

Grade 5 Mathematics Standards-based Skills Worksheet

Student: _____

Date: _____

Completed by (name): _____

Position: _____

School Division: _____

<p>1. Review SOL strand for</p> <p>Number and Number Sense (SOL 5.1, 5.2a-b, & 5.3a-b)</p>	<p>2. Review data on student performance and indicate all data sources analyzed to assess performance in this strand:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Present Level of Performance (PLOP) <input type="checkbox"/> Prior SOL data <input type="checkbox"/> Standardized test data <input type="checkbox"/> Classroom assessments <input type="checkbox"/> Teacher observations
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<p>3. Check the areas that will require specially designed instruction critical to meeting the standard.</p>
<p>The student will use problem solving, mathematical communication, mathematical reasoning, connections, and representations to</p> <ul style="list-style-type: none"> <input type="checkbox"/> Round decimal numbers to the nearest whole number, tenth, or hundredth. <p>The student will use problem solving, mathematical communication, mathematical reasoning, connections, and representations to</p> <ul style="list-style-type: none"> <input type="checkbox"/> Represent fractions (halves, fourths, fifths, eighths, tenths, and twelfths) in their equivalent decimal form and vice versa. <input type="checkbox"/> Recognize & name equivalent relationships between decimals & fractions with denominators up to 12. <input type="checkbox"/> Compare and order from least to greatest and greatest to least a given set of no more than five numbers written as decimals, fractions, and mixed numbers with denominators of 12 or less. <p>The student will use problem solving, mathematical communication, mathematical reasoning, connections, and representations to</p> <ul style="list-style-type: none"> <input type="checkbox"/> Identify prime numbers less than or equal to 100. <input type="checkbox"/> Identify composite numbers less than or equal to 100. <input type="checkbox"/> Explain orally and in writing why a number is prime or composite. <input type="checkbox"/> Identify which numbers are even or odd. <input type="checkbox"/> Explain and demonstrate with manipulatives, pictorial representations, oral language, or written language why a number is even or odd.

<p>4. Is/Are standard-based goal(s) needed?</p> <p><input type="checkbox"/> YES Address areas of need in PLOP</p>	<p><input type="checkbox"/> NO Check one or more justifications:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Accommodations Available (specify): <input type="checkbox"/> Area of Strength in PLOP <input type="checkbox"/> New Content <input type="checkbox"/> Other (Specify):
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5. Notes Supporting Data Analysis

<p>1. Review SOL strand for</p> <p>Computation and Estimation (SOL 5.4, 5.5a-b, 5.6, & 5.7)</p>	<p>2. Review data on student performance and indicate all data sources analyzed to assess performance in this strand:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Present Level of Performance (PLOP) <input type="checkbox"/> Prior SOL data <input type="checkbox"/> Standardized test data <input type="checkbox"/> Classroom assessments <input type="checkbox"/> Teacher observations
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3. Check the areas that will require specially designed instruction critical to meeting the standard.

The student will use problem solving, mathematical communication, mathematical reasoning, connections, and representations to

- Select appropriate methods and tools from among paper and pencil, estimation, mental computation, and calculators according to the context and nature of the computation in order to compute with whole numbers.
- Create single-step and multistep problems involving the operations of addition, subtraction, multiplication, and division with and without remainders of whole numbers, using practical situations.
- Estimate the sum, difference, product, and quotient of whole number computations.
- Solve single-step and multistep problems involving addition, subtraction, multiplication, and division with and without remainders of whole numbers, using paper and pencil, mental computation, and calculators in which sums, differences, and products will not exceed five digits; multipliers will not exceed two digits;
- Divisors will not exceed two digits; or dividends will not exceed four digits.
- Use two or more operational steps to solve a multistep problem. Operations can be the same or different.

The student will use problem solving, mathematical communication, mathematical reasoning, connections, and representations to

- Determine an appropriate method of calculation to find the sum, difference, product, and quotient of two numbers expressed as decimals through thousandths, selecting from among paper and pencil, estimation, mental computation, and calculators.
- Estimate to find the number that is closest to the sum, difference, and product of two numbers expressed as decimals through thousandths.
- Find the sum, difference, and product of two numbers expressed as decimals through thousandths, using paper and pencil, estimation, mental computation, and calculators.
- Determine the quotient, given a dividend expressed as a decimal through thousandths and a single-digit divisor. For example, 5.4 divided by 2 and 2.4 divided by 5.
- Use estimation to check the reasonableness of a sum, difference, product, and quotient.
- Create and solve single-step and multistep problems.
- A multistep problem needs to incorporate two or more operational steps (operations can be the same or different).

The student will use problem solving, mathematical communication, mathematical reasoning, connections, and representations to

- Solve single-step and multistep practical problems involving addition and subtraction with fractions having like and unlike denominators. Denominators in the problems should be limited to 12 or less (e.g., $\frac{1}{5} + \frac{1}{4}$) and answers should be expressed in simplest form.
- Solve single-step and multistep practical problems involving addition and subtraction with mixed numbers having like and unlike denominators, with and without regrouping. Denominators in the problems should be limited to 12 or less, and answers should be expressed in simplest form.
- Use estimation to check the reasonableness of a sum or difference.

The student will use problem solving, mathematical communication, mathematical reasoning, connections, and representations to

- Simplify expressions by using the order of operations in a demonstrated step-by-step approach.
- Find the value of numerical expressions, using the order of operations.
- Given an expression involving more than one operation, describe which operation is completed first, which is second, etc.

<p>4. Is/Are standard-based goal(s) needed?</p> <p><input type="checkbox"/> YES Address areas of need in PLOP</p>	<p><input type="checkbox"/> NO Check one or more justifications:</p> <p><input type="checkbox"/> Accommodations Available (specify):</p> <p><input type="checkbox"/> Area of Strength in PLOP</p> <p><input type="checkbox"/> New Content</p> <p><input type="checkbox"/> Other (Specify):</p>
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5. Notes Supporting Data Analysis

<p>1. Review SOL strand for</p> <p>Measurement (SOL 5.8a-e, 5.9, 5.10, & 5.11)</p>	<p>2. Review data on student performance and indicate all data sources analyzed to assess performance in this strand:</p> <p><input type="checkbox"/> Present Level of Performance (PLOP)</p> <p><input type="checkbox"/> Prior SOL data</p> <p><input type="checkbox"/> Standardized test data</p> <p><input type="checkbox"/> Classroom assessments</p> <p><input type="checkbox"/> Teacher observations</p>
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<p>3. Check the areas that will require specially designed instruction critical to meeting the standard.</p>
<p>The student will use problem solving, mathematical communication, mathematical reasoning, connections, and representations to</p> <ul style="list-style-type: none"> <input type="checkbox"/> Determine the perimeter of a polygon, with or without diagrams, when <ul style="list-style-type: none"> - the lengths of all sides of a polygon that is not a rectangle or a square are given; - the length and width of a rectangle are given; or - the length of a side of a square is given. <input type="checkbox"/> Estimate and determine the perimeter of a polygon, and area of a square, rectangle, and right triangle following the parameters listed above, using only whole number measurements given in metric or U.S. Customary units, and record the solution with the appropriate unit of measure (e.g., 24 square inches). <input type="checkbox"/> Estimate and determine the area of a square, with or without diagrams, when the length of a side is given. <input type="checkbox"/> Estimate and determine the area of a rectangle, with or without diagrams, when the length and width are given. <input type="checkbox"/> Estimate and determine the area of a right triangle, with or without diagrams, when the base and the height are given <input type="checkbox"/> Differentiate among the concepts of area, perimeter, and volume. <input type="checkbox"/> Develop a procedure for finding volume using manipulatives (e.g., cubes). <input type="checkbox"/> Determine volume in standard units. <input type="checkbox"/> Describe practical situations where area, perimeter, and volume are appropriate measures to use, and justify their choices orally or in writing. <input type="checkbox"/> Identify whether the application of perimeter, area, or volume is appropriate for a given situation. <input type="checkbox"/> Identify equivalent measurements within the metric system for the following: length (millimeters, centimeters, meters, and kilometers); (mass: grams and kilograms); (liquid volume: milliliters, and liters). <input type="checkbox"/> Solve problems involving measurement by selecting an appropriate measuring device and a U.S. Customary or metric unit of measure for the following: --length: part of an inch ($\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$), inches, feet, yards, millimeters, centimeters, meters, and kilometers; --weight: ounces, pounds, and tons; --mass: grams and kilograms; --liquid volume: cups, pints, quarts, gallons, milliliters, and liters; --area: square units; and --temperature: Celsius and Fahrenheit units. Water freezes at 0°C and 32°F. Water boils at 100°C and 212°F. Normal body temperature is about 37°C and 98.6°F.

The student will use problem solving, mathematical communication, mathematical reasoning, connections, and representations to

- Identify and describe the diameter, radius, chord, and circumference of a circle.
- Describe the relationship between diameter and radius; diameter and chord; radius and circumference; and diameter and circumference.
- The length of the diameter of a circle is twice the length of the radius.

The student will use problem solving, mathematical communication, mathematical reasoning, connections, and representations to

- Determine elapsed time in hours and minutes within a 24-hour period.

The student will use problem solving, mathematical communication, mathematical reasoning, connections, and representations to

- Identify the appropriate tools (e.g., protractor and straightedge or angle ruler as well as available software) used to measure and draw angles and triangles.
- Measure right, acute, straight, & obtuse angles, using appropriate tools, and identify their measures in degrees.

<p>4. Is/Are standard-based goal(s) needed?</p> <p><input type="checkbox"/> YES Address areas of need in PLOP</p>	<p><input type="checkbox"/> NO Check one or more justifications:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Accommodations Available (specify): <input type="checkbox"/> Area of Strength in PLOP <input type="checkbox"/> New Content <input type="checkbox"/> Other (Specify):
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5. Notes Supporting Data Analysis

<p>1. Review SOL strand for</p> <p>Geometry (SOL 5.12a-b & 5.13a-b)</p>	<p>2. Review data on student performance and indicate all data sources analyzed to assess performance in this strand:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Present Level of Performance (PLOP) <input type="checkbox"/> Prior SOL data <input type="checkbox"/> Standardized test data <input type="checkbox"/> Classroom assessments <input type="checkbox"/> Teacher observations
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<p>3. Check the areas that will require specially designed instruction critical to meeting the standard.</p>	
<p>The student will use problem solving, mathematical communication, mathematical reasoning, connections, and representations to</p> <ul style="list-style-type: none"> <input type="checkbox"/> Classify angles as right, acute, straight, or obtuse. <input type="checkbox"/> Classify triangles as right, acute, or obtuse. <input type="checkbox"/> Classify triangles as equilateral, scalene, or isosceles. <p>The student will use problem solving, mathematical communication, mathematical reasoning, connections, and representations to</p> <ul style="list-style-type: none"> <input type="checkbox"/> Develop definitions for squares, rectangles, triangles, parallelograms, rhombi, and trapezoids. <input type="checkbox"/> Investigate and describe the results of combining and subdividing plane figures. 	

<p>4. Is/Are standard-based goal(s) needed?</p> <p><input type="checkbox"/> YES Address areas of need in PLOP</p>	<p><input type="checkbox"/> NO Check one or more justifications:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Accommodations Available (specify): <input type="checkbox"/> Area of Strength in PLOP <input type="checkbox"/> New Content <input type="checkbox"/> Other (Specify):
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5. Notes Supporting Data Analysis

<p>1. Review SOL strand for</p> <p>Probability and Statistics (SOL 5.14, 5.15, & 5.16a-d)</p>	<p>2. Review data on student performance and indicate all data sources analyzed to assess performance in this strand:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Present Level of Performance (PLOP) <input type="checkbox"/> Prior SOL data <input type="checkbox"/> Standardized test data <input type="checkbox"/> Classroom assessments <input type="checkbox"/> Teacher observations
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<p>3. Check the areas that will require specially designed instruction critical to meeting the standard.</p>	
<p>The student will use problem solving, mathematical communication, mathematical reasoning, connections, and representations to</p> <ul style="list-style-type: none"> <input type="checkbox"/> Construct a sample space, using a tree diagram to identify all possible outcomes of a single event. <input type="checkbox"/> Construct a sample space, using a list or chart to represent all possible outcomes of a single event. <input type="checkbox"/> Predict and determine the probability of an outcome by constructing a sample space. The sample space will have a total of 24 or less possible outcomes. <p>The student will use problem solving, mathematical communication, mathematical reasoning, connections, and representations to</p> <ul style="list-style-type: none"> <input type="checkbox"/> Formulate the question that will guide the data collection. <input type="checkbox"/> Collect data, using observations (e.g., weather), measurement (e.g., shoe sizes), surveys (e.g., hours watching television), or experiments (e.g., plant growth). <input type="checkbox"/> Organize the data into a chart, table, stem-and-leaf plots, and line graphs. <input type="checkbox"/> Display data in line graphs and stem-and-leaf plots. <input type="checkbox"/> Construct line graphs, labeling the vertical axis with equal whole number, decimal, or fractional increments and the horizontal axis with continuous data commonly related to time (e.g., hours, days, months, years, and age). Line graphs will have no more than six identified points along a continuum for continuous data (e.g., the decades: 1950s, 1960s, 1970s, 1980s, 1990s, and 2000s). <input type="checkbox"/> Construct a stem-and-leaf plot to organize and display data, where the stem is listed in ascending order and the leaves are in ascending order, with or without commas between leaves. <input type="checkbox"/> Title the given graph or identify the title. <input type="checkbox"/> Interpret the data in a variety of forms (e.g., orally or in written form). <p>The student will use problem solving, mathematical communication, mathematical reasoning, connections, and representations to</p> <ul style="list-style-type: none"> <input type="checkbox"/> Describe and find the mean of a group of numbers representing data from a given context as a measure of center. <input type="checkbox"/> Describe and find the median of a group of numbers representing data from a given context as a measure of center. <input type="checkbox"/> Describe and find the mode of a group of numbers representing data from a given context as a measure of center. <input type="checkbox"/> Describe mean as fair share. <input type="checkbox"/> Describe and find the range of a group of numbers representing data from a given context as a measure of variation. 	
<p>4. Is/Are standard-based goal(s) needed?</p> <p><input type="checkbox"/> YES Address areas of need in PLOP</p>	<p><input type="checkbox"/> NO Check one or more justifications:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Accommodations Available (specify): <input type="checkbox"/> Area of Strength in PLOP <input type="checkbox"/> New Content <input type="checkbox"/> Other (Specify):

5. Notes Supporting Data Analysis

<p>1. Review SOL strand for Patterns, Functions, and Algebra (SOL 5.17, 5.18a-d, & 5.19)</p>	<p>2. Review data on student performance and indicate all data sources analyzed to assess performance in this strand:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Present Level of Performance (PLOP) <input type="checkbox"/> Prior SOL data <input type="checkbox"/> Standardized test data <input type="checkbox"/> Classroom assessments <input type="checkbox"/> Teacher observations
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<p>3. Check the areas that will require specially designed instruction critical to meeting the standard.</p>	
<p>The student will use problem solving, mathematical communication, mathematical reasoning, connections, and representations to</p> <ul style="list-style-type: none"> <input type="checkbox"/> Describe and find the range of a group of numbers representing data from a given context as a measure of variation. <input type="checkbox"/> Describe the relationship found in patterns, using words, tables, and symbols to express the relationship. <p>The student will use problem solving, mathematical communication, mathematical reasoning, connections, and representations to</p> <ul style="list-style-type: none"> <input type="checkbox"/> Describe the concept of a variable (presented as boxes, letters, or other symbols) as a representation of an unknown quantity. <input type="checkbox"/> Write an open sentence with addition, subtraction, multiplication, or division, using a variable to represent a missing number. <input type="checkbox"/> Model one-step linear equations using a variety of concrete materials such as colored chips on an equation mat or weights on a balance scale. <input type="checkbox"/> Create and write a word problem to match a given open sentence with a single variable and one operation. <p>The student will use problem solving, mathematical communication, mathematical reasoning, connections, and representations to</p> <ul style="list-style-type: none"> <input type="checkbox"/> Investigate and recognize the distributive property of whole numbers, limited to multiplication over addition using diagrams and manipulatives. <input type="checkbox"/> Investigate and recognize an equation that represents the distributive property, when given several whole number equations, limited to multiplication over addition. 	

<p>4. Is/Are standard-based goal(s) needed?</p> <p><input type="checkbox"/> YES Address areas of need in PLOP</p>	<p><input type="checkbox"/> NO Check one or more justifications:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Accommodations Available (specify): <input type="checkbox"/> Area of Strength in PLOP <input type="checkbox"/> New Content <input type="checkbox"/> Other (Specify):
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5. Notes Supporting Data Analysis