Mathematics (B.E.S.T.) Standards

GRADE: 5

Strand: NUMBER SENSE AND OPERATIONS	
Standard 1: Understand the place value of multi-digit numbers with decimals to the thousandths place.	
BENCHMARK CODE	**BENCHMARK**
MA.5.NSO.1.1	Express how the value of a digit in a multi-digit number with decimals to the thousandths changes if the digit moves one or more places to the left or right. **Related Access Point(s)** MA.5.NSO.1.AP.1 Explore how the value of a digit in a multi-digit number with decimals to the hundredths changes if the digit moves one place to the left. Multi-digit numbers not to exceed 9.99. *Date Adopted or Revised*: 03/23
MA.5.NSO.1.2	Read and write multi-digit numbers with decimals to the thousandths using standard form, word form and expanded form. *Examples*: The number sixty-seven and three hundredths written in standard form is 67.03 and in expanded form is 60+7+0.03 or $(6 \times 10)+(7 \times 1)+\left(3 \times \frac{1}{100}\right)$. **Related Access Point(s)** MA.5.NSO.1.AP.2 Read and generate multi-digit numbers with decimals to the hundredths using standard form and expanded form. Multi-digit numbers not to exceed 9.99. *Date Adopted or Revised*: 03/23
MA.5.NSO.1.3	Compose and decompose multi-digit numbers with decimals to the thousandths in multiple ways using the values of the digits in each place. Demonstrate the compositions or decompositions using objects, drawings and expressions or equations. *Examples*: The number 20.107 can be expressed as 2 tens + 1 tenth+7 thousandths or as 20 ones + 107 thousandths. **Related Access Point(s)** MA.5.NSO.1.AP.3 Compose and decompose multi-digit numbers with decimals to the hundredths. Demonstrate each composition or decomposition with objects, drawings, expressions or equations. Multi-digit numbers not to exceed 9.99. *Date Adopted or Revised*: 03/23
MA.5.NSO.1.4	Plot, order and compare multi-digit numbers with decimals up to the thousandths. *Examples*:

	Example: The numbers 4.891; 4.918 and 4.198 can be arranged in ascending order as 4.198; 4.891 and 4.918. *Example:* 0.15<0.2 because fifteen hundredths is less than twenty hundredths, which is the same as two tenths. <u>*Clarifications*</u>: *Clarification 1:* When comparing numbers, instruction includes using an appropriately scaled number line and using place values of digits. *Clarification 2:* Scaled number lines must be provided and can be a representation of any range of numbers. *Clarification 3:* Within this benchmark, the expectation is to use symbols (<, > or =). **Related Access Point(s)** MA.5.NSO.1.AP.4 Plot, order and compare multi-digit numbers with decimals up to the hundredths. Multi-digit numbers not to exceed 9.99. <u>*Date Adopted or Revised*</u>: 03/23
MA.5.NSO.1.5	Round multi-digit numbers with decimals to the thousandths to the nearest hundredth, tenth or whole number. <u>*Examples*</u>: The number 18.507 rounded to the nearest tenth is 18.5 and to the nearest hundredth is 18.51. **Related Access Point(s)** MA.5.NSO.1.AP.5 5 Round multi-digit numbers with decimals to the tenths to the nearest whole number (e.g., 1.7 rounds to 2); and numbers with decimals to the hundredths to the nearest tenth (e.g., 2.36 rounds to 2.4). Multi-digit numbers not to exceed 9.99. <u>*Date Adopted or Revised*</u>: 03/23

Standard 2: Add, subtract, multiply and divide multi-digit numbers.

BENCHMARK CODE	BENCHMARK
MA.5.NSO.2.1	Multiply multi-digit whole numbers including using a standard algorithm with procedural fluency. **Related Access Point(s)** MA.5.NSO.2.AP.1 Explore multiplication of two whole numbers, up to two digits by two digits. <u>*Date Adopted or Revised*</u>: 03/23
MA.5.NSO.2.2	Divide multi-digit whole numbers, up to five digits by two digits, including using a standard algorithm with procedural fluency. Represent remainders as fractions. <u>*Examples*</u>: The quotient 27÷7 gives 3 with remainder 6 which can be expressed as $3\frac{6}{7}$. <u>*Clarifications*</u>: *Clarification 1:* Within this benchmark, the expectation is not to use simplest form for fractions.

	Related Access Point(s) MA.5.NSO.2.AP.2 Apply a strategy to divide two whole numbers up to two digits by one digit, including the possibility of whole number remainders. *Date Adopted or Revised*: 03/23
MA.5.NSO.2.3	Add and subtract multi-digit numbers with decimals to the thousandths, including using a standard algorithm with procedural fluency. **Related Access Point(s)** MA.5.NSO.2.AP.3 Apply a strategy to add and subtract multi-digit numbers with decimals to the tenths (e.g., 3.3 + 0.5) and hundredths (e.g., 1.25 − 0.12). Multi-digit numbers not to exceed 9.99. *Date Adopted or Revised*: 03/23
MA.5.NSO.2.4	Explore the multiplication and division of multi-digit numbers with decimals to the hundredths using estimation, rounding and place value. *Examples*: The quotient of 23 and 0.42 can be estimated as a little bigger than 46 because 0.42 is less than one-half and 23 times 2 is 46. *Clarifications*: *Clarification 1:* Estimating quotients builds the foundation for division using a standard algorithm. *Clarification 2:* Instruction includes the use of models based on place value and the properties of operations. **Related Access Point(s)** MA.5.NSO.2.AP.4 Explore the estimation of products and quotients of two multi-digit numbers with decimals to the tenths (e.g., 8.9 × 2.3 becomes 9 × 2 by rounding both factors to the nearest whole number). Multi-digit numbers not to exceed 9.9. *Date Adopted or Revised*: 03/23
MA.5.NSO.2.5	Multiply and divide a multi-digit number with decimals to the tenths by one-tenth and one-hundredth with procedural reliability. *Examples*: The number 12.3 divided by 0.01 can be thought of as ?×0.01=12.3 to determine the quotient is 1,230. *Clarifications*: *Clarification 1:* Instruction focuses on the place value of the digit when multiplying or dividing. **Related Access Point(s)** MA.5.NSO.2.AP.5 5 Explore multiplying and dividing single-digit whole numbers by one-tenth and one-hundredth. *Date Adopted or Revised*: 03/23

Strand: ALGEBRAIC REASONING

Standard 1: Solve problems involving the four operations with whole numbers and fractions.

BENCHMARK CODE	BENCHMARK
MA.5.AR.1.1	Solve multi-step real-world problems involving any combination of the four operations with whole numbers, including problems in which remainders must be interpreted within the context.

<table>
<tr><td></td><td><u>Clarifications</u>:
Clarification 1: Depending on the context, the solution of a division problem with a remainder may be the whole number part of the quotient, the whole number part of the quotient with the remainder, the whole number part of the quotient plus 1, or the remainder.
Related Access Point(s)
MA.5.AR.1.AP.1
Solve one- and two-step real-world problems involving any combination of the four operations with whole numbers. Explore problems in which remainders must be interpreted within the context.
<u>Date Adopted or Revised</u>: 03/23</td></tr>
<tr><td>MA.5.AR.1.2</td><td>Solve real-world problems involving the addition, subtraction or multiplication of fractions, including mixed numbers and fractions greater than 1.

<u>Examples</u>:
Shanice had a sleepover and her mom is making French toast in the morning. If her mom had $2\frac{1}{4}$ loaves of bread and used $1\frac{1}{2}$ loaves for the French toast, how much bread does she have left?

<u>Clarifications</u>:
Clarification 1: Instruction includes the use of visual models and equations to represent the problem.
Related Access Point(s)
MA.5.AR.1.AP.2a
Solve one-step real-world problems involving addition and subtraction of mixed numbers and fractions greater than one with like denominators.
<u>Date Adopted or Revised</u>: 03/23
MA.5.AR.1.AP.2b
Solve one-step real-world problems involving multiplication of unit fractions.
<u>Date Adopted or Revised</u>: 03/23</td></tr>
<tr><td>MA.5.AR.1.3</td><td>Solve real-world problems involving division of a unit fraction by a whole number and a whole number by a unit fraction.

<u>Examples</u>:
Example: A property has a total of $\frac{1}{2}$ acre and needs to be divided equally among 3 sisters. Each sister will receive $\frac{1}{6}$ of an acre.

Example: Kiki has 10 candy bars and plans to give $\frac{1}{4}$ of a candy bar to her classmates at school. How many classmates will receive a piece of a candy bar?

<u>Clarifications</u>:
Clarification 1: Instruction includes the use of visual models and equations to represent the problem.
Related Access Point(s)</td></tr>
</table>

	MA.5.AR.1.AP.3 Solve one-step real-world problems involving division of a whole number by a unit fraction. *Date Adopted or Revised*: 03/23

Standard 2: Demonstrate an understanding of equality, the order of operations and equivalent numerical expressions.	
BENCHMARK CODE	**BENCHMARK**
MA.5.AR.2.1	Translate written real-world and mathematical descriptions into numerical expressions and numerical expressions into written mathematical descriptions. *Examples*: The expression 4.5 + (3×2) in word form is four and five tenths plus the quantity 3 times 2. *Clarifications*: *Clarification 1:* Expressions are limited to any combination of the arithmetic operations, including parentheses, with whole numbers, decimals and fractions. *Clarification 2:* Within this benchmark, the expectation is not to include exponents or nested grouping symbols. **Related Access Point(s)** MA.5.AR.2.AP.1 Translate mathematical descriptions (e.g., five plus two; the product of three and four) into numerical expressions with two terms. *Date Adopted or Revised*: 03/23
MA.5.AR.2.2	Evaluate multi-step numerical expressions using order of operations. *Examples*: Patti says the expression 12÷2×3 is equivalent to 18 because she works each operation from left to right. Gladys says the expression 12÷2×3 is equivalent to 2 because first multiplies 2×3 then divides 6 into 12. David says that Patti is correctly using order of operations and suggests that if parentheses were added, it would give more clarity. *Clarifications*: *Clarification 1:* Multi-step expressions are limited to any combination of arithmetic operations, including parentheses, with whole numbers, decimals and fractions. *Clarification 2:* Within this benchmark, the expectation is not to include exponents or nested grouping symbols. *Clarification 3:* Decimals are limited to hundredths. Expressions cannot include division of a fraction by a fraction. **Related Access Point(s)** MA.5.AR.2.AP.2 Evaluate an expression containing three terms and one set of parentheses. *Date Adopted or Revised*: 03/23
MA.5.AR.2.3	Determine and explain whether an equation involving any of the four operations is true or false. *Examples*: The equation 2.5+(6×2)=16-1.5 can be determined to be true because the expression on both sides of the equal sign are equivalent to 14.5. *Clarifications*:

	Clarification 1: Problem types include equations that include parenthesis but not nested parentheses. *Clarification 2:* Instruction focuses on the connection between properties of equality and order of operations. **Related Access Point(s)** MA.5.AR.2.AP.3 Determine whether an equation (with no more than four terms and up to one set of parentheses) involving any of the four operations with whole numbers is true or false. Limit addition and subtraction to within 100 and limit multiplication and division to the products of two single-digit whole numbers and their related division facts. *Date Adopted or Revised*: 03/23
MA.5.AR.2.4	Given a mathematical or real-world context, write an equation involving any of the four operations to determine the unknown whole number with the unknown in any position. *Examples*: The equation 250-(5×s)=15 can be used to represent that 5 sheets of paper are given to s students from a pack of paper containing 250 sheets with 15 sheets left over. *Clarifications*: *Clarification 1:* Instruction extends the development of algebraic thinking where the unknown letter is recognized as a variable. *Clarification 2:* Problems include the unknown and different operations on either side of the equal sign **Related Access Point(s)** MA.5.AR.2.AP.4 Given a mathematical or real-world context, generate an equation involving any of the four operations to determine the unknown sum, difference, product or quotient. Sums may not exceed 100 and their related subtraction facts. Multiplication and division may not exceed two digit by one digit. *Date Adopted or Revised*: 03/23

Standard 3: Analyze patterns and relationships between inputs and outputs.

BENCHMARK CODE	BENCHMARK
MA.5.AR.3.1	Given a numerical pattern, identify and write a rule that can describe the pattern as an expression. *Examples*: The given pattern 6,8,10,12… can be describe using the expression 4+2x, where x=1,2,3,4… ; the expression 6+2x, where x=0,1,2,3… or the expression 2x, where x=3,4,5,6…. *Clarifications*: *Clarification 1:* Rules are limited to one or two operations using whole numbers. **Related Access Point(s)** MA.5.AR.3.AP.1 Given a numerical pattern, identify a one-step rule that can describe the pattern. *Date Adopted or Revised*: 03/23
MA.5.AR.3.2	Given a rule for a numerical pattern, use a two-column table to record the inputs and outputs. *Examples*:

	The expression 6+2x, where x represents any whole number, can be represented in a two-column table as shown below. <table><tr><td>Input (X)</td><td>0</td><td>1</td><td>2</td><td>3</td></tr><tr><td>Output</td><td>6</td><td>8</td><td>10</td><td>12</td></tr></table> *Clarifications*: *Clarification 1:* Instruction builds a foundation for proportional and linear relationships in later grades. *Clarification 2:* Rules are limited to one or two operations using whole numbers. **Related Access Point(s)** MA.5.AR.3.AP.2 Given the inputs and a one-step addition or subtraction rule for a numerical pattern, use a two-column table to record the outputs. *Date Adopted or Revised*: 03/23

Strand: MEASUREMENT

Standard 1: Convert measurement units to solve multi-step problems.

BENCHMARK CODE	BENCHMARK
MA.5.M.1.1	Solve multi-step real-world problems that involve converting measurement units to equivalent measurements within a single system of measurement. *Examples*: There are 60 minutes in 1 hour, 24 hours in 1 day and 7 days in 1 week. So, there are 60×24×7 minutes in one week which is equivalent to 10,080 minutes. *Clarifications*: *Clarification 1:* Within the benchmark, the expectation is not to memorize the conversions. *Clarification 2:* Conversions include length, time, volume and capacity represented as whole numbers, fractions and decimals. **Related Access Point(s)** MA.5.M.1.AP.1a Using a conversion sheet, convert within a single system of measurement using the units: miles, yards, feet, inches; pounds, ounces; gallons, quarts, pints, cups; and hours, minutes. Only whole number measurements may be used. *Date Adopted or Revised*: 03/23 MA.5.M.1.AP.1b Using a conversion sheet, solve one-and two-step real-world problems that involve converting measurement units (i.e., miles, yards, feet, inches; pounds, ounces; gallons, quarts, pints, cups; and hours, minutes) to equivalent measurements within a single system of measurement. Only whole number measurements may be used. *Date Adopted or Revised*: 03/23

Standard 2: Solve problems involving money.

BENCHMARK CODE	BENCHMARK
MA.5.M.2.1	Solve multi-step real-world problems involving money using decimal notation. *Examples*: Don is at the store and wants to buy soda. Which option would be cheaper: buying one 24-ounce can of soda for \$1.39 or buying two 12-ounce cans of soda for 69¢ each? **Related Access Point(s)** MA.5.M.2.AP.1 Solve one- and two-step addition and subtraction real-world problems involving money using decimal notation with all terms less than \$20.00 (e.g., \$11.74 + \$5.31, \$10.99 − \$3.26). *Date Adopted or Revised*: 03/23

Strand: FRACTIONS

Standard 1: Interpret a fraction as an answer to a division problem.

BENCHMARK CODE	BENCHMARK
MA.5.FR.1.1	Given a mathematical or real-world problem, represent the division of two whole numbers as a fraction. *Examples*: At Shawn's birthday party, a two-gallon container of lemonade is shared equally among 20 friends. Each friend will have $\frac{2}{20}$ of a gallon of lemonade which is equivalent to one-tenth of a gallon which is a little more than 12 ounces. *Clarifications*: *Clarification 1:* Instruction includes making a connection between fractions and division by understanding that fractions can also represent division of a numerator by a denominator. *Clarification 2:* Within this benchmark, the expectation is not to simplify or use lowest terms. *Clarification 3:* Fractions can include fractions greater than one. **Related Access Point(s)** MA.5.FR.1.AP.1 Explore the connection between fractions and division in a real-world problem. *Date Adopted or Revised*: 03/23

Standard 2: Perform operations with fractions.

BENCHMARK CODE	BENCHMARK
MA.5.FR.2.1	Add and subtract fractions with unlike denominators, including mixed numbers and fractions greater than 1, with procedural reliability. *Examples*: The sum of $\frac{1}{12}$ and $\frac{1}{24}$ can be determined as $\frac{1}{8}$, $\frac{3}{24}$, $\frac{6}{48}$ or $\frac{36}{288}$ by using different common denominators or equivalent fractions. *Clarifications*: *Clarification 1:* Instruction includes the use of estimation, manipulatives, drawings or the properties of operations.

	Clarification 2: Instruction builds on the understanding from previous grades of factors up to 12 and their multiples. **Related Access Point(s)** MA.5.FR.2.AP.1a Explore adding and subtracting mixed numbers and fractions greater than 1 with like denominators. *Date Adopted or Revised*: 03/23 MA.5.FR.2.AP.1b Explore adding and subtracting fractions less than one with unlike denominators. where one denominator is a multiple of the other (e.g., $\frac{1}{2}+\frac{3}{4}$, $\frac{2}{3}-\frac{1}{6}$). *Date Adopted or Revised*: 03/23
MA.5.FR.2.2	Extend previous understanding of multiplication to multiply a fraction by a fraction, including mixed numbers and fractions greater than 1, with procedural reliability. *Clarifications*: *Clarification 1:* Instruction includes the use of manipulatives, drawings or the properties of operations. *Clarification 2:* Denominators limited to whole numbers up to 20. **Related Access Point(s)** MA.5.FR.2.AP.2 Explore multiplying a unit fraction by a unit fraction. *Date Adopted or Revised*: 03/23
MA.5.FR.2.3	When multiplying a given number by a fraction less than 1 or a fraction greater than 1, predict and explain the relative size of the product to the given number without calculating. *Clarifications*: *Clarification 1:* Instruction focuses on the connection to decimals, estimation and assessing the reasonableness of an answer. **Related Access Point(s)** MA.5.FR.2.AP.3 Explore the impact on the size of the product when multiplying a given number by a fraction less than 1 or by a whole number. *Date Adopted or Revised*: 03/23
MA.5.FR.2.4	Extend previous understanding of division to explore the division of a unit fraction by a whole number and a whole number by a unit fraction. *Clarifications*: *Clarification 1:* Instruction includes the use of manipulatives, drawings or the properties of operations. *Clarification 2:* Refer to Situations Involving Operations with Numbers (Appendix A). **Related Access Point(s)** MA.5.FR.2.AP.4 Explore the division of a one-digit whole number by a unit fraction. Denominators are limited to 2, 3 or 4. *Date Adopted or Revised*: 03/23

Strand: GEOMETRIC REASONING

Standard 1: Classify two-dimensional figures and three-dimensional figures based on defining attributes.	
BENCHMARK CODE	**BENCHMARK**
MA.5.GR.1.1	Classify triangles or quadrilaterals into different categories based on shared defining attributes. Explain why a triangle or quadrilateral would or would not belong to a category. *Clarifications*: *Clarification 1:* Triangles include scalene, isosceles, equilateral, acute, obtuse and right; quadrilaterals include parallelograms, rhombi, rectangles, squares and trapezoids. **Related Access Point(s)** MA.5.GR.1.AP.1a Sort triangles into different categories based on the size of their angles. Triangles include acute, obtuse and right. *Date Adopted or Revised*: 03/23 MA.5.GR.1.AP.1b Sort quadrilaterals into different categories based on shared defining attributes. Explore why a quadrilateral would or would not belong to a category. Quadrilaterals include parallelograms, rhombi, rectangles, squares and trapezoids. *Date Adopted or Revised*: 03/23
MA.5.GR.1.2	Identify and classify three-dimensional figures into categories based on their defining attributes. Figures are limited to right pyramids, right prisms, right circular cylinders, right circular cones and spheres. *Clarifications*: *Clarification 1:* Defining attributes include the number and shape of faces, number and shape of bases, whether or not there is an apex, curved or straight edges and curved or flat faces. **Related Access Point(s)** MA.5.GR.1.AP.2 Identify and sort three-dimensional figures into categories based on their defining attributes. Figures are limited to right rectangular pyramids, right rectangular prisms, right circular cylinders, right circular cones and spheres. *Date Adopted or Revised*: 03/23

Standard 2: Find the perimeter and area of rectangles with fractional or decimal side lengths.	
BENCHMARK CODE	**BENCHMARK**
MA.5.GR.2.1	Find the perimeter and area of a rectangle with fractional or decimal side lengths using visual models and formulas. *Clarifications*: *Clarification 1:* Instruction includes finding the area of a rectangle with fractional side lengths by tiling it with squares having unit fraction side lengths and showing that the area is the same as would be found by multiplying the side lengths. *Clarification 2:* Responses include the appropriate units in word form. **Related Access Point(s)** MA.5.GR.2.AP.1 Find the perimeter and area of a rectangle with decimal side lengths using a visual model and calculator. *Date Adopted or Revised*: 03/23

Standard 3: Solve problems involving the volume of right rectangular prisms.

BENCHMARK CODE	BENCHMARK
MA.5.GR.3.1	Explore volume as an attribute of three-dimensional figures by packing them with unit cubes without gaps. Find the volume of a right rectangular prism with whole-number side lengths by counting unit cubes. *<u>Clarifications</u>*: *Clarification 1:* Instruction emphasizes the conceptual understanding that volume is an attribute that can be measured for a three-dimensional figure. The measurement unit for volume is the volume of a unit cube, which is a cube with edge length of 1 unit. **Related Access Point(s)** MA.5.GR.3.AP.1 Explore volume as an attribute of three-dimensional figures that can be measured by packing them with unit cubes without gaps. *<u>Date Adopted or Revised</u>*: 03/23
MA.5.GR.3.2	Find the volume of a right rectangular prism with whole-number side lengths using a visual model and a formula. *<u>Clarifications</u>*: *Clarification 1:* Instruction includes finding the volume of right rectangular prisms by packing the figure with unit cubes, using a visual model or applying a multiplication formula. *Clarification 2:* Right rectangular prisms cannot exceed two-digit edge lengths and responses include the appropriate units in word form. **Related Access Point(s)** MA.5.GR.3.AP.2 Find the volume of a right rectangular prism with whole-number side lengths by counting unit cubes. Explore that the volume is the same as what would be found by multiplying the edge lengths. *<u>Date Adopted or Revised</u>*: 03/23
MA.5.GR.3.3	Solve real-world problems involving the volume of right rectangular prisms, including problems with an unknown edge length, with whole-number edge lengths using a visual model or a formula. Write an equation with a variable for the unknown to represent the problem. *<u>Examples</u>*: A hydroponic box, which is a rectangular prism, is used to grow a garden in wastewater rather than soil. It has a base of 2 feet by 3 feet. If the volume of the box is 12 cubic feet, what would be the depth of the box? *<u>Clarifications</u>*: *Clarification 1:* Instruction progresses from right rectangular prisms to composite figures composed of right rectangular prisms. *Clarification 2:* When finding the volume of composite figures composed of right rectangular prisms, recognize volume as additive by adding the volume of non-overlapping parts. *Clarification 3:* Responses include the appropriate units in word form. **Related Access Point(s)** MA.5.GR.3.AP.3 Solve real-world problems involving the volume of right rectangular prisms with given whole-number edge lengths using a visual model or formula. *<u>Date Adopted or Revised</u>*: 03/23

Standard 4: Plot points and represent problems on the coordinate plane	
BENCHMARK CODE	**BENCHMARK**
MA.5.GR.4.1	Identify the origin and axes in the coordinate system. Plot and label ordered pairs in the first quadrant of the coordinate plane. _Clarifications_: _Clarification 1:_ Instruction includes the connection between two-column tables and coordinates on a coordinate plane. _Clarification 2:_ Instruction focuses on the connection of the number line to the x- and y-axis. _Clarification 3:_ Coordinate planes include axes scaled by whole numbers. Ordered pairs contain only whole numbers. **Related Access Point(s)** MA.5.GR.4.AP.1 Explore the first quadrant of the coordinate plane including the origin, axes and points located by using ordered pairs. _Date Adopted or Revised_: 03/23
MA.5.GR.4.2	Represent mathematical and real-world problems by plotting points in the first quadrant of the coordinate plane and interpret coordinate values of points in the context of the situation. _Examples_: For Kevin's science fair project, he is growing plants with different soils. He plotted the point (5,7) for one of his plants to indicate that the plant grew 7 inches by the end of week 5. _Clarifications_: _Clarification 1:_ Coordinate planes include axes scaled by whole numbers. Ordered pairs contain only whole numbers. **Related Access Point(s)** MA.5.GR.4.AP.2 Plot and label ordered pairs in the first quadrant of the coordinate plane. _Date Adopted or Revised_: 03/23

Strand: DATA ANALYSIS AND PROBABILITY

Standard 1: Collect, represent and interpret data and find the mean, mode, median or range of a data set.	
BENCHMARK CODE	**BENCHMARK**
MA.5.DP.1.1	Collect and represent numerical data, including fractional and decimal values, using tables, line graphs or line plots. _Examples_: Gloria is keeping track of her money every week. She starts with $10.00, after one week she has $7.50, after two weeks she has $12.00 and after three weeks she has $6.25. Represent the amount of money she has using a line graph. _Clarifications_: _Clarification 1:_ Within this benchmark, the expectation is for an estimation of fractional and decimal heights on line graphs.

	Clarification 2: Decimal values are limited to hundredths. Denominators are limited to 1, 2, 3 and 4. Fractions can be greater than one. **Related Access Point(s)** MA.5.DP.1.AP.1 Sort and represent numerical data, including fractional values using tables or line plots (when given a scaled number line). Data set to include only whole numbers, halves and quarters. *Date Adopted or Revised*: 03/23
MA.5.DP.1.2	Interpret numerical data, with whole-number values, represented with tables or line plots by determining the mean, mode, median or range. *Examples*: Rain was collected and measured daily to the nearest inch for the past week. The recorded amounts are 1,0,3,1,0,0 and 1. The range is 3 inches, the modes are 0 and 1 inches and the mean value can be determined as $\frac{(1+0+3+1+0+0+1)}{7}$ which is equivalent to $\frac{6}{7}$ of an inch. This mean would be the same if it rained $\frac{6}{7}$ of an inch each day. *Clarifications*: *Clarification 1:* Instruction includes interpreting the mean in real-world problems as a leveling out, a balance point or an equal share. **Related Access Point(s)** MA.5.DP.1.AP.2 Interpret numerical data, with whole-number values, represented with tables or line plots by determining the mean, mode or range. Line plot scales to include only whole numbers, halves and quarters. *Date Adopted or Revised*: 03/23