

Grade 5 Report Card – Parent Support
MATH
Trimester Expectations

Report Card Indicator	Standards Addressed	Trimester 1 Expectations	Trimester 2 Expectations	Trimester 3 Expectations
Geometry				
Graphs points on a coordinate plane	<p>Standard 5.G.A.1</p> <ul style="list-style-type: none"> 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). <p>Standard 5.G.A.2</p> <ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> N/A 	<ul style="list-style-type: none"> Use ordered pairs to label objects in the first quadrant of a coordinate grid 	<ul style="list-style-type: none"> Interpret coordinate values in the context of a situation
Classifies two dimensional figures into categories based on their properties	<p>Standards 5.G.B.3</p> <ul style="list-style-type: none"> Understand that attributes belonging to a category of 	<ul style="list-style-type: none"> Compare attributes of two dimensional 	<ul style="list-style-type: none"> Identify polygons that belong to the same category but different 	<ul style="list-style-type: none"> Compare polygons and their attributes to create a hierarchy diagram

	<p>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.</p> <p>Standards 5.G.B.4</p> <ul style="list-style-type: none"> Classify two-dimensional figures in a hierarchy based on properties. 	figures	subcategories based on their attributes	
Mathematical Practices				
Makes sense of problems and perseveres in solving them	<p>Standard MP.1</p> <ul style="list-style-type: none"> Explain the meaning of a problem and look for entry points to its solution. Analyze givens, constraints, relationships, and goals. Make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. Monitor and evaluate their progress and change course if necessary. Explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Check answers to problems using a different method, and they continually ask themselves, "Does this make sense?" 	<p>Comprehends problem and develops a reasonable strategy to move towards the solution.</p> <p>Selects correct operation and is able to follow steps to complete problem.</p>	<p>Comprehends problem and develops a successful strategy to move towards the solution.</p> <p>Selects correct operation and is able to follow steps to complete problem correctly.</p> <p>Able to explain the strategy used and why it was selected.</p>	<p>Comprehends problem and develops a reasonable strategy or strategies to move towards the solution.</p> <p>Selects correct operation and is able to follow steps to complete problem correctly.</p> <p>Able to explain the strategy used and why it was selected. Able to identify errors in logic in solving a problem and make corrections.</p>
Explains mathematical thinking and problem	<p>Standard MP.4</p> <ul style="list-style-type: none"> Apply the mathematics they 	Able to explain aloud mathematical thinking with	Able to explain thoroughly in writing the mathematical	Able to explain thoroughly in writing the mathematical thinking

<p>solving strategies</p>	<p>know to solve problems arising in everyday life, society, and the workplace.</p> <ul style="list-style-type: none"> ● Apply proportional reasoning to plan a school event or analyze a problem in the community. ● Make assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. ● Identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. ● Analyze those relationships mathematically to draw conclusions. ● Routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose. ● Communicate precisely to others. ● Use clear definitions in discussion with others and in their own reasoning. ● State the meaning of the symbols they choose, including using the equal sign consistently and appropriately. 	<p>examples and vocabulary.</p>	<p>thinking behind solving a problem using examples and vocabulary.</p>	<p>behind solving a problem using examples and vocabulary. Able to explain why one problem-solving strategy was selected and identified as potentially more successful than another.</p>
<p>Masters basic math facts and applies them to basic computation and problem Solving</p>	<p>Standard MP.1</p> <ul style="list-style-type: none"> ● Calculate accurately and efficiently. ● Express numerical answers with a degree of precision appropriate for the problem context.. 	<p>Mastered basic math facts and used them to efficiently solve computation problems.</p>	<p>Mastered basic math facts and used them to efficiently solve computation problems and word problems.</p>	<p>Mastered basic math facts and used them to efficiently solve computation problems and complex word problems.</p>

	<ul style="list-style-type: none"> Give carefully formulated explanations to each other. 			
Converts like measurement units within a given measurement system	<p>Standard 5.MD.A.1</p> <ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Can convert standard units of measure 	<ul style="list-style-type: none"> Can interpret word problems to convert units of measurement 	<ul style="list-style-type: none"> Can solve real world scenarios involving conversions of standard measurement units
Represents and interprets data	<p>Standard 5.MD.B.2</p> <ul style="list-style-type: none"> Make a line plot to display a data set of measurements in fractions of a unit ($\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$). Use operations on fractions for this grade to solve problems involving information presented in line plots. <i>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.</i> 	<ul style="list-style-type: none"> Can graph data independently 	<ul style="list-style-type: none"> Can solve a word problem with improper fractions and line plot data 	<ul style="list-style-type: none"> Can create and analyze a line plot based on information given in a fraction word problem.
Understands concepts of volume	<p>Standard 5.MD.C.3</p> <ul style="list-style-type: none"> Recognize volume as an attribute of solid figures and understand concepts of volume measurement. <p>Standard 5.MD.C.3.A</p> <ul style="list-style-type: none"> A cube with side length 1 unit, called a "unit cube," is said to have "one cubic unit" of volume, and can be used to measure volume. <p>Standard 5.MD.C.3.B</p> <ul style="list-style-type: none"> A solid figure, which can be packed without gaps or overlaps using n unit cubes is said to have a volume of n 	<ul style="list-style-type: none"> N/A 	<ul style="list-style-type: none"> Construct a model to show volume Determine volume of a rectangular prism made up of unit cubes 	<ul style="list-style-type: none"> Can solve multi-step problems involving the volume of rectangular prisms Can calculate volume of a rectangular prism by applying formula Construct rectangular prisms using the same number of cubes but different dimensions

cubic units

Standard 5.MD.C.4

- Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and improvised units.

Standard 5.MD.C.5

- Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume.

Standard 5.MD.C.5.A

- 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, e.g., to represent the associative property of multiplication.

Standard 5.MD.C.5.B

- Apply the formulas $V = l \times w \times h$ and $V = b \times h$ 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.

Standard 5.MD.C.5.C

- 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.			
Numbers & Operations				
Understands the place value system	<p>Standard 5NBT.A.1</p> <ul style="list-style-type: none"> 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. <p>Standard 5NBT.A.2</p> <ul style="list-style-type: none"> Explain patterns in the number of zeros of the product when multiplying a number by powers of 10 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. <p>Standard 5NBT.A.3</p> <ul style="list-style-type: none"> Read, write and compare decimals to thousandths. <p>Standard 5NBT.A.3.A</p> <ul style="list-style-type: none"> Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., $347.392 = 3 \times 100 + 4 \times 10 + 7 \times 1 + 3 \times (1/10) + 9 \times (1/100) + 2 \times (1/1000)$. <p>Standard 5NBT.A.3.B</p> <ul style="list-style-type: none"> Compare two decimals to thousandths based on meanings of the digits in each place, using $>$, $=$, and $<$ symbols to record the results of comparisons. <p>Standard 5NBT.A.4</p> <ul style="list-style-type: none"> Use place value understanding to round 	<ul style="list-style-type: none"> Multiply and divide by powers of 10 Compare numbers to the millions Round and estimate numbers 	<ul style="list-style-type: none"> Read, write, and compare decimals to the thousandths Use place value to round decimals to any place 	<ul style="list-style-type: none"> Construct and solve equations for word problems related to powers of ten

	decimals to any place.			
Performs operations with multi-digit whole numbers and decimals	<p>Standard 5.NBT.B.5</p> <ul style="list-style-type: none"> Fluently multiply multi-digit whole numbers using the standard algorithm. <p>Standard 5.NBT.B.6</p> <ul style="list-style-type: none"> 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. <p>Standard 5.NBT.B.7</p> <ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Multiply multi-digit whole numbers using standard algorithm Find quotients of whole numbers with four-digit dividends and two-digit divisors 	<ul style="list-style-type: none"> Add and subtract decimals 	<ul style="list-style-type: none"> Multiply and divide decimals
Uses equivalent fractions to add and subtract fractions	<p>Standard 5.NF.A.1</p> <ul style="list-style-type: none"> 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. <p>Standard 5.NF.A.2</p> <ul style="list-style-type: none"> Solve word problems involving addition and 	<ul style="list-style-type: none"> Find equivalent fractions Compare fractions with unlike denominators 	<ul style="list-style-type: none"> Add and subtract fractions with unlike denominators 	<ul style="list-style-type: none"> Solve word problems by using models or equations

	<p>subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problems. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers</p>			
<p>Applies and extends previous understandings of multiplication and division</p>	<p>Standard 5.NF.B.3</p> <ul style="list-style-type: none"> Interpret a fraction as division of the numerator by the denominator ($a/b = a \div b$). 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? <p>Standard 5.NF.B. 4</p> <ul style="list-style-type: none"> Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction. <p>Standard 5.NF.B. 4.A</p>	<ul style="list-style-type: none"> Multiply and divide fractions(Math Focus) N/A (Everyday Math) 	<ul style="list-style-type: none"> Use models or equations to solve word problems with fractions 	<ul style="list-style-type: none"> Interpret multiplication of fractions as scaling or resizing

- Interpret the product $(a/b) \times q$ as a parts of a partition of q into b equal parts; equivalently, as the result of a sequence of operations $a \times q \div b$. For example, use a visual fraction model to show $(2/3) \times 4 = 8/3$, and create a story context for this equation. Do the same with $(2/3) \times (4/5) = 8/15$. (In general, $(a/b) \times (c/d) = ac/bd$.)

Standard 5.NF.B. 4.B

- 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.

Standard 5.NF.B.5

- Interpret multiplication as scaling (resizing), by:

Standard 5.NF.B.5.A

- Comparing the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication.

Standard 5.NF.B.5.B

- Explaining why multiplying a given number by a fraction greater than 1 results in a product greater than the given number (recognizing multiplication by whole numbers greater than 1 as a familiar case); explaining why

multiplying a given number by a fraction less than 1 results in a product smaller than the given number; and relating the principle of fraction equivalence $a/b = (n \times a)/(n \times b)$ to the effect of multiplying a/b by 1.

Standard 5.NF.B.6

- Solve real world problems involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or equations to represent the problem.

Standard 5.NF.B.7

- Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions.¹

Standard 5.NF.B.7.A

- Interpret division of a whole number by a unit fraction, and compute such quotients. For example, create a story context for $4 \div (1/5)$, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain

Standard 5.NF.B.7.B

- Interpret division of a whole number by a unit fraction, and compute such quotients. For example, create a story context for $4 \div (1/5)$, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that $4 \div (1/5) = 20$ because $20 \times (1/5) = 4$.

	<p>Standard 5.NF.B.7.C</p> <ul style="list-style-type: none"> Solve real world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions, e.g., by using visual fraction models and equations to represent the problem. For example, how much chocolate will each person get if 3 people share $\frac{1}{2}$ lb of chocolate equally? How many $\frac{1}{3}$-cup servings are in 2 cups of raisins? 			
Operations & Algebraic Thinking				
Writes and interprets numerical expressions	<p>Standard 5.OA.A. 1</p> <ul style="list-style-type: none"> Use parentheses, brackets, or braces in numerical expressions, and evaluates expressions with these symbols. <p>Standard 5OA.A.2</p> <ul style="list-style-type: none"> Write simple expressions that record calculations with numbers and interpret numerical expressions without evaluating them. 	<ul style="list-style-type: none"> N/A 	<ul style="list-style-type: none"> Solve a multi-step numerical expression with grouping symbols 	<ul style="list-style-type: none"> Can write and solve numerical expressions with grouping symbols for real world scenarios
Generates and analyzes patterns and relationships	<p>Standard 5.OA.B.3</p> <ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> N/A 	<ul style="list-style-type: none"> Generate two numerical patterns using two given rules. Identify apparent relationships between corresponding terms. 	<ul style="list-style-type: none"> Compare two sets of data using tables, graphs, and equations. Generate, graph, and compare two number patterns.