## Grade 5 Math *(Master)*

| Essential Questions | Content | Skills |
|---|---|---|
| **Fall**    **Number Sense and Computation**<br> -How can you characterize numbers?<br> -Are numbers expressive?<br> -How can we solve problems in a variety of ways?<br> -How can graphs enhance or mislead your understanding of data?<br><br>**Patterns, Relations, and Algebraic Thinking**<br> -How do you find the value of an unknown?<br> -How can we make sense of numbers and number relationships? | A. Whole Number Operations<br><br>B. Powers, Exponents, and Scientific Notation<br><br>C. Order of Operations<br><br>D. Variables<br>  -Categorical<br>  -Numerical<br><br>E. Rectangles<br>  -Area<br>  -Perimeter<br><br>F. Averages<br>  -Mean<br>  -Median<br>  -Mode<br><br>G. Graph<br>  -Bar<br>  -Line<br>  -Circle | A. **Add, subtract, multiply, & divide** whole numbers<br>A. **Estimate** the sum, difference, product, and quotient<br><br>B. **Express** a number using exponents<br>B. **Calculate** numbers using exponents<br> B. **Represent** a number using scientific notation<br><br>C. **Use** order of operations to solve math problems<br><br>D. **Name** variables<br>  -Categorical<br>  -Numerical<br><br>E. **Calculate** the area and perimeter of rectangles<br><br>F. **Average** data in three ways<br>  -Mean<br>  -Median<br>  -Mode<br><br>G. **Construct** bar and line graphs<br> G. **Interpret** bar, line, and circle graphs<br> G. **Collect** and **organize** data |
| **Number Sense and Computation**<br> -What are the different ways to break wholes into parts?<br> -How do we use decimals in our everyday life?<br> -How can we solve problems in a variety of ways?<br> -How do partial numbers relate to each other? | A. Place value with decimals through thousandths<br>  -Write<br>  -Compare<br>  -Round<br><br>B. Addition & Subtraction of decimals<br><br>C. Multiplication & Division of decimals<br><br>D. Computation<br>  -Addition<br>  -Subtraction<br>  -Multiplication<br>  -Division | A. **Express** place value of decimals<br>  -Standard form<br>  -Word form<br> A. **Compare** decimals<br> A. **Round** decimals<br><br>B. **Add** & **subtract** decimals<br><br>C. **Multiply** & **divide** decimals<br><br>D. **Add** basic facts<br> D. **Subtract** basic facts<br> D. **Multiply** basic facts<br> D. **Divide** basic facts |
| **Number Sense and Computation**<br> -How can we make sense of numbers and number relationships? | A. Factors<br>  -Prime factorization | A. **Review** factors of a number<br>A. **Express** a number using prime factors |

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| | -How do partial numbers relate to each other?<br>-How can we solve problems in a variety of ways?<br>-What are the different ways to break wholes into parts? | B. Divisibility Rules<br><br>C. Fractions<br>  -Improper<br>  -Mixed number<br>  -Equivalent<br>  -Comparing<br><br>D. Computation<br>  -Addition<br>  -Subtraction<br>  -Multiplication<br>  -Division | B. **Use** rules to figure divisibility<br><br>C. **Understand** parts and wholes<br>C. **Identify** parts of a fraction<br>  -Numerator<br>  -Denominator<br>C. **Convert** mixed numbers to improper fractions and vice versa<br>C. **Create** equivalent fractions<br>C. **Compare** and order fractions<br><br>D. **Add** basic facts<br>D. **Subtract** basic facts<br>D. **Multiply** basic facts<br>D. **Divide** basic facts |
| **Winter** | **Number Sense and Computation**<br> -How do we use fractions in our everyday life?<br> -How do partial numbers relate to each other?<br> -How can we solve problems in a variety of ways? | A. Fractions<br>  -Common denominators<br>  -Lowest Terms<br>  -Addition<br>  -Subtraction<br>  -Multiplication<br><br>B. Computation<br>  -Addition<br>  -Subtraction<br>  -Multiplication<br>  -Division | A. **Identify** common denominator of two fractions<br>A. **Reduce** to lowest terms using the Greatest Common Factor<br>A. **Solve** fraction problems<br>  -Addition<br>  -Subtraction<br>  -Multiplication<br>  -Division<br><br>B. **Add** basic facts<br>B. **Subtract** basic facts<br>B. **Multiply** basic facts<br>B. **Divide** basic facts |
| | **Number Sense and Computation**<br> -How can we solve problems in a variety of ways?<br> -Are numbers expressive?<br><br>**Patterns, Relations, & Algebraic Thinking**<br> -How can we make sense of numbers and number relationships? | A. Conversion of fractions to decimals and percents<br><br>B. Fractions & Mixed Numbers<br>  -Addition<br>  -Subtraction<br>  -Multiplication<br><br>C. Ratios & Proportions<br><br>D. Capacity<br><br>E. Computation<br>  -Addition<br>  -Subtraction | A. **Convert** between fractions, decimals, and percents<br><br>B. **Add, subtract, & multiply** mixed numbers<br><br>C. **Express** ratios<br>  -Words<br>  -Tables<br>  -Graphs<br>  -Fractions<br>C. **Identify** three ways to write a ratio<br>  -Fraction form<br>  -Colon form<br>  -Word form<br>C. **Solve** proportions |

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| | -Multiplication<br>-Division | D. **Measure** mass and volume<br>D. **Calculate** density<br><br>E. **Add** basic facts<br>E. **Subtract** basic facts<br>E. **Multiply** basic facts<br>E. **Divide** basic facts |
| **Geometry**<br> -How does geometry shape our lives?<br><br>**Number Sense and Computation**<br> -How can we solve problems in a variety of ways? | A. Angles<br>  -Name<br>  -Identification<br>  -Construction<br>  -Measurement<br><br>B. Triangle classification<br><br>C. Polygon classification<br><br>D. Tessellations<br><br>E. Shape classification<br>  -Convex<br>  -Concave<br>  -Congruent<br>  -Similar<br><br>F. Computation<br>  -Addition<br>  -Subtraction<br>  -Multiplication<br>  -Division | A. **Label** using appropriate symbols<br>A. **Identify** angles<br>  -Acute<br>  -Obtuse<br>  -Right<br>  -Straight<br>A. **Construct** angles using protractor<br>A. **Measure** angles using protractor<br><br>B. **Classify** by sides<br>  -Scalene<br>  -Isosceles<br>  -Equilateral<br>B. **Classify** by angle<br>  -Acute<br>  -Obtuse<br>  -Right<br>  -Straight<br>B. **Demonstrate** knowledge of sum of angles<br>B. **Calculate** missing angle in a triangle<br><br>C. **Classify** polygons by the number of sides<br>C. **Triangulate** polygons to find the sum of the angles<br><br>D. **Create** tessellations<br><br>E. **Identify** shapes<br>  -Convex<br>  -Concave<br>  -Congruent<br>  -Similar<br><br>F. **Add** basic facts<br>F. **Subtract** basic facts<br>F. **Multiply** basic facts<br>F. **Divide** basic facts |

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| **Spring**   **Geometry**<br> -How does geometry shape our lives?<br> -Why are artists, architects, and other professionals mathematicians?<br><br>**Number Sense and Computation**<br> -How can we solve problems in a variety of ways? | A. Circles<br><br>B. Area<br>   -Rectangles<br>   -Triangles<br><br>C. Application of mathematical concepts in the real world<br><br>D. Computation<br>   -Addition<br>   -Subtraction<br>   -Multiplication<br>   -Division | A. **Label** parts of a circle<br>  -Center point<br>  -Radius<br>  -Diameter<br>  -Chord<br>  -Circumference<br>A. **Explore** relationships<br>  -Circumference and diameter<br>  -Radius and diameter<br>A. **Construct** using compasses<br>A. **Utilize** Pi (3.14) to determine the circumference of a circle<br><br>B. **Apply** appropriate formula to find area<br>  -Rectangle<br>  -Triangle<br><br>C. **Apply** mathematical concepts to real life project of student's choice<br><br>D. **Add** basic facts<br>D. **Subtract** basic facts<br>D. **Multiply** basic facts<br>D. **Divide** basic facts |
| **Data and Chance**<br> -Why do we use numbers to map our world?<br><br>**Number Sense and Computation**<br> -What are the characteristics of numbers?<br> -How can we solve problems in a variety of ways?<br> -How do partial numbers relate to each other?<br><br>**Patterns, Relations, and Algebraic Thinking**<br> -How can we make sense of numbers and number relationships? | A. Prime and composite numbers<br><br>B. Negative numbers<br><br>C. Cartesian coordinates<br><br>D. Ordered pairs<br><br>E. Transformations<br>   -Translations (Slide)<br>   -Reflection (Flip)<br>   -Rotation<br><br>F. Application of mathematical concepts in the real world<br><br>G. Computation<br>   -Addition<br>   -Subtraction<br>   -Multiplication | A. **Identify** prime and composite numbers<br><br>B. **Explore** uses of negative numbers<br>B. **Add** negative numbers<br>B. **Subtract** negative numbers<br><br>C. **Identify** four quadrants<br>  -Negative<br>  -Origin<br>  -X and Y axis<br><br>D. **Write** ordered pairs using correct X and Y coordinates<br>D. **Plot** points on Cartesian coordinate<br>D. **Plot** shapes on Cartesian coordinate<br><br>E. **Slide, flip, and rotate** shapes on Cartesian coordinate<br><br>F. **Apply** mathematical concepts to real life project of student's choice |

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| | -Division | G. **Add** basic facts<br> G. **Subtract** basic facts<br> G. **Multiply** basic facts<br> G. **Divide** basic facts |
| **Number Sense and Computation**<br> -Does the real world contain math?<br> -How can we solve problems in a variety of ways?<br><br>**Data and Chance**<br> -How does math define fair?<br> -How can math help you make good decisions?<br><br>**Patterns, Relations, and Algebraic Thinking**<br> -How can we make sense of numbers and number relationships | A. Application of mathematical concepts in the real world<br><br>B. Probability<br><br>C. Algebraic Equations<br><br>D. Computation<br>   -Addition<br>   -Subtraction<br>   -Multiplication<br>   -Division | A. **Apply** mathematical concepts to real life project of student's choice<br><br>B. **Write** data using probability<br><br>B. **Express** probability<br>  -Fraction form<br>  -Percent form<br><br>C. **Solve** algebra equations using hands-on materials<br><br>D. **Add** basic facts<br> D. **Subtract** basic facts<br> D. **Multiply** basic facts<br> D. **Divide** basic facts |