

## 5th Grade Math Essential Standards and Learning Targets

<b>Essential Standards</b>				
5_M_1 Students will demonstrate an understanding of the base-ten number system.	5_M_2 Students will demonstrate an understanding of fractions and decimals.	5_M_3 Students will understand and apply concepts of measurement.	5_M_4 Students will develop, understand, and apply numeric and algebraic concepts.	5_M_5 Students will recognize, compare, analyze, and describe geometric shapes.
<b>Learning Targets</b>				
<ul style="list-style-type: none"> <li>● 5_M_1_A: Understand that in a multi-digit number, a digit represents 1/10 times what it would represent in the place to its left. (MLS-5.NBT.A.3) (CCSS-5.NBT.1)</li> <li>● 5_M_1_B: Evaluate the value of powers of 10 and understand the relationship to the place value system. (MLS-5.NBT.A.4) (CCSS-5.NBT.2)</li> <li>● 5_M_1_C: Read, write and identify numbers from billions to thousandths using number names, base ten numerals and expanded form. (MLS-5.NBT.A.1) (CCSS-5.NBT.3a)</li> <li>● 5_M_1_D: Compare two numbers from billions to thousandths using the symbols <math>&gt;</math>, <math>=</math> or <math>&lt;</math>, and justify the solution. (MLS-5.NBT.A.2) (CCSS-5.NBT.3b)</li> <li>● 5_M_1_E: Round numbers from billions to thousandths place. (MLS-5.NBT.A.5) (CCSS-5.NBT.4)</li> </ul>	<ul style="list-style-type: none"> <li>● 5_M_2_A: Understand that parts of a whole can be expressed as decimals. (MLS-5.NF.A.1) (CCSS-5.NBT.3a)</li> <li>● 5_M_2_B: Compare and order decimals to the thousandths place using the symbols <math>&gt;</math>, <math>=</math> or <math>&lt;</math>, and justify the solution. (MLS-5.NF.A.3) (CCSS-5.NBT.3b)</li> <li>● 5_M_2_C: Understand that parts of a whole can be expressed as fractions. (MLS-5.NF.A.1) (CCSS-5.NBT.3a)</li> <li>● 5_M_2_D: Estimate results of sums and differences with fractions. (MLS-5.NF.B.4) (CCSS-5.NF.1/2)</li> <li>● 5_M_2_E: Solve problems involving addition and subtraction of fractions and mixed numbers with unlike denominators, and justify the solution. (MLS-5.NF.B.6) (CCSS-5.NF.1/2)</li> <li>● 5_M_2_F: Compare and order fractions using the symbols <math>&gt;</math>, <math>=</math> or <math>&lt;</math>, and justify the solution. (MLS-5.NF.A.3) (CCSS-5.NBT.3b)</li> <li>● 5_M_2_G: Create a line plot to represent a given or generated data set, and analyze the data to answer questions and solve problems, recognizing the outliers and generating the median. (MLS-5.DS.A.2) (CCSS-5.MD.B.2)</li> <li>● 5_M_2_H: Extend the concept of multiplication to multiply a fraction or whole number by a fraction. (MLS-5.NF.B.7) (CCSS-5.NF.4)               <ul style="list-style-type: none"> <li>a. Recognize the relationship between multiplying fractions and finding the areas of rectangles with fractional side lengths.</li> <li>b. Calculate and interpret the product of a fraction by a whole number and a whole number by a fraction.</li> <li>c. Calculate and interpret the product of two fractions less than one.</li> </ul> </li> <li>● 5_M_2_I: Convert decimals to fractions and fractions to decimals. (MLS-5.NF.A.2) (CCSS-4.NF.C.6)</li> <li>● 5_M_2_J: Estimate results of products with fractions. (MLS-5.NF.B.4) (CCSS-5.NBT.7)</li> <li>● 5_M_2_K: Justify the reasonableness of a product when multiplying with fractions. (MLS-5.NF.B.5) (CCSS-5.NF.5)               <ul style="list-style-type: none"> <li>a. Estimate the size of the product based on the size of the two factors.</li> <li>b. Explain why multiplying a given number by a fraction greater than 1 results in a product larger than the given number.</li> <li>c. Explain why multiplying a given number by a fraction less than 1 results in a product smaller than the given number.</li> <li>d. Explain why multiplying the numerator and denominator by the same number is equivalent to multiplying the fraction by 1.</li> </ul> </li> <li>● 5_M_2_L: Extend the concept of division to divide unit fractions and whole numbers by using visual fraction models and equations. (MLS-5.NF.B.8) (CCSS-5.NF.7a/7b)               <ul style="list-style-type: none"> <li>a. Calculate and interpret the quotient of a unit fraction by a non-zero whole number.</li> <li>b. Calculate and interpret the quotient of a whole number by a unit fraction.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>● 5_M_3_A: Convert measurements of capacity, length and weight within a given measurement system. (MLS-5.GM.D.8) (CCSS-5.MD.1)</li> <li>● 5_M_3_B: Solve multi-step problems that require measurement conversions. (S-5.GM.D.9) (CCSS-5.MD.1)</li> <li>● 5_M_3_C: Understand the concept of volume and recognize that volume is measured in cubic units. (MLS-5.GM.B.4) (CCSS-5.MD.3)               <ul style="list-style-type: none"> <li>a. Describe a cube with edge length 1 unit as a “unit cube” and is said to have “one cubic unit” of volume and can be used to measure volume.</li> <li>b. Understand that the volume of a right rectangular prism can be found by stacking multiple layers of the base.</li> </ul> </li> <li>● 5_M_3_D: Apply the formulas <math>V = l \times w \times h</math> and <math>V = B \times h</math> for volume of right rectangular prisms with whole-number edge lengths. (MLS-5.GM.B.4) (CCSS-5.MD.3)</li> </ul>	<ul style="list-style-type: none"> <li>● 5_M_4_A: Add and subtract multi-digit whole numbers and decimals to the thousandths place, and justify the solution. (MLS-5.NBT.A.6) (CCSS-5.NBT.7)</li> <li>● 5_M_4_B: Estimate results of sums and differences of decimals to the thousandths. (MLS-5.NF.B.4) (CCSS-5.NBT.7)</li> <li>● 5_M_4_C: Solve and justify multi-step problems involving whole numbers and decimals. (MLS-5.RA.C.5) (CCSS-5.NBT.7)</li> <li>● 5_M_4_D: Multiply multi-digit whole numbers and decimals to the hundredths place, and justify the solution. (MLS-5.NBT.A.7) (CCSS-5.NBT.5/7)</li> <li>● 5_M_4_E: Divide multi-digit whole numbers and decimals to the hundredths place using up to two-digit divisors and four-digit dividends, and justify the solution. (MLS-5.NBT.A.8) (CCSS-5.NBT.6/7)</li> <li>● 5_M_4_F: Write, evaluate and interpret numerical expressions using the order of operations. (MLS-5.RA.B.3) (CCSS-5.OA.1)</li> <li>● 5_M_4_G: Translate written expressions into algebraic expressions. (MLS-5.RA.B.4) (CCSS-5.OA.2)</li> <li>● 5_M_4_H: Estimate results of products with decimals to the thousandths. (MLS-5.NF.B.4) (CCSS-5.NF.1/2)</li> <li>● 5_M_4_I: Define a first quadrant Cartesian coordinate system. (MLS-5.GM.C.6) (CCSS-5.G.1)               <ul style="list-style-type: none"> <li>a. Represent the axes as scaled perpendicular number lines that both intersect at 0, the origin.</li> <li>b. Identify any point on the Cartesian coordinate plane by its ordered pair coordinates.</li> <li>c. Define the first number in an ordered pair as the horizontal distance from the origin.</li> <li>d. Define the second number in an ordered pair as the vertical distance from the origin.</li> </ul> </li> <li>● 5_M_4_J: Investigate the relationship between two numeric patterns. (MLS-5.RA.A.1) (CCSS-5.OA.3)               <ul style="list-style-type: none"> <li>a. Generate two numeric patterns given two rules.</li> <li>b. Translate two numeric patterns into two sets of ordered pairs.</li> <li>c. Graph numeric patterns on the Cartesian coordinate plane.</li> <li>d. Identify the relationship between two numeric patterns.</li> </ul> </li> <li>● 5_M_4_K: Write a rule to describe or explain a given numeric pattern. (MLS-5.RA.A.2) (CCSS-5.OA.3)</li> <li>● 5_M_4_L: Solve and justify multi-step problems involving variables, whole numbers, and fractions. (MLS-5.RA.C.5) (CCSS-5.NBT.7)</li> <li>● 5_M_4_M: Plot and interpret points in the first quadrant of the Cartesian coordinate plane. (MLS-5.GM.C.7) (CCSS-5.G.2)</li> <li>● 5_M_4_N: Create a line graph to represent a data set, and analyze the data to answer questions and solve problems. (MLS-5.DS.A.1) (CCSS-5.OA.B.3)</li> </ul>	<ul style="list-style-type: none"> <li>● 5_M_5_A: Understand that attributes belonging to a category of figures also belong to all subcategories. (MLS-5.GM.A.1) (CCSS-5.G.3)</li> <li>● 5_M_5_B: Classify figures in a hierarchy based on properties. (MLS-5.GM.A.2) (CCSS-5.G.4)</li> <li>● 5_M_5_C: Analyze and describe the properties of prisms and pyramids. (MLS-5.GM.A.3) (CCSS-5.G.4)</li> </ul>