

Grade 5 Math

First Six Weeks

Topic	Mathematics Objectives	Sample Essential Questions
Problem Solving	1.03 Develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil.	How would you use _____ to solve problems?
Number Sense	1.01a Develop number sense for rational numbers 0.001 through 999,999 by connecting model, number word, and number using a variety of representations.	How would you use _____ to understand rational numbers?
Number Sense (Place Value)	1.01b Develop number sense for rational numbers 0.001 through 999,999 by building an understanding of place value (thousandths through hundred thousandths.)	What is place value?
Number Sense (Comparison)	1.01c Develop number sense for rational numbers 0.001 through 999,999 by comparing and ordering rational numbers.	How do you order and compare rational numbers?
Number Sense (Estimation)	1.01d Develop number sense for rational numbers 0.001 through 999,999 by making estimations in appropriate situations.	How would you estimate rational numbers?
Old Objective	TBT Relate exponential notation to repeated multiplication.	What do exponents tell you?
Old Objective	TBT Estimate products; multiply any whole number by a 2-or 3-digit factor.	Estimate the product for 235 x 16.
Old Objective	TBT Use models and pictures to multiply a whole number by a decimal number; record and explain.	How could you show multiplying a whole number times a decimal number with pictures?
Algebra (Patterns)	5.01 Describe, extend, and generalize numeric and geometric patterns using tables, graphs, words, and symbols.	

Algebra	5.02 Use algebraic expressions, patterns, and one-step equations and inequalities to solve problems.	
Algebra (Change)	5.03 Identify, describe, and analyze situations with constant or varying rates of change.	

Grade 5 Math	Second Six Weeks
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Topic	Mathematics Objectives	Sample Essential Questions
Problem Solving	1.03 Continue to develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil.	What strategy would you use to solve this problem?
<i>Scotland County Objective</i>	<i>TBT Solve multi-step problems using an organized approach and selecting additional strategies including: restate the problem, classify, lists, write a number sentence. Verify and interpret results with respect to the original problem; use calculator as appropriate.</i>	<i>How do you study the problem? How do you organize the data? How do you evaluate the solution?</i>
Old Objective	TBT Identify and use the rules for divisibility.	How do you know if a number is divisible by 2? by 3? by 9?
Old Objective	TBT Find the factors, common factors, and greatest common factor of numbers; explain.	How do you find the greatest common factors?
Old Objective	TBT Find multiples, common multiples, and least common multiple of numbers; explain.	How do you find the least common factors?
Old Objective	TBT Identify prime and composite numbers less than 100.	What is the difference in a prime and composite number?
Old Objective	TBT Estimate and solve division problems with 2- and 3-digit divisors; explain solution.	How do you solve division problems with 2-digit divisors?
Old Objective	TBT Determine the mean of a given set of data using a calculator when appropriate.	How do you find the mean of a set of data?
Data Analysis	4.03 Solve problems with data from a single set or multiple sets of data using median, range, and mode.	How would you use median, range and mode to solve data problems?

Data Analysis	4.01 Collect, organize, analyze, and display data (including stem-and-leaf plots) to solve problems.	How do you analyze data?
Old Objective	TBT Interpret and construct line graphs.	How do you construct a line graph?
Data Analysis	4.02 Compare and contrast different representations of the same data: discuss the effectiveness of each representation.	How do you understand different sets of data?

Grade 5 Math	Third Six Weeks
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Topic	Mathematics Objectives	Sample Essential Questions
Problem Solving	1.03 Continue to develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil.	What is the best strategy to use to solve this problem?
<i>Scotland County Objective</i>	<i>TBT Determine if there is sufficient information to solve a problem; identify missing or extraneous data in problem-solving situations.</i>	<i>Can you answer the question asked? What information do you not need? What do you need and not have?</i>
<i>Scotland County Objective</i>	<i>TBT Continue to solve multi-step problems using an organized approach and selecting additional strategies including: restate the problem, classify, lists, write a number sentence. Verify and interpret results with respect to the original problem and use calculators as appropriate.</i>	<i>How do you study the problem? How do you organize the data? How do you line up a plan? How do you verify the plan with action? How do you evaluate the solution?</i>
<i>Scotland County Objective</i>	<i>TBT Estimate results and compute sums and differences with decimal numbers.</i>	<i>How do you mentally estimate the sum of three decimal numbers to the nearest whole number?</i>
<i>Scotland County Objective</i>	<i>TBT Compare and order fractions, which are given with the numerators or the same denominators; explain solution.</i>	<i>How can you decide the order of fractions when the numerators are the same? If the denominators are the same?</i>
<i>Scotland County Objective</i>	<i>TBT Investigate patterns that occur when changing numerators or denominators of fractions. Model with concrete materials and extend to calculator investigations.</i>	<i>What could be a method for finding equivalent fractions?</i>

<p>Fractions (Addition & Subtraction)</p>	<p>1.02a Develop fluency in adding and subtracting non-negative rational numbers (halves, fourths, eighths; thirds, sixths, twelfths; fifths, tenths, hundredths, thousandths; mixed numbers) by developing and analyzing strategies for adding and subtracting numbers.</p>	<p>How do you add and subtract fractions? How do you add and subtract decimal numbers?</p>
<p>Fractions (Estimation)</p>	<p>1.02b Develop fluency in adding and subtracting non-negative rational numbers (halves, fourths, eighths; thirds, sixths, twelfths; fifths, tenths, hundredths, thousandths; mixed numbers) by estimating sums and differences.</p>	<p>What is an estimate of the result of adding $3\frac{1}{3}$ and $2\frac{3}{8}$? How do you estimate adding and subtracting?</p>
<p>Fractions (Judging Solutions)</p>	<p>1.02c Develop fluency in adding and subtracting non-negative rational numbers (halves, fourths, eighths; thirds, sixths, twelfths; fifths, tenths, hundredths, thousandths; mixed numbers) by judging the reasonableness of solutions.</p>	
<p><i>Scotland County Objective</i></p>	<p><i>TBT Add and subtract fractions with like denominators.</i></p>	<p><i>How do you add fractions with like denominators? Subtract?</i></p>
<p>Old Objective</p>	<p>TBT Use models and pictures to add and subtract fractions and mixed numbers with unlike denominators; record solutions.</p>	<p>What do you have to do to add or subtract fractions with unlike denominators?</p>
<p>Old Objective</p>	<p>TBT Multiply a fraction by a whole number.</p>	<p>How do you multiply a fraction by a whole number?</p>

Grade 5 Math

Fourth Six Weeks

Topic	Mathematics Objectives	Sample Essential Questions
Problem Solving	1.03 Continue to develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil.	What is the best strategy to use for this problem?
<i>Scotland County Objective</i>	<i>TBT Use an organized approach and appropriate strategies including calculators to solve multi-step problems involving patterns, relationships, and functions.</i>	<i>What is an organized approach to problem solving?</i>
<i>Scotland County Objective</i>	<i>TBT Use concrete and pictorial representations and appropriate vocabulary to compare and classify polygons and polyhedra; create models of polyhedra (cubes, cylinders, cones, prisms, and pyramids.)</i>	<i>What is the difference in the characteristics of polygons and polyhedra?</i>
Polygons	3.01 Identify, define, describe, and accurately represent triangles, quadrilaterals and polygons.	How would you identify triangles, quadrilaterals and polygons?
<i>Scotland County Objective</i>	<i>TBT Use a protractor to draw and measure acute, right, and obtuse angles; identify and label the vertex, rays, interior and exterior of an angle.</i>	<i>How is a protractor used to measure?</i>
Geometry (Angles)	3.02a Make and test conjectures about polygons involving the sum of the measures of interior angles.	How do you measure interior angles?
Geometry (Diagonals)	3.02b Make and test conjectures about polygons involving the lengths of sides and diagonals.	What is the diagonal of a polygon?
Geometry	3.02c Make and test conjectures about polygons involving the parallelism and perpendicularity of sides and diagonals.	What is parallelism? What is perpendicularity?
Geometry (Angles)	2.02. Identify, estimate, and measure the angles of plane figures using appropriate tools.	How do you measure angles in plan figures?

<p>Scotland County Objective</p>	<p><i>TBT Use a variety of quadrilaterals and triangles to draw conclusions about the sum of the measures of the interior angles; use appropriate technology.</i></p>	<p><i>How do you know whether the sum of the interior angles of all triangles is equal? all rectangles?</i></p>
<p>Geometry (Problem Solving)</p>	<p>3.04a Solve problems involving the properties of triangles, quadrilaterals, and other polygons using the sum of the measures of the interior angles.</p>	<p>How do I get the sum of the interior angles of a triangle? of a quadrilateral? of a given polygon?</p>
<p>Geometry (Problem Solving)</p>	<p>3.04b Solve problems involving the properties of triangles, quadrilaterals, and other polygons using the lengths of sides and diagonals.</p>	
<p>Geometry (Problem Solving)</p>	<p>3.04c Solve problems involving the properties of triangles, quadrilaterals, and other polygons using parallelism and perpendicularity of sides and diagonals.</p>	
<p>Geometry (Plane Figures)</p>	<p>3.03 Classify plane figures according to types of symmetry (line, rotational).</p>	<p>What is symmetry?</p>
<p>Old Objective</p>	<p>TBT Use a compass to draw circles; identify and determine the relationships among the radius, diameter, chord, center, and circumference.</p>	<p>What is the relationship between radius and diameter? Radius and circumference?</p>
<p>Old Objective</p>	<p>TBT Investigate similar figures using rulers and protractors.</p>	<p>How do I use rulers and protractors appropriately?</p>

Grade 5 Math

Fifth Six Weeks

Topic	Mathematics Objectives	Sample Essential Questions
Old Objective	TBT Use and make models to demonstrate formulas for the area and perimeter of squares and rectangles, to compare units of area within the same system, and to investigate and compare units of volume.	How can you decide how to convert the area of a given figure from square inches to square feet?
Old Objective	TBT Model proportions by reducing or enlarging drawings using grids.	Could I enlarge or reduce a drawing on grid paper?
Old Objective	TBT Calculate the area and perimeter of rectangles and the perimeters of plane figures.	How do you find the area of rectangles and other plane figures?
<i>Scotland County Objective</i>	<i>TBT Use an organized approach, appropriate strategies, and technology as needed to solve multi-step problems involving geometry, spatial visualization, and measurement (length, weight, time, capacity, temperature, perimeter, area, volume).</i>	<i>What is an organized approach to problem solving?</i>

Grade 5 Math

Sixth Six Weeks

Topic	Mathematics Objectives	Sample Essential Questions
<i>Scotland County Objective</i>	<i>TBT Develop flexibility in solving problems by selecting strategies and using mental computation estimation, calculators or computers, and paper and pencil.</i>	<i>What is the need for a multi-step problem?</i>
<i>Scotland County Objective</i>	<i>TBT Determine if there is sufficient information to solve a problem; identify missing or extraneous data in problem-solving situations.</i>	<i>Can you answer the question asked? What information do you not need? What do you need and not have?</i>
<i>Scotland County Objective</i>	<i>TBT Solve multi-step problems using an organized approach and selecting additional strategies including: restate the problem, classify, lists, and write a number sentence. Verify and interpret results with respect to the original problem; use calculators as appropriate.</i>	<i>How do you study the problem? How do you organize the data? How do you line up a plan? How do you verify the plan with action? How do you evaluate the solution?</i>
<i>Scotland County Objective</i>	<i>TBT Use an organized approach and appropriate strategies including calculators to solve multi-step problems involving patterns, relationships, and functions.</i>	<i>How do you know when to multiply or divide in a problem solving situation?</i>
Old Objective	TBT Show all arrangements (permutations) and combinations of up to four items; list and explain all possible outcomes in a given situation.	How can you make sure you find all the combinations of a group of items?
Old Objective	TBT Compare experimental and theoretical (expected results for a variety of simple experiments.	What is the difference in expected and experimental results in simple experiments?
<i>Scotland County Objective</i>	<i>TBT Use an organized approach and appropriate strategies to solve multi-step problems involving graphing, probability, and statistics. Use calculators and computers as appropriate.</i>	<i>What is the need for a multi-step problem?</i>