Prioritized focus: whole numbers. Suggested scaffolds: real-world context and/or visual.	Identify the ratio that matches a description or vice versa. Prioritized focus: the first ratio term is a fraction, the second ratio term is one. For example, If ¼ C oil is added for each cup of flour in a recipe, what is the ratio of oil to flour? ¼ : 1. Suggested scaffolds: real-world context and/or visual.	Use ratios to solve problems. Prioritized focus: like units with no more than one term provided as a fraction. For example, if a pie dough recipe calls for ⅛ C sugar for each batch of dough, how much sugar will you need for a double recipe?
CCSS.Math.Content.7.RP.A.2a Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin.	Determine if a proportional relationship exists between two quantities.	Recognize a proportional relationship between two quantities. Prioritized focus: whole number ratio terms. Suggested scaffolds: real-world context and/or visual.	Identify the proportional relationship between two quantities. Prioritized focus: whole number ratio terms. Suggested scaffolds: real-world context and/or visual.	Determine if a proportional relationship exists between two quantities. Prioritized focus: whole number ratio terms. Suggested scaffolds: table or graph.	Identify the missing value for a ratio pair displayed in a table or graph that shows a proportional relationship. Prioritized focus: proportion with number multiples ≤ 10. Suggested scaffolds: ratio table or graph containing the unit rate value.
CCSS.Math.Content.7.RP.A.2b Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships.	Identify. recognize, or match a unit rate to a table, graph, or context.	Recognize a unit rate. Suggested scaffolds: real-world context and/or visual.	Identify or match the unit rate to a table or context.	Identify or match a unit rate to a graph.	Identify or match a unit rate to an equation. Suggested scaffolds: real-world context. For example, $E=7h$ represents how much money someone earns if they work h hours and are paid $7 per hour. What is the unit rate of pay?

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Common Core Standard	**Essence Statement**	**Well Below**	**Approaches**	**Meets**	**Exceeds**
CCSS.Math.Content.7.RP.A.3 (W) Use proportional relationships to solve multistep ratio and percent problems. Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, and percent error.	Solve problems involving ratios and percentages.	Recognize ratios or percentages. Suggested scaffolds: concrete objects or visuals.	Identify ratios or percentages. Suggested scaffolds: concrete objects or visuals.	Solve problems involving ratios and percentages. Prioritized focus: ratios of 1 to 2, 3, 4, 5, and 10 and percentages of 10% and 50%. Suggested scaffolds: real-world context (10% or 50% off) or visuals.	Solve problems involving ratios and percentages. Prioritized focus: ratios of 1 to the numbers 1-10 and percentages of 10%, 20%, 25% and 50%. Suggested scaffolds: real-world context (10% or 20% tip) or visuals.
CCSS.Math.Content.7.NS.A.1 Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram.	Identify the point that represents the sum or difference of two integers.	Identify integer or integer location on a number line. Prioritized focus: integers from +3 to - 3. Suggested scaffolds: real-world context or visuals.	Identify the point that represents the sum. Prioritized focus: second addend is a positive integer. Suggested scaffolds: number line, real-world context, or expression.	Identify the point that represents the difference. Prioritized focus: minuend is a positive integer. Suggested scaffolds: number line, real-world context, or expression.	Identify the point that represents the sum or difference. Prioritized focus: integers from +5 to - 5. Suggested scaffolds: number line, real-world context, or expression.
CCSS.Math.Content.7.NS.A.1b Understand p + q as the number located a distance |q| from p, in the positive or negative direction depending on whether q is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world contexts.	Understand that a number and its opposite have a sum of 0.	Identify integer distance from zero. Prioritized focus: integers from +3 to - 3.	Identify the location of the integer that is at an equal distance from zero as its opposite. Prioritized focus: integers from +3 to - 3. Suggested scaffold: number line.	Identify the missing integer that creates a sum of zero when paired with its opposite; e.g., -5 + __ = 0. Prioritized focus: integers from +5 to - 5. Suggested scaffold: concrete objects (algebra tiles) or number line.	Identify the missing integer that creates a sum of zero when paired with its opposite; e.g., -7 + __ = 0.
CCSS.Math.Content.7.NS.A.2 Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers.	Multiply and divide rational numbers.	Multiply a whole number by a unit fraction. Suggested scaffold: real-world context, concrete objects, or visuals. Prioritized focus: denominators to 2-5.	Divide a whole number by a unit fraction. Suggested scaffolds: real-world context, concrete objects, or visuals. Prioritized focus: denominators to 2-5.	Divide a unit fraction by a whole number. Suggested scaffolds: real-world context, concrete objects, or visuals. For example, 1/2 ÷ 4 = 1/8.	Divide a non-unit fraction by a unit fraction. Prioritized focus: fractions with like denominators. Suggested scaffolds: real-world context, concrete objects, or visuals. Prioritized focus: fractions with like denominators. For example, 3/4 ÷ 1/4

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Common Core Standard	**Essence Statement**	**Well Below**	**Approaches**	**Meets**	**Exceeds**
CCSS.Math.Content.7.NS.A.2c Apply properties of operations as strategies to multiply and divide rational numbers.	Recognize equivalent expressions for fraction multiplication based upon the commutative property of multiplication.	Recognize equivalent expressions for addition or multiplication based upon the commutative property of addition or multiplication; e.g., 3 + 2 = 2 + 3 or 4 X 5 = 5 X 4.	Recognize equivalent expressions for fraction addition based upon the commutative property of addition; e.g., 3 + 1/2 = 1/2 + 3 or 1/3 + 2/3 = 2/3 + 1/3.	Recognize equivalent expressions for fraction multiplication based upon the commutative property of multiplication; e.g., 2 x 1/2 = 1/2 x 2 or 1/2 x 1/4 = 1/4 x 1/2.	Solve multiplication or division problems involving positive fractions. Prioritized focus: halves, thirds, fifths, and tenths.
CCSS.Math.Content.7.NS.A.2d Convert a rational number to a decimal using long division; know that the decimal form of a rational number terminates in 0s or eventually repeats.	Convert a rational number to a decimal or vice versa.	Match coin values of 0.01, 0.05, 0.10, and 0.25 to pennies, nickels, dimes, and quarters.	Identify the decimal equivalents for 1/100, 1/10, 1/4, and 1/2 (calculator allowed).	Convert a rational number to a decimal or vice versa (calculator allowed). Prioritized focus: fractions with denominators of 2, 4, 5, 10, and 100.	Convert a rational number to a decimal or vice versa(calculator allowed). Prioritized focus: non-repeating decimals.
CCSS.Math.Content.7.EE.A.1 Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.	Add and subtract like terms.	Add symbolic expressions; e.g., combining visuals as “like terms” - square, square, square, triangle, triangle = 3 square + 2 triangle or combining constants. Suggested scaffolds: concrete objects or visuals.	Identify like terms. Prioritized focus: one variable, two-term expressions with whole-number coefficients greater than 1.	Add and subtract like terms. Prioritized focus: one variable with whole-number coefficients and one operation. If subtraction, difference must be a positive number.	Add and subtract like terms. Limit to two variables, up to four term expressions with whole number coefficients and one operation. If subtraction, difference must be a positive number.

		GRADE 7 MATHEMATICS			
		Performance Level Descriptors			
Common Core Standard	**Essence Statement**	**Well Below**	**Approaches**	**Meets**	**Exceeds**
CCSS.Math.Content.7.EE.B.3 (W) Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. For example, if a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation.	Solve one- and two-step problems involving integers or positive rational numbers. Prioritized focus: decimal numbers. Suggested scaffolds: concrete objects, visuals (number line), or real-world context (money).	Solve one-step problems involving whole numbers or positive rational numbers. Prioritized focus: decimal numbers. Suggested scaffolds: concrete objects, visuals (number line), or real-world context (money).	Solve one-step problems involving integers or positive rational numbers. Prioritized focus: decimal numbers. Suggested scaffolds: concrete objects, visuals (number line), or real-world context (money).	Solve one or two-step problems involving integers or positive rational numbers. Prioritized focus: decimal numbers. Suggested scaffolds: concrete objects, visuals (number line), or real-world context (money).	Solve multi-step real-world problems involving integers or rational numbers. Prioritized focus: decimal numbers. Suggested scaffolds: concrete objects, visuals (number line), real-world context (money), or numeric expression/ equation.
CCSS.Math.Content.7.G.A.1 Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale.	Determine the scale ratio for two figures, given their side lengths.	Identify shapes that have the same angle measures or side lengths. Prioritized focus: triangles and quadrilaterals. Suggested scaffold: simplified vocabulary (do not use 'congruent').	Identify the triangle, rectangle, or square that is double, triple, or 10 times greater in size than a given triangle, rectangle, or square.	Determine the scale ratio for two figures, given their side lengths. Prioritized focus: triangles, rectangles, or squares, and side length ratios of 1:2, 1:3, 1:5, or 1:10. Suggested scaffold: figures have the same orientation.	Determine the side length for a scale figure given the scale ratio between two figures and the corresponding side lengths for one of the two figures. Prioritized focus: triangles, rectangles, or squares, and side length ratios of 1:2, 1:3, 1:5, or 1:10. Suggested scaffold: figures have the same orientation.

		Grade 7 Mathematics			
		Performance Level Descriptors			
Common Core Standard	**Essence Statement**	**Well Below**	**Approaches**	**Meets**	**Exceeds**
CCSS.Math.Content.7.G.A.2 Draw (freehand, with ruler and protractor, and with technology) geometric shapes with given conditions. Focus on constructing triangles from three measures of angles or sides, noticing when the conditions determine a unique triangle, more than one triangle, or no triangle.	Match polygons to a given set of conditions.	Recognize the difference between open and closed, 3-, 4-, and 5-sided, and regular and irregular two-dimensional figures by matching "like" figures or congruent shapes.	Sort regular polygons according to their features such as number of sides, angle measures, equal side lengths, and equal angle measures. Prioritized focus: triangles, rectangles, squares, or pentagons. Suggested scaffold: simplified vocabulary (do not use 'congruent').	Identify a square or rectangle on a grid that has the given conditions. For example, which square has side lengths of 5 units?	Identify a right triangle on a grid that has the given conditions. For example, which triangle has a 90-degree angle, a side length of 3 units, and a side length of 4 units?
CCSS.Math.Content.7.G.A.3 Describe the two-dimensional figures that result from slicing three-dimensional figures, as in plane sections of right rectangular prisms and right rectangular pyramids.	Identify the faces (lateral faces and bases) of prisms.	Identify the shape that forms the base of a cylinder (i.e., the circle).	Identify the shape that forms the base of a cube (i.e., the square).	Identify the shape of the lateral face or base of a prism. Prioritized focus: cube, square prism, rectangular prism, or triangular prism.	Identify the base of a square pyramid or triangular pyramid or two faces of a square prism or triangular prism.
CCSS.Math.Content.7.G.B.4 Know the formulas for the area and circumference of a circle and use them to solve problems; give an informal derivation of the relationship between the circumference and area of a circle.	Identify the expression that represents the circumference of a circle given its radius or diameter.	Identify the parts of a circle (i.e., center, diameter, radius, circumference). Suggested scaffold: visual.	Identify the length of the diameter, given the length of the radius. Suggested scaffold: labelled visual.	Identify the expression that represents the circumference of a circle given its diameter. Suggested scaffold: visual of a circle with labelled diameter and formula for circumference, $C = D\pi$.	Identify the expression that represents the circumference of a circle given its radius. Suggested scaffold: labelled visual showing circle's radius and formula for circumference, $C = 2\pi r$.
CCSS.Math.Content.7.G.B.5 Use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure.	Work with angle pairs and angle pair relationships. Recognize complementary and supplementary angles.	Identify a right angle or a straight angle. Suggested scaffolds: single angle or adjacent angle pair presentation.	Identify/recognize an angle that is adjacent ("next to") a given angle. Suggested scaffold: visual.	Recognize angle pairs that form 90˚/right/ complementary angle or 180˚/straight/ supplementary angle. Prioritized focus: angle measure multiples of 10 degrees. Suggested scaffold: visual.	Identify/recognize supplementary/complementary/vertical angle pairs. Given one angle measure, identify its complement or supplement. Prioritized focus: angle measure multiples of 5 or 10 degrees. Suggested scaffold: visual.

		Performance Level Descriptors			
Common Core Standard	**Essence Statement**	**Well Below**	**Approaches**	**Meets**	**Exceeds**
CCSS.Math.Content.7.G.B.6 Solve real-world and mathematical problems involving area, volume, and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.	Solve problems involving area and volume. Suggested scaffolds: real-world context or visual.	Find the area of a tiled interior space or the volume of a cube-filled rectangular prism. Prioritized focus: (for volume) volumes less than or equal to 12 cubic units. Suggested scaffolds: real-world context or visual.	Find the area of rectangles using unit squares, the area of right triangles shown as a shaded portion of a rectangular frame, or the volume of cube-filled rectangular prisms. Prioritized focus: (for volume) volumes less than or equal to 18 cubic units. Suggested scaffolds: real-world context or visual.	Find the area of squares, rectangles, and triangles, or the volume of cubes and rectangular prisms. Prioritized focus: (for volume) volumes less than or equal to 24 cubic units. Suggested scaffolds: real-world context or visual.	Solve problems involving area, volume, and surface area. Prioritized focus: triangles, rectangles, and rectangular prisms. Suggested scaffolds: real-world context or visual.
CCSS.Math.Content.7.SP.A.1 Understand that statistics can be used to gain information about a population by examining a sample of the population; generalizations about a population from a sample are valid only if the sample is representative of that population. Understand that random sampling tends to produce representative samples and support valid inferences.	Understand that a sample is a subset of a population.	Identify the population, given a statistical question.	Identify a representative sample of a given population.	Answer questions about a sample population, given a set of data.	Understand that random sampling tends to produce representative samples.
CCSS.Math.Content.7.SP.A.2 Use data from a random sample to draw inferences about a population with an unknown characteristic of interest. Generate multiple samples (or simulated samples) of the same size to gauge the variation in estimates or predictions. For example, estimate the mean word length of a book by randomly sampling words from the book; predict the winner of a school election based on randomly sampled survey data. Gauge how far off the estimate or prediction might be.	Answer questions about and interpret a given data set.	Identify the population, given a statistical question.	Identify if a given sample is representative of a population. For example, would a sample of girls represent the population of students in a typical classroom?	Answer questions about a given data set, including the identification of the matching data set.	Draw inferences about a population, given a set of data.

		Performance Level Descriptors			
Common Core Standard	**Essence Statement**	**Well Below**	**Approaches**	**Meets**	**Exceeds**
CCSS.Math.Content.7.SP.B.3 Informally assess the degree of visual overlap of two numerical data distributions with similar variabilities, measuring the difference between the centers by expressing it as a multiple of a measure of variability. For example, the mean height of players on the basketball team is 10 cm greater than the mean height of players on the soccer team, about twice the variability (mean absolute deviation) on either team. On a dot plot, the separation between the two distributions of heights is noticeable.	Compare measures of center, given a visually displayed data set.	Identify the mode of a data set. Suggested scaffolds: ordered data set, visual.	Identify the mode or median of a data set. Suggested scaffolds: ordered data set, visual.	Compare the mode or median of two data sets. Suggested scaffolds: ordered data set, visual.	Given two sets of data, make comparative inferences. Suggested scaffolds: ordered data set, visual.
CCSS.Math.Content.7.SP.B.4 Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations. For example, decide whether the words in a chapter of a seventh-grade science book are generally longer than the words in a chapter of a fourth-grade science book.	Use the numerical measures of center (mean, median, mode, and range) to compare populations.	Identify the mode of a data set. Suggested scaffolds: ordered data set, visual.	Identify the mode or median of a data set. Suggested scaffolds: ordered data set, visual.	Compare two sets of data using numerical measures of center. Suggested scaffolds: ordered data set, visual-single graph (e.g., dot plot, pictograph, bar graph).	Make comparative inferences given two sets of data. Suggested scaffolds: ordered data set, visual.
CCSS.Math.Content.7.SP.C.5 Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Larger numbers indicate greater likelihood. A probability near 0 indicates an unlikely event. A probability around 1/2 indicates an event that is neither unlikely nor likely, and a probability near 1 indicates a likely event.	Identify the likelihood of a simple event.	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.	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.	Identify the likelihood of an event (e.g. impossible, unlikely, 50-50, likely, certain).	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.
CCSS.Math.Content.7.SP.C.8 Find probabilities of compound events using organized lists, tables, tree diagrams, and simulation.	Identify the possible outcomes of a simple event.	Identify the likelihood of an event (e.g. impossible, unlikely, 50-50, likely, certain). Suggested scaffolds: graphic organizer, visual model, or context.	Identify the possible outcomes of a simple event. For example, rolling one die, tossing a coin, etc.	Identify the number of possible outcomes of a simple event. For example, rolling a die, tossing a coin, etc.	Determine the probability of a simple event. For example, rolling one die, tossing a coin, etc.

GRADE 8
MATHEMATICS

		GRADE 8 MATHEMATICS			
		Performance Level Descriptors			
Common Core Standard	**Essence Statement**	**Well Below**	**Approaches**	**Meets**	**Exceeds**
CCSS.Math.Content.8.F.A.1 Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output.	Determine if a relation is a function.	Plot points on a coordinate plane.	Identify the inputs and outputs of a relation represented as a set of ordered pairs or a table of values.	Determine whether a relation represented as a graph of a line or curve represents a function.	Determine whether a relation represented as a set of ordered pairs or a table of x- and y-values represents a function.
CCSS.Math.Content.8.F.A.2 Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). For example, given a linear function represented by a table of values and a linear function represented by an algebraic expression, determine which function has the greater rate of change.	Compare the rates of change of two different linear functions.	Identify or describe the rate of change for a linear function represented as a real-world context, equation, table or graph. Prioritized focus: linear functions of the form, y = mx.	Identify or describe the rates of change for two linear functions represented in the same way (i.e., two tables or two graphs). Prioritized focus: linear functions of the form, y = mx.	Compare the rates of change of two linear functions represented in the same way (i.e., two tables or two graphs). Prioritized focus: identical inputs and linear functions of the form, y = mx.	Compare two linear functions represented in different ways (as a table and a graph). Prioritized focus: linear functions of the form, y = mx.
CCSS.Math.Content.8.F.A.3 Interpret the equation y = mx + b as defining a linear function whose graph is a straight line. Give examples of functions that are not linear. For example, the function $A = s^2$ giving the area of a square as a function of its side length is not linear because its graph contains the points (1,1), (2,4), and (3,9), which are not on a straight line.	Identify linear or nonlinear functions. Suggested scaffolds: graph or equation.	Identify the images that show a line or a curve.	Determine if three points form a line. Prioritized focus: Ordered pairs in the first quadrant.	Identify if a graph represents linear or nonlinear function. Suggested scaffold: equation.	Identify if an equation represents a linear or nonlinear function. Prioritized focus: linear function of the form, y=mx and quadratics, $a = x^{2.}$
CCSS.Math.Content.8.F.B.4 Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two (x, y) values, including reading these from a table or graph. Interpret the rate of change and initial value of a linear function in terms of the situation it models, and in terms of its graph or a table of values.	Identify the rate of change of a linear function based on the context it models.	Identify the coordinates of the y-intercept (the point where the line intersects the y-axis), given the graph of a line.	Identify the topic, variable(s), and units of measure of a linear graph that is titled and labeled. Identify if the slope or rate of change for a linear graph is increasing, decreasing, or constant.	Identify or match the rate of change from a verbal description to a table or graph of the linear function. Prioritized focus: linear functions of the form, y=mx, where m = 0, 1, 2, 3, 5, 10.	Recognize the y-intercept for a linear function as the initial or start value within a context; e.g., 10x + 30 could represent a rate of $10/hour and 30 could represent $30 saved before starting to accumate pay.
CCSS.Math.Content.8.F.B.5 Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been described verbally.	Identify the relationship between two quantities of a linear function.	Identify the topic or variable(s) of a linear graph that is titled and labeled.	Identify the topic, variable(s), and units of measure of a linear graph that is titled and labeled.	Identify the relationship between two quantities shown graphed as a linear function: increasing, decreasing, or constant. Prioritized focus: quadrant I. Suggested scaffolds: real-world context.	Given a verbal context for a linear function, identify if the function described is increasing, decreasing, or constant.

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		Performance Level Descriptors			
Common Core Standard	Essence Statement	Well Below	Approaches	Meets	Exceeds
CCSS.Math.Content.8.NS.A.1 Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion. For rational numbers, show that the decimal expansion repeats eventually, and convert a decimal expansion which repeats eventually into a rational number.	Understand that all rational numbers can be expressed as a decimal.	Identify fractions that are tenths and hundredths.	Match tenths and hundredths between fraction and decimal forms.	Convert a rational number to a decimal. Prioritized focus: whole number outputs or decimal to tenths, hundredths, or thousandths. Suggested scaffold: calculator.	Convert a rational number to a decimal and round to the nearest whole, tenth, hundredth or thousandth. Suggested scaffold: calculator.
CCSS.Math.Content.8.NS.A.2 Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., π2). For example, by truncating the decimal expansion of √2, show that √2 is between 1 and 2, then between 1.4 and 1.5, and explain how to continue on to get better approximations.	Approximate the location of given irrational numbers on a number line.	Identify a number as rational or irrational.	Identify a decimal approximation for a given irrational number. Prioritized focus: π, √2, and √5. Suggested scaffold: number line has whole number tick marks or concrete materials.	Estimate the value or number line location of an irrational number. Prioritized focus: non-perfect square roots less than the √25; e.g.,√5 is between √4 and √9 or between the whole numbers 2 and 3. Suggested scaffold: number line has whole number tick marks or concrete materials.	Compare irrational numbers to given whole numbers. For example, pi is greater than 3. Suggested scaffold: number line has whole number tick marks or concrete materials.
CCSS.Math.Content.8.EE.A.1 Know and apply the properties of integer exponents to generate equivalent numerical expressions. For example, $3^2 \times 3^{-5} = 3^{-3} = 1/3^3 = 1/27$.	Understand that exponents represent repeated multiplication.	Identify exponents. For example, which expression has an exponent: 3x, 3+x, or x^3? Or, here is an expression: $2x^3$. What is the exponent? 2 or x or 3?	Match single-digit exponents to visual representation or expanded form. For example, $10^2 = 10$ X 10 grid or hundreds flat or $3^2 = 3 \times 3$. Prioritized focus: exponent of two or two terms.	Identify equivalent numerical expressions involving the product rule. Prioritized focus: exponents to positive single digits up to 4 and sum of powers to 7. For example, $3^4 \times 3^3 = 3 \times 3 \times 3 \times 3 \times 3 \times 3 \times 3 = 3^7$.	Identify equivalent numerical expressions involving the power rule. Prioritized focus: exponents to positive single digits up to 4. For example, $(3^4)^4 = 3^4 \times 3^4 \times 3^4 \times 3^4 = 3^{16}$.
CCSS.Math.Content.8.EE.A.2 Use square root and cube root symbols to represent solutions to equations of the form $x^2 = p$ and $x^3 = p$, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots of small perfect cubes. Know that √2 is irrational.	Work with perfect squares and use the square root function to undo squared values or unknowns.	Represent perfect squares. Prioritized focus: perfect squares to 25. Suggested scaffolds: concrete materials and visuals.	Find square roots of perfect squares. For example, √25 = 5. Prioritized focus: perfect squares to 25. Suggested scaffolds: concrete materials, visuals, and calculator.	Understand that squaring a square root results in the radicand (the number inside the radical.) For example, $(\sqrt{2})^2 = \sqrt{2} \times \sqrt{2} = 2$. Suggested scaffold: calculator.	Evaluate square roots of small perfect squares and cube roots of small perfect cubes. Prioritized focus: perfect cubes to 125. Suggested scaffold: calculator.

		GRADE 8 MATHEMATICS			
		Performance Level Descriptors			
Common Core Standard	Essence Statement	Well Below	Approaches	Meets	Exceeds
CCSS.Math.Content.8.EE.A.3 Use numbers expressed in the form of a single digit times an integer power of 10 to estimate very large or very small quantities, and to express how many times as much one is than the other. For example, estimate the population of the United States as 3 times 10^8 and the population of the world as 7 times 10^9, and determine that the world population is more than 20 times larger.	Compare numbers expressed in the form of a single digit times an integer power of 10. Prioritized focus: positive integers.	Compare single- or multi-digit numbers using symbols, <, >, = or words.	Compare powers of 10 with single-digit exponents (<, >, =).	Compare numbers expressed in the form of a single digit times an integer power of 10 (<, >, =). Prioritized focus: same base multiplied by different powers of ten.	Compare numbers expressed in the form of a single digit times an integer power of 10 (<, >,=) and/or interpret within context.
CCSS.Math.Content.8.EE.A.4 Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities (e.g., use millimeters per year for seafloor spreading). Interpret scientific notation that has been generated by technology.	Understand numbers expressed in scientific notation.	Identify the repeated multiplication equivalent of a power of 10 with single-digit exponent. For example, 10^3 = 10×10×10.	Identify the standard form conversion of a power of 10 with single-digit exponent. For example, 10^3 = 1,000.	Identify equivalent scientific notation and integer forms. For example, 6×10^3 = 6,000.	Identify conversion equivalent between scientific notation into integer form involving a decimal (e.g. 1.3×10^3 = 1,300). Prioritized focus: positive exponents and positive numbers.
CCSS.Math.Content.8.EE.B.5 Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways. For example, compare a distance-time graph to a distance-time equation to determine which of two moving objects has greater speed.	Represent and interpret proportional relationships.	Identify the x and y values in a table of values. Use a given unit rate to fill in missing values in a table showing a proportional relationship.	Identify the unit rate shown in a table or graph of a proportional relationship. Identify the table or graph that matches a proportional relationship. Prioritized focus: whole numbers and tables showing start value and unit rate.	Identify the slope (rate of change) given the graph of a line. Compare two different proportional relationships that are represented in the same way. Prioritized focus: compare two tables or compare two graphs.	Match or compare two proportional relationships that are represented in different ways. For example, when given a graph of a proportional relationship, identify the table that shows the same relationship.
CCSS.Math.Content.8.EE.B.6 Use similar triangles to explain why the slope m is the same between any two distinct points on a non-vertical line in the coordinate plane; derive the equation y = mx for a line through the origin and the equation y = mx + b for a line intercepting the vertical axis at b.	Identify the slope of a line shown in a graph or an equation in the form, y = mx.	Locate two points on the coordinate plane, given their coordinates.	Determine if the slope is positive, negative, or zero given the graph of a line. Prioritized focus: quadrant I graph.	Identify the slope of a line given the graph or equation. Prioritized focus: linear functions with slopes of 1, 2, 3, 5, or 10 and equations in the form, y = mx.	Identify the slope of a line given the graph or equation. Prioritized focus: linear equations of the form, y = mx.

		GRADE 8 MATHEMATICS			
		Performance Level Descriptors			
Common Core Standard	Essence Statement	Well Below	Approaches	Meets	Exceeds
CCSS.Math.Content.8.EE.C.7 Solve linear equations in one variable.	Solve linear equations in one variable.	Identify the variable in a one- step algebraic expression.	Evaluate a one-step algebraic expression using substitution. Prioritized focus: addition, subtraction, or multiplication.	Solve a one-step equation (e.g., y + 3 = 5). Prioritized focus: addition, subtraction, or multiplication equations.	Solve a two-step equation with one variable (e.g., 2y + 3 = 5). Prioritized focus: addition, subtraction, and/or multiplication.
CCSS.Math.Content.8.EE.C.7b Solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms.	Solve linear equations with rational number coefficients.	Identify the coefficient in a one-step algebraic equation.	Solve one-step equations with whole number coefficients. Prioritized focus: coefficients of 1 or 2.	Solve one-step equations with a coefficient of 1/2 (e.g., 1/2 x = 10).	Solve one-step equations with rational number coefficients. Prioritized focus: positive unit fractions with denominators of 2, 3, 4, 5 or 10; solutions must be within 100. For example, 1/4 x = 5, x = 20.
CCSS.Math.Content.8.EE.C.8a Understand that solutions to a system of two linear equations in two variables correspond to points of intersection of their graphs because points of intersection satisfy both equations simultaneously.	Given a graph, identify the solution (point of intersection) of a linear system.	Identify the coordinates of a point on a line.	Identify if a graph of a system of linear equations is intersecting or not intersecting.	Identify the point of intersection shown in a graph of a linear system.	Identify the solution of a system of linear equations given a graph. Prioritized focus: no solution or one solution system.
CCSS.Math.Content.8.G.A.1 Verify experimentally the properties of rotations, reflections, and translations.	Recognize that rigid transformations preserve distance and angle measures.	Match a given segment with another segment that has the same length or a given angle with another angle that has the same measure.	Identify if a turn, flip, or slide maps a line segment or angle onto another.	Identify the length of a line segment or angle measure after a rotation, reflection, or translation when given the side length or angle measure of the preimage.	Identify the length of a line segment graphed in the first quadrant after a rotation, reflection, or translation.
CCSS.Math.Content.8.G.A.2 Understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations. Given two congruent figures, describe a sequence that exhibits the congruence between them.	Identify the rigid transformation that maps one figure onto another.	Define the given rigid transformation; e.g., rotate = turn, reflection = flip, translation = slide.	Identify whether a rotation or reflection maps one familiar everyday object onto another.	Determine which single rigid transformation can be used to map one shape onto the other. Prioritized focus: congruent triangles, rectangles, or squares.	Determine which two rigid transformations can be used to map one shape onto the other. Prioritized focus: congruent triangles, rectangles, or squares.

		Performance Level Descriptors			
Common Core Standard	**Essence Statement**	**Well Below**	**Approaches**	**Meets**	**Exceeds**
CCSS.Math.Content.8.G.A.3 Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates.	Identify the type of transformation, line of reflection, or the location of an image after a reflection or translation in the coordinate plane. Prioritized focus for the preimage: point or line.	Identify the coordinates of a point in the first quadrant of the coordinate plane.	Identify whether the line of reflection is the x-axis or the y-axis, given a point or line segment preimage and its image on the coordinate plane.	Identify the image of a line segment after a reflection over the x- or y- axis or a single translation.	Identify the coordinates of a point after a reflection over the x- or y-axis or a single translation.
CCSS.Math.Content.8.G.A.4 Understand that a two-dimensional figure is similar to another if the second can be obtained from the first by a sequence of rotations, reflections, translations, and dilations. Given two similar two-dimensional figures, describe a sequence that exhibits the similarity between them.	Identify the image of a rectangle or square after a dilation.	Differentiate between congruent and non-congruent shapes.	Determine the line segment that is 2, 3, 4, 5, or 10 times the length of a line segment with a given length.	Determine the image of a rectangle or square after a dilation given its side lengths. Prioritized focus: constant of dilations of 2, 3, or 5X.	Identify the image of a rectangle or square on the coordinate plane after a dilation. Prioritized focus: constant of dilations of 2, 3, or 5X.
CCSS.Math.Content.8.G.A.5 Use informal arguments to establish facts about the angle sum and exterior angle of triangles, about the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles. For example, arrange three copies of the same triangle so that the sum of the three angles appears to form a line, and give an argument in terms of transversals why this is so.	Recognize that the sum of the angles in triangles is 180˚ and that vertical angles are congruent.	Identify if an angle pair is complementary or supplementary. Suggested scaffold: provide definition of complementary or supplementary or use the language square corner or line.	Given adjacent angles that are complementary and one of the angle measures, find the measure of the missing angle. Prioritized focus: angle measure multiples of 5 or 10 degrees.	Recognize that the sum of the angles in triangles is 180˚. Find the measure of an angle in a linear pair, given one of the angle measures. Find the measure of a vertical angle when provided with the measure of the angle opposite. Prioritized focus: (for linear angle pairs) angle measure multiples of 5 or 10 degrees.	Find the missing angle in a triangle, given the two other angle measures. Prioritized focus: angle measure multiples of 10.
CCSS.Math.Content.8.G.B.7 Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world and mathematical problems in two and three dimensions.	Apply the Pythagorean Theorem to determine unknown side lengths in right triangles.	Identify the right angle of a right triangle.	Identify the parts of a right triangle; e.g., right angle, legs, hypotenuse.	Identify the formula that shows correctly substituted leg and hypotenuse values when given a labeled diagram of a right triangle and the Pythagorean Theorem formula.	Find or identify the length of the hypotenuse when given the length of two legs of a right triangle. Prioritized focus: right triangles with side length measures of 3-4-5, 6-8-10, 9-12-15, and 5-12-13 units.

		GRADE 8 MATHEMATICS			
		Performance Level Descriptors			
Common Core Standard	Essence Statement	Well Below	Approaches	Meets	Exceeds
CCSS.Math.Content.8.G.B.8 Apply the Pythagorean Theorem to find the distance between two points in a coordinate system.	Find the length of each leg of a right triangle graphed on a coordinate plane.	Find the length of a vertical or horizontal line segment on a coordinate plane.	Find the distance on the coordinate plane between two points that share an x- or y-coordinate value. Prioritized focus: right triangle shown on the coordinate plane. Suggested scaffold: context.	Find the length of each leg of a right triangle shown on the coordinate plane. Prioritized focus: one leg of the triangle is parallel to the x-axis and the other leg of the triangle is parallel to the y-axis. Suggested scaffold: context.	Find the distance between two points on the coordinate plane that have different x and y coordinates. Prioritized focus: right triangles with side length measures of 3-4-5 and 6-8-10 units. Suggested scaffold: context.
CCSS.Math.Content.8.G.C.9 Know the formulas for the volumes of cones, cylinders, and spheres, and use them to solve real-world and mathematical problems.	Recognize the relationship between the volume of a cone and a cylinder that have the same height and base area.	Identify prisms, pyramids, cones, spheres, and cylinders.	Match cones and cylinders that have the same height.	Match cones and cylinders that have the same base area (in terms of pi).	Find the volume of a cylinder given the area of the base (in terms of pi) and the height. Prioritized focus: heights of 2, 5, and 10 units.
CCSS.Math.Content.8.SP.A.2 Know that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit by judging the closeness of the data points to the line.	Collect and display data on scatter plots, and recognize patterns observed on a scatter plot.	Identify a scatter plot. Given a scatter plot, identify associated vocabulary (e.g., outliers, clusters, linear trend, or association).	Describe the relationship between the quantities shown on a scatter plot (positive, negative, constant, or no association). Suggested scaffold: line of best fit.	Determine linear or nonlinear association, or outliers for a scatter plot.	Identify the line of best fit for a scatter plot.
CCSS.Math.Content.8.SP.A.3 Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept. For example, in a linear model for a biology experiment, interpret a slope of 1.5 cm/hr. as meaning that an additional hour of sunlight each day is associated with an additional 1.5 cm in mature plant height.	Interpret the slope and/or y-intercept of a linear model. Suggested scaffolds: graph or context.	Identify the unit rate (e.g., earnings of $8/hour). Suggested scaffolds: graph or context.	Identify the slope and y-intercept of a line given its graph. Prioritized focus: quadrant I and linear functions with a slope of 1, 2, 3, 5, and 10.	Interpret the slope of a graph that shows a linear function. Prioritized focus: linear functions with positive slopes. Suggested scaffolds: equation or context.	Interpret the slope and y-intercept of a graph that shows a linear function. Prioritized focus: linear functions with positive slopes. Suggested scaffolds: equation or context.

		GRADE 8 MATHEMATICS			
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Common Core Standard	Essence Statement	Well Below	Approaches	Meets	Exceeds
CCSS.Math.Content.8.SP.A.4 Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table. Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects. Use relative frequencies calculated for rows or columns to describe possible association between the two variables. For example, collect data from students in your class on whether or not they have a curfew on school nights and whether or not they have assigned chores at home. Is there evidence that those who have a curfew also tend to have chores?	Interpret a two-way frequency table.	Identify a specific value in a two-way frequency table.	Solve for a missing value in a two-way frequency table.	Interpret a two-way frequency table by identifying values in the table that describe the association between the two variables (in context).	Construct a two-way frequency table using a given data set.

HIGH SCHOOL MATHEMATICS

		High School Mathematics			
		Performance Level Descriptors			
Common Core Standard	**Essence Statement**	**Well Below**	**Approaches**	**Meets**	**Exceeds**
CCSS.Math.Content.HS.F.IF.A.1 Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. If f is a function and x is an element of its domain, then f(x) denotes the output of f corresponding to the input x. The graph of f is the graph of the equation y = f(x).	Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range.	Recognize the domain for a table of values or data set. Suggested scaffolds: define domain as input values or x-coordinates for ordered pairs.	Identify the domain or range shown as a table of values or a set of ordered pairs. Suggested scaffolds: define domain or range within item.	Identify the domain or range, given a table of values or a set of ordered pairs.	Determine if a function is represented, given a table of values or a graph. Complete a table of values so that a function is represented.
CCSS.Math.Content.HS.F.IF.A.2 Using function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context.	Evaluate functions.	Evaluate a one-step algebraic expression using substitution; e.g., find what x + 3 equals when x=2. Prioritized Focus: addition, subtraction, or multiplication.	Evaluate a two-step algebraic expression using substitution; e.g., find what 2x + 2 equals when x=3. Prioritized Focus: addition, subtraction, or multiplication.	Evaluate a one-step linear function; e.g., find what y equals when x=2 in the following equation: y=2x. Prioritized Focus: addition, subtraction, or multiplication equations.	Evaluate a two-step linear function; e.g., find what y equals when x=2 in the following equation: y=2x + 1. Prioritized Focus: addition, subtraction, or multiplication equations.
CCSS.Math.Content.HS.F.IF.B.4 (W) For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.	Interpret key features of a linear function that models the relationship between two quantities.	Identify the slope or the intercepts of a linear function.	Identify the graph of a linear function given its slope and y-intercept.	Identify if a linear function is increasing, decreasing, or constant. Suggested scaffold: graph or real-world context.	Interpret a given linear function based on its real-world context.
CCSS.Math.Content.HS.F.IF.B.5 Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. For example, if the function h(n) gives the number of person-hours it takes to assemble n engines in a factory, then the positive integers would be an appropriate domain for the function.	Identify the domain and range of a function.	Identify the domain, given a table of values or a set of coordinates. Suggested scaffolds: define domain as input values or x-coordinates for ordered pairs.	Identify the range, given a table of values. Suggested scaffolds: define range as output values or y-coordinates for ordered pairs.	Identify the domain or range, given a table of values or a graph.	Identify the domain within context, given a graph. Suggested scaffold: real world context; e.g., distance over time.
CCSS.Math.Content.HS.F.IF.B.6 (W) Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph.	Identify the rate of change of a linear function.	Identify the x values, given a table of values that represent a linear function.	Identify the y values, given a table of values that represent a linear function.	Identify the rate of change, given a table of values that represent a linear function.	Interpret the rate of change within context, given a table of values that represent a linear function. Suggested scaffold: real world context; e.g., earnings over time.

		High School Mathematics			
		Performance Level Descriptors			
Common Core Standard	**Essence Statement**	**Well Below**	**Approaches**	**Meets**	**Exceeds**
CCSS.Math.Content.HS.F.BF.A.2 Write arithmetic and geometric sequences both recursively and with an explicit formula; use them to model situations; and translate between the two forms.	Identify missing terms in arithmetic and geometric sequences.	Identify the next term(s) or a missing term in an ascending arithmetic sequence. Prioritized focus: positive whole numbers.	Identify the next term(s) in an descending arithmetic sequence. Prioritized focus: positive whole numbers.	Identify missing term(s) in an ascending or descending arithmetic sequence. Prioritized focus: positive whole numbers.	Identify missing term(s) in a geometric sequence. Prioritized focus: positive whole numbers.
CCSS.Math.Content.HS.F.LE.A.1 (W) Distinguish between situations that can be modeled with linear functions and with exponential functions.	Understand that linear functions increase at a constant rate.	Determine whether a set of points plotted in the coordinate plane or a graph of a function is linear.	Identify the rate of change given a table of values.	Determine whether a given table of values or graph has a constant rate of change.	Determine another x and y value, given a table of values that represents a function. (Terms do not have to be the next ordered pair in the set.)
CCSS.Math.Content.HS.F.LE.A.2 Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table).	Determine output values of a linear relationship given an input value.	Identify a point on a graph, given its coordinates.	Match a table to its equation. Prioritized focus: linear equations in the form of y = mx.	Determine an output value, given an input value and a linear relationship.	Create the equation of a line, given a table of values that represent a linear function.
CCSS.Math.Content.HS.F.LE.B.5 Interpret the parameters in a linear or exponential function in terms of a context.	Interpret a linear function.	Identify the slope and y-intercept of a linear function given its graph.	Identify the slope and y-intercept of a linear function given its equation.	Identify what the slope and y-intercept of a linear function represent, given its equation within context.	Identify the linear equation that represents the given context.
CCSS.Math.Content.HS.G.CO.A.1 (W) Know precise definitions of angle, circle, perpendicular line, parallel line, and line segment, based on the undefined notions of point, line, distance along a line, and distance around a circular arc.	Identify geometric terms based upon descriptions.	Identify pairs of perpendicular and parallel lines, lines, line segments, and angles. Suggested scaffold: visual.	Identify the parts of a circle (e.g., radius, diameter, center). Suggested scaffold: visual.	Determine if a term is a line, line segment, or angle, given a description. Determine if a pair of lines or line segments are parallel or perpendicular, given a description.	Identify the correct geometric notation for a line, line segment, or angle.
CCSS.Math.Content.HS.G.CO.A.3 Given a rectangle, parallelogram, trapezoid, or regular polygon, describe the rotations and reflections that carry it onto itself.	Identify whether a rectangle, parallelogram, or regular polygon has been rotated or reflected.	Identify a rotation. Prioritized focus: familiar everyday objects.	Identify a reflection. Prioritized focus: familiar everyday objects.	Identify whether a rectangle, parallelogram, trapezoid, or regular polygon has been rotated or reflected.	Identify whether a rectangle, parallelogram, trapezoid, or regular polygon on a coordinate plane has been rotated (90 or 180 degrees) or reflected across the x- or y-axis.

		HIGH SCHOOL MATHEMATICS			
		Performance Level Descriptors			
Common Core Standard	**Essence Statement**	**Well Below**	**Approaches**	**Meets**	**Exceeds**
CCSS.Math.Content.HS.G.CO.B.6 (W) Use geometric descriptions of rigid motions to transform figures and to predict the effect of a given rigid motion on a given figure; given two figures, use the definition of congruence in terms of rigid motions to decide if they are congruent.	Identify congruent figures.	Identify congruent line segments after a rigid transformation.	Identify congruent triangles after a rigid transformation.	Identify congruent quadrilaterals after a rigid transformation.	Identify congruent polygons after a rigid transformation.
CCSS.Math.Content.HS.G.CO.C.9 Prove theorems about lines and angles. Theorems include: vertical angles are congruent; when a transversal crosses parallel lines, alternate interior angles are congruent and corresponding angles are congruent; points on a perpendicular bisector of a line segment are exactly those equidistant from the segment's endpoints.	Solve problems involving theorems about lines and angles.	Find the measure of the supplement or complement of an angle.	Identify which angles are congruent or which angles are supplementary given a pair of intersecting lines that form vertical angles.	Find the measure of vertical angles and adjacent angles formed by intersecting lines when given one angle measure.	Find the measure of alternate interior or corresponding angles. Suggested Scaffold: visual showing a pair of parallel lines cut by a transversal.
CCSS.Math.Content.HS.G.CO.C.10 Prove theorems about triangles. Theorems include: measures of interior angles of a triangle sum to 180°; 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.	Solve problems involving triangle theorems.	Determine if a triangle is isosceles, equilateral, scalene, acute, right, and/or obtuse.	Find the measure of the third angle when given two angles of a triangle.	Find the base or vertex angle measures of an isosceles triangle. Prioritized focus: provide only one base angle when finding the vertex angle.	Find the angle measures of a triangle, given the algebraic expression for those angles.
CCSS.Math.Content.HS.G.CO.C.11 Prove theorems about parallelograms. Theorems include: Opposite sides are congruent, opposite angles are congruent, the diagonals of a parallelogram bisect each other, and conversely, rectangles are parallelograms with congruent diagonals.	Solve problems involving parallelogram theorems.	Identify which quadrilaterals are parallelograms.	Identify opposite sides and/or opposite angles within a parallelogram.	Identify the side length of a parallelogram, given the length of the opposite side. Identify the angle measure of a parallelogram, given the measure of the opposite angle.	Find the measures of all angles in a parallelogram, given one angle measure. Find the lengths of all sides of a parallelogram, given the perimeter and the length of one side.
CCSS.Math.Content.HS.G.SRT.B.5 Use congruence and similarity criteria for triangles to solve problems and to prove relationships in geometric figures.	Understand the relationship found between congruent triangles and between similar triangles.	Identify shapes that have the same number of sides or angles.	Identify congruent triangles.	Determine if two triangles are similar, congruent, or neither.	Determine the missing side lengths and/or angle measures of a congruent or similar rectangle. Prioritized focus: (for side length) constant of dilation X 2 and give dimensions of the smaller rectangle.

		HIGH SCHOOL MATHEMATICS			
		Performance Level Descriptors			
Common Core Standard	**Essence Statement**	**Well Below**	**Approaches**	**Meets**	**Exceeds**
CCSS.Math.Content.HS.G.C.A.2 Identify and describe relationships among inscribed angles, radii, and chords. Include the relationship between central, inscribed, and circumscribed angles (inscribed angles on a diameter are right angles; the radius of a circle is perpendicular to the tangent where the radius intersects the circle).	Understand relationships among central angles, radii, and chords and use them to solve problems.	Identify the radius, diameter, or center of the circle.	Identify the diameter of a circle when given the radius. Identify the radius of a circle when given the diameter.	Identify the measure of a central angle or its intercepted arc.	Identify the measure of an inscribed angle or its intercepted arc.
CCSS.Math.Content.HS.G.GPE.B.5 Prove the slope criteria for parallel and perpendicular lines and use them to solve geometric problems (e.g., find the equation of a line parallel or perpendicular to a given line that passes through a given point).	Understand that the slope of a line can indicate whether two lines are parallel or perpendicular.	Identify slope, given the graph of two parallel lines and/or their equations.	Identify slope, given the graph of two perpendicular lines and/or their equations.	Identify slope of a line that is parallel or perpendicular to a given line provided the slope of one line.	Identify if two lines are parallel or perpendicular, given the equations of the lines in slope-intercept form.
CCSS.Math.Content.HS.G.GPE.B.7 (W) Use coordinates to compute perimeters of polygons and areas of triangles and rectangles (i.e., using the distance formula).	Find the area and perimeter of polygons on a coordinate plane.	Calculate the perimeter of a triangle or quadrilateral.	Calculate the area of right triangles and rectangles.	Find the area and perimeter of a rectangle on a coordinate plane in any quadrant.	Find the area and perimeter of a right triangle on a coordinate plane. Prioritized focus: first quadrant graph.
CCSS.Math.Content.HS.G.GMD.A.3 (W) Use volume formulas for cylinders, pyramids, cones, and spheres to solve problems.	Find the volume of three-dimensional figures.	Find the area of a circle (in terms of pi).	Find the volume of cubes and rectangular prisms.	Find the volume of cylinders (in terms of pi) given the area of the base.	Calculate the volume of cones and rectangular pyramids. For cones, the area of the base must be given and in terms of pi.
CCSS.Math.Content.HS.G.GMD.B.4 Identify the shapes of two-dimensional cross-sections of three-dimensional objects, and identify three-dimensional objects generated by rotations of two-dimensional objects.	Relate two-dimensional figures to three-dimensional figures.	Identify two-dimensional figures.	Identify the polygon faces that make up a rectangular prism, triangular prism, or pyramid.	Identify the cross section of a rectangular prism.	Identify the cross section of triangular prisms or cylinders.
CCSS.Math.Content.HS.G.MG.A.1 Use geometric shapes, their measures, and their properties to describe objects (e.g., modeling a tree trunk or a human torso as a cylinder).	Describe objects in the real world using geometric terminology.	Identify simple 2-D shapes.	Compare real-life objects to simple 2-D shapes.	Apply properties of two-dimensional figures to describe real-life objects.	Apply properties of 3-D figures to describe real-life objects.
CCSS.Math.Content.HS.A.SSE.A.1a Interpret parts of an expression, such as terms, factors, and coefficients.	Understand and recognize the parts of an algebraic expression.	Identify a variable or the number of terms in an expression.	Identify the coefficient of a variable expression.	Interpret the coefficient in an expression.	Identify an algebraic expression that represents a real-world problem. Prioritized focus: one arithmetic operation.

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		Performance Level Descriptors			
Common Core Standard	**Essence Statement**	**Well Below**	**Approaches**	**Meets**	**Exceeds**
CCSS.Math.Content.HS.A.SSE.A.2 Use the structure of an expression to identify ways to rewrite it. For example, see $x^4 - y^4$ as $(x^2)^2 - (y^2)^2$, thus recognizing it as a difference of squares that can be factored as $(x^2 - y^2)(x^2 + y^2)$.	Interpret the structure of an algebraic expression.	Expand algebraic terms expressed in exponential form. Prioritized focus: no coefficients and exponent of 2.	Expand algebraic terms expressed in exponential form. Prioritized focus: no coefficients and exponent of 3.	Identify equivalent exponential expressions by applying the product rule. For example, which expression is equivalent to x^8? $(x^3)(x^5)$	Identify equivalent exponential expressions by applying the power rule. For example, which expression is equivalent to x^8? $(x^4)^2$?
CCSS.Math.Content.HS.A.SSE.B.3 Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression.	Identify equivalent expressions involving the properties of operations.	Match equivalent expressions. Prioritized focus: commutative property. For example, $2 \times 3 = 3 \times 2$.	Match equivalent expressions. Prioritized focus: associative property. For example, $(2 \times 3) \times 5 = 2 \times (3 \times 5)$.	Identify equivalent expressions. Prioritized focus: distributive property. For example, $5 (2 \times 3) = (5 \times 2) + (5 \times 3)$.	Match given examples of equivalent expressions using factoring. Prioritized focus: distributive property. For example, which shows the factored form of $6x + 18$? $6(x + 3)$
CCSS.Math.Content.HS.A.APR.A.1 Understand that polynomials form a system analogous to the integers, namely, they are closed under the operations of addition, subtraction, and multiplication; add, subtract, and multiply polynomials.	Add, subtract, and multiply polynomial expressions.	Combine like terms. Prioritized focus: terms with one variable. For example, $x + x = 2x$ or $x + 5 + 3 = x + 8$.	Combine like terms. Prioritized focus: terms with two variables. For example, $2x + 3y + y = 2x + 4y$.	Add, subtract, and multiply polynomials with integer coefficients. Prioritized focus: linear functions or two term polynomials. Multiplication would only involve expressions involving the distributive property. For example, $3(x + 5)$.	Add and subtract polynomials with integer coefficients. Prioritized focus: polynomials with 3 terms.
CCSS.Math.Content.HS.A.CED.A.1 (W) Create equations and inequalities in one variable and use them to solve problems. Include equations arising from linear and quadratic functions, and simple rational and exponential functions.	Use linear equations and inequalities to solve problems. Suggested scaffolds: real-world problems involving start value/fixed cost and unit rate; e.g., $10 savings + earnings of $10/hour = amount of money.	Solve one-step equations with one variable (addition/subtraction). Prioritized focus: whole numbers within 20.	Solve one-step equations with one variable (multiplication). Prioritized focus: whole numbers within 100.	Solve one-step equations or inequalities with one variable. Identify one-step, one-variable equations that match real-world contexts. Prioritized focus: decimal numbers within 100.	Solve multi-step equations or inequalities with one variable. Identify a one-step one-variable inequality or two-step, one-variable equation that matches a real-world context.
CCSS.Math.Content.HS.A.CED.A.2 Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.	Represent linear equations graphically.	Identify the coordinates of a given point in the first quadrant.	Identify the coordinates of a given point on a coordinate plane (any quadrant).	Identify the linear equation represented by a graph (where the y-intercept is the origin).	Identify the linear equation represented by a graph (where the y-intercept is not the origin).

		HIGH SCHOOL MATHEMATICS			
		Performance Level Descriptors			
Common Core Standard	**Essence Statement**	**Well Below**	**Approaches**	**Meets**	**Exceeds**
CCSS.Math.Content.HS.A.CED.A.3 (W) Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or nonviable options in a modeling context. For example, represent inequalities describing nutritional and cost constraints on combinations of different foods.	Identify viable solutions for a system of linear inequalities.	Identify a solution for a linear equation given its graph on a coordinate plane.	Identify a viable solution for a linear inequality given its graph on a coordinate plane within context.	Identify a viable solution for a linear inequality within context.	Identify a viable solution, within context, for a system of inequalities given their graphs on a coordinate plane.
CCSS.Math.Content.HS.A.REI.A.1 Explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify a solution method.	Identify a step that is needed to solve an addition, subtraction, or multiplication equation.	Identify the specific step needed to solve a one-step addition or subtraction equation.	Identify the specific step needed to solve a one-step addition, subtraction or multiplication equation.	Identify one of the specific steps needed to solve a two-step addition, subtraction or multiplication equation.	Identify all of the steps needed to solve a two-step addition, subtraction, or multiplication equation.
CCSS.Math.Content.HS.A.REI.B.3 Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.	Solve linear inequalities.	Match a simple inequality with its graph on a number line. Prioritized focus: $x > a$, $x < a$, $x \leq a$, $x \geq a$ where a is an integer between -10 and 10.	Solve one-step addition inequalities and identify the solution set on a number line.	Solve one-step addition or subtraction inequalities. For example, $x + 2 > 6$; what is one value of x makes the inequality true?	Solve linear inequalities with one variable.
CCSS.Math.Content.HS.A.REI.C.5 Prove that, given a system of two equations in two variables, replacing one equation by the sum of that equation and a multiple of the other produces a system with the same solutions.	Solve a system of linear equations algebraically.	Solve a one-step linear equation.	Solve a one-step linear equation for one variable in terms of another variable. For example, $x + y = 10$; solve for x. (The solution would be $x = 10 - y$). .	Solve a system of linear equations where one of the given equations is a constant. For example, $x = 3$ and $x + y = 10$. (The solution would include substituting 3 for x: $3 + y = 10$, $y = 7$; the solution would be the point (3, 7).	Solve a system of equations in two variables where one of the equations has an isolated variable. For example, $x + y = 12$ and $y = 5x$. (The solution would include substituting 5x for y: $x + (5x) = 12$, $6x = 12$, $x = 2$; the solution would be the point (2, 10).
CCSS.Math.Content.HS.A.REI.C.6 Solve systems of linear equations exactly and approximately (i.e., with graphs), focusing on pairs of linear equations in two variables.	Solve a system of linear equations graphically.	Identify the coordinates of a point.	Identify the graph of a linear equation.	Identify the coordinates of the solution to the system of linear equations given their graph.	Identify the meaning of the solution (the point of intersection), given the graph of two linear equations and a real-world context.

		HIGH SCHOOL MATHEMATICS			
		Performance Level Descriptors			
Common Core Standard	**Essence Statement**	**Well Below**	**Approaches**	**Meets**	**Exceeds**
CCSS.Math.Content.HS.A.REI.D.10 (W) Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line).	Understand that the solutions to a linear equation are the points that form its graph.	Identify the coordinates of a point plotted in the first quadrant.	Identify the coordinates of a point on a line, given the graph of a linear equation.	Identify which set of ordered pairs is a solution to a linear equation shown graphically.	Recognize that more than one solution exists for a linear equation shown graphically. Prioritized focus: linear inequalities that have a y-intercept of zero.
CCSS.Math.Content.HS.A.REI.D.12 Graph the solutions to a linear inequality in two variables as a half-plane (excluding the boundary in the case of a strict inequality), and graph the solution set to a system of linear inequalities in two variables as the intersection of the corresponding half-planes.	Represent the solution of a linear inequality on a coordinate plane.	Identify a value that would be a solution for a one variable inequality.	Identify the number line that represents the solution set for a one variable inequality.	Identify a solution to a one-step linear inequality that is graphed on a coordinate plane.	Identify the graph for a one-step linear inequality shown on the coordinate plane. Prioritized focus: linear inequalities that have a y-intercept of zero.
CCSS.Math.Content.HS.N.RN.A.1 Explain how the definition of the meaning of rational exponents follows from extending the properties of integer exponents to those values, allowing for a notation for radicals in terms of rational exponents. For example, we define $5^{1/3}$ to be the cube root of 5 because we want $(5^{1/3})^3 = 5^{(1/3)\wedge 3}$ to hold, so $(5^{1/3})^3$ must equal 5.	Expand algebraic expressions with exponents.	Identify exponents.	Identify equivalent numerical expressions. Prioritized focus: whole number exponents up to 2.	Expand an algebraic expression involving whole number exponents. Prioritized focus: up to double variable algebraic expressions and exponents up to 3.	Identify equivalent exponential expressions. Prioritized focus: exponent $\geq$ -2.
CCSS.Math.Content.HS.N.RN.A.2 Rewrite expressions involving radicals and rational exponents using the properties of exponents.	Simplify radical expressions.	Evaluate single-digit squares; e.g., simplify 3^2 as 9 or match 3^2 with the equivalent value, 9.	Evaluate single-digit squares and cubes; e.g., simplify 2^3 as 8 or match 2^3 with the equivalent value, 8.	Find square roots for perfect squares. Prioritized focus: square roots up to 100. Evaluate expressions that are squared or cubed.	Find cubic roots for perfect cubes. Prioritized focus: cubic roots up to 125. Evaluate expressions that contain a square root or cube root.
CCSS.Math.Content.HS.N.Q.A.2 Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.	Determine if a graph is correctly labeled.	Identify the x-axis and y-axis of a coordinate plane. Prioritized focus: quadrant one graph.	Match the given values for the tick marks of the x-axis and y-axis labels with their graph. Prioritized focus: quadrant one graph.	Identify the graph that correctly displays the labels of the x-axis, y-axis, or tick mark values for x- or y- axes, given a context.	Determine which set of numbers would be most appropriate to label the y-axis, given a context and a graph of a linear function.

		High School Mathematics			
		Performance Level Descriptors			
Common Core Standard	**Essence Statement**	**Well Below**	**Approaches**	**Meets**	**Exceeds**
CCSS.Math.Content.HS.N.Q.A.3 (W) Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.	Choose the appropriate units of measure for a given scenario.	Identify the appropriate tools that measure length/distance, volume, mass/weight, or time.	Identify units that measure length/distance, volume, mass/weight, or time.	Identify the appropriate units to measure an object or attribute.	Convert inches to feet (or feet to inches), hours to minutes (or minutes to hours), feet to miles (or miles to feet), kilometers to miles (or miles to kilometers), and ounces to pounds (or pounds to ounces) within context, given the conversion factor.
CCSS.Math.Content.HS.S.ID.A.1 Represent data with plots on the real number line (dot plots, histograms, and box plots).	Represent data using different displays.	Match data set to a bar graph. Recognize a dot plot, histogram, or box plot.	Match a data set to a dot plot.	Match a data set to a histogram or box plot.	Compare a data set represented in two different forms. Prioritized focus: histogram, box plot, or bar graph.
CCSS.Math.Content.HS.S.ID.A.2 Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.	Identify the measures of center and spread of two data sets.	Identify the mean and/or median of one given data set. Prioritized focus: 5 data points or less.	Identify the mean, median, and/or range of one given data set.	Identify the mean, median, and/or range of two data sets. Prioritized focus: 3 or 5 data points per set.	Compare the mean, median, and/or range of two data sets. Prioritized focus: 4 or 6 data points per set.
CCSS.Math.Content.HS.S.ID.C.7 Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data.	Interpret the slope and the y-intercept of a linear model within context.	Identify the slope and/or y-intercept of a line given a graph. Identify or complete a table of values that represents a straight line.	Identify statements that describe the slope of a line within context.	Identify statements that describe the slope and y-intercept of a line within context.	Identify statements that describe the slope and y-intercept of a linear model (scatterplot) within context.
CCSS.Math.Content.HS.S.CP.B.6 Find the conditional probability of A given B as the fraction of B's outcomes that also belong to A, and interpret the answer in terms of the model.	Find the probability of an event.	Identify the number of possible outcomes of a simple event (e.g., rolling a die, tossing a coin, etc.).	Find the probability of a simple event (e.g., flipping a fair coin, rolling number cubes, spinners, picking marbles from a bag).	Find the probability of an event given the results of the first event (with replacement). For example, if a person picks a red marble out of a bag of 4 red marbles and 6 blue marbles and replaces it, what is the probability of the person picking a red marble again?	Find the probability of an event given the results of the first event (without replacement). For example, if a person picks a red marble out of a bag of 4 red marbles and 6 blue marbles and does not put the marble back in the bag, what is the probability of the person picking a second red marble?

Workforce Innovation and Opportunity Act Appendix

The Workforce Innovation and Opportunity Act and the HSA-Alt Range Performance Level Descriptors

Selected HSA-Alt Range Performance Level Descriptors include a new (w) symbol, which denotes standards that may be associated with the workplace, and, therefore, address needs identified in the Workforce Innovation and Opportunity Act (WIOA). The Workforce Innovation and Opportunity Act (WIOA) "seeks to increase the employment, career advancement, and economic self-sufficiency of people with disabilities through collaborative federal, state, and local partnerships" (Thurlow, Nye-Lengerman, and Lazarus, 2019).

Hawaii Department of Education Test Development Specialists and nine community stakeholders convened as a workgroup on April 16, 2019 and May 7, 2019 to discuss content standards that could be associated with employment. Stakeholders included special education advocates, state and local support agency staff, higher education/community leaders with expertise in disability study, adult education, and/or transition services, and organizations that employ and/or support people with disabilities. Stakeholders examined the English Language Arts (ELA), Math, and Science general education standards and the essence statements that distill these standards into achievable performance targets for students who take Hawaii's alternate assessment, the Hawaii State Assessment-Alternate (HSA-Alt). The HSA-Alt Range Performance Level Descriptors served as the single document for committee review. This document contains the general education reference standards, Common Core for ELA and Math and the Next Generation Science Standards for Science, the essence statement for each general education standard, and the four tiers of associated performance that students who take the HSA-Alt would exhibit at each level of achievement: Well-Below, Approaches, Meets, and Exceeds. While it is important to note that all Common Core standards for ELA and Math and NGSS standards for Science have college and career readiness in mind, the workgroup believed that only a subset of these standards would be considered acutely applicable to employment for students with significant cognitive disabilities. For each identified work related standard in this subset, the workgroup developed parallel task exemplars of how the target skill or concept for the applicable standard might be demonstrated in the workplace.

The following document is intended to help guide the development of future items for Hawaii's alternate assessment; it may also prove to be a useful guide to Hawaii's teachers as they plan and design instruction for their students with significant cognitive disabilities.

Mathematics Work-Related
Range Performance Level Descriptors

High School Mathematics

Standard	Essence Statement	Meets Range Performance Level Descriptor	Related Workforce Skills
HS.F.IF.B.4	Interpret key features of a linear function that models the relationship between two quantities.	Identify if a linear function is increasing, decreasing, or constant. Suggested scaffold: graph or real-world context. **Item Specification Development Notes:** **Given a context with money include graphs with y-axis scale intervals of 0.50, 0.25, or 0.10.**	Describe data shown in graphs of linear functions as increasing or decreasing (going up or going down) and compare rates of change interpreting which graph shows lower/higher rate. For example, compare electric or water consumption from month to month on a utility bill and determine which month shows a higher rate of utility use. Interpret a graph of inventory that shows a decrease in supply and understand the need to restock inventory for items that have been sold. Analyze stock price over time to determine if value of stock is increasing or decreasing. Use a graph to analyze plant growth under different conditions, determining which graph shows (which conditions yield) the greatest rate of growth.
HS.F.IF.B.6	Identify the rate of change of a linear function.	Identify the rate of change, given a table of values that represent a linear function. **Item Specification Development Notes:** **Given a context related to money, use tables with decimal intervals of 0.50, 0.25, 0.10.**	Determine earnings after working for a certain number of hours. For example, if you work for *x* number of hours and are paid *y* dollars per hour, how much money will you earn? Determine the amount of money required to pay off a simple interest loan.
HS.F.LE.A.1	Understand that linear functions increase at a constant rate.	Determine whether a given table of values or graph has a constant rate of change.	Understand that savings and debts are impacted by rate of interest and how interest is calculated. Recognize the difference between graphs displaying simple and compound interest.
HS.G.CO.A.1	Identify geometric terms based upon descriptions.	Determine if a term is a line, line segment, or angle, given a description. Determine if a pair of lines or line segments are parallel or perpendicular, given a description.	Apply an understanding of parallel or perpendicular line segments to locate objects and navigate. For example, direct customers to the location of store commodities, restock items in specified locations, and understand directions using the knowledge that streets can be parallel or perpendicular to each other.
HS.G.CO.B.6	Identify congruent quadrilaterals after a rigid transformation.	Identify congruent quadrilaterals after a rigid transformation.	Recognize that a shape reflected or rotated maintains its identity (is the same shape after a flip or turn). For example, use computer software to transform the position of objects (flip or turn a shape) in an informational brochure, flyer, or presentation.

Standard	Essence Statement	Meets Range Performance Level Descriptor	Related Workforce Skills
HS.G.GPE.B.7	Find the area and perimeter of polygons on a coordinate plane.	Find the area and perimeter of a rectangle on a coordinate plane in any quadrant.	Calculate the area or perimeter of rooms or spaces to make decisions related to home or office design. For example, determine the amount of carpeting needed to cover the floor of a room or calculate the amount of fencing needed to enclose an outdoor space.
HS.G.GMD.A.3	Find the volume of three-dimensional figures.	Find the volume of cylinders (in terms of pi) given the area of the base.	Calculate the volume of boxes used for packaging, including rectangular prisms, square prisms, and cubes.
HS.A.CED.A.1	Use linear equations and inequalities to solve problems. Suggested scaffolds: real-world problems involving start value/fixed cost and unit rate; e.g., $10 savings + earnings of $10/hour = amount of money.	Solve one-step equations or inequalities with one variable. Identify one-step, one-variable equations that match real-world contexts. Prioritized focus: decimal numbers within 100. **Item Specification Development Notes: Include money or time scenarios.**	Determine the total count or measure when a set value is added; e.g., seam allowance added to client inseam length. Determine the total cost of a purchase after a coupon of set value is used; e.g., the cost of an item after a $10 discount. Determine the total cost of a set of same-priced items; e.g., the cost of 10 cans of corn that cost $1.29 each.
HS.A.CED.A.3	Identify viable solutions for a system of linear inequalities.	Identify a viable solution for a linear inequality within context. **Item Specification Development Notes: Include money or time scenarios.**	Determine how many items a person can buy given a limited amount of money or determine how many minutes a person must exercise to burn a specific amount of calories.
HS.A.REI.D.10	Understand that the solutions to a linear equation are the points that form its graph.	Identify which set of ordered pairs is a solution to a linear equation shown graphically. **Item Specification Development Notes: Include money or time scenarios. Graph scale intervals can use decimal numbers for money or ½- or ¼-hour intervals for time.**	Interpret the meaning of a point on the graph of a line. For example, on a graph of t-shirt purchases, locate a point on the graph and provide the number of t-shirts purchased and the total cost of the t-shirts or interpret the meaning of a point on a graph that shows daily bank account balance (bank account graph could include negative integers on the y-axis.)
HS.N.Q.A.3	Choose the appropriate units of measure for a given scenario.	Identify the appropriate units to measure an object or attribute.	Identify the appropriate unit of measure to describe an amount; for example, selling lumber by board feet rather than inches or cloth by yards rather feet or measuring time on the job site by hours rather than seconds as well as differentiating between AM and PM.

Middle School Mathematics

Standard	Essence Statement	Meets Range Performance Level Descriptor	Related Workforce Skills
7.EE.B.3	Solve one- and two-step problems involving integers or positive rational numbers. Prioritized focus: decimal numbers. Suggested scaffolds: concrete objects, visuals (number line), or real-world context (money).	Solve one or two-step problems involving integers or positive rational numbers. Prioritized focus: decimal numbers. Suggested scaffolds: concrete objects, visuals (number line), or real-world context (money).	Calculate debits and credits in a bank account, balance a checkbook, or determine if a thermometer reading needs to increase or decrease in order to reach a predetermined value. Find the total budget for a list of basic expenses that includes food, clothing, housing, transportation, insurance, medical, emergency and retirement savings, etc.
7.RP.A.3	Solve problems involving ratios and percentages.	Solve problems involving ratios and percentages. Prioritized focus: ratios of 1 to 2, 3, 4, 5, and 10 and percentages of 10% and 50%. Suggested scaffolds: real-world context (10% or 50% off) or visuals.	Calculate or verify sales tax, gratuity, and total cost after tax, gratuity, or fees are added in. Compare interest rates for credit cards or bank loans, determine the price of an item that is 50% off, or identify the amount of one or more ingredients needed when doubling or tripling a recipe. Find the unit price for a sales item that is sold in multiple quantities, for example, 2 for $5 is equivalent to $2.50 each.
6.RP.A.3b	Identify the unit rate in context.	Identify a unit rate in context. Prioritized focus: Ratio of one to a whole number. Suggested scaffolds: concrete objects, visuals, or real-world context.	Calculate or verify sales tax, gratuity, and total cost after tax, gratuity, or fees are added in. Find unit rate given a context or table of linear values; for example, use a sales price tag such as 2 for $3 to determine that each unit costs $1.50.
6.RP.A.3d	Use ratios to convert measurement units.	Convert measurements from a larger to a smaller unit within a single system of measurement (i.e., hr.-> min., min-> seconds, ft.->in., qt.->cups, m->cm, kg -> g). Suggested scaffold: unit conversion provided.	Recognize that 60 minutes is equivalent to 1 hour and 100 cents is equivalent to one dollar and use other measurement conversions, such as 1 foot equals 12 inches or 3 feet equals 1 yard, that may be needed in the workplace.
6.NS.B.3	Add, subtract, and multiply decimals.	Multiply a decimal number by a whole number. Prioritized focus: money values that are an increment of .05 , .10, and .25 and whole numbers 2, 3, 4, 5, and 10. Suggested scaffolds: concrete objects (money), cash register, calculator, real-world context.	Calculate the total cost of items or make change for a purchase, using a calculator, adding machine, or cash register, as needed.

Standard	Essence Statement	Meets Range Performance Level Descriptor	Related Workforce Skills
6.NS.C.7b	Order integers from least to greatest or greatest to least.	Order integers from least to greatest or greatest to least (limit to +/- 3). Prioritized focus: real-world context. Suggested scaffold: number line model.	Understand that a debt of $3 (-3) is a larger debt than a debt of $2 (-2) and is farther from a net balance of zero (0). Understand that positive temperatures are warmer than negative temperatures and that -10˚C is colder than -5˚C.

Elementary Mathematics

Standard	Essence Statement	Meets Range Performance Level Descriptor	Related Workforce Skills
5.NBT.A.2	Identify patterns found when multiplying a number by ten, 100, or 1,000.	Identify patterns or find products that result from multiplying numbers (1-9) by 10, 100, or 1000.	Determine the total amount of money by denomination (Two 10-dollar bills equal $20 while two 100-dollar bills equal $200.)
5.NBT.A.3b	Compare decimals using symbols, >, =, <, or words. Suggested scaffolds: visual model or money context.	Compare two decimal numbers (limit to tenths) using symbols or words. Prioritized focus: two or three-digit numbers. Suggested scaffold: visual model or concrete materials (coins).	Compare prices for the same item from two different sources. Given a set amount of money, determine if an item can be purchased. For example, recognize that $5.00 is enough to buy items that are $3.75 or $4.29, but not enough to buy an item that is $5.01 or more.
5.NBT.A.4	Round decimals to the nearest whole number.	Round decimals to tenths to the nearest whole number. Suggested scaffold: number line model.	Recognize that when making a purchase with only dollar denominations that the number of dollars needed is rounded up. For example, five dollars is needed to purchase an item that is $4.39 (if the purchaser does not have change).
5.NF.A.2	Solve addition or subtraction word problems involving fractions. Suggested scaffolds: concrete objects (fraction bars/circles) and visuals.	Solve addition or subtraction word problems involving unit fractions with unlike denominators. Prioritized focus: denominators: 2, 3, 4, 6, and 8. Suggested scaffolds: concrete objects (fraction bars/circles) and visuals.	Understand that one cup of an ingredient can be obtained by adding two 1/2 cups of that ingredient or that 3/4 of a cup of an ingredient can be obtained by adding three 1/4 cups of that ingredient.

Standard	Essence Statement	Meets Range Performance Level Descriptor	Related Workforce Skills
4.OA.C.5	Identify a rule that generates a shape or number pattern. Use a rule to extend a pattern.	Identify the next two or three numbers in sequence of numbers with a given rule (given at least 3 numbers in the sequence; limit to addition or subtraction by: 1, 2, 3, 4, 5, 10, and 100). Note: For patterns where -/+ 10, numbers should be multiples of 10 and patterns where -/+ 100, numbers should be multiples of 100.	Given a rule, generate a pattern. For example, count out sets of objects of a fixed amount or place items in prescribed pattern or display arrangement.
4.NBT.A.2	Identify or compare numbers expressed as visuals, number names, base 10 numerals, or numbers in expanded form.	Compare two numbers (up to three-digits) using the symbols >, <, = or the words that represent these symbols, greater than, less than, equals. Suggested scaffolds base 10 blocks, place value chart, or expanded form representation.	Use base 10 numerals and equivalent number names to write a check, for example, $40.12 and forty dollars and twelve cents are both needed on a check. Identify base-10 numbers from orally expressed number names; e.g., upon hearing one thousand five hundred orally read, the student recognizes 1, 500 as the correct matching number.
4.NF.C.6	Identify decimal notation for coin value, monetary amount, or fraction with denominator of 10 or 100.	Identify the decimal notation value for monetary amounts; e.g., two dollar bills and three quarters is matched to $2.75. Suggested scaffold: concrete objects or visuals.	Recognize and/or use equivalent forms for writing the decimal portion of monetary amounts, e.g., when writing a check for the amount of $40.12 recognize that one way to write this is forty dollars and 12/100.
4.NF.C.7	Compare two decimals. Suggested scaffolds: coins or money context.	Compare the value of two coins or a coin and a dollar by selecting the correct inequality statement that compares their decimal equivalents.	Understand that a dollar, quarter, and dime is numerically represented as $1.00, $0.25, and $0.10, respectively, and that the dollar has more value than a quarter and the quarter has more value than the dime.
4.MD.A.2	Use the four operations to solve word problems involving time and money.	Determine the amount of elapsed time. Prioritized focus on five- or ten-minute increment(s) that do not require “trading in.” Suggested scaffold: digital time display, schedule, play clock, or timeline. Determine the total cost of two items. Suggested scaffolds: concrete objects (money), cash register, or calculator.	Determine the amount of the time worked when provided a start and end time described in a scenario or shown in a schedule. Determine the amount of money needed to make a purchase.

Standard	Essence Statement	Meets Range Performance Level Descriptor	Related Workforce Skills
3.OA.D.8	Model a problem involving any of the four operations.	Solve a one-step word problem. Suggested scaffolds: concrete materials, visuals, real-world context or symbolic expression.	Identify and correctly apply operation(s) needed to solve real-life problems and connect contexts to operations. For example, when finding a difference or making change, correctly use the minus symbol between the numbers that are provided or when finding the unit cost divide the total cost by the number of units (student familiarity with calculator recommended). Assess the reasonableness of answers obtained. For example, when adding a series of single-digit numbers, recognize when a sum cannot be correct.
3.MD.B.3	Represent or interpret data from a picture graph or bar graph.	Identify the number of objects from a picture graph or a bar graph. Prioritized focus: three category bar graphs with grid increments of 1, 2, 5, or 10 (up to 50).	Analyze inventory shown in a graphic display to determine inventory that needs to increase or decrease in supply. Understand how directionality relates to increases or decreases in amounts shown on a horizontal or vertical scale. When interpreting data, understand the importance of examining the graph title, legend, scale interval and unit labels, as provided.

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