

**RIDGECROFT SCHOOL
GRADE 4 MATHEMATICS**

PACING GUIDE

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| 2005-2006 | |
| 1st Six Weeks: August 17-September 26 Lessons 1.1-2.7 | 4th Six Weeks: January 3-February 15 Lessons 5.10-7.8 |
| 2nd Six Weeks: September 27-November 3 Lessons 2.8-3.12 | 5th Six Weeks: February 16-April 4 Lessons 7.9-9.7 |
| 3rd Six Weeks: November 6-December 19 Lessons 4.1-5.9 | 6th Six Weeks: April 5-May 30 Lessons 9.8-12.7 |

RESOURCE: *Everyday Math* (SRA McGraw-Hill)

| AUGUST / SEPTEMBER | PACE | NC SCOS Grade 4 |
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| UNIT 1 NAMING & CONSTRUCTING GEOMETRIC FIGURES Lessons 1.1-1.9 <ul style="list-style-type: none"> • Use a compass and straightedge to construct geometric figures • Identify properties of polygons • Classify quadrangles according to side & angle properties • Name, draw, and label line segments, lines, rays, angles, triangles, and quadrangles • Identify and describe right angles and parallel lines and line segments • Solve addition and subtraction facts | 18 | 3.02 |
| UNIT 2 USING NUMBERS & ORGANIZING DATA Lessons 2.1-2.7 <ul style="list-style-type: none"> • Display data with a line plot, bar graph, or tally chart • Use median, mode, range, maximum, and minimum • Read, write numerals to hundred-millions; give value • Give equivalent names for numbers | 13 | 4.01, 4.02, 4.03 |
| OCTOBER | | |
| UNIT 2 USING NUMBERS & ORGANIZING DATA Lessons 2.8-2.10 <ul style="list-style-type: none"> • Display data with a line plot, bar graph, or tally chart • Use median, mode, range, maximum, and minimum • Use strategies for adding and subtracting multidigit numbers | 5 | 1.01, 1.04, 1.05, 4.01, 4.02, 4.03 |
| UNIT 3 MULTIPLICATION & DIVISION: NUMBER SENTENCES & ALGEBRA Lessons 3.1-3.12 <ul style="list-style-type: none"> • Solve open sentences • Solve problems with parentheses • Determine whether number sentences are true or false • Use and explain strategies for solving addition and subtraction number stories • Use a map scale to estimate distances • Solve basic multiplication and division facts • Understand relationship between multiplication and division | 15 | 1.01, 1.02, 1.05, 5.01, 5.02, 5.03 |
| NOVEMBER | | |
| UNIT 4 DECIMALS & THEIR USES Lessons 4.1-4.11 <ul style="list-style-type: none"> • Express metric measures with decimals • Convert between metric measures • Read and write decimals to thousandths • Compare and order decimals • Draw and measure line segments to the nearest millimeter • Use personal references to estimate lengths in metric units • Solve 1- and 2-place decimal addition and subtraction problems and number stories • Draw and measure line segments to the nearest centimeter | 20 | 1.04, 1.05 |

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| <ul style="list-style-type: none"> • Use dollars-and-cents notation | | |
| DECEMBER | | |
| UNIT 5 BIG NUMBERS, ESTIMATION, & COMPUTATION Lessons 5.1-5.9 <ul style="list-style-type: none"> • Solve extended multiplication facts and problems • Make magnitude estimates for products of multidigit numbers • Round whole numbers to a given place • Read and write numbers to billions; name the values of digits in numerals to billions • Estimate sums | 12 | 1.01, 1.02, 1.05 |
| JANUARY | | |
| UNIT 5 BIG NUMBERS, ESTIMATION, & COMPUTATION Lessons 5.10-5.12 <ul style="list-style-type: none"> • Compare large numbers • Use exponential notation to represent powers of 10 • Round whole numbers to a given place • Read and write numbers to billions; name the values of digits in numerals to billions | 5 | 1.01, 1.02, 1.05 |
| UNIT 6 FRAMES; MEASURES OF ANGLES Lessons 6.1-6.11 <ul style="list-style-type: none"> • Identify locations on Earth for which latitude and longitude are given; find latitude and longitude for given locations • Solve whole-number division problems; interpret the remainder • Express the remainder of a whole-number division problem as a fraction and the answer as a mixed number • Name and locate points specified by ordered number pairs on a coordinate grid • Identify acute, right, obtuse, straight, and reflex angles • Make turns and fractions of turns; relate turns and angles. • Use circular protractor and a half-circle protractor to measure and draw angles • Use strategies for solving multiplication and division number stories | 15 | 1.01, 1.02, 1.03, 1.04, 3.01 |
| FEBRUARY | | |
| UNIT 7 FRACTIONS AND THEIR USES; CHANCE AND PROBABILITY Lessons 7.1-7.13 <ul style="list-style-type: none"> • Add and subtract fractions • Compare and order fractions • Rename fractions with denominators of 10 and 100 as decimals • Apply basic vocabulary and concepts associated with chance events • Find fractions equivalent to a given fraction • Identify the whole for fractions • Identify fractional parts of a collection of objects • Identify fractional parts of regions | 15 | 1.01, 1.03, 1.04, 4.04 |
| UNIT 8 PERIMETER AND AREA Lessons 8.1-8.2 <ul style="list-style-type: none"> • Find the perimeter of a polygon • Make and interpret scale drawings | 3 | 2.01, 2.02, 3.01 |
| MARCH | | |
| UNIT 8 PERIMETER AND AREA Lessons 8.3-8.9 <ul style="list-style-type: none"> • Find the perimeter of a polygon • Make and interpret scale drawings • Use formulas to find areas of rectangles, parallelograms, and triangles • Estimate the area of a figure by counting unit squares and fractions of unit square inside the figure | 11 | 1.03, 2.01, 2.02, 3.01, 3.02 |
| UNIT 9 PERCENTS Lessons 9.1-9.7 <ul style="list-style-type: none"> • Find a percent or a fraction of a number • Give equivalencies between fractions (fourths, fifths, tenths, hundredths), decimals, and percents | 11 | 1.01, 1.03 |

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| <ul style="list-style-type: none"> Use a calculator to rename any fraction as a decimal or percent | | |
| APRIL | | |
| UNIT 9 PERCENTS Lessons 9.8-9.10 <ul style="list-style-type: none"> Use an estimation strategy to multiply and divide decimals by whole numbers | 4 | 1.01, 1.02, 1.03 |
| UNIT 10 REFLECTIONS AND SYMMETRY Lessons 10.1-10.7 <ul style="list-style-type: none"> Add integers Rotate and translate figures Use a transparent mirror to draw the reflection of a figure Identify lines of symmetry, lines of reflection, reflected figures, and figures with line symmetry | 10 | 1.01, 3.01, 3.03 |
| MAY/JUNE | | |
| UNIT 11 3-D SHAPES, WEIGHT, VOLUME, AND CAPACITY Lessons 11.1-11.8 <ul style="list-style-type: none"> Use a formulas to calculate the volume of rectangular prisms Add and subtract positive and negative integers Estimate the weight of objects in ounces or grams; weigh objects in ounces or grams Solve cube-stacking volume problems Describe properties of geometric solids | 12 | 1.02, 5.02 |
| UNIT 12 RATES Lessons 12.1-12.7 <ul style="list-style-type: none"> Find unit rates Calculate unit prices to determine which product is the “better buy” Evaluate the reasonableness of rate data Collect and compare rate data Solve rate problems, using rate tables as necessary | 11 | 1.02, 1.05, 5.01, 5.02 |
| TOTAL | 180 | |

8/1/06

NC STANDARD COURSE OF STUDY

Everyday Math is an integrated math curriculum that will be used in grades K-6 at Ridgcroft School. It is not entirely aligned by grade with the NC SCOS. However, over the 6-year time period, all NC SCOS objectives will be included in instruction. Listed below are objectives from a 3-year grade span.

| GRADE 3 | GRADE 4 | GRADE 5 |
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| MAJOR CONCEPTS/SKILLS: <ul style="list-style-type: none"> Number sense 0-9,999 Multiplication and division Non-negative rational numbers Capacity and mass Coordinate grids Circle graphs Permutations and combinations Growing patterns Variables Students will solve relevant and authentic problems using appropriate technology and apply these concepts as well as those developed in earlier years. CONCEPTS/SKILLS TO MAINTAIN <ul style="list-style-type: none"> Addition and subtraction of multi-digit numbers Length and time Symmetry and congruence | MAJOR CONCEPTS/SKILLS: <ul style="list-style-type: none"> Number sense 0.01-99,999 Multiplication and division of multi-digit numbers Perimeter and area Transformations Line graphs Median, mode, and range Variables in number sentences Proportional reasoning Students will solve relevant and authentic problems using appropriate technology and apply these concepts as well as those developed in earlier years. CONCEPTS/SKILLS TO MAINTAIN <ul style="list-style-type: none"> Whole number computation Non-negative rational numbers Length, time, capacity, and mass Symmetry and congruence | MAJOR CONCEPTS / SKILLS: <ul style="list-style-type: none"> Number sense 0.001-999,999 Addition and subtraction of non-negative rational numbers Properties of plane figures Bar graphs and stem-and-leaf plots Rates of change Simple equations and inequalities Students will solve relevant and authentic problems using appropriate technology and apply these concepts as well as those developed in earlier years. CONCEPTS/SKILLS TO MAINTAIN <ul style="list-style-type: none"> Whole number computation Transformations Perimeter and area Coordinate grids Line graphs Median, mode, and range |

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| <ul style="list-style-type: none"> • Line plots, tallies, pictographs • Venn diagram | <ul style="list-style-type: none"> • Coordinate grids • Circle graphs • Permutations and combinations | |
| <p>GOAL 1: The learner will understand and compute with whole numbers through 9,999.</p> <p>1.01 Develop number sense for whole numbers through 9,999.</p> <p>(a) Connect model, number word, and number using a variety of representations.</p> <p>(b) Build understanding of place value (ones through thousands).</p> <p>(c) Compare and order.</p> <p>1.02 Develop FLUENCY with multi-digit addition and subtraction through 9,999 using:</p> <p>(a) Strategies for adding and subtracting numbers.</p> <p>(b) Estimation of sums and differences in appropriate situations.</p> <p>(c) Relationships between operations.</p> <p>1.03 Develop FLUENCY with multiplication from 1x1 to 12x12 and division up to two-digit by one-digit numbers using:</p> <p>(a) Strategies for multiplying and dividing numbers</p> <p>(b) Estimation of products and quotients in appropriate situations</p> <p>(c) Relationships between operations.</p> <p>1.04 Use basic properties (identity, commutative, associative, order of operations) for addition, subtraction, multiplication, and division.</p> <p>1.05 Use area or region models and set models of fractions to explore part-whole relationships.</p> <p>(a) Represent fractions concretely and symbolically (halves, fourths, thirds, sixths, eighths).</p> <p>(b) Compare and order fractions (halves, fourths, thirds, sixths, eighths) using models and benchmark numbers (zero, one-half, one); describe comparisons.</p> <p>(c) Model and describe common equivalents, especially relationships among halves, fourths, and eighths, and thirds and sixths.</p> <p>(d) Understand that the fractional relationships that occur between zero and one also occur between every two consecutive whole numbers.</p> <p>(e) Understand and use mixed numbers and their equivalent fraction forms.</p> <p>1.06 Develop flexibility in solving problems by selecting strategies and</p> | <p>GOAL 1: The learner will read, write, model, and compute with non-negative rational numbers.</p> <p>1.01 Develop number sense for rational numbers 0.01 through 99,999.</p> <p>(a) Connect model, number word, and number using a variety of representations.</p> <p>(b) Build understanding of place value (hundredths through ten thousands).</p> <p>(c) Compare and order rational numbers.</p> <p>(d) Make estimates of rational numbers in appropriate situations.</p> <p>1.02 Develop FLUENCY with multiplication and division:</p> <p>(a) Two-digit by two-digit multiplication (larger numbers with calculator).</p> <p>(b) Up to three-digit by two-digit division (larger numbers with calculator).</p> <p>(d) Estimation of products and quotients in appropriate situations.</p> <p>(e) Relationships between operations.</p> <p>1.03 Solve problems using models, diagrams, and reasoning about fractions and relationships among fractions involving halves, fourths, eighths, thirds, sixths, twelfths, fifths, tenths, hundredths, and mixed numbers.</p> <p>1.04 Develop FLUENCY with addition and subtraction of non-negative rational numbers with like denominators, including decimal fractions through hundredths.</p> <p>(a) Develop and analyze strategies for adding and subtracting numbers</p> <p>(b) Estimate sums and differences.</p> <p>(c) Judge the reasonableness of solutions.</p> <p>1.05 Develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil.</p> | <p>GOAL 1: The learner will understand and compute with non-negative rational numbers.</p> <p>1.01 Develop number sense for rational numbers 0.001 through 999,999.</p> <p>(a) Connect model, number word, and number using a variety of representations.</p> <p>(b) Build understanding of place value (thousandths through hundred thousands).</p> <p>(c) Compare and order rational numbers.</p> <p>(d) Make estimates of rational numbers in appropriate situations.</p> <p>1.02 Develop FLUENCY in adding and subtracting non-negative rational numbers (halves, fourths, eighths; thirds, sixths, twelfths; fifths, tenths, hundredths, thousandths; mixed numbers).</p> <p>(a) Develop and analyze strategies for adding and subtracting numbers.</p> <p>(b) Estimate sums and differences.</p> <p>(c) Judge the reasonableness of solutions.</p> <p>1.03 Develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil.</p> |

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| using mental computation, estimation, calculators or computers, and paper and pencil. | | |
| <p>GOAL 2: The learner will recognize and use standard units of metric and customary measurement.</p> <p>2.01.Solve problems using measurement concepts and procedures involving:</p> <p>(a) Elapsed time</p> <p>(b) Equivalent measure within the same measurement systems</p> <p>2.02 Estimate and measure using appropriate units.</p> <p>(a) Capacity (cups, pint, quarts, gallons, liters)</p> <p>(b) Length (miles, kilometers)</p> <p>(c) Mass (ounces, pounds, grams, kilograms)</p> <p>(d) Temperature (Fahrenheit, Celsius)</p> | <p>GOAL 2: The learner will understand and use perimeter and area</p> <p>2.01 Develop strategies to determine the area of rectangles and the perimeter of plane figures.</p> <p>2.02 Solve problems involving perimeter of plane figures and areas of rectangles.</p> | <p>GOAL 2: The learner will recognize and use standard units of metric and customary measurement.</p> <p>2.01 Estimate the measure of an object in one system given the measure of that object in another system.</p> <p>2.02 Identify, estimate, and measure the angles of plane figures using appropriate tools.</p> |
| <p>GOAL 3: The learner will recognize and use basic geometric properties of two- and three-dimensional figures.</p> <p>3.01 Use appropriate vocabulary to compare, describe and classify two- and three-dimensional figures.</p> <p>3.02 Use a rectangular coordinate system to solve problems.</p> <p>(a) Graph and identify points with whole number and/or letter coordinates.</p> <p>(b) Describe the path between given points on the plane.</p> | <p>GOAL 3: The learner will recognize and use geometric properties and relationships.</p> <p>3.01 Use the coordinate systems to describe the location and relative position of points and draw figures in the first quadrant.</p> <p>3.02 Describe the relative position of lines using concepts of parallelism and perpendicularity.</p> <p>3.03 Identify, predict, and describe the results of transformations of plane figures.</p> <p>(a) Reflections</p> <p>(b) Translations</p> <p>(c) Rotations.</p> | <p>GOAL 3: The learner will understand and use properties and relationships of plane figures.</p> <p>3.01 Identify, define, describe, and accurately represent triangles, quadrilaterals, and other polygons.</p> <p>3.02 Make and test conjectures about polygons involving:</p> <p>(a) Sum of the measures of interior angles.</p> <p>(b) Lengths of sides and diagonals.</p> <p>(c) Parallelism and perpendicularity of sides and diagonals.</p> <p>3.03 Classify plane figures according to types of symmetry (line, rotational).</p> <p>3.04 Solve problems involving the properties of triangles, quadrilaterals, and other polygons.</p> <p>(a) Sum of the measures of interior angles.</p> <p>(b) Lengths of sides and diagonals.</p> <p>(c) Parallelism and perpendicularity of sides and diagonals.</p> |
| <p>GOAL 4: The learner will understand and use data and simple probability concepts.</p> <p>4.01 Collect, organize, analyze, and display data (including circle graphs and tables) to solve problems.</p> <p>4.02 Determine the number of permutations and combinations of up to three items.</p> <p>4.03 Solve probability problems using permutations and combinations.</p> | <p>GOAL 4: The learner will understand and use graphs, probability, and data analysis.</p> <p>4.01 Collect, organize, analyze, and display data (including line graphs and bar graphs) to solve problems.</p> <p>4.02 Describe the distribution of data using median, range, and mode.</p> <p>4.03 Solve problems by comparing two sets of related data.</p> <p>4.04 Design experiments and list all possible outcomes and probabilities for an event.</p> | <p>GOAL 4: The learner will understand and use graphs and data analysis.</p> <p>4.01 Collect, organize, analyze, and display data (including bar graphs and stem-and-leaf plots) to solve problems.</p> <p>4.02 Compare and contrast different representations of the same data; discuss the effectiveness of each representation.</p> <p>4.03 Solve problems with data from a single set or multiple sets of data using median, range, and mode.</p> |
| <p>GOAL 5: The learner will recognize, determine, and represent patterns</p> | <p>GOAL 5: The learner will demonstrate an understanding of</p> | <p>GOAL 5: The learner will demonstrate an understanding of</p> |

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| <p>and simple mathematical relationships.</p> <p>5.01 Describe and extend numeric and geometric patterns.</p> <p>5.02 Extend and find missing terms of repeating and growing patterns.</p> <p>5.03 Use symbols to represent unknown quantities in numbers sentences.</p> <p>5.04 Find the value of the unknown in a number sentence.</p> | <p>mathematical relationships.</p> <p>5.01 Identify, describe, and generalize relationships in which:</p> <p>(a) Quantities change proportionally</p> <p>(b) Change in one quantity relates to change in a second quantity.</p> <p>5.02 Translate among symbolic, numeric, verbal, and pictorial representations of number relationships.</p> <p>5.03 Verify mathematical relationships using;</p> <p>(a) Models, words, and numbers.</p> <p>(b) Order of operations and the identity, commutative, associative, and distributive properties.</p> | <p>patterns, relationships, and elementary algebraic representation.</p> <p>5.01 Describe, extend and generalize numeric and geometric patterns using tables, graphs, words, and symbols.</p> <p>5.02 Use algebraic expressions, patterns, and one-step equations and inequalities to solve problems.</p> <p>5.03 Identify, describe, and analyze situations with constant or varying rates of change.</p> |
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