Grade 5 Progress Report Rubrics Mathematics

Operations and Algebraic Thinking

Write and Interpret Numerical Expressions (5.OA.1, 5.OA.2)				
Marking Period	1	2	3	4
1	Unable to: *Read, write, interpret and simplify expressions using numbers and symbols to represent a simple situation; *Apply order of operations to simplify expressions and equations.	Requires teacher prompting and support to: *Read, write, interpret and simplify expressions using numbers and symbols to represent a simple situation; *Apply order of operations to simplify expressions and equations.	Consistently and independently able to: *Read, write, interpret and simplify expressions using numbers and symbols to represent a simple situation; *Apply order of operations to simplify expressions and equations.	Meets the criteria for all 3 and uses properties of operations and grouping symbols to generate equivalent expressions using numbers.
2	Reassess as Needed.			
3	Unable to: *Read, write, interpret and simplify expressions using numbers, symbols, and variables to represent a simple situation; *Apply order of operations to simplify expressions and equations with variables.	Requires teacher prompting and support to: *Read, write, interpret and simplify expressions using numbers, symbols, and variables to represent a simple situation; *Apply order of operations to simplify expressions and equations with variables.	Consistently and independently able to: *Read, write, interpret and simplify expressions using numbers, symbols, and variables to represent a simple situation; *Apply order of operations to simplify expressions and equations with variables.	Meets the criteria for all 3 and uses properties of operations and grouping symbols to generate equivalent expressions using numbers and variables.

Analyze Patterns and Relationships (5.OA.3)				
Marking Period	1	2	3	4
1				
2				
3	Unable to do each of the following: *Generate and extend numerical patterns; *Identify relationships between corresponding terms in two patterns; *Graph points in a coordinate plane and use them to represent and solve real-world problems.	Requires teacher prompting and support to do each of the following: *Generate and extend numerical patterns; *Identify relationships between corresponding terms in two patterns; *Graph points in a coordinate plane and use them to represent and solve real-world problems.	Consistently and independently able to do each of the following: *Generate and extend numerical patterns; *Identify relationships between corresponding terms in two patterns; *Graph points in a coordinate plane and use them to represent and solve real-world problems.	Meets the criteria for all 3 and is able to independently create and chart a pattern on the coordinate plane and explain a rule for extending that pattern.

Numbers and Operations in Base Ten

Understanding the Place Value System. (5.NBT.1, 5.NBT.2, 5.NBT.3, 5.NBT.4)				
Marking Period	1	2	3	4
1	Unable to: *Recognize that a digit in one place represents ten 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 using whole numbers. *Explain patterns and the number of zeros of the product when multiplying or dividing a number by powers of 10 using whole numbers. *Use whole number exponents to denote powers of 10 using whole numbers.	Requires teacher prompting and support to: *Recognize that a digit in one place represents ten 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 using whole numbers. *Explain patterns and the number of zeros of the product when multiplying or dividing a number by powers of 10 using whole numbers *Use whole number exponents to denote powers of 10 using whole numbers.	Consistently and independently able to do each of the following: *Recognize that a digit in one place represents ten 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 using whole numbers. *Explain patterns and the number of zeros of the product when multiplying or dividing a number by powers of 10 using whole numbers *Use whole number exponents to denote powers of 10 using whole numbers.	Meets the criteria for all 3 and is able to consistently and independently apply the place system to solve real-world application problems.
2	Unable to: *Recognize that a digit in one place represents ten 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 using fractions and decimals. *Explain patterns and the number of zeros of the product when multiplying or dividing a number by powers of 10 using fractions and decimals *Use whole number exponents to denote powers of 10 using fractions and decimals *Read, write and compare decimals to the thousandths place using base 10 numerals, number names and expanded form using fractions and decimals; *Use place value understanding to round decimals to any place.	Requires teacher prompting and support to: *Recognize that a digit in one place represents ten 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; *Explain patterns and the number of zeros of the product when multiplying or dividing a number by powers of 10; *Use whole number exponents to denote powers of 10; *Read, write and compare decimals to the thousandths place using base 10 numerals, number names and expanded form; *Use place value understanding to round decimals to any place.	Consistently and independently able to do each of the following: *Recognize that a digit in one place represents ten 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; *Explain patterns and the number of zeros of the product when multiplying or dividing a number by powers of 10; *Use whole number exponents to denote powers of 10; *Read, write and compare decimals to the thousandths place using base 10 numerals, number names and expanded form; *Use place value understanding to round decimals to any place.	Meets the criteria for all 3 and is able to consistently and independently apply the place system to solve real-world application problems.
3	Reassess as needed			

Perform operations with multi-digit whole numbers and with decimals to the hundredths place. (5.NBT.5, 5.NBT.6, 5.NBT.7)				
Marking Period	1	2	3	4
1	Unable to: *Fluently multiply multi-digit numbers using the standard algorithm to solve problems involving whole numbers; *Use place value strategies, properties of operations and/or the relationship between multiplication and division to find whole number quotients with up to four digit dividends and two digit divisors.	Requires teacher prompting and support to: *Fluently multiply multi-digit numbers using the standard algorithm to solve problems involving whole numbers; *Use place value strategies, properties of operations and/or the relationship between multiplication and division to find whole number quotients with up to four digit dividends and two digit divisors.	Consistently and independently able to: *Fluently multiply multi-digit numbers using the standard algorithm to solve problems involving whole numbers; *Use place value strategies, properties of operations and/or the relationship between multiplication and division to find whole number quotients with up to four digit dividends and two digit divisors.	Meets the criteria for all 3 and extends the standard to include solving real world application problems involving both multiplication and division.
2	Unable to: *Perform arithmetic operations on decimals and justify the calculations with concrete models and equations.	Requires teacher prompting and support to: *Perform arithmetic operations on decimals and justify the calculations with concrete models and equations.	Consistently and independently able to: *Perform arithmetic operations on decimals and justify the calculations with concrete models and equations.	Meets the criteria for all 3 and extends the standard to include solving real world application problems involving three digit divisors and decimals to the thousandths place.
3	Reassess as needed			

Numbers and Operations - Fractions

Use equivalent fractions as a strategy to add and subtract fractions. (5.NF.1, 5.NF.2)				
Marking Period	1	2	3	4
1	Unable to: *Add and subtract fractions and mixed numbers with unlike denominators by finding equivalent fractions using visual fraction models (area models, number lines, etc.) and/or standard algorithm. *Solve word problems involving addition and subtraction of fractions and mixed numbers with unlike denominators by finding equivalent fractions using visual fraction models (area models, number lines, etc.) and/or standard algorithm.	Requires teacher prompting and support to: *Add and subtract fractions and mixed numbers with unlike denominators by finding equivalent fractions using visual fraction models (area models, number lines, etc.) and/or standard algorithm. *Solve word problems involving addition and subtraction of fractions and mixed numbers with unlike denominators by finding equivalent fractions using visual fraction models (area models, number lines, etc.) and/or standard algorithm.	Consistently and independently able to: *Add and subtract fractions and mixed numbers with unlike denominators by finding equivalent fractions using visual fraction models (area models, number lines, etc.) and/or standard algorithm. *Solve word problems involving addition and subtraction of fractions and mixed numbers with unlike denominators by finding equivalent fractions using visual fraction models (area models, number lines, etc.) and/or standard algorithm.	Consistently and independently able to: *Add and subtract fractions and mixed numbers with unlike denominators by finding equivalent fractions and using the standard algorithm when presented with real-world application problems.
2	Reassess as needed			
3	Reassess as needed			

Apply and extend previous understanding of multiplication and division to multiply and divide fractions (5.NF.3, 5.NF.4, 5.NF.5, 5.NF.6, 5.NF.7)				
Marking Period	1	2	3	4
1				
2	Unable to: *Interpret a fraction as division and solve problems involving division of whole numbers leading to answers in the form of mixed numbers using visual models or equations; *Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction; *Explain why multiplying a given number by a fraction greater than 1 results in a product greater than the given number and why multiplying a given number by a fraction less than 1 results in a product smaller than the given number; *Apply and extend previous understanding of division to divide unit fractions by whole numbers and whole numbers by unit fractions; *Multiply fractional side lengths to find areas of rectangles , and represent fraction products as rectangular areas.	Requires teacher prompting and support to: *Interpret a fraction as division and solve problems involving division of whole numbers leading to answers in the form of mixed numbers using visual models or equations; *Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction; *Explain why multiplying a given number by a fraction greater than 1 results in a product greater than the given number and why multiplying a given number by a fraction less than 1 results in a product smaller than the given number; *Apply and extend previous understanding of division to divide unit fractions by whole numbers and whole numbers by unit fractions; *Multiply fractional side lengths to find areas of rectangles , and represent fraction products as rectangular areas.	Consistently and independently able to: *Interpret a fraction as division and solve problems involving division of whole numbers leading to answers in the form of mixed numbers using visual models or equations; *Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction; *Explain why multiplying a given number by a fraction greater than 1 results in a product greater than the given number and why multiplying a given number by a fraction less than 1 results in a product smaller than the given number; *Apply and extend previous understanding of division to divide unit fractions by whole numbers and whole numbers by unit fractions; *Multiply fractional side lengths to find areas of rectangles , and represent fraction products as rectangular areas.	Meets the criteria for all 3 and extends to include the standard algorithm to solve real world application problems.
3	Reassess as needed			

Measurement and Data

Convert like measurement units within a given measurement system (5.MD.1)				
Marking Period	1	2	3	4
1				
2	Unable to: *Convert units (customary and metric) within a given system using decimal fractions. Unable to: *Convert units (customary and metric) within a given system using decimal fractions when dealing with problems involving volume.	Requires teacher prompting and support to: *Convert units (customary and metric) within a given system using decimal fractions. Requires teacher prompting and support to: *Convert units (customary and metric) within a given system using decimal fractions when dealing with problems involving volume.	Consistently and independently able to: *Convert units (customary and metric) within a given system using decimal fractions. Consistently and independently able to: *Convert units (customary and metric) within a given system using decimal fractions when dealing with problems involving volume.	Meets the criteria for all 3 and accurately converts units between two given measurement systems and appropriately applies these conversions to real world situations. Meets the criteria for all 3 and accurately converts units between two given measurement systems and appropriately applies these conversions to real world situations.
3	Reassess as needed			

Represents and interpret data (5.MD.2)				
Marking Period	1	2	3	4
1				
2				
3	Unable to: *Represent measurement data on a line plot with unit fraction intervals and uses learned operations on fractions to solve problems involving data presented on line plots.	Requires teacher prompting and support to: *Represent measurement data on a line plot with unit fraction intervals and uses learned operations on fractions to solve problems involving data presented on line plots.	Consistently and independently able to: *Represent measurement data on a line plot with unit fraction intervals and uses learned operations on fractions to solve problems involving data presented on line plots.	Meets the criteria for all 3 and applies the standard to line plots where the scale is a combination of fractions, decimals and whole numbers requiring conversion to a standard scale before problems can be solved.

Geometric measurement: understands concepts of volume and relate volume to multiplication and to addition. (5.MD.3, 5.MD.4, 5.MD.5)				
Marking Period	1	2	3	4
1				
2	Unable to: *Solve problems involving volume of standard and composite shapes by using models and equations to represent the problem.	Requires teacher prompting and support to: *Solve problems involving volume of standard and composite shapes by using models and equations to represent the problem.	Consistently and independently able to: *Solve problems involving volume of standard and composite shapes by using models and equations to represent the problem.	Meets the criteria of all 3 and when given the volume of a rectangular prism can find multiple dimension combinations using knowledge of factors and multiples.
3	Reassess as needed			

Geometry

Graphs points on the coordinate plane to solve real-world and mathematical problems (5.G.1, 5.G.2)				
Marking Period	1	2	3	4
1				
2				
3	Unable to do each of the following: *Locate and plot points in the first quadrant of the coordinate plane; *Find lengths of horizontal and vertical segments in the first quadrant; *Solve problems involving data represented graphs and tables of ordered pairs.	Requires teacher prompting and support to do each of the following: *Locate and plot points in the first quadrant of the coordinate plane; *Find lengths of horizontal and vertical segments in the first quadrant; *Solve problems involving data represented graphs and tables of ordered pairs.	Consistently and independently does each of the following: *Locate and plot points in the first quadrant of the coordinate plane; *Find lengths of horizontal and vertical segments in the first quadrant; *Solve problems involving data represented graphs and tables of ordered pairs.	Meets the criteria for all 3 and when given the name of a two-dimensional figure (right triangle, square, rectangle etc.) can select ordered pairs that can be connected to form that shape.

Classifies two-dimensional figures based on their properties (5.G.3, 5.G.4)				
Marking Period	1	2	3	4
1				
2				
3	Unable to do each of the following: *Describe the attributes of two-dimensional figures using proper mathematical vocabulary; *Classify and sort two-dimensional figures in a hierarchy by their attributes.	Requires teacher prompting and support to do each of the following: *Describe the attributes of two-dimensional figures using proper mathematical vocabulary; *Classify and sort two-dimensional figures in a hierarchy by their attributes.	Consistently and independently able to do each of the following: *Describe the attributes of two-dimensional figures using proper mathematical vocabulary; *Classify and sort two-dimensional figures in a hierarchy by their attributes.	Meets the criteria for all 3 and recognizes two- dimensional figures in three dimensional shapes and uses these relationships to draw conclusions about these relationships.