



Elementary School Teaching and Learning

2022-2023 Scope and Sequence

Mathematics – Grade 5

FIRST NINE WEEKS	OVERVIEW
	In module 1, students describe place value relationships, express powers of ten with exponents, convert metric measurements, and multiply and divide by multi-digit numbers. They develop fluency with the standard algorithm for multiplication. In module 2, Module 2 enhances students' prior work with fractions to add and subtract fractions and mixed numbers with unlike denominators. Students also interpret a fraction as the result of dividing the numerator by the denominator.
ASSESSMENTS	
ASSESSMENT WINDOW	ASSESSMENT NAME
September 6- October 4	Aims Web Beginning of the Year

*Please see the assessment description at the bottom of this document.

UNIT	UNIT DURATION	PARENT/FAMILY RESOURCES	NORTH CAROLINA STANDARDS
Module 1 Place Value Concepts for Multiplication and Division with Whole Numbers	20 lessons	Module 1 Family Resources	<p>NC.5.OA.2 Write, explain, and evaluate numerical expressions involving the four operations to solve up to two-step problems. Include expressions involving:</p> <ul style="list-style-type: none"> • Parentheses, using the order of operations. • Commutative, associative and distributive properties <p>NC.5.NBT.6 Find quotients with remainders when dividing whole numbers with up to four-digit dividends and two-digit divisors using rectangular arrays, area models, repeated subtraction, partial quotients, and/or the relationship between multiplication and division. Use models to make connections and develop the algorithm.</p> <p>NC.5.MD.1 Given a conversion chart, use multiplicative reasoning to solve one-step conversion problems within a given measurement system.</p> <p>NC.5.NBT.1 Explain the patterns in the place value system from one million to the</p>



Elementary School Teaching and Learning

2022-2023 Scope and Sequence

Mathematics – Grade 5

			<p>thousandths place. • Explain that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and 1/10 of what it represents in the place to its left.</p> <p>• Explain patterns in products and quotients when numbers are multiplied by 1,000, 100, 10, 0.1, and 0.01 and/or divided by 10 and 100.</p> <p>NC.5.NBT.5 Demonstrate fluency with the multiplication of two whole numbers up to a three-digit number by a two-digit number using the standard algorithm.</p>
<p>Module 2 Addition and Subtraction with Fractions</p>	<p>14 lessons</p>	<p>Module 2 Family Resources</p>	<p>NC.5.NF.1 Add and subtract fractions, including mixed numbers, with unlike denominators using related fractions: halves, fourths and eighths; thirds, sixths, and twelfths; fifths, tenths, and hundredths. • Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers. • Solve one-and two-step word problems in context using area and length models to develop the algorithm. Represent the word problem in an equation.</p> <p>NC.5.NF.3 Use fractions to model and solve division problems. • Interpret a fraction as an equal sharing context, where a quantity is divided into equal parts. • Model and interpret a fraction as the division of the numerator by the denominator. • Solve one-step word problems involving division of whole numbers leading to answers in the form of fractions and mixed numbers, with denominators of 2, 3, 4, 5, 6, 8, 10, and 12, using area, length, and set models or equations.</p>



Elementary School Teaching and Learning

2022-2023 Scope and Sequence

Mathematics – Grade 5

SECOND NINE WEEKS	OVERVIEW
	In module 1, students use various strategies to multiply and divide with fractions. They multiply fractions by whole numbers and by fractions, divide whole numbers by unit fractions and unit fractions by whole numbers, and convert customary measurements.
ASSESSMENTS	
ASSESSMENT WINDOW	ASSESSMENT NAME
Close by December 20th	Check In B
Close by February 28th	Check IN A

UNIT	UNIT DURATION	PARENT/FAMILY RESOURCES	NORTH CAROLINA STANDARDS
Module 3 Multiplication and Division with Fractions	22 lessons	Module 3 Family Resources	NC.5.NF.4 Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction, including mixed numbers. • Use area and length models to multiply two fractions, with the denominators 2, 3, 4. • Explain why multiplying a given number by a fraction greater than 1 results in a product greater than the given number and when multiplying a given number by a fraction less than 1 results in a product smaller than the given number. • Solve one-step word problems involving multiplication of fractions using models to develop the algorithm. NC.5.NF.7 Solve one-step word problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions using area and length models, and equations to represent the problem.
Module 4 Place Value Concepts for Decimal Operations	30 lessons		NC.5.NBT.1 Explain the patterns in the place value system from one million to the thousandths place. • Explain that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and 1/10 of what it represents in the place to its left. • Explain patterns in products and quotients when numbers are multiplied by



Elementary School Teaching and Learning

2022-2023 Scope and Sequence

Mathematics – Grade 5

			<p>1,000, 100, 10, 0.1, and 0.01 and/or divided by 10 and 100.</p> <p>NC.5.NBT.3 Read, write, and compare decimals to thousandths. • Write decimals using base-ten numerals, number names, and expanded form. • Compare two decimals to thousandths based on the value of the digits in each place, using $>$, $=$, and $<$ symbols to record the results of comparisons</p> <p>NC.5.NBT.7 Compute and solve real-world problems with multi-digit whole numbers and decimal numbers. • Add and subtract decimals to thousandths using models, drawings or strategies based on place value. • Multiply decimals with a product to thousandths using models, drawings, or strategies based on place value. • Divide a whole number by a decimal and divide a decimal by a whole number, using repeated subtraction or area models. Decimals should be limited to hundredths. • Use estimation strategies to assess reasonableness of answers.</p> <p>NC.5.OA.2 Write, explain, and evaluate numerical expressions involving the four operations to solve up to two-step problems. Include expressions involving: • Parentheses, using the order of operations. • Commutative, associative and distributive properties.</p> <p>NC.5.MD.1 Given a conversion chart, use multiplicative reasoning to solve one-step conversion problems within a given measurement system.</p>
--	--	--	--



Elementary School Teaching and Learning

2022-2023 Scope and Sequence

Mathematics – Grade 5

THIRD NINE WEEKS	OVERVIEW
	In Module 5, Students connect operations to geometric concepts. They find area of rectangles with fraction side lengths, multiply mixed numbers, and find the volume of right rectangular prisms. Students also categorize two-dimensional figures in a hierarchy.
ASSESSMENTS	
ASSESSMENT WINDOW	ASSESSMENT NAME
January 3- February 2	aimsWeb+ Middle of the Year
Close by February 28th	Check IN A

UNIT	UNIT DURATION	PARENT/FAMILY RESOURCES	NORTH CAROLINA STANDARDS
Module 5 Addition and Multiplication with Area and Volume	28 lessons		<p>NC.5.NF.4 Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction, including mixed numbers. • Use area and length models to multiply two fractions, with the denominators 2, 3, 4. • Explain why multiplying a given number by a fraction greater than 1 results in a product greater than the given number and when multiplying a given number by a fraction less than 1 results in a product smaller than the given number. • Solve one-step word problems involving multiplication of fractions using models to develop the algorithm.</p> <p>NC.5.NF.7 Solve one-step word problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions using area and length models, and equations to represent the problem.</p> <p>NC.5.MD.4 Recognize volume as an attribute of solid figures and measure volume by counting unit cubes, using cubic centimeter, cubic inches, cubic feet, and improvised units.</p> <p>NC.5.MD.5 Relate volume to the operations of multiplication and addition. • Find the volume of a rectangular prism with whole-number side lengths by</p>



Elementary School Teaching and Learning

2022-2023 Scope and Sequence

Mathematics – Grade 5

			<p>packing it with unit cubes and show that the volume is the same as would be found by multiplying the edge lengths. • Build understanding of the volume formula for rectangular prisms with whole-number edge lengths in the context of solving problems. • Find volume of solid figures with one-digit dimensions composed of two non-overlapping rectangular prisms.</p> <p>NC.5.G.3 Classify quadrilaterals into categories based on their properties. • Explain that attributes belonging to a category of quadrilaterals also belong to all subcategories of that category. • Classify quadrilaterals in a hierarchy based on properties.</p>
--	--	--	--

FOURTH NINE WEEKS	OVERVIEW
	Module 6 introduces the coordinate plane. Students construct a coordinate plane, identify the location of points in the plane, and identify patterns in ordered pairs that create lines. They draw quadrilaterals in the plane and use the plane to represent data.
ASSESSMENTS	
ASSESSMENT WINDOW	ASSESSMENT NAME
April 28- May 25	aimsWeb+ End of the Year
April 28th	Check IN C

UNIT	UNIT DURATION	PARENT/FAMILY RESOURCES	NORTH CAROLINA STANDARDS
Module 6 Foundations to Geometry in the Coordinate Plane	20 lessons		<p>NC.5.G.1 Graph points in the first quadrant of a coordinate plane, and identify and interpret the x and y coordinates to solve problems</p> <p>NC.5.G.3 Classify quadrilaterals into categories based on their properties. • Explain that attributes belonging to a category of quadrilaterals also belong to all subcategories of that category. •</p>



Elementary School Teaching and Learning

2022-2023 Scope and Sequence

Mathematics – Grade 5

			<p>Classify quadrilaterals in a hierarchy based on properties.</p> <p>NC.5.NF.4 Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction, including mixed numbers. • Use area and length models to multiply two fractions, with the denominators 2, 3, 4. • Explain why multiplying a given number by a fraction greater than 1 results in a product greater than the given number and when multiplying a given number by a fraction less than 1 results in a product smaller than the given number. • Solve one-step word problems involving multiplication of fractions using models to develop the algorithm.</p> <p>NC.5.OA.3 Generate two numerical patterns using two given rules. • Identify apparent relationships between corresponding terms. • Form ordered pairs consisting of corresponding terms from the two patterns. • Graph the ordered pairs on a coordinate plane.</p>
--	--	--	---

*Family Math Resources

The Family Math Resources provide information by topic about what students are learning, examples of the concepts, and At-Home activities to align with classroom learning.

*aimsWeb+

aimswEBPlus is a universal screening assessment given to all students three times a year. Universal screeners are quick, standardized assessments that measure academic skills for reading and math. These measures help schools inform instruction, identify students at risk, and help teachers determine why the student may be at risk.



Elementary School Teaching and Learning

2022-2023 Scope and Sequence

Mathematics – Grade 5

*NC Check-Ins Mathematics Grades 3-8

NC Check-Ins are interim assessments aligned to North Carolina grade-level content standards in mathematics for grades 3–8 developed by the North Carolina Department of Public Instruction (NCDPI).

The main purpose of NC Check-Ins is to provide students, teachers, parents, and stakeholders with immediate in-depth action-data and a reliable estimate of students' current performance on the selected sub-set of content standards. A secondary purpose is derived from NC Check-Ins strong relationship with grade-level end-of-grade (EOG) summative assessments. Both EOGs and NC Check-Ins share a common item bank, and performance on the NC Check-Ins serves as an early indicator of a student's level of preparedness for the EOG summative assessment.

Grade 5 Mathematics NC Check-Ins 2.0 Assessed Standards		
A	B	C
NC.5.OA.2	NC.5.NBT.6	NC.5.NBT.3
NC.5.OA.3	NC.5.NF.1	NC.5.NBT.7
NC.5.NBT.5	NC.5.NF.4	NC.5.NF.3
NC.5.MD.5	NC.5.NF.7	NC.5.NF.4
NC.5.G.1	NC.5.MD.2	NC.5.MD.1