



Public Schools of North Carolina
State Board of Education | Department of Public Instruction

This document is designed to help North Carolina educators teach the Common Core. NCDPI staff are continually updating and improving these tools to better serve teachers.

3rd Grade Math Curriculum Crosswalk

The following document is to be used to compare the 2003 North Carolina Mathematics Standard Course of Study and the Common Core State Standards for Mathematics.

As noted in the Common Core State Standards for Mathematics document, the instructional time in Grade 3 should focus on four critical areas:

- (1) developing understanding of multiplication and division and strategies for multiplication and division within 100;
- (2) developing understanding of fractions, especially unit fractions (fractions with numerator 1);
- (3) developing understanding of the structure of rectangular arrays and of area; and
- (4) describing and analyzing two-dimensional shapes.

To download the Common Core State Standards, please visit <http://www.corestandards.org/the-standards>.

Important Note: The current SCoS will continue to be the taught and tested standards in the 2010-11 and 2011-12 school years. We expect the new Common Core standards to be taught and assessed in schools for the first time in the 2012-13 school year. That said, we are providing resources now and over the next two-years so that schools and teachers can get a head start on internalizing and planning to teach the new standards.

NC SCOS			Common Core			
Strand	Objective	Text of objective	Domain	Standard	Cluster	Comments
					Text of objective	
Numbers & Operations	1.01	Develop number sense for whole numbers through 9,999. a) Connect model, number word, and number using a variety of representations. b) Build understanding of place value (ones through thousands). c) Compare and order.	Numbers & Operations in Base	3.NBT.1	Use place value understanding and properties of operations to perform multi-digit arithmetic. Use place value understanding to round whole numbers to the nearest 10 or 100.	Builds on the understanding of place value in order to round numbers; however the majority of the 2003 objective will be taught prior to 3 rd grade in Common Core.
	1.02	Develop fluency with multi-digit addition and subtraction through 9,999 using: a) Strategies for adding and subtracting numbers. b) Estimation of sums and differences in appropriate situations. c) Relationships between operations.			Numbers & Operations in Base Ten	
	1.03	Develop fluency with multiplication from 1×1 to 12×12 and division up to two-digit by one-digit numbers using: a) Strategies for multiplying and dividing numbers. b) Estimation of products and quotients in appropriate situations c) Relationships between operations.	Operations and Algebraic Thinking	3.OA.1	Represent and solve problems involving multiplication and division. Interpret products of whole numbers, e.g., interpret 5×7 as the total number of objects in 5 groups of 7 objects each. <i>For example, describe a context in which a total number of objects can be expressed as 5×7.</i>	

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				3.OA.2	Represent and solve problems involving multiplication and division. Interpret whole-number quotients of whole numbers, e.g., interpret $56 \div 8$ as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each. <i>For example, describe a context in which a number of shares or a number of groups can be expressed as $56 \div 8$.</i>				
					Represent and solve problems involving multiplication and division. Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.				
				3.OA.6	Understand properties of multiplication and the relationship between multiplication and division. Understand division as an unknown-factor problem. <i>For example, find $32 \div 8$ by finding the number that makes 32 when multiplied by 8.</i>				
					Multiply and divide within 100. Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that $8 \times 5 = 40$, one knows $40 \div 5 = 8$) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.				
									Division in third grade should not include remainders.

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	1.04	Use basic properties (identity, commutative, associative, order of operations) for addition, subtraction, multiplication, and division.	Operations and Algebraic Thinking	3.OA.5	<p>Understand properties of multiplication and the relationship between multiplication and division.</p> <p>Apply properties of operations as strategies to multiply and divide.³ <i>Examples: If $6 \times 4 = 24$ is known, then $4 \times 6 = 24$ is also known. (Commutative property of multiplication.) $3 \times 5 \times 2$ can be found by $3 \times 5 = 15$, then $15 \times 2 = 30$, or by $5 \times 2 = 10$, then $3 \times 10 = 30$. (Associative property of multiplication.) Knowing that $8 \times 5 = 40$ and $8 \times 2 = 16$, one can find 8×7 as $8 \times (5 + 2) = (8 \times 5) + (8 \times 2) = 40 + 16 = 56$. (Distributive property.)</i></p>	³ Students do not need to know the formal names of these properties.
	1.05	<p>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</p>			<p>Develop understanding of fractions as numbers.</p> <p>Understand a fraction $1/b$ as the quantity formed by 1 part when a whole is partitioned into b equal parts; understand a fraction a/b as the quantity formed by a parts of size $1/b$.</p>	
			3.NF.1	<p>Develop understanding of fractions as numbers.</p> <p>Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size.</p> <p>a. Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line.</p> <p>b. Recognize and generate simple equivalent fractions, e.g., $1/2 = 2/4$, $4/6 = 2/3$. Explain why the fractions are equivalent, e.g., by using a visual fraction model.</p>	⁵ Students only work with fractions that have denominators of 2, 3, 4, 6 and 8.	

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	1.06	Develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil.	Operations & Algebraic thinking	3.OA.8	<p>Solve problems involving the four operations, and identify and explain patterns in arithmetic.</p> <p>Solve two-step word problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.³</p>	³ This standard is limited to problems posed with whole numbers and having whole number answers; students should know how to perform operations in the conventional order when there are no parentheses to specify a particular order (Order of Operations).
			Numbers & Operations in	3.NBT.3	<p>Use place value understanding and properties of operations to perform multi-digit arithmetic.⁴</p> <p>Multiply one-digit whole numbers by multiples of 10 in the range 10–90 (e.g., 9×80, 5×60) using strategies based on place value and properties of operations.</p>	⁴ A range of algorithms may be used.
			Operations & Algebraic thinking	3.OA.9	<p>Solve problems involving the four operations, and identify and explain patterns in arithmetic.</p> <p>Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations. <i>For example, observe that 4 times a number is always even, and explain why 4 times a number can be decomposed into two equal addends.</i></p>	
Measurement	2.01	Solve problems using measurement concepts and procedures involving: a) Elapsed time. b) Equivalent measures within the same measurement system.	Measurement & Data	3.MD.1	<p>Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects.</p> <p>Tell and write time to the nearest minute and measure time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes, e.g., by representing the problem on a number line diagram.</p>	Equivalent measure within same system not addressed in Common Core at this grade level.

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	2.02	Estimate and measure using appropriate units. a) Capacity (cups, pints, quarts, gallons, liters). b) Length (miles, kilometers) c) Mass (ounces, pounds, grams, kilograms). d) Temperature (Fahrenheit, Celsius).		3.MD.2	Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects. Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l). ⁶ Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem. ⁷	⁶ Excludes compound units such as cm ³ and finding the geometric volume of a container. ⁷ Excludes multiplicative comparison problems (problems involving notions of “times as much”). This standard focuses on volume and mass, metric not customary. Temperature not addressed in Common Core.
					Geometric measurement: understand concepts of area and relate area to multiplication and to addition. Recognize area as an attribute of plane figures and understand concepts of area measurement. a. A square with side length 1 unit, called “a unit square,” is said to have “one square unit” of area, and can be used to measure area. b. A plane figure which can be covered without gaps or overlaps by <i>n</i> unit squares is said to have an area of <i>n</i> square units.	
			Measurement & Data	3.MD.6	Geometric measurement: understand concepts of area and relate area to multiplication and to addition. Measure areas by counting unit squares (square cm, square m, square in, square ft, and improvised units).	Students are to recognize and informally find area of plane figures. Formal area measures are made only with rectangles, squares, or rectilinear figures.

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			Measurement & Data	3.MD.7	<p>Geometric measurement: understand concepts of area and relate area to multiplication and to addition. Relate area to the operations of multiplication and addition.</p>	<p>rectilinear - A polygon all angles of which are right angles</p> <p>Area moved from 4th Grade NC SCOS.</p> <p>rectilinear - A polygon all angles of which are right angles.</p>
					<p>a. Find the area of a rectangle with whole-number side lengths by tiling it, and show that the area is the same as would be found by multiplying the side lengths.</p>	
					<p>b. Multiply side lengths to find areas of rectangles with whole number side lengths in the context of solving real world and mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning.</p>	
					<p>c. Use tiling to show in a concrete case that the area of a rectangle with whole-number side lengths a and $b + c$ is the sum of $a \times b$ and $a \times c$. Use area models to represent the distributive property in mathematical reasoning.</p>	
					<p>d. Recognize area as additive. Find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts, applying this technique to solve real world problems.</p>	

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				3.MD.8	<p>Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures.</p> <p>Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters</p>	Perimeter moved from 4 th Grade NC SCOS.
Geometry	3.01	Use appropriate vocabulary to compare, describe, and classify two- and three-dimensional figures.	Geometry	3.G.1	<p>Reason with shapes and their attributes.</p> <p>Understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories.</p>	The focus of this Common Core Standard is only on two-dimensional shapes.
	3.02	Use a rectangular coordinate system to solve problems. a) Graph and identify points with whole number and/or letter coordinates. b) Describe the path between given points on the plane.				
			Geometry	3.G.2	<p>Reason with shapes and their attributes.</p> <p>Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole. <i>For example, partition a shape into 4 parts with equal area, and describe the area of each part as 1/4 of the area of</i></p>	

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					<i>the shape.</i>	
Data Analysis & Probability	4.01	Collect, organize, analyze, and display data (including circle graphs and tables) to solve problems.	Measurement & Data	3.MD.3	<p>Represent and interpret data. Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step “how many more” and “how many less” problems using information presented in scaled bar graphs. <i>For example, draw a bar graph in which each square in the bar graph might represent 5 pets.</i></p>	A focus of this standard is on scaled graphs. Picture graphs moved from kindergarten NC SCOS. Bar graphs moved from 4 th grade NC SCOS.
				3.MD.4	<p>Represent and interpret data. Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units whole numbers, halves, or quarters.</p>	
	4.02	Determine the number of permutations and combinations of up to three items.				
	4.03	Solve probability problems using permutations and combinations.				
Algebra	5.01	Describe and extend numeric and geometric patterns.				Moved to 4 th grade Common Core.
	5.02	Extend and find missing terms of repeating and growing patterns.				Moved to 4 th grade Common Core.

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	5.03	Use symbols to represent unknown quantities in number sentences.	Operations & Algebraic thinking	3.OA.8	<p>Solve problems involving the four operations, and identify and explain patterns in arithmetic.</p> <p>Solve two-step word problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.</p>	Also aligns with 3 rd Grade NC SCOS objective 1.06.
	5.04	Find the value of the unknown in a number sentence.			<p>Represent and solve problems involving multiplication and division.</p> <p>Determine the unknown whole number in a multiplication or division equation relating three whole numbers. <i>For example, determine the unknown number that makes the equation true in each of the equations</i> $8 \times ? = 48$, $5 = \square \div 3$, $6 \times 6 = ?$.</p>	