
















































Grade 8 Math














Month	Content	Skills
August	<p>A. ORDER OF OPERATIONS</p> <ol style="list-style-type: none"> Order of operations <p>B. PROPERTIES</p> <ol style="list-style-type: none"> Commutative Property Associative Property Distributive Property 	<p>A. ORDER OF OPERATIONS</p> <ol style="list-style-type: none"> Evaluate algebraic expressions using order of operations.  <p>B. PROPERTIES</p> <ol style="list-style-type: none"> Identify and solve problems using the commutative property.  Identify and solve problems using the associative property.  Identify and solve problems using the distributive property. 
September	<p>A. VARIABLE & ALGEBRAIC EXPRESSIONS</p> <ol style="list-style-type: none"> Variable & Algebraic Expressions Algebraic Expressions Integers and Absolute Value Adding and Subtracting Integers Multiplying and Dividing Integers Equations using addition & subtraction & multiplying & dividing Addition & Subtraction Inequalities. 	<p>A. VARIABLE & ALGEBRAIC EXPRESSIONS</p> <ol style="list-style-type: none"> Evaluate algebraic expressions  Translate between algebraic expressions and word phrases  Compare and order integers and evaluate expressions containing absolute value.  Solve problems using addition and subtraction of integers  Solve problems using multiplication and division of integers.  Solve using equations addition, subtraction, multiplication, and division  Solve inequalities using addition and subtraction 













Month	Content	Skills
<p>October</p>	<p>A. RATIONAL NUMBERS</p> <ol style="list-style-type: none"> 1. Equivalent forms of rational numbers 2. Comparing & Ordering rational numbers 3. Equations with rational numbers 3. Solving two-step equations 4. Simplifying algebraic expressions 5. Multi-step equations <p>B.. GRAPHS, FUNCTIONS, & SEQUENCES</p> <ol style="list-style-type: none"> 1. Equations in 2 variables 2. Coordinate Plane 3. Graphs and Tables 4. Functions 5. Equations, Tables, and Graphs 	<p>A. RATIONAL NUMBERS</p> <ol style="list-style-type: none"> 1. Learn to write equivalent rational numbers in equivalent forms.  2. Compare and order positive and negative rational numbers written as fractions, decimals, and integers.  3. Solve one and two-step equations with rational numbers.  3. Learn to write and solve two-step equations.  4. Learn to combine like terms in expressions.  5. Learn to solve muti-step equations.  <p>B. GRAPHS, FUNCTIONS, & SEQUENCES</p> <ol style="list-style-type: none"> 1. Learn to write solutions of equations in two variables as ordered pairs.  2. Learn to graph lines on the coordinate plane.  3. Interpret information given in a graph or table to solve problems.  4. Represent functions with tables, graphs, or equations.  5. Learn to represent the same data in different ways through equations, tables, and graphs. Understand the relationship between graphs, equations, and tables.  6. Identify and evaluate arithmetic sequences.  7. Identify slope of a line on a cartesian grid. 
















Month	Content	Skills
	<p>6. Arithmetic Sequences</p> <p>7. Slope of a line</p>	
<p>November</p>	<p>A.EXPONENTS AND ROOTS</p> <p>1. Exponents</p> <p>2. Patterns for a pattern in integer exponents</p> <p>3. Properties of Exponents</p> <p>4. Scientific Notation</p> <p>5. Squares & square roots</p> <p>6. Cubic Roots</p> <p>7. Real Number System, Rational and Irrational numbers</p> <p>8. Pythagorean Theorem</p>	<p>A. EXPONENTS AND ROOTS</p> <p>1. Evaluate expressions with exponents. </p> <p>2. Evaluate expressions with negative exponents and to evaluate zero exponents. </p> <p>3. Apply the properties of exponents, multiplication, division, power of a power. </p> <p>4. Express large and small numbers in scientific notation and to compare numbers written in scientific notation </p> <p>5. Calculate square roots and squares </p> <p>6. Calculate cubic roots </p> <p>7. Determine if a number is rational or irrational </p> <p>8. Use the pythagorean theorem to solve problems.  </p>




Month	Content	Skills
<p>December</p>	<p>A. RATIOS, PROPORTIONS, AND SIMILARITY</p> <ol style="list-style-type: none"> Ratios and proportions Ratios, rates, and unit rates Conversion factors, dimensional analysis Solving proportions Similar figures Scale drawings & scale models <p>B. PERCENTS</p> <ol style="list-style-type: none"> Decimals, fractions, and percents Percent of increase and decrease Apply percents 	<p>A. RATIOS, PROPORTIONS, AND SIMILARITY</p> <ol style="list-style-type: none"> Learn to find equivalent ratios to create proportions.  Apply the principles of ratios, rates, and unit rates to solve word problems.  Use conversion factors to solve rate problems.  Use cross products to solve proportions problems.  Use proportions to find missing side of similar figures. Use similar figures to find indirect measurements.  Make comparisons between and find dimensions of scale drawings, models, and actual objects.  <p>B. PERCENTS</p> <ol style="list-style-type: none"> Compare and order decimals, fractions, and percents. Estimate with percents. Find the percent one number is of another. Find the number when a percent is known.  Find the percent of increase and decrease.  Apply percents to real-life problems, compute commission, sales tax, and percent of earnings.  Use simple interest formula to compute simple interest. 

Month	Content	Skills
	<p>4. Simple Interest</p>	
<p>January</p>	<p>A. GEOMETRY</p> <p>1. Points, lines, planes, and angles</p> <p>2. Parallel and perpendicular planes</p> <p>3. Angles in triangles</p> <p>4. Classifying polygons</p> <p>5. Coordinate geometry</p> <p>6. Congruent Polygons</p> <p>7. Transformations</p> <p>8. Symmetry</p>	<p>A. GEOMETRY</p> <p>1. Learn to classify and name figures. </p> <p>2. Identify parallel and perpendicular lines and the angles formed by a transversal. Understand complimentary & supplementary angles. </p> <p>3. Find unknown angles in triangles. </p> <p>4. Classify and find angles in polygons. </p> <p>5. Identify polygons in the coordinate plane. </p> <p>6. Be able to identify corresponding parts of congruent polygons. </p> <p>7. Learn to transform plane figures using translations, rotations, and reflections. </p> <p>8. Learn to identify symmetry in figures. </p>

Month	Content	Skills
February	<p>A. PERIMETER, AREA, & VOLUME</p> <ol style="list-style-type: none"> 1. Perimeter & Area of Rectangles & Parallelograms 2. Perimeter and Area of Triangles and Trapezoids 3. Circumference and Area of Circles 4. Three-Dimensional Figures 5. Volume of prisms and cylinders 6. Surface Area of Prisms and Cylinders <p>B. MULTI-STEP EQUATIONS AND INEQUALITIES.</p> <ol style="list-style-type: none"> 1. Solving equations with variables on both sides. 2. Solving inequalities by multiplying or dividing 3. Two-Step inequalities 	<p>A. PERIMETER, AREA, & VOLUME</p> <ol style="list-style-type: none"> 1. Find the perimeter and area of rectangles and parallelograms.  2. Find the perimeter and area of triangles and trapezoids.  3. Find the circumference and area of circles.  4. Recognize, draw, and identify different perspectives of 3-dimensional figures.  5. Find the volume of prisms and cylinders.  6. Find the surface area of prisms and cylinders.  <p>B. MULTI-STEP EQUATIONS AND INEQUALITIES</p> <ol style="list-style-type: none"> 1. Solve equations with variables on both sides of the equal sign.  2. Solve and graph inequalities by using multiplication or division.  3. Solve two-step inequalities and graph the solutions of an inequality on a number line. 
March	<p>A. ISAT REVIEW</p> <p>B. ISAT PRACTICE TESTS</p> <p>C. ISAT SHORT ANSWER PROBLEMS</p> <p>D. ISAT EXTENDED RESPONSE</p>	<p>A. ISAT REVIEW </p> <p>B. ISAT PRACTICE TESTS </p> <p>C. ISAT SHORT ANSWER PROBLEMS </p> <p>D. ISAT EXTENDED RESPONSE PROBLEMS </p>

Month	Content	Skills
	<p>PROBLEMS</p>	
<p>April</p>	<p>A. DATA AND STATISTICS</p> <ol style="list-style-type: none"> 1. Samples and surveys 2. Methods of organizing data 3. Measures of Central Tendency 4. Methods of displaying data 5. Misleading graphs and statistics 6. Scatter plots <p>B. Algebraic Expressions & Equations</p> <ol style="list-style-type: none"> 1. Algebraic expressions 2. Multi-step equations 3. Equations with variables on both sides. 4. Multiplication and division inequalities. 	<p>A. DATA AND STATISTICS</p> <ol style="list-style-type: none"> 1. Identify sampling methods and recognize biased samples.  2. Organize data in tables and stem-and-leaf plots.  3. Find appropriate measures of central tendency.  4. Display data in bar graphs, histograms, and line graphs.  5. Recognize misleading graphs and statistics.  6. Create and interpret scatter plots.  <p>B. Algebraic Expressions & Equations</p> <ol style="list-style-type: none"> 1. Simplify algebraic expressions using the distributive property and combining like terms.  2. Solve equations using the distributive property and combining like terms.  3. Solve equations using the distributive property, combining like terms, with variables on both sides.  4. Solve and graph inequalities using multiplication and division.  5. Solve and graph multiple step inequalities.  6. Solve systems of equations using substitution 

Month	Content	Skills
	5. Multi-step inequalities. 6. Systems of equations	
May	<p>A. PROBABILITY</p> 1. Simple probability 2. Experimental probability 3. Theoretical probability 4. Independent and Dependent events 5. Making decisions and predictions based on probability. 6. Counting Principles 7. Permutations and Combinations <p>B. SEQUENCES AND FUNCTIONS</p> 1. Arithmetic Sequences 2. Geometric Sequences 3. Other Sequences 4. Linear Functions 5. Exponential Functions	<p>A. PROBABILITY</p> 1. Find the probability of an event  2. Estimate using the experimental method  3. Estimate probability using theoretical methods.  4. Find the probabilities of independent and dependent events.  5. Use probability to make decisions and predictions.  6. Find the number of possible outcomes in an experiment.  7. Learn to identify and find permutations and combinations.  <p>B. EQUENCES AND FUNCTIONS</p> 1. Learn to identify and extend an arithmetic sequence  2. Learn to identify and extend terms in a geometric sequence.  3. Learn to find patterns in sequences, first differences, second differences, Fibonacci sequence  4. Identify linear functions  5. Identify and graph exponential functions  6. Learn to recognize inverse variation by graphing tables of data  <p>C. POLYNOMIALS</p> 1. Learn to classify polynomials by degree and by the number of terms.  2. Learn to simplify polynomials 

Month	Content	Skills
	<p>6. Inverse Variations</p> <p>C. POLYNOMIALS</p> <p>1. Identify polynomials</p> <p>2. Simplifying polynomials</p> <p>3. Adding and subtracting polynomials</p> <p>4. Multiplying Polynomials by monomials</p> <p>5. Multiplying Binomials</p>	<p>3. Learn to add and subtract polynomials. </p> <p>4. Learn to multiply polynomials by binomials. </p> <p>5. Learn to multiply binomials. </p>