

# MATHEMATICS- GRADE 4

Learning Expectations & (Related Standard)	Content Outline (Unit/Time)	Activities / Instructional Strategies	Enrichment Options	Reinforcement Options	Assessment Procedures
<p>Students will name and construct geometric figures. (2.9.4.a,d,e,g)</p>	<p>Unit 1 (3 wks)</p>	<ol style="list-style-type: none"> <li>1. Describe a line segment and a line.</li> <li>2. Compare/contrast plane figures.</li> <li>3. Draw quadrangles.</li> <li>4. Draw parallel lines, intersecting lines and line segments.</li> <li>5. Understand right angles.</li> <li>6. Name/identify lines and rays.</li> <li>7. Name polygons.</li> <li>8. Identify properties of polygons.</li> <li>9. Construct circles with compasses.</li> <li>10. Solve addition/subtraction facts.</li> <li>11. Demonstrate automaticity with addition facts and subtraction facts.</li> </ol>	<ol style="list-style-type: none"> <li>1. Solve Collinear-Points Puzzle for enrichment.</li> <li>2. Draw tangent circles.</li> <li>3. Create a personal geometry poster to illustrate geometric terms from Unit 1.</li> <li>4. Read <u>The Greedy Triangle</u> and <u>Math Curse</u>.</li> <li>5. Design a compass to draw a large circle on a playground.</li> <li>6. Create a six-point design from a circle.</li> <li>7. Shape Surveyor Game <a href="http://www.funbrain.com">www.funbrain.com</a></li> <li>8. Continental Math League Enrichment Class (on-going throughout the year)</li> <li>9. Hands-on Algebra Enrichment Class (on-going throughout the year)</li> <li>10. Visit Website: <a href="http://everydaymath.org/students.htm">http://everydaymath.org/students.htm</a></li> </ol>	<ol style="list-style-type: none"> <li>1. Play Addition Top-It.</li> <li>2. Use relation symbols to compare numbers using Math Masters page 6.</li> <li>3. Refer to 5-Minute Math book for reinforcement activities.</li> <li>4. Play Subtraction Top-It.</li> <li>5. Take a Geometry tour around the building searching for geometric patterns.</li> <li>6. Inscribe an equilateral triangle in a circle.</li> <li>7. Play Geometry Five Questions to identify a shape.</li> <li>8. Play Name That Polygon.</li> <li>9. Visit Website: <a href="http://everydaymath.org/students.htm">http://everydaymath.org/students.htm</a></li> </ol>	<p>Unit 1 Assessment</p> <p>Study Links</p> <p>Unit 1 Quiz</p> <p>Math Boxes</p>

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<p>Students will use numbers and organize data. (2.2.4.b,g and 2.6.4.g)</p>	<p>Unit 2 (2-3 wks)</p>	<ol style="list-style-type: none"> <li>1. Using a set of data, find the maximum, minimum, range, median, and mode.</li> <li>2. Display data with a line plot, bar graph, or tally chart.</li> <li>3. Use the statistical landmarks median, mode, and range</li> <li>4. Use the statistical landmarks maximum and minimum</li> <li>5. Have a successful strategy for subtracting multi-digit numbers</li> <li>6. Have a successful strategy for adding multidigit numbers</li> <li>7. Read and write numerals to hundred-millions; give the value of the digits in numerals in hundred-millions</li> <li>8. Give equivalent names for numbers</li>   <li>1. Review strategies for solving multiplication.</li> </ol>	<ol style="list-style-type: none"> <li>1. Play Polygon Pair-Up.</li> <li>2. Solve Pan-Balance problems.</li> <li>3. Solve Number-Grid Puzzles.</li> <li>4. Use a map scale to find distances.</li> <li>5. Read a book entitled <u>How Much Is a Million?</u></li> <li>6. Play Number Top-It.</li> <li>7. Compare family size data.</li> <li>8. Determine the validity of “One Size Fits All” claim.</li> <li>9. CML – Continental Math League &amp; Hands-on Algebra Enrichment Classes (continued throughout the school year.)</li> <li>10. Visit Website: <a href="http://everydaymath.org/students.htm">http://everydaymath.org/students.htm</a></li> </ol>	<ol style="list-style-type: none"> <li>1. Complete name collection boxes.</li> <li>2. Play Addition-Top-It.</li> <li>3. Refer to 5-minute math activities.</li> <li>4. Use the World Tour section of the Student Reference Book to find facts for Washington, D.C.</li> <li>5. Read a story that illustrates equivalent names: <u>Twelve Ways to Get Eleven.</u></li> <li>6. Practice reading and writing numbers on a calculator.</li> <li>7. Model the trade-first method with base-10 blocks.</li> <li>8. <a href="http://www.funbrain.com">www.funbrain.com</a> Math Baseball Game Soccer Shootout Match Car Racing</li> <li>9. Visit Website: <a href="http://everydaymath.org/students.htm">http://everydaymath.org/students.htm</a></li> </ol>	<p><b>Unit 2 Assessment</b></p> <p><b>Study Links</b></p> <p><b>Unit 2 Quiz</b></p> <p><b>Math Boxes</b></p> <p><b>Unit 3 Assessment</b></p>

# MATHEMATICS- GRADE 4

Learning Expectations & (Related Standard)	Content Outline (Unit/Time)	Activities / Instructional Strategies	Enrichment Options	Reinforcement Options	Assessment Procedures
<p>Students will use multiplication and division and apply it to number sentences and algebra. (2.2.4. and 2.8.4.c)</p>	<p>Unit 3 (3-4 wks)</p>	<ol style="list-style-type: none"> <li>2. Explore relationship between multiplication and division facts.</li> <li>3. Solve open sentences.</li> <li>4. Insert parentheses to make true number sentences and solve problems with parentheses included.</li> <li>5. Determine whether number sentences are true or false.</li> <li>6. Use and explain strategies for solving addition and subtraction number stories.</li> <li>7. Use a map scale to estimate distances.</li> <li>8. Solve basic division facts.</li> <li>9. Solve basic multiplication facts.</li> <li>10. Explore the relationship between multiplication and division.</li> <li>1. Write the numbers between 2 whole numbers using decimals.</li> <li>2. Solve open number sentences.</li> </ol>	<ol style="list-style-type: none"> <li>1. Play game Division Arrays</li> <li>2. Explore the relationship between division and fractions.</li> <li>3. Use the internet to find country facts.</li> <li>4. Write and solve number stories about air distances.</li> <li>5. Write and solve number stories.</li> <li>6. Hands-On Algebra Enrichment Class.</li> <li>7. Continental Math League Enrichment Class.</li> <li>8. Website for Enrichment Activities: <a href="http://www.yahooligans.com">www.yahooligans.com</a></li> <li>9. Play Seega.</li> <li>10. Visit Website: <a href="http://everydaymath.org/students.htm">http://everydaymath.org/students.htm</a></li> </ol>	<ol style="list-style-type: none"> <li>1. Play Name That Number.</li> <li>2. Play Multiplication Top-It.</li> <li>3. Practice 9-facts with fingers.</li> <li>4. Practice multiplication facts with games from Student Reference Book.</li> <li>5. Play Name That Number &amp; Broken Calculator.</li> <li>6. <a href="http://www.funbrain.com">www.funbrain.com</a> or <a href="http://www.multiplication.com">www.multiplication.com</a></li> <li>7. Play Beat the Calculator.</li> <li>8. Play Math Multiplication Baseball game, Soccer Shootout, or Match Car Racing.</li> <li>9. Visit Website:</li> </ol>	<p>Study Links</p> <p>Unit 3 Quiz</p> <p>Math Boxes</p> <p>Unit 4 Assessment</p>



# MATHEMATICS- GRADE 4

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<p>Students will focus on big numbers, estimation, and computation. (2.1.4.a)</p>	<p>Unit 5 (2-3 wks)</p>	<p>My Rule?" tables.</p> <ol style="list-style-type: none"> <li>6. Compare large numbers.</li> <li>7. Measure to the nearest <math>\frac{1}{4}</math> inch and 0.5 cm.</li> </ol> <ol style="list-style-type: none"> <li>1. Write number models to represent number stories.</li> <li>2. Solve open sentences using multiplication &amp; division facts.</li> <li>3. Solve division problems with 1 digit divisors and 2 digit dividends.</li> <li>4. Solve decimal addition/subtraction</li> </ol>	<p><a href="#">nts.htm</a></p> <ol style="list-style-type: none"> <li>1. Judge a "Multiplication Wrestling" competition using Math Masters page 142.</li> <li>2. Play game-Scoring a Dart.</li> <li>3. Investigate powers of 10 on a calculator.</li> <li>4. Investigate "Napier's Rods" activity.</li> <li>5. Solve multiplication and division puzzles.</li> <li>6. Solve a traveling salesperson problem.</li> <li>7. Make predictions</li> </ol>	<ol style="list-style-type: none"> <li>1. Use base-10 blocks for multiplication reinforcement.</li> <li>2. Play Product Pile-up game for reinforcement.</li> <li>3. Activities from 5-Minute Math activity book.</li> <li>4. Play Multiplication Wrestling.</li> <li>5. Model</li> </ol>	<p>Unit 5 Quiz</p> <p>Math Boxes</p> <p>Unit 6 Assessment</p> <p>Study Links</p>

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<p>Students will understand a division algorithm and will measure rotations and angles. (2.2.3.H)</p>	<p>Unit 6 (3-4 wks)</p>	<p>problems.</p> <ol style="list-style-type: none"> <li>5. Solve multi-digit multiplication number stories.</li> <li>6. Name and locate points on a coordinate grid.</li> <li>7. Identify acute, obtuse, straight, and reflex angles.</li> <li>8. Use a protractor to draw and measure angles.</li> <li>9. Use and explain strategies for solving division number stories.</li> </ol> <ol style="list-style-type: none"> <li>1. Describe fractions as equal parts of a whole.</li> <li>2. Solve "Fraction-Of" problems.</li> <li>3. Write equivalent fractions.</li> <li>4. Add and subtract fractions.</li> <li>5. Rename fractions.</li> <li>6. Compare and order fractions.</li> <li>7. Name fractions of regions/collections and find the ONE.</li> </ol>	<p>from data.</p> <ol style="list-style-type: none"> <li>8. Begin a big number list.</li> <li>9. Change Maker Game</li> <li>10. Hand-On Algebra Enrichment Class</li> <li>11. Continental Math League Enrichment Class</li> <li>12. Round Bar Graph Data (in manual).</li> <li>13. Visit Website: <a href="http://everydaymath.org/students.htm">http://everydaymath.org/students.htm</a></li> </ol> <ol style="list-style-type: none"> <li>1. Measuring angles within triangles.</li> <li>2. Play game Grid Search.</li> <li>3. Use time to determine longitude.</li> <li>4. Play High Number Toss.</li> <li>5. Continental Math League Enrichment</li> </ol>	<p>multiplication with Base-10 blocks.</p> <ol style="list-style-type: none"> <li>6. Play High Number Toss game.</li> <li>7. Visit Website: <a href="http://everydaymath.org/students.htm">http://everydaymath.org/students.htm</a></li> </ol> <ol style="list-style-type: none"> <li>1. Play Buzz and Bizz-Buzz.</li> <li>2. Review place value in decimals.</li> <li>3. Play Beat the Calculator.</li> <li>4. Play Division Dash.</li> <li>5. Use counters to find</li> </ol>	<p>Unit 6 Quiz</p> <p>Math Boxes</p> <p>Unit 7 Assessment</p> <p>Study Links</p>

## MATHEMATICS- GRADE 4

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<p>Students will understand fractions and their uses as well as understand chance and probability. (2.1.4 and 2.7.4)</p>	<p><b>Unit 7 (2-3 wks)</b></p>	<ol style="list-style-type: none"> <li>8. Plot coordinates on a grid.</li> <li>9. Multiply multi-digit numbers.</li> <li>10. Divide multi-digit numbers by one-digit divisors.</li> </ol> <ol style="list-style-type: none"> <li>1. Rename fractions with a denominator of 10 or 100 as a decimal and percent.</li> <li>2. Use data to create a line graph.</li> <li>3. Count squares to find the area of a polygon.</li> <li>4. Use formulas to find areas of shapes.</li> <li>5. Find the perimeter of a polygon.</li> <li>6. Calculate the perimeter of a polygon when the length of one side is</li> </ol>	<p>Class</p> <ol style="list-style-type: none"> <li>6. Hands-On Algebra Enrichment Class</li> <li>7. Solve elapsed time problems.</li> <li>8. Make a model of a world globe.</li> <li>9. Geometry Practice <a href="http://www.yahooligans.com">www.yahooligans.com</a></li> <li>10. Hands-On Algebra Enrichment Class</li> <li>11. Continental Math League Enrichment Class</li> <li>12. Visit Website: <a href="http://everydaymath.org/students.htm">http://everydaymath.org/students.htm</a></li> </ol> <ol style="list-style-type: none"> <li>1. Compare actual and expected results of the 1,000 Cube Drop.</li> <li>2. Investigate chance events.</li> </ol>	<p>equal-grouping problems.</p> <ol style="list-style-type: none"> <li>6. Compare and model angles.</li> <li>7. Change Maker Game <a href="http://www.funbrain.com">www.funbrain.com</a></li> <li>8. Visit Website: <a href="http://everydaymath.org/students.htm">http://everydaymath.org/students.htm</a></li> </ol> <ol style="list-style-type: none"> <li>1. Play Fraction Top-It.</li> <li>2. Create Base-10 block designs.</li> </ol>	<p><b>Unit 7 Quiz</b></p> <p><b>Math Boxes</b></p>        <p><b>Unit 8 Assessment</b></p> <p><b>Study Links</b></p>

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<b>Students will understand perimeter and area. (2.9.4)</b>	<b>Unit 8 (2 wks)</b>	missing. 7. Solve fraction addition and subtraction problems. 8. Describe a strategy for finding and comparing the areas of a square and a polygon. 9. Calculate and express the probability of an event as a fraction.  1. Find equivalent fractions. 2. Rename fourths, fifths, tenths, and hundredths as decimals and percents. 3. Solve "Fraction-Of" problems. 4. Divide a multi-digit number by a 1 digit divisor. 5. Interpret a map scale. 6. Draw conclusions from a data representation. 7. Estimate the product of a whole number and a decimal. 8. Estimate the quotient of a decimal divided by a whole number.	3. Play Getting To One. 4. Create Fraction Art. 5. Exploring Tangrams. 6. Read <u>Grandfather Tang's Story</u> . 7. Modeling fractions with other denominators on a clock face. 8. Fraction Games <a href="http://www.yahooligans.com">www.yahooligans.com</a> 9. Hands-On Algebra Enrichment Class. 10. Continental Math League Enrichment Class 11. Visit Website: <a href="http://everydaymath.org/students.htm">http://everydaymath.org/students.htm</a>  1. Investigate Pattern-Block perimeters on	3. Complete Name-Collection boxes on Math Masters page 397. 4. Use 5-Minute Math book for reinforcement activities. 5. Dividing shapes into equal parts by reading the book <u>Gator Pie</u> . 6. Play Fraction Match. 7. Solve frames and arrows problems on Math Masters p. 393. 8. Visit Website: <a href="http://everydaymath.org/students.htm">http://everydaymath.org/students.htm</a>	<b>Unit 8 Quiz</b>  <b>Math Boxes</b>          <b>Unit 9 Assessment</b>  <b>Study Links</b>  <b>Unit 9 Quiz</b>



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<p>Students will understand percents. (2.1.4)</p>	<p>Unit 9 (2-3 wks)</p>	<ol style="list-style-type: none"> <li>1. Plot points in the first quadrant of a coordinate grid.</li> <li>2. Compare fractions with like numerators or like denominators.</li> <li>3. Use a transparent mirror to sketch and describe a reflection.</li> <li>4. Describe a pattern and use it to solve a problem.</li> <li>5. Identify and sketch an example of a reflection.</li> <li>6. Identify examples of translations and rotations.</li> <li>7. Express the probability of an event as a fraction.</li> </ol>	<p>Math Masters page 249.</p> <ol style="list-style-type: none"> <li>2. Explore different polygons with the same area.</li> <li>3. Make a scale drawing of your bedroom.</li> <li>4. Constructing figures with a compass and straightedge.</li> <li>5. Use division to compare numbers of mammal species.</li> <li>6. Continental Math League Enrichment Class</li> <li>7. Explore the relationship between the perimeter and area of a rectangle.</li> <li>8. Shape Surveyor Game <a href="http://www.funbrain.com">www.funbrain.com</a></li> <li>9. Visit Website: <a href="http://everydaymath.org/students.htm">http://everydaymath.org/students.htm</a></li> </ol>	<ol style="list-style-type: none"> <li>1. Investigate perimeter and area on a geoboard.</li> <li>2. Refer to 5-Minute Math for reinforcement activities.</li> <li>3. Converting square inches to square feet.</li> <li>4. Find the area of rectangles.</li> <li>5. Play "Fraction-Of".</li> <li>6. Play Rugs and Fences</li> <li>7. Visit Website: <a href="http://everydaymath.org/students.htm">http://everydaymath.org/students.htm</a></li> </ol>	<p><b>Math Boxes</b></p> <p><b>Unit 10 Assessment</b></p> <p><b>Study Links</b></p> <p><b>Unit 10 Quiz</b></p>



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<p>Students will explore shapes, weight, volume, and capacity. (2.9.4 and 2.1.4)</p>	<p>Unit 11 (2 wks)</p>	<ol style="list-style-type: none"> <li>1. Write number sentences comparing two numbers between 100 and -100.</li> <li>2. Describe the rule for a pattern and use that rule to solve problems.</li> <li>3. Use given data to create a line graph.</li> <li>4. Insert parentheses in number sentences to make them true.</li> <li>5. Use scaling to model multiplication and division.</li> <li>6. Demonstrate automaticity with multiplication facts through 10 X 10.</li> </ol>	<ol style="list-style-type: none"> <li>1. Explore Shadows and Reflections using Math Masters page 389.</li> <li>2. Solve Paper Folding Puzzles using Math Masters page 308.</li> <li>3. Explore reflections and lines of reflection.</li> <li>4. Explore reflections of 3-dimensional figures using Math Masters page 447.</li> <li>5. Explore arrangements of four straws using Math Masters page 437.</li> <li>6. Create frieze patterns.</li> <li>7. Explore tessellations.</li> <li>8. Visit Website: <a href="http://everydaymath.org/students.htm">http://everydaymath.org/students.htm</a></li> </ol>	<ol style="list-style-type: none"> <li>1. Play Over And Up Squares.</li> <li>2. Refer to 5-Minute Math book for reinforcement activities.</li> <li>3. Explore line symmetry using Math Masters page 317.</li> <li>4. Create a paint reflection.</li> <li>5. Display pictures of symmetric objects.</li> <li>6. Explore geometric patterns using Math Masters page 389.</li> <li>7. Create Frieze patterns using Math Masters page 319.</li> <li>8. Visit Website: <a href="http://everydaymath.org/students.htm">http://everydaymath.org/students.htm</a></li> </ol>	<p><b>Unit 12 Assessment</b></p> <p><b>Study Links</b></p> <p><b>Unit 12 Quiz</b></p> <p><b>Math Boxes</b></p>

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<p>Students will be exposed to rates, ratios, and proportional thinking. (2.6.4)</p>	<p>Unit 12 (3 wks)</p>		<p><a href="#">nts.htm</a></p> <ol style="list-style-type: none"> <li>1. Explore Euler's Polyhedral formula using Math Masters page 389.</li> <li>2. Create cube nets using Math Masters pages 389 &amp; 444.</li> <li>3. Explore penticubes using Math Masters page 389.</li> <li>4. Estimate the volume of a sheet of paper using Math Masters pages 388 and 389.</li> <li>5. Model the capacity of annual rice consumption using</li> </ol>	<ol style="list-style-type: none"> <li>1. Estimate weights.</li> <li>2. Find Rectangular prisms using Math Masters page 389.</li> <li>3. Play "What's My Weight?"</li> <li>4. Compare geometric solids using Math Masters page 390.</li> <li>5. Solve spatial-visualization puzzles using Math Master page 332.</li> <li>6. Refer to 5-Minute Math book for reinforcement activities.</li> <li>7. Estimate capacity using Math Masters page 389.</li> <li>8. Visit Website: <a href="http://everydaymath.org/stude">http://everydaymath.org/stude</a></li> </ol>	

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			<p>Math Journal #2 page 305.</p> <p>6. Visit Website:  <a href="http://everydaymath.org/students.htm">http://everydaymath.org/students.htm</a></p> <p>1. Create side-by-side bar graphs using Math Masters page 403.</p> <p>2. Represent rates using line graphs using Math Journal #2 pages 312 &amp; 313.</p> <p>3. Calculate mammal speeds using Math Masters pages 343 &amp; 344.</p> <p>4. Test products with</p>	<p><a href="#">nts.htm</a></p> <p>1. Find the median and mean of a data set on Math Masters page 340.</p> <p>2. Play "Credits/Debits".</p> <p>3. Solve rate problems for reinforcement using Math Masters page 454.</p> <p>4. Find unit prices using Math Masters pages 346 &amp; 428.</p> <p>5. Refer to 5-Minute Math booklet for reinforcement activities.</p> <p>6. Interpret the</p>	

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			Consumer Reports for Kids Online. <a href="http://www.zillions.org">www.zillions.org</a> 5. Collect follow-up data on eye-blinking rates. 6. Solve mammal heart rate problems and analyze data. 7. Measure air pressure with barometer using Math Masters pages 349-351. 8. Visit Website: <a href="http://everydaymath.org/students.htm">http://everydaymath.org/students.htm</a>	remainder activity on Math Masters page 353. 7. Visit Website: <a href="http://everydaymath.org/students.htm">http://everydaymath.org/students.htm</a>	