

Fourth Grade Standards Alignment

2024 i-Ready Classroom Mathematics

***Bolded** NC standards beside lessons/topics are OCS identified Priority Standards (blue highlight below unit information)

*Lower case Roman numerals after a standard reference that bullet point within a standard.







(i.e., NC.4.OA.3.i would be the first bullet point of: Use estimation strategies to assess reasonableness of answers.)

**Calculator Active vs. Inactive is based off the Released EOG from NCDPI

**NC Fourth Grade Math Unpacking-Revised June 2022-Visit the website for the “Clarification” and “Checking for Understanding” sections.

<https://www.dpi.nc.gov/nc-4th-grade-math-unpacking-rev-june-2022/open>

4th Grade Standards Alignment: 2024 i-Ready Classroom Lessons

Unit 1: Whole Numbers: Place Value, Comparison, Addition, and Subtraction			
Duration: 25 days (5 weeks)			
Lesson	Topic	NC Standard	Calculator Active vs. Inactive**
1	Understand Place Value	NC.4.NBT.1, NC.4.NBT.2	 NC.4.NBT.2
2	Compare Whole Numbers	NC.4.NBT.7	
3	Round Whole Numbers	No NC Standard	
4	Add Whole Numbers	NC.4.NBT.4	 
5	Subtract Whole Numbers	NC.4.NBT.4	 

Generalize place value understanding for multi-digit whole numbers.








NC.4.NBT.1 Explain that in a multi-digit whole number, a digit in one place represents 10 times as much as it represents in the place to its right, up to 100,000.

NC.4.NBT.2 Read and write multi-digit whole numbers up to and including 100,000 using numerals, number names, and expanded form.

NC.4.NBT.7 Compare two multi-digit numbers up to and including 100,000 based on the values of the digits in each place, using $>$, $=$, and $<$ symbols to record the results of comparisons.

Use place value understanding and properties of operations to perform multi-digit arithmetic.

NC.4.NBT.4 Add and subtract multi-digit whole numbers up to and including 100,000 using the standard algorithm with place value understanding.

Unit 2 Operations: Multiplication, Division, and Algebraic Thinking Duration: 24 days (5 weeks)			
Lesson	Topic	NC Standard	Calculator Active vs. Inactive**
6	Understand Multiplication as a Comparison	NC.4.OA.1	
7	Multiplication and Division in Word Problems	NC.4.OA.1	
8	Multiples and Factor	NC.4.OA.4.i, NC.4.OA.4.ii, NC.4.OA.4.iii	 
9	Number and Shape Patterns	NC.4.OA.5	
10	Model and Solve Multi-Step Problems	NC.4.OA.3.i, NC.4.OA.3.ii, NC.4.OA.3.iii	 

Represent and solve problems involving multiplication and division.

NC.4.OA.1 Interpret a multiplication equation as a comparison. Multiply or divide to solve word problems involving multiplicative comparisons using models and equations with a symbol for the unknown number. Distinguish multiplicative comparison from additive comparison.

Use the four operations with whole numbers to solve problems.

NC.4.OA.3 Solve two-step word problems involving the four operations with whole numbers.

- Use estimation strategies to assess reasonableness of answers.
- Interpret remainders in word problems.
- Represent problems using equations with a letter standing for the unknown quantity.

Gain familiarity with factors and multiples.









NC.4.OA.4 Find all factor pairs for whole numbers up to and including 50 to:

- Recognize that a whole number is a multiple of each of its factors.
- Determine whether a given whole number is a multiple of a given one-digit number.
- Determine if the number is prime or composite.

Generate and analyze patterns.

NC.4.OA.5 Generate and analyze a number or shape pattern that follows a given rule.

Unit 3: Multi-Digit Operations and Measurement: Multiplication, Division, Perimeter and Area
Duration: 26 days (5 weeks)

Lesson	Topic	NC Standard	Calculator Active vs. Inactive**
11	Multiply by One-Digit Numbers	NC.4.NBT.5	 
12	Multiply by Two Digit Numbers	NC.4.NBT.5	 
13	Use Multiplication to Convert Measurements	NC.4.MD.2	
14	Divide Three-Digit Numbers	NC.4.NBT.6	
15	Divide Four-Digit Numbers	NC.4.NBT.6	
16	Find Perimeter and Area	NC.4.MD.3.i, NC.4.MD.3.ii, NC.4.MD.3.iii	

Use place value understanding and properties of operations to perform multi-digit arithmetic.

NC.4.NBT.5 Multiply a whole number of up to three digits by a one-digit whole number and multiply up to two two-digit numbers with place value understanding using area models, partial products, and the properties of operations. Use models to make connections and develop the algorithm.

NC.4.NBT.6 Find whole-number quotients and remainders with up to three-digit dividends and one-digit divisors with place value understanding using rectangular arrays, area models, repeated subtraction, partial quotients, properties of operations, and/or the relationship between multiplication and division.

Solve problems involving measurement.



















NC.4.MD.2 Use multiplicative reasoning to convert metric measurements from a larger unit to a smaller unit using place value understanding, two-column tables, and length models.

Solve problems involving area and perimeter.

NC.4.MD.3 Solve problems with area and perimeter.

- Find areas of rectilinear figures with known side lengths.
- Solve problems involving a fixed area and varying perimeters and a fixed perimeter and varying areas.
- Apply the area and perimeter formulas for rectangles in real world and mathematical problems.

Unit 4: Fractions, Decimals, and Measurement: Addition, Subtraction, and Multiplication
Duration: 55 days (11 weeks)

Lesson	Topic	NC Standard	Calculator Active vs. Inactive**
17	Understand Equivalent Fractions	NC.4.NF.1	
18	Compare Fractions	NC.4.NF.2.i, NC.4.NF.2.ii, NC.4.NF.2.iii	
19	Understand Fraction Addition and Subtraction	NC.4.NF.3.i	 
20	Add and Subtract Fractions	NC.4.NF.3.ii, NC.4.NF.3.iv	 
21	Add and Subtract Mixed Numbers	NC.4.NF.3.iii	 
22	Add and Subtract Fractions in Line Plots	NC.4.MD.4.ii	
23	Understand Fraction Multiplication	NC.4.NF.4.i	
24	Multiply Fractions by Whole Numbers	NC.4.NF.4.ii	
25	Fractions as Tenths and Hundredths	NC.4.NF.6.i, NC.4.NF.6.ii	 
26	Relate Decimals and Fractions	NC.4.NF.6.iii	 
27	Compare Decimals	NC.4.NF.7	
28	Problems About Time and Money	NC.4.MD.8	
29	Problems About Length, Liquid Volume, Mass and Weight	NC.4.MD.1.ii	

Extend understanding of fractions.

NC.4.NF.1 Explain why a fraction is equivalent to another fraction by using area and length fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size.

NC.4.NF.2 Compare two fractions with different numerators and different denominators, using the denominators 2, 3, 4, 5, 6, 8, 10, 12, and 100. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols $>$, $=$, or $<$, and justify the conclusions by:

- Reasoning about their size and using area and length models.
- Using benchmark fractions 0, $\frac{1}{2}$, and a whole.
- Comparing common numerator or common denominators.

Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.

NC.4.NF.3 Understand and justify decompositions of fractions with denominators of 2, 3, 4, 5, 6, 8, 10, 12, and 100.

- Understand addition and subtraction of fractions as joining and separating parts referring to the same whole.
- Decompose a fraction into a sum of unit fractions and a sum of fractions with the same denominator in more than one way using area models, length models, and equations.
- Add and subtract fractions, including mixed numbers with like denominators, by replacing each mixed number with an equivalent fraction, and/or by using properties of operations and the relationship between addition and subtraction.
- Solve word problems involving addition and subtraction of fractions, including mixed numbers by writing equations from a visual representation of the problem.

Use unit fractions to understand operations of fractions.

NC.4.NF.4 Apply and extend previous understandings of multiplication to:

- Model and explain how fractions can be represented by multiplying a whole number by a unit fraction, using this understanding to multiply a whole number by any fraction less than one.
- Solve word problems involving multiplication of a fraction by a whole number.

Understand decimal notation for fractions and compare decimal fractions.

NC.4.NF.6 Use decimal notation to represent fractions.

- Express, model and explain the equivalence between fractions with denominators of 10 and 100.
- Use equivalent fractions to add two fractions with denominators of 10 or 100.
- Represent tenths and hundredths with models, making connections between fractions and decimals.

NC.4.NF.7 Compare two decimals to hundredths by reasoning about their size using area and length models and recording the results of comparisons with the symbols $>$, $=$, or $<$. Recognize that comparisons are valid only when the two decimals refer to the same whole.

Solve problems involving measurement.

NC.4.MD.1 Know relative sizes of measurement units. Solve problems involving metric measurement.

- Measure to solve problems involving metric units: centimeter, meter, gram, kilogram, Liter, milliliter. (Not addressed in this unit)
- Add, subtract, multiply, and divide to solve one-step word problems involving whole-number measurements of length, mass, and capacity that are given in metric units.

NC.4.MD.8 Solve word problems involving addition and subtraction of time intervals that cross the hour.






Represent and interpret data.

NC.4.MD.4 Represent and interpret data using whole numbers.

- Collect data by asking a question that yields numerical data. (Not addressed in this unit)
- Make a representation of data and interpret data in a frequency table, scaled bar graph, and/or line plot.
- Determine whether a survey question will yield categorical or numerical data. (Not addressed in this unit)

Unit 5: Geometry and Measurement: Figures, Classification and Symmetry

Duration: 24 days (5 weeks)

Lesson	Topic	NC Standard	Calculator Active vs. Inactive**
30	Points, Lines, Rays and Angles	NC.4.MD.6.i	
31	Angles	NC.4.MD.6.i, NC.4.MD.6.ii, NC.4.G.1	 NC.4.MD.6
32	Add and Subtract with Angles	NC.4.MD.6.iii, NC.4.G.2	 NC.G.2  NC.4.MD.6 NC.4.G.2
33	Classify Two-Dimensional Figures	No NC Standard	
34	Symmetry	NC.4.G.3	

Understand concepts of angles and measure angles.

NC.4.MD.6 Develop an understanding of angles and angle measurement.

- Understand angles as geometric shapes that are formed wherever two rays share a common endpoint and are measured in degrees.
- Measure and sketch angles in whole-number degrees using a protractor.
- Solve addition and subtraction problems to find unknown angles on a diagram in real-world and mathematical problems.

Classify shapes based on lines and angles in two-dimensional figures.

NC.4.G.1 Draw and identify points, lines, line segments, rays, angles, and perpendicular and parallel lines.

NC.4.G.2 Classify quadrilaterals and triangles based on angle measure, side lengths, and the presence or absence of parallel or perpendicular lines.

NC.4.G.3 Recognize symmetry in a two-dimensional figure and identify and draw lines of symmetry.