

Carroll County Public Schools Grade 3 Mathematics
Suggested Timeline and Text Reference

Benchmark/Competencies	Approximate Time Frame	Scott Foresman 2005	McGraw Hill Grade 4 1999	McGraw Hill 2005
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<p>Advanced Competency Cluster 3.1 Whole Number Relationships- Place Value</p> <p>Read, write and compare standard form and expanded notation for whole numbers to one million</p> <ol style="list-style-type: none"> a. Read, write, or represent whole numbers using symbols, words, or models (0-1,000,000) b. Express whole numbers in expanded form (0-1,000,000) c. Identify the place value of a digit in a number (0-1,000,000) d. Compare or order no more than 4 whole numbers with or without using the symbols (<, >, or =) (0-1,000,000) 	<p>August Total Days – 10</p> <p>10 days</p>	<p>Grade 4 Text</p> <p>4-11 16-19 22-23</p>	<p>Grade 4 Text</p> <p>3A-7, 7A-11, 11C-13, 23A-27</p>	<p>Grade 4 Text</p> <p>4-9</p> <p>10-11,36, 41-43</p>
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<p>Advanced Competency Cluster 3.2 Whole Number Relationships and Computation</p> <p>Estimate sums and differences of whole numbers to the nearest thousand</p> <p>Add and subtract whole numbers with regrouping</p> <p>a. Add up to 3 addends with no more than 4 digits in each addend using whole numbers (0-10,000)</p> <p>b. Subtract a minuend and subtrahend with no more than 4 digits in each using whole numbers (0-10,000)</p> <p>Use mathematical properties to solve problems, explain and apply number relationships using the mathematical properties of operations, including identity, associative, commutative, and zero. Explain and apply the concept of inverse operations.</p> <p>Select the appropriate operational symbols (+-) and relational symbols (<,>=) to express relationship and solve problems</p> <p>a. Solve for an unknown in an equation with one operation</p> <p>b. With one operation write simple algebraic expressions in one unknown and evaluate by substitution</p>	<p>September Total Days – 20</p> <p>2 days (Estimation used throughout to justify answers)</p> <p>7 days</p> <p>2 days (Ongoing throughout the year to support communicating mathematically)</p> <p>2 days</p>	<p>Grade 4 Text</p> <p>20-21 68-73</p> <p>64-67 76-81 82-87</p> <p>12-13 24-25 38-41 62-63</p> <p>94-95 96-97 690-691</p>	<p>Grade 4 Text</p> <p>45A-47, 59A-61</p> <p>47A-51, 51A-53, 57A-59, 61A-64, 67C-69</p> <p>139A-141, 150</p> <p>13, 16, 32, 34</p> <p>45, 64, 73</p>	<p>Grade 4 Text</p> <p>26-29, 60-61, 80-81</p> <p>54-59,b 64-65, 72-75, 78-79, 82-85</p> <p>55, 48, 49</p> <p>46-47, 50, 62-63, 68-69, 76-77</p>

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Advanced Competency Cluster 3.2 Continued Knowledge of Algebra, Patterns, and Functions		Grade 4 Text	Grade 4 Text	Grade 4 Text
Identify, describe, extend, and create a variety of numeric and non-numeric patterns and functions a. Represent or analyze numeric patterns using skip counting by 3, 4, 6, 7, 8 or 9 starting with any whole number (0-100) b. Create a one-operation (+ or -) function table to solve a real world problem. c. Complete a function table using a given rule with one operation (+, -, x, /) with no remainders) using whole numbers (0-50) d. Describe the relationship that generates a one-operation rule	5 days	88-91, 92-93 98-101 104-105 127 140-143 164-165	31, 59, 93, 125, 129, 135, 137A-139	52-53 70-71 232-233 292-293 226-231 340-341
Identify, describe, extend, analyze, or create a non-numeric growing or repeating pattern to: a. Generalize a rule for the next level of a non-numeric growing pattern given at least 3 levels but no more than 5 levels b. Generalize a rule for a repeating pattern with no more than 4 objects in the core pattern c. Create a non-numeric growing or repeating pattern	2 days	342-343	10, 22, 142, 143, 161, 245, 248, 459	464-465

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<p>Advanced Competency Cluster 3.3 Knowledge of Statistics</p> <p>Data Displays and Analysis</p> <p>a. Collect data by conducting surveys to answer a question</p> <p>b. Organize and display data using line plots and frequency tables</p> <p>c. Analyze and interpret line plots, line graphs, and single and double bar graphs</p> <p>d. Find the range, median, mode of a given set of data with no more than 8 pieces of data using whole numbers (0-100)</p> <p>e. Identify positions on a coordinate plane in the first quadrant using whole numbers (0-20)</p>	<p>October Total Days – 9</p> <p>6 days</p> <p>2 days</p> <p>1 day</p>	<p>4th Grade Text</p> <p>27A-31, 93A-95, 98-99, 99A-103 105A-109, 109C-111 193A-197</p> <p>89-93</p> <p>103A-105</p>	<p>4th Grade Text</p> <p>230-231, 222-223 204-211, 216-221, 232-233 226-229, 692-695</p> <p>212-215</p> <p>224-225, 236-243</p>	<p>4th Grade Text</p> <p>108-110 270-271</p> <p>118-123</p> <p>128-135 106-107</p> <p>126-127</p>
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<p>Advanced Competency Cluster 3.4 Number Relationships and Computation - Multiplication</p> <p>Demonstrate proficiency with multiplication facts (up to and including factors up to 10 x10)</p> <p>Estimate products</p> <p>Use models, pictures, and drawings to multiply a one-digit factor by a two-digit factor</p> <p>Review mathematical properties of operations including identity, associative, commutative, and zero</p> <p>Identify the factors of whole numbers (0-24) and the first five multiples of any single digit whole number</p> <p>Identify prime numbers less than 50.</p> <p>Write a word problem based on multiplication number sentences</p> <p>Use Processes of Mathematics/Problem-Solving</p>	<p>Nov./Dec. Total Days – 15</p> <p>5 days</p> <p>2 days</p> <p>3 days</p> <p>1 day</p> <p>2 days</p> <p>2 days</p>	<p>Grade 3 Text</p> <p>Ch.11: 610-615</p> <p>Ch. 5: 286</p>	<p>Grade 3 Text</p> <p>Ch. 12: 450-454</p> <p>Ch. 6: 212-214</p> <p>Grade 4 Text 125, 129, 136,137A- 139, 141, 142, 143, 148, 459, 154-155, 207, 296</p>	<p>Grade 3 Text</p> <p>Ch. 17: 366-369; Ch. 18: 382-385 Ch. 10: 214 Ch. 11: 234</p> <p>Grade 4 Text 164-165, 376</p>
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<p>Advanced Competency Cluster 3.5 Number Relationships and Computation- Division</p> <p>Demonstrate a proficiency with division facts (up to and including 10 x 10).</p> <p>Use models, pictures, and drawings to:</p> <p style="margin-left: 20px;">a. Divide a two-digit dividend by a one-digit divisor</p> <p style="margin-left: 20px;">b. Connect to the multiplication and division algorithms</p> <p>Identify and apply the concept of inverse operations to multiplication and division</p> <p>Use factors and multipliers to show number relationships; Use divisibility to determine if numbers are divisible by 2, 5, 9, and 10 with numbers to 1,000</p> <p>Write a word problem based on multiplication or division number sentences</p> <p>Use Processes of Mathematics/Problem-Solving</p>	<p>December/Jan. Total Days-11</p> <p>4 days</p> <p>3 days</p> <p>1 day</p> <p>2 days</p> <p>1 day</p>	<p>Grade 3 Text</p> <p>Ch. 11: 626-629</p> <p>Grade 4 Text 402-403</p> <p>Grade 3 Text Ch. 7: 374-375</p>	<p>Grade 3 Text</p> <p>Ch. 8: 302-308, Ch. 12: 466-468</p> <p>Ch. 8: 278-279</p>	<p>Grade 3 Text</p> <p>Ch. 13: 284-287</p> <p>Ch. 19: 408-413</p> <p>Ch. 18: 382-385;</p> <p>Ch. 19: 418-422</p> <p>Ch. 13: 284-287</p> <p>Grade 3 Text</p> <p>Ch. 11: 236</p> <p>Ch. 12: 258</p> <p>Ch. 13: 289</p> <p>Ch. 14: 297-305</p>

All Competencies up to this point will be assessed on the January Assessment.

Review for January Assessment	2 days
Administer January Assessment	2 days

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Advanced Competency Cluster 3.6 Knowledge of Geometry Plane Geometric Figures a. Review Identifying and describing points, lines, line segments, rays and polygons b. Identify parallel, intersecting, and perpendicular lines c. Identify, classify, compare and describe acute, right, and obtuse angles • Introduce use of a protractor to measure angles d. Sketch acute, right, obtuse angles, and parallel, intersecting, and perpendicular lines e. Identify or describe the given result of a translation (horizontal), reflection (over a vertical line), or rotation (90° clockwise) of geometric figure or picture Solid Geometric Figures a. Identify and describe cones, cylinders, triangular pyramids, rectangular pyramids, triangular prisms or rectangular prisms by the number of edges, faces, or vertices b. Compare two and three dimensional figures to one another and relate them to real-world objects (Compare squares to cubes, compare triangles/rectangles to triangular pyramids/rectangular pyramids) • Use shape nets (see TA23) to identify 3 dimensional figures by their attributes c. Identify similar and congruent geometric figures and real-world objects	Jan./Feb. Total Days – 16 2 days 1 day 2 days 2 days 2 days 2 days 3 days 1 day 1 day	Grade 4 Text 438-447 450-451 452-455 434-437 452-455 458-459 462-463	Grade 4 Text 323A-327 327A-329 331A-335 (5 th grade book pages 292-294) 345A-347 319A-323, 339A-343	Grade 4 Text 436-437 444-446 438-439 440-443 460-463 430-432 432 456-459

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Advanced Competency Cluster 3.7 Knowledge of Measurement	February/March Total Days – 13	Grade 4 Text	Grade 4 Text	Grade 4 Text
Customary and Metric Measurement Units and Tools				
a. Estimate and determine length and height to the nearest millimeter or ¼ of an inch with a ruler	2 days	588-591 652-657	241A-242, 245A-249	386-387 402-407
b. Estimate and determine weight and mass with a scale to the nearest gram	3 days	592-593 594-595	255A-259 261A-265	388-394 398-399 408-411
c. Estimate and determine capacity to the nearest ounce and using pints, quarts, and gallons				
Applications				
a. Estimate and determine perimeter of polygons with no more than 6 sides given the length of the sides in whole numbers (0-100)	1 days		249A-251	466-469
b. Estimate and determine area of rectangles given the length of the sides in whole numbers (0-100)	2 days	596-599 658-661	347C-351	474-477
c. Determine and use equivalent units within the same system with whole numbers 1-100; for example 36 inches = 1 yard	2 days	464-477 480-487	243A-245	392-393
d. Estimate and determine the volume of a rectangular prism using by counting and by using the formula (l x w x h)	1 day	190-203	351A-353	478-479
e. Use perimeter, area, and volume to solve problems	2 days			98-105 114-115

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<p>Advanced Competency Cluster 3.8 Knowledge of Measurement-Time</p> <p>Determine and use equivalent units within the same system with whole numbers – for example:60 min.=1 hour</p> <p>Determine elapsed or end time to the nearest minute</p> <p>Use elapsed time to solve problems</p>	<p>March Total Days – 5</p> <p>1 day</p> <p>3 days</p> <p>1 days</p>	<p>4th Grade Text</p> <p>604-611 668-675</p>	<p>4th Grade Text</p> <p>83A-87</p>	
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<p>Advanced Competency Cluster 3.9 Apply Knowledge of Fractions</p> <p>a. Read, write, and represent proper fractions with sixths, eighths, and tenths with like denominators and mixed numbers using symbols, words, and models</p> <p>b. Represent proper and improper fractions and mixed numbers in equivalent form</p> <p>c. Compare and order fractions and mixed numbers with like denominators with and without using the symbols (>,<=)</p> <p>d. Represent proper fractions with denominators of 6, 8, or 10 and mixed numbers on a number line</p>	<p>March Total Days – 10</p> <p>5 days</p> <p>2 days</p> <p>2 days</p> <p>1 day</p>	<p>Grade 4 Text</p> <p>500-503 530-533 516-519 522-529 534-535</p> <p>504-515</p> <p>538-539</p>	<p>Grade 4 Text</p> <p>367A-373, 383A-385</p> <p>375A-379 (proper only)</p> <p>379A-385</p> <p>381C-385</p>	<p>Grade 4 Text</p> <p>494-505 510-514</p>
<p>Advanced Competency Cluster 3.9 continued Computation of Fractions and Probability</p> <p>Computation of Fractions</p> <p>a. Review of prime numbers (0-50)</p> <p>b. Add and subtract fractions with like denominators and express fractional answers in simplest form using Greatest Common Factor (GCF)</p> <p>c. Add or subtract 2 proper fractions with single digit like denominators, 2 mixed numbers with single digit like denominators or a whole number and a proper fraction with a single digit denominator (0-20)</p>	<p>April Total Days-9</p> <p>Brief review</p> <p>3 days</p> <p>2 days</p>	<p>564-567 574-577 520-521</p>	<p>409A-421</p> <p>433A-437</p>	<p>164-165, 376 542-543 556-557</p> <p>576</p>

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<p>Probability</p> <ul style="list-style-type: none"> a. Find the probability of an event with equally like outcomes and express as a fraction from 0 (impossible) up to and including 1 (certain) with a sample space of no more than 6 outcomes (Emphasize what the numerator and denominator represent) b. Use two independent events with no more than 4 outcome each in an organized list or tree diagram c. Conduct an experiment and make a prediction based on the outcomes of the experiment 	<p>2 days</p> <p>1 day</p> <p>1 day</p>	<p>700-722 718-725</p>	<p>391A-393</p> <p>393A-397</p>	<p>518-529</p>
<p>Advanced Competency Cluster 3.9 continued Number Relationships and Computation – Decimals <i>*Be sure to make connections with fractions throughout the cluster</i></p> <p>Apply Knowledge of Decimals</p> <ul style="list-style-type: none"> a. Read, write and represent decimals through hundredths using symbols, words, and models <ul style="list-style-type: none"> • Express decimals in expanded form b. Compare and order decimals with and without using the symbols (>,<=) to the nearest hundredth and describe them using place value concepts and decimals in equivalent forms (Use no more than 3) <ul style="list-style-type: none"> • Represent decimals on a number line 	<p>April/May Total Days-6</p> <p>4 days</p> <p>2 days</p>	<p>Grade 4 Text</p> <p>34-37 624-629</p> <p>630-631</p>	<p>Grade 4 Text</p> <p>449A-455</p> <p>455A-457</p>	<p>Grade 4 Text</p> <p>584-588</p> <p>598-599</p> <p>600-603</p>

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Advanced Competency Cluster 3.10 Number Relationships and Computation *Connect repeated addition to multiplication	May Total Days – 10	Grade 4 Text	Grade 4 Text	Grade 4 Text
Develop and expand understanding of whole numbers through 2-digit multipliers	8 days	320-323 332-341	205A-207, 209A-217, 223A-227 207A-209	250-257 260-261 266-269 264-265
Estimate products	1 day			
Express numeric relationships using $+-\times\div, /, <, >, \text{ or } =$	1 day	394-399	279A-281	331
<ul style="list-style-type: none"> a. Select the appropriate operational and relational symbols to express relationships and solve problems b. Solve for an unknown in an equation. Write simple algebraic expressions in one unknown and evaluate by substitution 	*It is assumed that algebra will be embedded throughout instruction.		296, 302, 303	

Review for May Assessment	2 days
Administer May Assessment	2 days