

MATHEMATICS

NORTH CAROLINA STANDARD COURSE OF STUDY

STANDARDS FOR MATHEMATICAL PRACTICE

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

OPERATIONS AND ALGEBRAIC THINKING

Represent and solve problems.

- NC.1.OA.1 Represent and solve addition and subtraction word problems, within 20, with unknowns, by using objects, drawings, and equations with a symbol for the unknown number to represent the problem, when solving:
- Add to/Take from-Change Unknown
 - Put Together/Take Apart-Addend Unknown
 - Compare-Difference Unknown
- NC.1.OA.2 Represent and solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, by using objects, drawings, and equations with a symbol for the unknown number.

Understand and apply the properties of operations.

- NC.1.OA.3 Apply the commutative and associative properties as strategies for solving addition problems.
- NC.1.OA.4 Solve an unknown-addend problem, within 20, by using addition strategies and/or changing it to a subtraction problem.

Add and subtract within 20.

- NC.1.OA.9 Demonstrate fluency with addition and subtraction within 10.
- NC.1.OA.6 Add and subtract, within 20, using strategies such as:
- Counting on
 - Making ten
 - Decomposing a number leading to a ten
 - Using the relationship between addition and subtraction
 - Using a number line
 - Creating equivalent but simpler or known sums

Analyze addition and subtraction equations within 20.

- NC.1.OA.7 Apply understanding of the equal sign to determine if equations involving addition and subtraction are true.
- NC.1.OA.8 Determine the unknown whole number in an addition or subtraction equation involving three whole numbers.

NUMBER AND OPERATIONS IN BASE TEN

Extend and recognize patterns in the counting sequence.

- NC.1.NBT.1 Count to 150, starting at any number less than 150.
- NC.1.NBT.7 Read and write numerals, and represent a number of objects with a written numeral, to 100.

Understand place value.

- NC.1.NBT.2 Understand that the two digits of a two-digit number represent amounts of tens and ones.
- Unitize by making a ten from a collection of ten ones.
 - Model the numbers from 11 to 19 as composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones.
 - Demonstrate that the numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens, with 0 ones.
- NC.1.NBT.3 Compare two two-digit numbers based on the value of the tens and ones digits, recording the results of comparisons with the symbols $>$, $=$, and $<$.

Use place value understanding and properties of operations.

- NC.1.NBT.4 Using concrete models or drawings, strategies based on place value, properties of operations, and explaining the reasoning used, add, within 100, in the following situations:
- A two-digit number and a one-digit number
 - A two-digit number and a multiple of 10
- NC.1.NBT.5 Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used.
- NC.1.NBT.6 Subtract multiples of 10 in the range 10-90 from multiples of 10 in the range 10-90, explaining the reasoning, using:
- Concrete models and drawings
 - Number lines
 - Strategies based on place value
 - Properties of operations
 - The relationship between addition and subtraction

MEASUREMENT AND DATA

Measure lengths.

- NC.1.MD.1 Order three objects by length; compare the lengths of two objects indirectly by using a third object.
- NC.1.MD.2 Measure lengths with non-standard units.
- Express the length of an object as a whole number of non-standard length units.
 - Measure by laying multiple copies of a shorter object (the length unit) end to end (iterating) with no gaps or overlaps.

Build understanding of time and money.

- NC.1.MD.3 Tell and write time in hours and half-hours using analog and digital clocks.
- NC.1.MD.5 Identify quarters, dimes, and nickels and relate their values to pennies.

Represent and interpret data.

- NC.1.MD.4 Organize, represent, and interpret data with up to three categories.
- Ask and answer questions about the total number of data points.
 - Ask and answer questions about how many in each category.
 - Ask and answer questions about how many more or less are in one category than in another.

GEOMETRY

Reason with shapes and their attributes.

- NC.1.G.1 Distinguish between defining and non-defining attributes and create shapes with defining attributes by:
- Building and drawing triangles, rectangles, squares, trapezoids, hexagons, circles.
 - Building cubes, rectangular prisms, cones, spheres, and cylinders.
- NC.1.G.2 Create composite shapes by:
- Making a two-dimensional composite shape using rectangles, squares, trapezoids, triangles, and half-circles naming the components of the new shape.
 - Making a three-dimensional composite shape using cubes, rectangular prisms, cones, and cylinders, naming the components of the new shape.
- NC.1.G.3 Partition circles and rectangles into two and four equal shares.
- Describe the shares as halves and fourths, as half of and fourth of.
 - Describe the whole as two of, or four of the shares.
 - Explain that decomposing into more equal shares creates smaller shares.

MATHEMATICS

EXTENDED CONTENT STANDARDS

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The *Alternate Achievement Standards for Students With the Most Significant Cognitive Disabilities Non-Regulatory Guidance* states, "...materials should show a clear link to the content standards for the grade in which the student is enrolled, although the grade-level content may be reduced in complexity or modified to reflect pre-requisite skills. Throughout the Standards descriptors such as, describe, count, identify, etc., should be interpreted to mean that the students will be taught and tested according to their mode of communication."

OPERATIONS AND ALGEBRAIC THINKING

Represent and solve problems.

- NC.1.OA.1 Represent addition and subtraction with objects, fingers, drawings, or sounds (e.g., claps) within 10.

Add and subtract within 20.

- NC.1.OA.6 Use manipulatives or visual representations to indicate the number that results when adding "one more" or subtracting "one less".

Analyze addition and subtraction equations within 20.

- NC.1.OA.7 Recognize two groups that have the same or equal quantity.

NUMBER AND OPERATIONS IN BASE TEN

Extend and recognize patterns in the counting sequence.

- NC.1.NBT.1 Use concrete and pictorial representations to count up to 20 items by ones.
NC.1.NBT.7 Count as many as 10 objects and represent the quantity with the corresponding numeral.

Understand place value.

- NC.1.NBT.2 Create sets up to 10.
NC.1.NBT.3 Compare two groups of 10 or fewer items when the number of items in each group is similar.

Use place value understanding and properties of operations.

- NC.1.NBT.4 Compose numbers less than or equal to five in more than one way.
NC.1.NBT.6 Decompose numbers less than or equal to five in more than one way.

MEASUREMENT AND DATA

Measure lengths.

NC.1.MD.1 Compare lengths to determine which is longer, shorter, taller, and shorter.

Build understanding of time and money.

NC.1.MD.3 Identify tomorrow, yesterday, today morning, afternoon, day, night and activities that come before, next, and after.

Represent and interpret data.

NC.1.MD.4 Organize data into categories by sorting.

GEOMETRY

Reason with shapes and their attributes.

NC.1.G.1 Identify common two-dimensional shapes: square, circle, triangle, and rectangle.

NC.1.G.2 Sort shapes of same size and orientation (circle, square, rectangle, triangle).

NC.1.G.3 Put together two pieces to make a shape that relates to the whole.

