

Math Competencies- Grade 5

Lin-Wood Proficiencies (COMPETENCY)	I Can Statements	Standards
Numbers & Operations in Base 10 Students will demonstrate an understanding of place value for whole numbers and decimals by rounding to a designated place value, comparing decimal numbers, and describing whole numbers, decimals, and powers of ten using appropriate mathematics terms.	1. I can recognize that each place value to the left is ten times larger than the place to its right. 2. I can recognize that each place value to the right is 1/10 of the place on its left. 3. I can describe patterns found in multiplying whole and decimal numbers by powers of ten. 4. I can write powers of ten using exponential notation. 5. I can read, write, and compare decimal numbers to the thousandths place. 6. I can read decimals to the thousandths place in base-ten numerals, in word form, and in expanded form. 7. I can write decimals to the thousandths place in base-ten numerals, in word form, and in expanded form. 8. I can compare two decimals to the thousandths place using place value. 9. I can use comparative symbols (>, =, <) when recording the comparison of two decimal numbers. 10. I can round decimals to any place using place value.	5.NBT.A.1 5.NBT.A.2 5.NBT.A.3 5.NBT.A.3.A 5.NBT.A.3.B 5.NBT.A.4
Numbers & Operations in Base 10 Students will demonstrate an understanding of multiplying and dividing multi-digit whole numbers by completing and explaining multiplication and division problems using a variety of strategies, including the standard algorithm in multiplication.	1. I can use the standard algorithm to multiply multi-digit whole numbers with ease. 2. I can divide multi-digit numbers using strategies based on place value, properties of operations, and the relationship between multiplication and division.	5.NBT.B.5 5.NBT.B.6
Numbers & Operations in Base 10 Students will demonstrate an understanding of addition and subtraction of decimals to the	1. I can add and subtract decimals to hundredths place. 2. I can multiply and divide decimals to hundredths place. 3. I can explain their reasoning using models, pictures, words, and numbers when computing with decimal numbers.	5.NBT.B.7

hundredths by using and explaining strategies to add, subtract, round, and estimate decimals up to the hundredths place value. and Students will demonstrate an understanding of multiplying and dividing decimal numbers by explaining strategies to multiply two decimal numbers and to divide decimals by one and two-digit whole numbers, and in placing decimal points when multiplying or dividing by a power of 10.		
Number & Operations-Fractions Students will demonstrate an understanding of adding and subtracting fractions by completing and explaining addition and subtraction of fractions and mixed numbers	1. I can create and use equivalent fractions to add and subtract fractions and mixed numbers with unlike denominators. 2. I can solve word problems involving adding and subtracting fractions with unlike denominators. 3. I can use visual fraction models and equations to represent a given problem. 4. I can use benchmark fractions and number sense to estimate the reasonableness of answers.	5.NF.A.1 5.NF.A.2
Number & Operations-Fractions Students will demonstrate an understanding of multiplying fractions by completing and explaining the multiplication of fractions and mixed numbers, and comparing size of products involving fractions. Students will demonstrate an understanding of division of fractions by using and	1. I can use visual fraction models and equations to solve word problems involving division which result in quotients in the form of fractions or mixed numbers. 2. I can understand that the fraction bar indicates division. 3. I can multiply a whole number with a fraction. 4. I can explain why a fraction multiplied by a whole number is the same as the product of the numerator and the whole number divided by the denominator (may use visual models or real-life contexts) . 5. I can extend understanding of multiplication of a fraction with a whole number to multiplying a fraction by a fraction. 6. I can find the area of a rectangle with fractional side lengths using a variety of methods. 7. I can reason about multiplication as changing the size of an object (scaling).	5.NF.B.3 5.NF.B.4 5.NF.B.4.A 5.NF.B.4.B 5.NF.B.5 5.NF.B.5.A 5.NF.B.5.B 5.NF.B.6 5.NF.B.7 5.NF.B.7.A 5.NF.B.7.B 5.NF.B.7.C

explaining strategies to divide whole numbers by fractions and fractions by whole numbers.	8. I can compare, without computing, the size of a product based on the size of one factor on the other. 9. I can understand that multiplying a number by a factor greater than one results in a product greater than the original number. 10. I can understand that multiplying a number by a factor between zero and one results in a product less than the original number. 11. I can solve contextual problems involving fractions and mixed numbers using visual fraction models or equations. 12. I can divide unit fractions by whole numbers. 13. I can divide whole numbers by unit fractions. 14. I can solve problems involving division of a unit fraction by a non-zero whole number using models, pictures, and story contexts. 15. I can use the relationship between multiplication and division to make connections between division and multiplication with fractions. 16. I can solve problems involving division of a whole number by a unit fraction using models, pictures, and story contexts. 17. I can use the relationship between multiplication and division to make connections between division and multiplication with fractions. 18. I can solve real-world problems involving division of the whole number by unit fractions.	
Operations & Algebraic Thinking Students will demonstrate an understanding of writing, evaluating and interpreting expressions by using and describing the order of operations rules to write, evaluate, and interpret expressions.	1. I can use grouping symbols in numerical expressions. 2. I can evaluate numerical expressions with grouping symbols. 3. I can write a numerical expression for a given expression in words. 4. I can translate a numerical expression into words. 5. I can make a table and generate a sequence based on a rule. 6. I can identify and describe patterns between corresponding terms. 7. I can identify and describe patterns between corresponding terms.	5.OA.A.1 5.OA.A.2 5.OA.B.3
Operations & Algebraic Thinking AND Geometry Students will demonstrate an understanding of graphing points on a coordinate plane by explaining the coordinate plane, interpreting graphs of ordered	1. I can create and graph ordered pairs on a coordinate grid. 2. I can locate coordinates on a coordinate grid by using an ordered pair of numbers. 3. I can understand that in an ordered pair, the first number (x-coordinate) tells how far to move along the x-axis, and the second number (y-coordinate) tells how far to move along the y-axis.	5.OA.B.3 5.G.A.1 5.G.A.2

pairs, and graphing ordered pairs in the first quadrant.	- I can use specific vocabulary and directions to explain ordered pair locations on the coordinate grid. - I can use the first quadrant of a coordinate grid to represent real-world problems. - I can relate the coordinate values of an ordered pair to the context of the problem.	
Geometry Students will demonstrate an understanding of three and four-sided two-dimensional figures by classifying and distinguishing between various three and four-sided figures.	- I can understand that the attributes of a two-dimensional shape in one category also apply to the subcategories of that category. - I can identify subcategories using two-dimensional attributes. - I can classify two-dimensional shapes in a hierarchy based on their attributes.	5.G.B.3 5.G.B.4
Measurement & Data Students will demonstrate an understanding of measurements and conversions by completing and describing non-metric and metric conversions involving length, mass and volume, time conversions, and solving word problems involving various units of measurement.	- I can convert measurements within the Metric system. - I can convert measurements within the Customary system. - I can solve multi-step real-world problems using measurement conversions within the same measurement system.	5.MD.A.1
Measurement & Data Students will demonstrate an understanding of representing and interpreting data by graphing, explaining, and interpreting data sets using line plots.	- I can create a line plot with a given set of unit fraction measurements. - I can solve problems using data on line plots.	5.MD.B.2
Measurement & Data Students will demonstrate an understanding of volume by using and describing formulas to measure the volume of various rectangular shaped objects.	- I can understand that volume is an attribute of a three-dimensional figure. - I can understand that volume can be measured. - I can recognize that a cube with a 1-unit side length is a 'one cubic unit' of volume. - I can use unit cubes to measure volume. - I know that a solid figure can be filled with unit cubes without gaps or overlaps, and that the number of unit cubes	5.MD.C.3 5.MD.C.3.A 5.MD.C.3.B 5.MD.C.4 5.MD.C.5 5.MD.C.5.A 5.MD.C.5.B 5.MD.C.5.C

	represents its volume (capacity). 6. I can measure volume by counting unit cubes of the same unit of measure (e.g. cubic cm, cubic inch, cubic foot). 7. I can demonstrate that the volume of a solid figure can be found by multiplying its height by the area of its base ($h \cdot B$) by packing it with unit cubes. 8. I can solve numerical and real-world problems involving volume. 9. I can use unit cubes to determine the volume of a right rectangular prism. 10. I can show how packing a right rectangular prism with unit cubes gives the same volume as would be found by multiplying the edge lengths (or multiplying the height by the area of the base). 11. I can use volume formulas ($V = lwh$ and $V = Bh$) to find the volume of right rectangular prisms with whole-number edge lengths in numerical problems. 12. I can use volume formulas ($V = lwh$ and $V = Bh$) to find the volume of right rectangular prisms with whole-number edge lengths in real-world problems. 13. I can decompose an irregular figure into non-overlapping rectangular prisms, find the volume of each rectangular pris, and add together for the volume of the irregular figure.	
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