

Danvers Public Schools  
Pacing Guide 2009-2010  
2<sup>nd</sup> Edition of Investigations in Number, Data, and Space  
Fourth Grade

Unit Name	Essential Lessons	Mathematical Emphasis	Vocabulary	Assessments
<p><b>Unit 1: Factors, Multiples and Arrays</b> Multiplication and Division</p> <p>Standards: 4.N.7 4.N.11 <b>4.P.3*</b></p>	<p>Investigation 1</p> <p>Investigations 2</p> <p>Investigation 3</p> <p><b><u>Ten-Minute Math</u></b></p> <ul style="list-style-type: none"> <li>• Today's Number</li> <li>• Quick Images</li> <li>• Counting Around the Class</li> </ul>	<p><b>4.N.7</b> Recognize classes (in particular, odds, evens; factors or multiples of a given number; and squares) to which a number may belong, and identify the numbers in those classes. Use these in the solution of problems.</p> <p><b>4.N.11</b> Know multiplication facts through 12 x 12 and related division facts. Use these facts to solve related multiplication problems and compute related problems, e.g., 3 x 5 is related to 30 x 50, 300 x 5, and 30 x 500.</p> <p><b>4.P.3* Determine values of variables in simple equations, e.g., <math>4106 - \nabla = 37</math>, <math>5 = \bigcirc + 3</math>, and <math>\square - \bigcirc = 3</math>.</b></p>	<p>Array Composite number Commutative-Property Dimension Double(s) Even number Factor Multiple Multiplication combination Odd Number Prime number Product Square number</p>	<ul style="list-style-type: none"> <li>• Session 1.5: <i>Using Arrays to Multiply</i></li> <li>• Session 2.5: <i>Multiplication Combinations</i></li> </ul> <p><b>Due</b> October 5:</p> <ul style="list-style-type: none"> <li>• Session 3.4: <i>End-of-Unit Assessment</i></li> </ul> <p><b>Integrate these Grade 4 MCAS questions into unit:</b></p> <ul style="list-style-type: none"> <li>• <b>2006:</b> #1, #15, #29</li> <li>• <b>2007:</b> #5, #6, #30</li> </ul>

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<p><b>Unit 2: Describing the Shape of the Data</b> (Data Analysis and Probability)</p> <p>Standards: 4.M.1 4.M.5 4.D.1 4.D.2 4.D.3 4.D.4 <b>4.D.5*</b> 4.D.6 4.G.6</p>	<p>Investigation 1 Investigation 2 Investigation 3</p> <p><b>Supplemental Activity Master #6 (Possible Outcomes)</b></p> <p><b>Supplemental Activity Master #9 (Combinations)</b></p> <p><b>Supplemental Activity Master #8 (Coordinate Graphing)</b></p> <p><b><u>Ten-Minute Math</u></b></p> <ul style="list-style-type: none"> <li>• Today's Number</li> <li>• Broken Calculator</li> <li>• Quick Survey</li> <li>• <b>What Is Likely?</b></li> </ul>	<p><b>4.M.1</b> Demonstrate an understanding of such attributes as length, area, weight, and volume, and select the appropriate type of unit for measuring each attribute.</p> <p><b>4.M.5</b> Identify and use appropriate metric and English units and tools (e.g., ruler, angle ruler, graduated cylinder, thermometer) to estimate, measure, and solve problems involving length, area, volume, weight, time, angle size, and temperature.</p> <p><b>4.D.1</b> Collect and organize data using observations, measurements, surveys, or experiments, and identify appropriate ways to display the data.</p> <p><b>4.D.2</b> Match a representation of a data set such as lists, tables, or graphs (including circle graphs) with the actual set of data.</p> <p><b>4.D.3</b> Construct, draw conclusions, and make predictions from various representations of data sets, including tables, bar graphs, pictographs, line graphs, line plots, and tallies.</p> <p><b>4.D.4</b> Represent the possible outcomes for a simple probability situation, e.g., the probability of drawing a red marble from a bag containing three red marbles and four green marbles.</p>	<p>Bar graph Better chance Certain Chance Closest Combination(s) Coordinate Conclusion Data Equal chance Equally likely Exactly Fair Impossible Likely Line plot Median Numerical- data Ordered Pair Outlier Probability Range Representation Set of data Survey Tally/Tally chart Tree Diagram True Statement Unfair</p>	<ul style="list-style-type: none"> <li>• Session 1.5: <i>Comparing Numbers of Cavities</i></li> <li>• Session 2.2: <i>Collecting and Comparing Data</i></li> </ul> <p><b>Due November 2:</b></p> <ul style="list-style-type: none"> <li>• Session 3.5 <i>End-of-unit assessment</i></li> </ul> <p><b>Integrate these Grade 4 MCAS questions into unit:</b></p> <ul style="list-style-type: none"> <li>• <b>2006:</b> #3, #11, #14, #20, #26, #27, # 30,#34</li> <li>• <b>2007:</b> #3, #10, #14, #26, #28, #32, #34, 37</li> </ul>

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		<p><b>4.D.5*</b> List and count the number of possible combinations of objects from three sets, e.g., how many different outfits can one make from a set of three shirts, a set of two skirts, and a set of two hats?</p> <p><b>4.D.6</b> Classify outcomes as certain, likely, unlikely, or impossible by designing and conducting experiments using concrete objects such as counters, number cubes, spinners, or coins. ■</p> <p><b>4.G.6</b> Using ordered pairs of numbers and/or letters, graph, locate, identify points, and describe paths (first quadrant).</p>	<p>Unlikely Value</p> <p>Axis Horizontal axis Vertical axis Coordinate pair Ordered pair Point</p>	

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Unit Name	Essential Lessons	Mathematical Emphasis	Vocabulary	Assessments
<p><b>Unit 3: Multiple Towers and Division Stories</b> (Multiplication and Division)</p> <p>Standards:  <b>4.N.8*</b>  <b>4.N.9**</b>            4.N.10            4.N.11            4.N.12            4.N.13            4.N.15            4.P.1  <b>4.P.3***</b></p>	<p>Investigation 1</p> <p>Investigation 2</p> <p><b>Session 2.5</b></p> <p><b>Supplemental Activity Master #11 (Fact Families)</b></p> <p>Investigation 3</p> <p>Investigation 4</p> <p><b>Ten-Minute Math</b></p> <ul style="list-style-type: none"> <li>• Quick Images: Seeing Numbers</li> <li>• Counting Around the Class</li> </ul>	<p><b>4.N.8*</b> Select, use, and explain various meanings and models of multiplication and division of whole numbers. <b>Understand and use the inverse relationship between the two operations.</b></p> <p><b>4.N.9**</b> Select, use, and explain the commutative, associative, and identity properties of operations on whole numbers in problem situations, e.g., <math>37 \times 46 = 46 \times 37</math>, <math>(5 \times 7) \times 2 = 5 \times (7 \times 2)</math>.</p> <p><b>4.N.10</b> Select and use appropriate operations (addition, subtraction, multiplication, division) to solve problems, including those involving money.</p> <p><b>4.N.11</b> Know multiplication facts through 12 x 12 and related division facts. Use these facts to solve related multiplication problems and compute related problems, e.g., 3 x 5 is related to 30 x 50, 300 x 5, and 30 x 500.</p> <p><b>4.N.12</b> Add and subtract (up to five-digit numbers) and multiply (up to three digits by two digits) accurately and efficiently.</p> <p><b>4.N.13</b> Divide up to a three-digit whole number with a single-digit divisor (with or without remainders) accurately and efficiently. Interpret any remainders.</p> <p><b>4.N.15</b> Demonstrate in the classroom an understanding of and the ability to use the</p>	<p>Array</p> <p>Associative-property</p> <p>Commutative-property</p> <p>Division</p> <p>Doubled</p> <p>Equation</p> <p>Fact Family</p> <p>Factor</p> <p>Factor Pair</p> <p>Halved</p> <p>Identity-property</p> <p>Inverse operations</p> <p>Multiple</p> <p>Multiplication</p> <p>Prime</p> <p>Product</p> <p>Remainder</p> <p>Skip counting</p>	<ul style="list-style-type: none"> <li>• Session 1.5: <i>Solving 18 x 7</i></li> <li>• Session 2.6: <i>Writing and Solving a Division Problem</i></li> <li>• Session 3.4: <i>Multiplication Combinations</i></li> </ul> <p><b>Due December 9:</b></p> <ul style="list-style-type: none"> <li>• Session 4.5: <i>End-of-Unit Assessment</i></li> </ul> <p><b>Integrate these Grade 4 MCAS questions into unit:</b></p> <ul style="list-style-type: none"> <li>• <b>2006:</b> #1, #5, #22, #23, #36</li> <li>• <b>2007:</b> #12, #20, #23, #25, #29, #35</li> </ul>

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		conventional algorithm for division of up to a three-digit whole number with a single-digit divisor (with or without remainders)		
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**4.P.1** Create, describe, extend and explain symbolic (geometric) and numeric patterns, including multiplication patterns like 3, 30, 300, 3000, ....

**4.P.3\*\*\* Determine values of variables in simple equations, e.g.,  $4106 - \nabla = 37$ ,  $5 = \bigcirc + 3$ , and  $\square - \bigcirc = 3$ .**

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<p><b>Unit 4: Size, Shape and Symmetry</b> (2-D Geometry and Measurement)</p> <p>Standards: 4.G.1 4.G.2 4.G.3 4.G.4 4.G.5 <b>4.G.7*</b> 4.G.8 4.G.9 4.M.1 <b>4.M.2**</b> <b>4.M.4***</b> 4.M.5</p>	<p>Investigation 1</p> <p><b>Before Session 2.1 Supplemental Activity Master #15 (Pairs of Lines)</b></p> <p>Investigation 2</p> <p>Investigation 3</p> <p>Investigation 4</p> <p><b>After session 4.2 Supplemental Activity Master #21(Slides, Flips &amp; Turns)</b></p> <p><b>Supplemental Activity Master #26 (Congruent Figures)</b></p> <p><b>Supplemental Activity Master #22 (Symmetry)</b></p> <p><b><u>Ten-Minute Math</u></b></p> <ul style="list-style-type: none"> <li>• Today's Number</li> <li>• Quick Images</li> </ul>	<p><b>4.G.1</b> Compare and analyze attributes and other features (e.g., number of sides, faces, corners, right angles, diagonals, and symmetry) of two- and three-dimensional geometric shapes.</p> <p><b>4.G.2</b> Describe, model, draw, compare, and classify two- and three-dimensional shapes, e.g., circles, polygons—especially triangles and quadrilaterals—cubes, spheres, and pyramids.</p> <p><b>4.G.3</b> Recognize similar figures.(no MCAS history)</p> <p><b>4.G.4</b> Identify angles as acute, right, or obtuse.</p> <p><b>4.G.5</b> Describe and draw intersecting, parallel, and perpendicular lines.</p> <p><b>4.G.7* Describe and apply techniques such as reflections (flips), rotations (turns), and translations (slides) for determining if two shapes are congruent.</b></p> <p><b>4.G.8</b> Identify and describe line symmetry in two-dimensional shapes.</p> <p><b>4.G.9</b> Predict and validate the results of partitioning, folding, and combining two- and three-dimensional shapes</p>	<p>Acute Angle Area Benchmark Centimeter Congruent Degree Endpoint Equilateral-triangle Estimate Flip Flipped Figure Foot Grid lines Hexagon Inch Intersect Intersecting lines Kilometer Linear-measurement Line segment Line of symmetry Measure(ment) Meter Metric system Millimeter Nearest</p>	<ul style="list-style-type: none"> <li>• Session 1.3: <i>How Long Is Our Classroom?</i></li> <li>• Session 2.5: <i>What is a Quadrilateral?</i></li> <li>• Session 3.3: <i>Building Angles</i></li> </ul> <p><b>Due Jan 20:</b></p> <ul style="list-style-type: none"> <li>• Session 4.7: <i>End-of-Unit Assessment</i></li> </ul> <p><b>Integrate these Grade 4 MCAS questions into unit:</b></p> <ul style="list-style-type: none"> <li>• <b>2006:</b> #4, #10, #19, #28</li> <li>• <b>2007:</b> #17, #19, #33</li> </ul>

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		<p><b>4.M.1</b> Demonstrate an understanding of such attributes as length, area, weight, and volume, and select the appropriate type of unit for measuring each attribute.</p> <p><b>4.M.2**</b> Carry out simple unit conversions within a system of measurement, e.g., hours to minutes, cents to dollars, yards to feet or inches, etc.</p> <p><b>4.M.4***</b> Estimate and find area and perimeter of a rectangle, triangle, or irregular shape using diagrams, models, and grids or by measuring.</p> <p><b>4.M.5</b> Identify and use appropriate metric and English units and tools (e.g., ruler, angle ruler, graduated cylinder, thermometer) to estimate, measure, and solve problems involving length, area, volume, weight, time, angle size, and temperature.</p>	<p>Obtuse  Orientation  Parallel  Parallelogram  Pentagon  Perimeter  Perpendicular  Polygon  Prefix  Quadrilateral  Rectangle  Reflection  Rhombus  Right angle  Rotate  Rotational  symmetry  Side  Similar  Size  Slide  Square  Square unit  Straight line  Symmetry  Symmetrical  Trapezoid  Turn  Unit</p>	<p><u>Vocabulary (cont.)</u></p> <p>Vertex  Vertices  Volume  Yard</p>
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<p><b>Unit 5: Landmarks and Large Numbers</b> (Addition, Subtraction, and The Number System)</p> <p>Standards: 4.N.1 4.N.2 4.N.9 4.N.10 4.N.12 <b>4.N.14*</b> <b>4.P.2*</b></p>	<p>Investigation 1 Investigation 2 Investigation 3 Investigation 4</p> <p><b>Session 4.7 Supplemental Activity Master #29 (Place Value to 100,000,000)</b></p> <p><b>After activity #29 Supplemental Activity Master #30 (Comparing and ordering whole numbers) Comparison Notation</b> &gt; , &lt;</p> <p><b><u>Ten-Minute Math</u></b></p> <ul style="list-style-type: none"> <li>• Today's Number</li> <li>• Broken Calculator</li> <li>• Practicing Place Value</li> </ul>	<p><b>4.N.1</b> Exhibit an understanding of the base ten number system by reading, modeling, writing, and interpreting whole numbers to at least 100,000; demonstrating an understanding of the values of the digits; and comparing and ordering the numbers.</p> <p><b>4.N.2</b> Represent, order, and compare large numbers (to at least 100,000) using various forms, including expanded notation, e.g., <math>853 = 8 \times 100 + 5 \times 10 + 3</math>.</p> <p><b>4.N.9</b> Select, use, and explain the commutative, associative, and identity properties of operations on whole numbers in problem situations, e.g., <math>37 \times 46 = 46 \times 37</math>, <math>(5 \times 7) \times 2 = 5 \times (7 \times 2)</math>.</p> <p><b>4.N.10</b> Select and use appropriate operations (addition, subtraction, multiplication, division) to solve problems, including those involving money.</p> <p><b>4.N.12</b> Add and subtract (up to five-digit numbers) and multiply (up to three digits by two digits) accurately and efficiently.</p> <p><b>4.N.14* Demonstrate in the classroom an understanding of and the ability to use the conventional algorithms for addition and subtraction (up to five-digit numbers), and multiplication (up to three digits by two digits).</b></p>	<p>Addition-strategies Compare Digit Expanded-notation Hundred thousand Greater than Less than Landmark Million Order Place value Standard-form Subtraction-strategies</p> <p>Symbols &gt; , &lt; , =</p>	<ul style="list-style-type: none"> <li>• Session 1.5: <i>Numbers to 1,000</i></li> <li>• Session 2.6: <i>Solving an Addition Problem in Two Ways</i></li> <li>• Session 4.3: <i>Numbers to 10,000</i></li> </ul> <p><b>Due Feb 26:</b></p> <ul style="list-style-type: none"> <li>• Session 4.7: <i>End-of-Unit Assessment</i></li> </ul> <p><b>Integrate these Grade 4 MCAS questions into unit:</b></p> <ul style="list-style-type: none"> <li>• <b>2006:</b> #12, #13, #37</li> <li>• <b>2007:</b> #7, #16, #27</li> </ul>

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<p><b>Unit 6: Fraction Cards and Decimal Squares</b> (Fractions and Decimals)</p> <p>Standards: 4.N.3 4.N.4 4.N.5 4.N.6 4.N.18 4.P.5</p> <p><b>During this chapter look for opportunities to represent common fractions on a number line. Some teachers effectively use string and clothespins to “pin” <math>\frac{1}{2}</math>, <math>\frac{1}{4}</math>, etc in their appropriate places between 0 and 1.</b> [Locating fractions on a ruler is another model of number line.]</p>	<p>Investigation 1</p> <p>Investigation 2</p> <p>Investigation 3</p> <p><b>Session 3.7 Supplemental Activity Master #44 (Ratios)</b></p> <p><b>Ten Minute Math</b></p> <ul style="list-style-type: none"> <li>• Practicing Place Value</li> <li>• Quick Survey</li> </ul>	<p><b>4.N.3</b> Demonstrate an understanding of fractions as parts of unit wholes, as parts of a collection, and as <b>locations on the number line.</b></p> <p><b>4.N.4</b> Select, use, and explain models to relate common fractions and mixed numbers (<math>\frac{1}{2}</math>, <math>\frac{1}{3}</math>, <math>\frac{1}{4}</math>, <math>\frac{1}{5}</math>, <math>\frac{1}{6}</math>, <math>\frac{1}{8}</math>, <math>\frac{1}{10}</math>, <math>\frac{1}{12}</math>, and <math>1\frac{1}{2}</math>), find equivalent fractions, mixed numbers, and decimals, and order fractions.</p> <p><b>4.N.5</b> Identify and generate equivalent forms of common decimals and fractions less than one whole (halves, quarters, fifths, and tenths).</p> <p><b>4.N.6</b> Exhibit an understanding of the base ten number system by reading, naming, and writing decimals between 0 and 1 up to the hundredths.</p> <p><b>4.N.18</b> Use concrete objects and visual models to add and subtract common fractions.</p> <p><b>4.P.5</b> Solve problems involving proportional relationships, including unit pricing (e.g., four apples cost 80¢, so one apple costs 20¢) and map interpretation (e.g., one inch represents five miles, so two inches represent ten miles).</p>	<p>Decimal Denominator Equivalent Fraction Hundredths Improper fraction Landmarks Mixed number Numerator Ratio Percent Proportion Same Sixths Tenths Thirds Whole numbers</p>	<ul style="list-style-type: none"> <li>• Session 1.5: <i>Identifying and Comparing Fractions</i></li> <li>• Session 2.6: <i>Comparing Fractions</i></li> </ul> <p><b>Due March 31:</b></p> <ul style="list-style-type: none"> <li>• Session 3.7: <i>End-of-unit assessment</i></li> </ul> <p><b>Integrate these Grade 4 MCAS questions into unit:</b></p> <ul style="list-style-type: none"> <li>• <b>2006:</b> #2, #16, #24, #25, #32</li> <li>• <b>2007:</b> #1, #18, #21, #22, #39</li> </ul>

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<p><b>Unit 7: Moving Between Solids and Silhouettes</b>  (3D Geometry and Measurement)</p> <p>Standards:  4.G.1  4.G.2  4.M.1</p>	<p>Investigation 1</p> <p>Investigation 2</p> <p>Investigation 3</p> <p><b><u>Ten Minute Math</u></b></p> <ul style="list-style-type: none"> <li>• Practicing Place Value</li> <li>• Quick Images</li> <li>• <b>What's/Guess My Shape</b></li> </ul>	<p><b>4.G.1</b> Compare and analyze attributes and other features (e.g., number of sides, faces, corners, right angles, diagonals, and symmetry) of two- and three-dimensional geometric shapes.</p> <p><b>4.G.2</b> Describe, model, draw, compare, and classify two- and three-dimensional shapes, e.g., circles, polygons—especially triangles and quadrilaterals—cubes, spheres, and pyramids.</p> <p><b>4.M.1</b> Demonstrate an understanding of such attributes as length, area, weight, and volume, and select the appropriate type of unit for measuring each attribute.</p>	<p>Corners  Cube  Cubic  centimeter  Cubic feet  Cylinder  Edge  Face  Figure  Pattern  Prism  Pyramid  Rectangular-prism  Shape  Silhouette  Size  Solid  Vertex/  vertices  Volume</p>	<ul style="list-style-type: none"> <li>• Session 1.4: <i>Match the Silhouettes</i></li> <li>• Session 2.5: <i>Drawing Silhouettes</i></li> </ul> <p><b>Due April 30:</b></p> <ul style="list-style-type: none"> <li>• Session 3.5: <i>End-of-unit Assessment</i></li> </ul> <p><b>Integrate these Grade 4 MCAS questions into unit:</b></p> <ul style="list-style-type: none"> <li>• <b>2007:</b> #4, #15</li> </ul>

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<p><b>Unit 8: How Many Packages? How Many Groups?</b> (Multiplication and Division 3)</p> <p>Standards: 4.N.9 4.N.10 4.N.11 4.N.12 4.N.13 4.N.14 4.N.15 4.N.16 4.N.17 4.M.2 4.M.3</p>	<p>Investigation 1 Investigation 2 Investigation 3</p> <p><b>Session 3.6 Supplemental Activity Master #51 (Standard Units of Weight)</b></p> <p><b>Supplemental Activity Master #52 (Metric Units of Mass (see unit4))</b></p> <p><b>Supplemental Activity Master #53 (Standard &amp; Metric Units of Capacity)</b></p> <p><b>Supplemental Activity Master #55 (Time)</b></p>	<p><b>4.N.9</b> Select, use, and explain the commutative, associative, and identity properties of operations on whole numbers in problem situations, e.g., <math>37 \times 46 = 46 \times 37</math>, <math>(5 \times 7) \times 2 = 5 \times (7 \times 2)</math>.</p> <p><b>4.N.10</b> Select and use appropriate operations (addition, subtraction, multiplication, division) to solve problems, including those involving money.</p> <p><b>4.N.11</b> Know multiplication facts through <math>12 \times 12</math> and related division facts. Use these facts to solve related multiplication problems and compute related problems, e.g., <math>3 \times 5</math> is related to <math>30 \times 50</math>, <math>300 \times 5</math>, and <math>30 \times 500</math>.</p> <p><b>4.N.12</b> Add and subtract (up to five-digit numbers) and multiply (up to three digits by two digits) accurately and efficiently.</p> <p><b>4.N.13</b> Divide up to a three-digit whole number with a single-digit divisor (with or without remainders) accurately and efficiently. Interpret any remainders.</p> <p><b>4.N.14</b> Demonstrate in the classroom an understanding of and the ability to use the conventional algorithms for addition and subtraction (up to five-digit numbers), and multiplication (up to three digits by two digits).</p>	<p>A.M. P.M. Capacity Cluster Division Divisor Estimate Factor Gram Hour Landmark Liter Mass Multiple Multiplication Ounce Pound Remainder Standard- system Standard units Ton Weight</p>	<ul style="list-style-type: none"> <li>• Session 1.4: <i>Solving Multiplication Problems</i></li> <li>• Session 2.5: <math>34 \times 68</math></li> </ul> <p><b>Due May 27</b></p> <ul style="list-style-type: none"> <li>• Session 3.6: <i>End-of-unit assessment</i></li> </ul> <p><b>Integrate these Grade 4 MCAS questions into unit:</b></p> <ul style="list-style-type: none"> <li>• <b>2006:</b> #6, #8, #33</li> <li>• <b>2007:</b> #2, #9</li> </ul>

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	<p><b><u>Ten Minute Math</u></b></p> <ul style="list-style-type: none"> <li>• Closest Estimate</li> <li>• Counting Around the Class</li> <li>• <b>Guess My Unit (capacity weight, etc.)</b></li> </ul>	<p><b>4.N.15</b> Demonstrate in the classroom an understanding of and the ability to use the conventional algorithm for division of up to a three-digit whole number with a single-digit divisor (with or without remainders).</p> <p><b>4.N.16</b> Round whole numbers through 100,000 to the nearest 10, 100, 1000, 10,000, and 100,000.</p> <p><b>4.N.17</b> Select and use a variety of strategies (e.g., front-end, rounding, and regrouping) to estimate quantities, measures, and the results of whole-number computations up to three-digit whole numbers and amounts of money to \$1000, and to judge the reasonableness of the answer.</p> <p><b>4.M.2**</b> Carry out simple unit conversions within a system of measurement, e.g., hours to minutes, cents to dollars, yards to feet or inches, etc.</p> <p><b>4.M.3</b> Identify time to the minute on analog and digital clocks using a.m. and p.m. Compute elapsed time using a clock and using a calendar.</p>		

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Fourth Grade

Unit Name	Essential Lessons	Mathematical Emphasis	Vocabulary	Assessments
<p><b>Unit 9 Penny Jars and Plant Growth</b> (Patterns, Functions, and Change)</p> <p>Standards: 4.P.2 4.P.4 4.P.5 4.P.6 4.G.6 4.M.3</p>	<p>Investigation 1</p> <p>Investigation 2</p> <p>Investigation 3</p> <p><b><u>Ten Minute Math</u></b></p> <ul style="list-style-type: none"> <li>• Quick Survey</li> <li>• Closest Estimate</li> </ul>	<p><b>4.P.2</b> Use symbol and letter variables (e.g., <math>\Delta</math>, <math>x</math>) to represent unknowns or quantities that vary in expressions and in equations or inequalities (mathematical sentences that use <math>=</math>, <math>&lt;</math>, <math>&gt;</math>).</p> <p><b>4.P.4</b> Use pictures, models, tables, charts, graphs, words, number sentences, and mathematical notations to interpret mathematical relationships.</p> <p><b>4.P.5</b> Solve problems involving proportional relationships, including unit pricing (e.g., four apples cost 80¢, so one apple costs 20¢) and map interpretation (e.g., one inch represents five miles, so two inches represent ten miles).</p> <p><b>4.P.6</b> Determine how change in one variable relates to a change in a second variable, e.g., input-output tables.</p> <p><b>4.G.6</b> Using ordered pairs of numbers and/or letters, graph, locate, identify points, and describe paths (first quadrant).</p> <p><b>4.M.3</b> Identify time to the minute on analog and digital clocks using a.m. and p.m. Compute elapsed time using a clock (e.g., hours and minutes since...) and using a calendar (e.g., days since...).</p>	<p>Beginning/starting amount Constant change Constant increase Coordinate grid x-axis y-axis Equation Graph Line graph Number pattern Number sentence Rate of change Rule Steepness Represent/Representation Solution Symbolic letter Notation Table Variable</p>	<ul style="list-style-type: none"> <li>• Session 2.5: <i>Penny Jar Comparisons</i></li> </ul> <p><b>Due June 23:</b></p> <ul style="list-style-type: none"> <li>• Session 3.5: <i>End-of-Unit Assessment</i></li> </ul> <p><b>Integrate these Grade 4 MCAS questions into unit:</b></p> <ul style="list-style-type: none"> <li>• <b>2006:</b> #17,#21, #31, #38, #39</li> <li>• <b>2007:</b> #8, #13, #24, #38</li> </ul>