

Tested 3 times past 1- 2 years

Tested 2 times past 1-2 years

Demonstrates mastery consistently	+
Sometimes demonstrates mastery	✓
Beginning to demonstrate mastery	-
No mastery	0

Standard	Date			
1A apply mathematics to problems arising in everyday life, society, and the workplace				
1B use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution				
1C select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems				
1D communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate				
1E create and use representations to organize, record, and communicate mathematical ideas				
1F analyze mathematical relationships to connect and communicate mathematical ideas				
1G display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communication				
2A extend previous knowledge of sets and subsets using a visual representation to describe relationships between sets of real numbers				
2B approximate the value of an irrational number, including π and square roots of numbers less than 225, and locate that rational number approximation on a number line				
2C convert between standard decimal notation and scientific notation				
2D order a set of real numbers arising from mathematical and real-world contexts				
4A use similar right triangles to develop an understanding that slope, m , given as the rate comparing the change in y -values to the change in x -values, $(y_2 - y_1)/(x_2 - x_1)$, is the same for any two points (x_1, y_1) and (x_2, y_2) on the same line				
4B graph proportional relationships, interpreting the unit rate as the slope of the line that models the relationship				
4C use data from a table or graph to determine the rate of change or slope and y -intercept in mathematical and real-world problems				
5A represent linear proportional situations with tables, graphs, and equations in the form of $y = kx$				
5B represent linear non-proportional situations with tables, graphs, and equations in the form of $y = mx + b$, where $b \neq 0$;				
5E solve problems involving direct variation				
5F distinguish between proportional and non-proportional situations using tables, graphs, and equations in the form $y = kx$ or $y = mx + b$, where $b \neq 0$				
5G identify functions using sets of ordered pairs, tables, mappings, and graphs				
5H identify examples of proportional and non-proportional functions that arise from mathematical and real-world problems				
5I write an equation in the form $y = mx + b$ to model a linear relationship between two quantities using verbal, numerical, tabular, and graphical representations				
8A write one-variable equations or inequalities with variables on both sides that represent problems using rational number coefficients and constants				
8B write a corresponding real-world problem when given a one-variable equation or inequality with variables on both sides of the equal sign using rational number coefficients and constants				

Standard	Date			
8C model and solve one-variable equations with variables on both sides of the equal sign that represent mathematical and real-world problems using rational number coefficients and constants				
9A identify and verify the values of x and y that simultaneously satisfy two linear equations in the form $y = mx + b$ from the intersections of the graphed equations				
3A generalize that the ratio of corresponding sides of similar shapes are proportional, including a shape and its dilation				
3B compare and contrast the attributes of a shape and its dilation(s) on a coordinate plane				
3C use an algebraic representation to explain the effect of a given positive rational scale factor applied to two-dimensional figures on a coordinate plane with the origin as the center of dilation				
6A describe the volume formula $V = Bh$ of a cylinder in terms of its base area and its height				
6C use models and diagrams to explain the Pythagorean theorem				
7A solve problems involving the volume of cylinders, cones, and spheres				
7B use previous knowledge of surface area to make connections to the formulas for lateral and total surface area and determine solutions for problems involving rectangular prisms, triangular prisms, and cylinders				
7C use the Pythagorean theorem and its converse to solve problems				
7D determine the distance between two points on a coordinate plane using the Pythagorean theorem				
8D use informal arguments to establish facts about the angle sum and exterior angle of triangles, the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles				
10A generalize the properties of orientation and congruence of rotations, reflections, translations, and dilations of two-dimensional shapes on a coordinate plane				
10B differentiate between transformations that preserve congruence and those that do not				
10C explain the effect of translations, reflections over the x - or y -axis, and rotations limited to 90° , 180° , 270° , and 360° as applied to two dimensional shapes on a coordinate plane using an algebraic representation				
10D model the effect on linear and area measurements of dilated two dimensional shapes				
5C contrast bivariate sets of data that suggest a linear relationship with bivariate sets of data that do not suggest a linear relationship from a graphical representation				
5D use a trend line that approximates the linear relationship between bivariate sets of data to make predictions				
11A construct a scatterplot and describe the observed data to address questions of association such as linear, non-linear, and no association between bivariate data				
11B determine the mean absolute deviation and use this quantity as a measure of the average distance data are from the mean using a data set of no more than 10 data points				
12A solve real-world problems comparing how interest rate and loan length affect the cost of credit				
12C explain how small amounts of money invested regularly, including money saved for college and retirement, grow over time				
12D calculate and compare simple interest and compound interest earnings				
12G estimate the cost of a two-year and four-year college education, including family contribution, and devise a periodic savings plan for accumulating the money needed to contribute to the total cost of attendance for at least the first year of college				

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1C	select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems				
1D	communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate				
1E	create and use representations to organize, record, and communicate mathematical ideas				
1F	analyze mathematical relationships to connect and communicate mathematical ideas				
1G	display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communication				
2A	extend previous knowledge of sets and subsets using a visual representation to describe relationships between sets of rational numbers				
6A	represent sample spaces for simple and compound events using lists and tree diagrams				
6C	make predictions and determine solutions using experimental data for simple and compound events				
6D	make predictions and determine solutions using theoretical probability for simple and compound events				
6E	find the probabilities of a simple event and its complement and describe the relationship between the two				
6H	solve problems using qualitative and quantitative predictions and comparisons from simple experiments				
6I	determine experimental and theoretical probabilities related to simple and compound events using data and sample spaces				
3A	add, subtract, multiply, and divide rational numbers fluently				
3B	apply and extend previous understandings of operations to solve problems using addition, subtraction, multiplication, and division of rational numbers				
4A	represent constant rates of change in mathematical and real-world problems given pictorial, tabular, verbal, numeric, graphical, and algebraic representations, including $d = rt$				
4B	calculate unit rates from rates in mathematical and real-world problems				
4C	determine the constant of proportionality ($k = y/x$) within mathematical and real-world problems				
4D	solve problems involving ratios, rates, and percents, including multistep problems involving percent increase and percent decrease, and financial literacy problems				
7A	represent linear relationships using verbal descriptions, tables, graphs, and equations that simplify to the form $y = mx + b$.				
10A	write one-variable, two-step equations and inequalities to represent constraints or conditions within problems				
10B	represent solutions for one-variable, two-step equations and inequalities on number lines				
10C	write a corresponding real-world problem given a one-variable, twostep equation or inequality				

	Standard	Date			
11A	model and solve one-variable, two-step equations and inequalities				
11B	determine if the given value(s) make(s) one-variable, two-step equations and inequalities true				
4E	convert between measurement systems, including the use of proportions and the use of unit rates				
5A	generalize the critical attributes of similarity, including ratios within and between similar shapes				
5B	describe p as the ratio of the circumference of a circle to its diameter				
5C	solve mathematical and real-world problems involving similar shape and scale drawings				
9A	solve problems involving the volume of rectangular prisms, triangular prisms, rectangular pyramids, and triangular pyramids				
9B	determine the circumference and area of circles				
9C	determine the area of composite figures containing combinations of rectangles, squares, parallelograms, trapezoids, triangles, semicircles, and quarter circles				
9D	solve problems involving the lateral and total surface area of a rectangular prism, rectangular pyramid, triangular prism, and triangular pyramid by determining the area of the shape's net				
11C	write and solve equations using geometry concepts, including the sum of the angles in a triangle, and angle relationships				
6G	solve problems using data represented in bar graphs, dot plots, and circle graphs, including part-to-whole and part-to-part comparisons and equivalents				
12A	compare two groups of numeric data using comparative dot plots or box plots by comparing their shapes, centers, and spreads				
12B	use data from a random sample to make inferences about a population				
12C	compare two populations based on data in random samples from these populations, including informal comparative inferences about differences between the two populations				
13A	calculate the sales tax for a given purchase and calculate income tax for earned wages				
13B	identify the components of a personal budget, including income; planned savings for college, retirement, and emergencies; taxes; and fixed and variable expenses, and calculate what percentage each category comprises of the total budget				
13C	create and organize a financial assets and liabilities record and construct a net worth statement				
13D	use a family budget estimator to determine the minimum household budget and average hourly wage needed for a family to meet its basic needs in the student's city or another large city nearby				
13E	calculate and compare simple interest and compound interest earnings				
13F	analyze and compare monetary incentives, including sales, rebates, and coupons				

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1D	communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate				
1E	create and use representations to organize, record, and communicate mathematical ideas				
1F	analyze mathematical relationships to connect and communicate mathematical ideas				
1G	display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communication				
2A	classify whole numbers, integers, and rational numbers using a visual representation such as a Venn diagram to describe relationships between sets of numbers				
2B	identify a number, its opposite, and its absolute value				
2C	locate, compare, and order integers and rational numbers using a number line				
2D	order a set of rational numbers arising from mathematical and real world contexts				
2E	extend representations for division to include fraction notation such as a/b represents the same number as $a \div b$ where $b \neq 0$				
4C	give examples of ratios as multiplicative comparisons of two quantities describing the same attribute				
4D	give examples of rates as the comparison by division of two quantities having different attributes, including rates as quotients				
4E	represent ratios and percents with concrete models, fractions, and decimals				
4F	represent benchmark fractions and percents such as 1%, 10%, 25%, $33 \frac{1}{3}\%$, and multiples of these values using 10 by 10 grids, strip diagrams, number lines, and numbers				
4G	generate equivalent forms of fractions, decimals, and percents using real-world problems, including problems that involve money				
5C	use equivalent fractions, decimals, and percents to show equal parts of the same whole				
7A	generate equivalent numerical expressions using order of operations, including whole number exponents, and prime factorization				
7B	distinguish between expressions and equations verbally, numerically, and algebraically				
7C	determine if two expressions are equivalent using concrete models, pictorial models, and algebraic representations				
7D	generate equivalent expressions using the properties of operations: inverse, identity, commutative, associative, and distributive properties				

	Standard	Date			
3A	recognize that dividing by a rational number and multiplying by its reciprocal result in equivalent values				
3B	determine, with and without computation, whether a quantity is increased or decreased when multiplied by a fraction, including values greater than or less than one				
3C	represent integer operations with concrete models and connect the actions with the models to standardized algorithms				
3D	add, subtract, multiply, and divide integers fluently				
3E	multiply and divide positive rational numbers fluently				
4A	compare two rules verbally, numerically, graphically, and symbolically in the form of $y = ax$ or $y = x + a$ in order to differentiate between additive and multiplicative relationships				
4B	apply qualitative and quantitative reasoning to solve prediction and comparison of real-world problems involving ratios and rates				
5A	represent mathematical and real-world problems involving ratios and rates using scale factors, tables, graphs, and proportions				
5B	solve real-world problems to find the whole given a part and the percent, to find the part given the whole and the percent, and to find the percent given the part and the whole, including the use of concrete and pictorial models				
6A	identify independent and dependent quantities from tables and graphs				
6B	write an equation that represents the relationship between independent and dependent quantities from a table				
6C	represent a given situation using verbal descriptions, tables, graphs, and equations in the form $y = kx$ or $y = x + b$				
9A	write one-variable, one-step equations and inequalities to represent constraints or conditions within problems				
9B	represent solutions for one-variable, one-step equations and inequalities on number lines				
9C	write corresponding real-world problems given one-variable, onestep equations or inequalities				
10A	model and solve one-variable, one-step equations and inequalities that represent problems, including geometric concepts				
10B	determine if the given value(s) make(s) one-variable, one-step equations or inequalities true				
4H	convert units within a measurement system, including the use of proportions and unit rates				
8A	extend previous knowledge of triangles and their properties to include the sum of angles of a triangle, the relationship between the lengths of sides and measures of angles in a triangle, and determining when three lengths form a triangle				
8B	model area formulas for parallelograms, trapezoids, and triangles by decomposing and rearranging parts of these shapes				
8C	write equations that represent problems related to the area of rectangles, parallelograms, trapezoids, and triangles and volume of right rectangular prisms where dimensions are positive rational numbers				
8D	determine solutions for problems involving the area of rectangles, parallelograms, trapezoids, and triangles and volume of right rectangular prisms where dimensions are positive rational numbers				
11A	graph points in all four quadrants using ordered pairs of rational numbers				

Student Name

Grade

6th Gr Mathematics Mastery Tracker

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	Standard	Date			
12A	represent numeric data graphically, including dot plots, stem-and leaf plots, histograms, and box plots				
12B	use the graphical representation of numeric data to describe the center, spread, and shape of the data distribution				
12C	summarize numeric data with numerical summaries, including the mean and median (measures of center) and the range and interquartile range (IQR) (measures of spread), and use these summaries to describe the center, spread, and shape of the data distribution				
12D	summarize categorical data with numerical and graphical summaries, including the mode, the percent of values in each category (relative frequency table), and the percent bar graph, and use these summaries to describe the data distribution				
13A	interpret numeric data summarized in dot plots, stem-and-leaf plots, histograms, and box plots				
13B	distinguish between situations that yield data with and without variability				
14A	compare the features and costs of a checking account and a debit card offered by different local financial institutions				
14B	distinguish between debit cards and credit cards				
14C	balance a check register that includes deposits, withdrawals, and transfers				
14E	describe the information in a credit report and how long it is retained				
14F	describe the value of credit reports to borrowers and to lenders;				
14G	explain various methods to pay for college, including through savings, grants, scholarships, student loans, and work-study				
14H	compare the annual salary of several occupations requiring various levels of post-secondary education or vocational training and calculate the effects of the different annual salaries on lifetime income				

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1C	select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems				
1D	communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate				
1E	create and use representations to organize, record, and communicate mathematical ideas				
1F	analyze mathematical relationships to connect and communicate mathematical ideas				
1G	display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communication				
2A	represent the value of the digit in decimals through the thousandths using expanded notation and numerals				
2B	compare and order two decimals to thousandths and represent comparisons using the symbols $>$, $<$, or $=$				
2C	round decimals to tenths or hundredths				
3A	estimate to determine solutions to mathematical and real-world problems involving addition, subtraction, multiplication, or division				
3B	multiply with fluency a three-digit number by a two-digit number using the standard algorithm				
3C	solve with proficiency for quotients of up to a four-digit dividend by a two-digit divisor using strategies and the standard algorithm				
3D	represent multiplication of decimals with products to the hundredths using objects and pictorial models, including area models				
3E	solve for products of decimals to the hundredths, including situations involving money, using strategies based on place-value understandings, properties of operations, and the relationship to the multiplication of whole numbers				
3F	represent quotients of decimals to the hundredths, up to four-digit dividends and two-digit whole number divisors, using objects and pictorial models, including area models				
3G	solve for quotients of decimals to the hundredths, up to four-digit dividends and two-digit whole number divisors, using strategies and algorithms, including the standard algorithm				
3H	represent and solve addition and subtraction of fractions with unequal denominators referring to the same whole using objects and pictorial models and properties of operations				
3I	represent and solve multiplication of a whole number and a fraction that refers to the same whole using objects and pictorial models, including area models				
3J	represent division of a unit fraction by a whole number and the division of a whole number by a unit fraction such as $1/3 \div 7$ and $7 \div 1/3$ using objects and pictorial models, including area models				
3K	add and subtract positive rational numbers fluently				
3L	divide whole numbers by unit fractions and unit fractions by whole numbers				

	Standard	Date			
4A	identify prime and composite numbers				
4B	represent and solve multi-step problems involving the four operations with whole numbers using equations with a letter standing for the unknown quantity				
4C	generate a numerical pattern when given a rule in the form $y = ax$ or $y = x + a$ and graph;				
4D	recognize the difference between additive and multiplicative numerical patterns given in a table or graph				
4E	describe the meaning of parentheses and brackets in a numeric expression				
4F	simplify numerical expressions that do not involve exponents, including up to two levels of grouping;				
4G	use concrete objects and pictorial models to develop the formulas for the volume of a rectangular prism, including the special form for a cube ($V = l \times w \times h$, $V = s \times s \times s$, and $V = Bh$)				
4H	represent and solve problems related to perimeter and/or area and related to volume				
5A	classify two-dimensional figures in a hierarchy of sets and subsets using graphic organizers based on their attributes and properties				
6A	recognize a cube with side length of one unit as a unit cube having one cubic unit of volume and the volume of a three-dimensional figure as the number of unit cubes (n cubic units) needed to fill it with no gaps or overlaps if possible				
6B	determine the volume of a rectangular prism with whole number side lengths in problems related to the number of layers times the number of unit cubes in the area of the base				
7A	solve problems by calculating conversions within a measurement system, customary or metric.				
8A	describe the key attributes of the coordinate plane, including perpendicular number lines (axes) where the intersection (origin) of the two lines coincides with zero on each number line and the given point $(0, 0)$; the x -coordinate, the first number in an ordered pair, indicates movement parallel to the x -axis starting at the origin; and the y -coordinate, the second number, indicates movement parallel to the y -axis starting at the origin				
8B	describe the process for graphing ordered pairs of numbers in the first quadrant of the coordinate plane				
8C	graph in the first quadrant of the coordinate plane ordered pairs of numbers arising from mathematical and real-world problems, including those generated by number patterns or found in an input-output table				
9A	represent categorical data with bar graphs or frequency tables and numerical data, including data sets of measurements in fractions or decimals, with dot plots or stem-and-leaf plots				
9B	represent discrete paired data on a scatterplot				
9C	solve one- and two-step problems using data from a frequency table, dot plot, bar graph, stem-and-leaf plot, or scatterplot				
10A	define income tax, payroll tax, sales tax, and property tax				
10B	explain the difference between gross income and net income;				
10C	identify the advantages and disadvantages of different methods of payment, including check, credit card, debit card, and electronic payments				
10D	develop a system for keeping and using financial records				
10E	describe actions that might be taken to balance a budget balance a simple budget when expenses exceed income				
10F	balance a simple budget.				

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1C	select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems				
1D	communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate				
1E	create and use representations to organize, record, and communicate mathematical ideas				
1F	analyze mathematical relationships to connect and communicate mathematical ideas				
1G	display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communication				
2A	interpret the value of each place-value position as 10 times the position to the right and as one-tenth of the value of the place to its left				
2B	represent the value of the digit in whole numbers through 1,000,000,000 and decimals to the hundredths using expanded notation and numerals				
2C	compare and order whole numbers to 1,000,000,000 and represent comparisons using the symbols >, <, and =				
2D	round whole numbers to a given place value through the hundred thousands place				
2E	represent decimals, including tenths and hundredths, using concrete and visual models and money				
2F	compare and order decimals using concrete and visual models to the hundredths				
2G	relate decimals to fractions that name tenths and hundredths				
2H	determine the corresponding decimal to the tenths or hundredths place of a specified point on a number line				
3A	represent a fraction a/b as a sum of fractions $1/b$, where a and b are whole numbers and $b > 0$, including when $a > b$				
3B	decompose a fraction in more than one way into a sum of fractions with the same denominator using concrete and pictorial models and recording results with symbolic representations				
3C	determine if two given fractions are equivalent using a variety of methods				
3D	compare two fractions with different numerators and different denominators and represent the comparison using the symbols >, =, or <				
3G	represent fractions and decimals to the tenths or hundredths as distances from zero on a number line				
3E	represent and solve addition and subtraction of fractions with equal denominators using objects and pictorial models that build to the number line and properties of operations				
3F	evaluate the reasonableness of sums and differences of fractions using benchmark fractions 0, $1/4$, $1/2$, $3/4$, and 1, referring to the same whole				
4A	add and subtract whole numbers and decimals to the hundredths place using the standard algorithm				
4B	determine products of a number and 10 or 100 using properties of operations and place value understandings				

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4C	represent the product of 2 two-digit numbers using arrays, area models, or equations, including perfect squares through 15 by 15				
4D	use strategies and algorithms, including the standard algorithm, to multiply up to a four-digit number by a one-digit number and to multiply a two-digit number by a two-digit number. Strategies may include mental math, partial products, and the commutative, associative, and distributive properties				
4E	represent the quotient of up to a four-digit whole number divided by a one-digit whole number using arrays, area models, or equations				
4F	use strategies and algorithms, including the standard algorithm, to divide up to a four-digit dividend by a one-digit divisor				
4G	round to the nearest 10, 100, or 1,000 or use compatible numbers to estimate solutions involving whole numbers				
4H	solve with fluency one- and two-step problems involving multiplication and division, including interpreting remainders				
5A	represent multi-step problems involving the four operations with whole numbers using strip diagrams and equations with a letter standing for the unknown quantity				
5B	represent problems using an input-output table and numerical expressions to generate a number pattern that follows a given rule representing the relationship of the values in the resulting sequence and their position in the sequence				
5D	solve problems related to perimeter and area of rectangles where dimensions are whole numbers				
6A	identify points, lines, line segments, rays, angles, and perpendicular and parallel lines				
6B	identify and draw one or more lines of symmetry, if they exist, for a two-dimensional figure				
6C	apply knowledge of right angles to identify acute, right, and obtuse triangles.				
6D	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				
7C	determine the approximate measures of angles in degrees to the nearest whole number using a protractor				
7D	draw an angle with a given measure				
7E	determine the measure of an unknown angle formed by two nonoverlapping adjacent angles given one or both angle measures				
8A	identify relative sizes of measurement units within the customary and metric systems				
8B	convert measurements within the same measurement system, customary or metric, from a smaller unit into a larger unit or a larger unit into a smaller unit when given other equivalent measures represented in a table				
8C	solve problems that deal with measurements of length, intervals of time, liquid volumes, mass, and money using addition, subtraction, multiplication, or division as appropriate				
9A	represent data on a frequency table, dot plot, or stem-and-leaf plot marked with whole numbers and fractions				
9B	solve one- and two-step problems using data in whole number, decimal, and fraction form in a frequency table, dot plot, or stem and-leaf plot				
10A	distinguish between fixed and variable expenses				
10B	calculate profit in a given situation				
10E	describe the basic purpose of financial institutions, including keeping money safe, borrowing money, and lending				

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1G	display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communication				
2A	compose and decompose numbers up to 100,000 as a sum of so many ten thousands, so many thousands, so many hundreds, so many tens, and so many ones using objects, pictorial models, and numbers, including expanded notation as appropriate				
2B	describe the mathematical relationships found in the base-10 place value system through the hundred thousands place				
2C	represent a number on a number line as being between two consecutive multiples of 10; 100; 1,000; or 10,000 and use words to describe relative size of numbers in order to round whole numbers; and				
2D	compare and order whole numbers up to 100,000 and represent comparisons using the symbols >, <, =				
3A	represent fractions greater than zero and less than or equal to one with denominators of 2, 3, 4, 6, and 8 using concrete objects and pictorial models, including strip diagrams and number lines				
3B	determine the corresponding fraction greater than zero and less than or equal to one with denominators of 2, 3, 4, 6, and 8 given a specified point on a number line				
3C	explain that the unit fraction 1/b represents the quantity formed by one part of a whole that has been partitioned into b equal parts where b is a non-zero whole number				
3D	compose and decompose a fraction a/b with a numerator greater than zero and less than or equal to a as a sum of parts 1/b				
3E	solve problems involving partitioning an object or a set of objects among two or more recipients using pictorial representations of fractions with denominators of 2, 3, 4, 6, and 8				
3F	represent equivalent fractions with denominators of 2, 3, 4, 6, and 8 using a variety of objects and pictorial models, including number lines				
3G	explain that two fractions are equivalent if and only if they are both represented by the same point on the number line or represent the same portion of a same size whole for an area model				
3H	compare two fractions having the same numerator or denominator in problems by reasoning about their sizes and justifying the conclusion using symbols, words, objects, and pictorial models				
4I	determine if a number is even or odd using divisibility rules				
7A	represent fractions of halves, fourths, and eighths as distances from zero on a number line				

	Standard	Date			
4A	solve with fluency one-step and two-step problems involving addition and subtraction within 1,000 using strategies based on place value, properties of operations, and the relationship between addition and subtraction				
4B	round to the nearest 10 or 100 or use compatible numbers to estimate solutions to addition and subtraction problems				
4D	round to the nearest 10 or 100 or use compatible numbers to estimate solutions to addition and subtraction problems				
4E	represent multiplication facts by using a variety of approaches such as repeated addition, equal-sized groups, arrays, area models, equal jumps on a number line, and skip counting				
4F	recall facts to multiply up to 10 by 10 with automaticity and recall the corresponding division facts				
4G	use strategies and algorithms, including the standard algorithm, to multiply a two-digit number by a one-digit number. Strategies may include mental math, partial products, and the commutative, associative, and distributive properties				
4H	determine the number of objects in each group when a set of objects is partitioned into equal shares or a set of objects is shared equally				
4J	determine a quotient using the relationship between multiplication and division				
4K	solve one-step and two-step problems involving multiplication and division within 100 using strategies based on objects; pictorial models, including arrays, area models, and equal groups; properties of operations; or recall of facts				
5A	represent one- and two-step problems involving addition and subtraction of whole numbers to 1,000 using pictorial models, number lines, and equations				
5B	represent and solve one- and two-step multiplication and division problems within 100 using arrays, strip diagrams, and equations				
5C	describe a multiplication expression as a comparison such as 3 x 24 represents 3 times as much as 24				
5D	determine the unknown whole number in a multiplication or division equation relating three whole numbers when the unknown is either a missing factor or product				
5E	represent real-world relationships using number pairs in a table and verbal descriptions				
6A	classify and sort two- and three-dimensional figures, including cones, cylinders, spheres, triangular and rectangular prisms, and cubes, based on attributes using formal geometric language				
6B	use attributes to recognize rhombuses, parallelograms, trapezoids, rectangles, and squares as examples of quadrilaterals and draw examples of quadrilaterals that do not belong to any of these subcategories				
6C	determine the area of rectangles with whole number side lengths in problems using multiplication related to the number of rows times the number of unit squares in each row				
6D	decompose composite figures formed by rectangles into nonoverlapping rectangles to determine the area of the original figure using the additive property of area				
6E	decompose two congruent two-dimensional figures into parts with equal areas and express the area of each part as a unit fraction of the whole and recognize that equal shares of identical wholes need not have the same shape				
7B	determine the perimeter of a polygon or a missing length when given perimeter and remaining side lengths in problems				
7C	determine the solutions to problems involving addition and subtraction of time intervals in minutes using pictorial models or tools such as a 15-minute event plus a 30-minute event equals 45 minutes				
7D	determine when it is appropriate to use measurements of liquid volume (capacity) or weight				
7E	determine liquid volume (capacity) or weight using appropriate units and tools				

Student Name

Grade

3rd Gr Mathematics Mastery Tracker

Tested 3 times past 2 years

Tested 2 times past 1-2 years

Demonstrates mastery consistently	+
Sometimes demonstrates mastery	✓
Beginning to demonstrate mastery	-
No mastery	0

	Standard	Date				
4C	determine the value of a collection of coins and bills					
8A	summarize a data set with multiple categories using a frequency table, dot plot, pictograph, or bar graph with scaled intervals					
8B	solve one- and two-step problems using categorical data represented with a frequency table, dot plot, pictograph, or bar graph with scaled intervals					
9A	explain the connection between human capital/labor and income					
9B	describe the relationship between the availability or scarcity of resources and how that impacts cost					
9D	explain that credit is used when wants or needs exceed the ability to pay and that it is the borrower's responsibility to pay it back to the lender, usually with interest					
9E	list reasons to save and explain the benefit of a savings plan, including for college					

Student Name

Grade

2nd Gr Mathematics Mastery Tracker

Demonstrates mastery consistently
 Sometimes demonstrates mastery
 Beginning to demonstrate mastery
 No mastery

+
 ✓
 -
 0

	Standard	Date			
1A	apply mathematics to problems arising in everyday life, society, and the workplace				
1B	use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution				
1C	select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems				
1D	communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate				
1E	create and use representations to organize, record, and communicate mathematical ideas				
1F	analyze mathematical relationships to connect and communicate mathematical ideas				
1G	display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communication				
2A	use concrete and pictorial models to compose and decompose numbers up to 1,200 in more than one way as a sum of so many thousands, hundreds, tens, and ones				
2B	use standard, word, and expanded forms to represent numbers up to 1,200				
2C	generate a number that is greater than or less than a given whole number up to 1,200				
2D	use place value to compare and order whole numbers up to 1,200 using comparative language, numbers, and symbols (>, <, or =)				
2E	locate the position of a given whole number on an open number line				
2F	name the whole number that corresponds to a specific point on a number line				
3A	partition objects into equal parts and name the parts, including halves, fourths, and eighths, using words				
3B	explain that the more fractional parts used to make a whole, the smaller the part; and the fewer the fractional parts, the larger the part				
3C	use concrete models to count fractional parts beyond one whole using words and recognize how many parts it takes to equal one whole				
3D	identify examples and non-examples of halves, fourths, and eighths				
4A	recall basic facts to add and subtract within 20 with automaticity				
4B	add up to four two-digit numbers and subtract two-digit numbers using mental strategies and algorithms based on knowledge of place value and properties of operations				
4C	solve one-step and multi-step word problems involving addition and subtraction within 1,000 using a variety of strategies based on place value, including algorithms				
4D	generate and solve problem situations for a given mathematical number sentence involving addition and subtraction of whole numbers within 1,000				
5A	determine the value of a collection of coins up to one dollar				
5B	use the cent symbol, dollar sign, and the decimal point to name the value of a collection of coins				
6A	model, create, and describe contextual multiplication situations in which equivalent sets of concrete objects are joined				
6B	model, create, and describe contextual division situations in which a set of concrete objects is separated into equivalent sets				

	Standard	Date			
7A	determine whether a number up to 40 is even or odd using pairings of objects to represent the number				
7B	use an understanding of place value to determine the number that is 10 or 100 more or less than a given number up to 1,200				
7C	represent and solve addition and subtraction word problems where unknowns may be any one of the terms in the problem				
8A	create two-dimensional shapes based on given attributes, including number of sides and vertices				
8B	classify and sort three-dimensional solids, including spheres, cones, cylinders, rectangular prisms (including cubes as special rectangular prisms), and triangular prisms, based on attributes using formal geometric language				
8C	classify and sort polygons with 12 or fewer sides according to attributes, including identifying the number of sides and number of vertices				
8D	compose two-dimensional shapes and three-dimensional solids with given properties or attributes				
8E	decompose two-dimensional shapes such as cutting out a square from a rectangle, dividing a shape in half, or partitioning a rectangle into identical triangles and identify the resulting geometric parts				
9A	find the length of objects using concrete models for standard units of length				
9B	describe the inverse relationship between the size of the unit and the number of units needed to equal the length of an object				
9C	represent whole numbers as distances from any given location on a number line				
9D	determine the length of an object to the nearest marked unit using rulers, yardsticks, meter sticks, or measuring tapes				
9E	determine a solution to a problem involving length, including estimating lengths				
9F	use concrete models of square units to find the area of a rectangle by covering it with no gaps or overlaps, counting to find the total number of square units, and describing the measurement using a number and the unit				
9G	read and write time to the nearest one-minute increment using analog and digital clocks and distinguish between a.m. and p.m.				
10A	explain that the length of a bar in a bar graph or the number of pictures in a pictograph represents the number of data points for a given category				
10B	organize a collection of data with up to four categories using pictographs and bar graphs with intervals of one or more				
10C	write and solve one-step word problems involving addition or subtraction using data represented within pictographs and bar graphs with intervals of one				
10D	draw conclusions and make predictions from information in a graph				
11A	calculate how money saved can accumulate into a larger amount over time				
11B	explain that saving is an alternative to spending				
11C	distinguish between a deposit and a withdrawal				
11D	identify examples of borrowing and distinguish between responsible and irresponsible borrowing				
11E	identify examples of lending and use concepts of benefits and costs to evaluate lending decisions				
11F	differentiate between producers and consumers and calculate the cost to produce a simple item				

Student Name

Grade

1st Gr Mathematics Mastery Tracker

Demonstrates mastery consistently
 Sometimes demonstrates mastery
 Beginning to demonstrate mastery
 No mastery

+
 ✓
 -
 0

	Standard	Date			
1A	apply mathematics to problems arising in everyday life, society, and the workplace				
1B	use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution				
1C	select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems				
1D	communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate				
1E	create and use representations to organize, record, and communicate mathematical ideas				
1F	analyze mathematical relationships to connect and communicate mathematical ideas				
1G	display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communication				
2A	recognize instantly the quantity of structured arrangements				
2B	use concrete and pictorial models to compose and decompose numbers up to 120 in more than one way as so many hundreds, so many tens, and so many ones				
2C	use objects, pictures, and expanded and standard forms to represent numbers up to 120				
2D	generate a number that is greater than or less than a given whole number up to 120				
2E	use place value to compare whole numbers up to 120 using comparative language				
2F	order whole numbers up to 120 using place value and open number lines				
3A	use concrete and pictorial models to determine the sum of a multiple of 10 and a one-digit number in problems up to 99				
3B	explain that the more fractional parts used to make a whole, the smaller the part; and the fewer the fractional parts, the larger the part				
3C	use concrete models to count fractional parts beyond one whole using words and recognize how many parts it takes to equal one whole				
3D	identify examples and non-examples of halves, fourths, and eighths				
3E	recall basic facts to add and subtract within 20 with automaticity				
3F	add up to four two-digit numbers and subtract two-digit numbers using mental strategies and algorithms based on knowledge of place value and properties of operations				
4A	solve one-step and multi-step word problems involving addition and subtraction within 1,000 using a variety of strategies based on place value, including algorithms				
4B	generate and solve problem situations for a given mathematical number sentence involving addition and subtraction of whole numbers within 1,000				
4C	determine the value of a collection of coins up to one dollar				

	Standard	Date			
5A	recite numbers forward and backward from any given number between 1 and 120				
5B	skip count by twos, fives, and tens to determine the total number of objects up to 120 in a set				
5C	use relationships to determine the number that is 10 more and 10 less than a given number up to 120				
5D	represent word problems involving addition and subtraction of whole numbers up to 20 using concrete and pictorial models and number sentences				
5E	understand that the equal sign represents a relationship where expressions on each side of the equal sign represent the same value(s)				
5F	determine the unknown whole number in an addition or subtraction equation when the unknown may be any one of the three or four terms in the equation				
5G	apply properties of operations to add and subtract two or three numbers				
6A	classify and sort regular and irregular two-dimensional shapes based on attributes using informal geometric language				
6B	distinguish between attributes that define a two-dimensional or three-dimensional figure and attributes that do not define the shape				
6C	create two-dimensional figures, including circles, triangles, rectangles, and squares, as special rectangles, rhombuses, and hexagons				
6D	identify two-dimensional shapes, including circles, triangles, rectangles, and squares, as special rectangles, rhombuses, and hexagons and describe their attributes using formal geometric language				
6E	identify three-dimensional solids, including spheres, cones, cylinders, rectangular prisms (including cubes), and triangular prisms, and describe their attributes using formal geometric language				
6F	compose two-dimensional shapes by joining two, three, or four figures to produce a target shape in more than one way if possible				
6G	partition two-dimensional figures into two and four fair shares or equal parts and describe the parts using words				
6H	identify examples and non-examples of halves and fourths				
7A	use measuring tools to measure the length of objects to reinforce the continuous nature of linear measurement				
7B	illustrate that the length of an object is the number of same-size units of length that, when laid end-to-end with no gaps or overlaps, reach from one end of the object to the other				
7C	measure the same object/distance with units of two different lengths and describe how and why the measurements differ				
7D	describe a length to the nearest whole unit using a number and a unit				
7E	tell time to the hour and half hour using analog and digital clocks				
8A	collect, sort, and organize data in up to three categories using models/representations such as tally marks or T-charts				
8B	use data to create picture and bar-type graphs				
8C	draw conclusions and generate and answer questions using information from picture and bar-type graphs				
9A	define money earned as income				
9B	identify income as a means of obtaining goods and services, oftentimes making choices between wants and needs				
9C	distinguish between spending and saving				
9D	consider charitable giving				

Student Name

Grade

Kinder Mathematics Mastery Tracker

Demonstrates mastery consistently	+
Sometimes demonstrates mastery	✓
Beginning to demonstrate mastery	-
No mastery	o

	Standard	Date				
1A	apply mathematics to problems arising in everyday life, society, and the workplace					
1B	use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution					
1C	select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems					
1D	communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate					
1E	create and use representations to organize, record, and communicate mathematical ideas					
1F	analyze mathematical relationships to connect and communicate mathematical ideas					
1G	display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communication					
2A	count forward and backward to at least 20 with and without objects					
2B	read, write, and represent whole numbers from 0 to at least 20 with and without objects or pictures					
2C	count a set of objects up to at least 20 and demonstrate that the last number said tells the number of objects in the set regardless of their arrangement or order					
2D	recognize instantly the quantity of a small group of objects in organized and random arrangements					
2E	generate a set using concrete and pictorial models that represents a number that is more than, less than, and equal to a given number up to 20					
2F	generate a number that is one more than or one less than another number up to at least 20					
2G	compare sets of objects up to at least 20 in each set using comparative language					
2H	use comparative language to describe two numbers up to 20 presented as written numerals					
2I	compose and decompose numbers up to 10 with objects and pictures					
3A	model the action of joining to represent addition and the action of separating to represent subtraction					
3B	solve word problems using objects and drawings to find sums up to 10 and differences within 10					
3C	explain the strategies used to solve problems involving adding and subtracting within 10 using spoken words, concrete and pictorial models, and number sentences					
4	identify U.S. coins by name, including pennies, nickels, dimes, and quarters					
5	recite numbers up to at least 100 by ones and tens beginning with any given number					

	Standard	Date				
6A	identify two-dimensional shapes, including circles, triangles, rectangles, and squares as special rectangles					
6B	identify three-dimensional solids, including cylinders, cones, spheres, and cubes, in the real world					
6C	identify two-dimensional components of three-dimensional objects					
6D	identify attributes of two-dimensional shapes using informal and formal geometric language interchangeably					
6E	classify and sort a variety of regular and irregular two- and three-dimensional figures regardless of orientation or size					
6F	create two-dimensional shapes using a variety of materials and drawings					
7A	give an example of a measurable attribute of a given object, including length, capacity, and weight					
7B	compare two objects with a common measurable attribute to see which object has more of/less of the attribute and describe the difference					
8A	collect, sort, and organize data into two or three categories;					
8B	use data to create real-object and picture graphs					
8C	draw conclusions from real-object and picture graphs					
9A	identify ways to earn income					
9B	differentiate between money received as income and money received as gifts					
9C	list simple skills required for jobs					
9D	distinguish between wants and needs and identify income as a source to meet one's wants and needs					

Student Name

Grade

Pre-K Mathematics Mastery Tracker

Demonstrates mastery consistently	+
Sometimes demonstrates mastery	✓
Beginning to demonstrate mastery	-
No mastery	0

	Standard	Date				
A1	Child knows that objects, or parts of an object, can be counted (can organize objects into a row and begin counting, identifies that objects can be counted)					
A2	Child uses words to rote count from 1 to 30 (recites numbers up to 30, and can recite numbers in order by starting from a number other than one)					
A3	Child counts 1– 10 items, with one count per item (moves or touches items when counting and uses a one- to- one correspondence; knows each finger represents a count of one)					
AA	Child demonstrates that the order of the counting sequence is always the same, regardless of what is counted (counts various items in the correct order in various settings)					
A5	Child counts up to 10 items and demonstrates that the last count indicates how many items were counted (counts a number of items and states the number)					
A6	Child demonstrates understanding that when counting, the items can be chosen in any order (counts 2-10 objects in different orders like left to right, right to left, and top to bottom)					
A7	Child uses the verbal ordinal terms (uses ordinal numbers up to five: first, second, third, fourth, and fifth; can communicate sequence and place using ordinal terms)					
A8	Child verbally identifies, without counting, the number of objects from 1 to 5 (looks at up to 5 objects and says the number without counting; uses the words equal, more, less, or fewer to describe sets up to 5 objects, etc.)					
A9	Child recognizes one-digit numerals, 0–9 (says the name of numerals written down, performs a number of actions indicated by a written numeral, etc.)					
B1	Child uses concrete objects, creates pictorial models and shares a verbal word problem for adding up to 5 objects (can add parts to a number using objects or fingers, counts objects from sets that can be joined, counting on from a larger set, etc.)					
B2	Child uses concrete models or makes a verbal word problem for subtracting 0–5 objects from a set (can separate parts of a number using objects or fingers, uses a five frame to organize work, creates verbal word problems)					
B3	Child uses informal strategies to separate up to 10 items into equal groups (trading several small items equivalent to a larger one, sharing up to 10 items with a friend, and using a ten frame to organize work)					

	Standard	Date				
C1	Child names common shapes (square, rectangle, triangle, circle, etc.; can identify common objects with the given shape)					
C2	Child creates shapes (including creating new shapes by putting together two or more shapes, using vocabulary to describe shapes, and puts together or takes apart solids to make other solids like a sphere or cone)					
C3	Child demonstrates use of location words (such as “over,” “under,” “above,” “on,” “beside,” “next to,” “between,” “in front of,” “near,” “far,” etc.)					
C4	Child slides, flips, and turns shapes to demonstrate that the shapes remain the same (including turning clockwise, counterclockwise)					
D1	Child recognizes and compares heights or lengths of people or objects (uses language like taller, shorter, longer, smaller, etc. Can draw objects of varying heights or lengths, etc.)					
D2	Child recognizes how much can be placed within an object (defines by size, smallest to largest, etc.; compares capacity between objects)					
D3	Child informally recognizes and compares weights of objects or people (uses terms like heavy, light, more than, etc.)					
D4	Child uses language to describe concepts associated with the passing of time (morning, after snack, tomorrow, yesterday sequence of events in a day, etc.)					
E1	Child sorts objects that are the same and different into groups and uses language to describe how the groups are similar and different					
E2	Child collects data and organizes it in a graphic representation (uses mathematical language: more, less, same, longer; compares data on charts and graphs; checks yes or no on graphs, etc.)					
E3	Child recognizes and creates patterns (AB, AABB, ABC patterns)					

