

NORTH CAROLINA ESSENTIAL STANDARDS

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North Carolina Extended Content Standards

Mathematics

Kindergarten:

Counting and Cardinality

CCSS.NCEX.Math.Content.K.CC.A - Know number names and the count sequences.

CCSS.NCEX.Math.Content.K.CC.A.1 - Understand number words as representing a quantity.

CCSS.NCEX.Math.Content.K.CC.A.2 - Understand the concept of

CCSS.NCEX.Math.Content.K.CC.A.3 - Count forward using the 1-10 sequence.

CCSS.NCEX.Math.Content.K.CC.A.4 - Write or use an alternative pencil to write numbers

CCSS.NCEX.Math.Content.K.CC.B - Count to tell the number of objects.

CCSS.NCEX.Math.Content.K.CC.B.5 - Understand the relationship between numbers and quantities (0-10); connect counting to cardinality.

CCSS.NCEX.Math.Content.K.CC.B.5a - When counting objects, indicate the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object.

CCSS.NCEX.Math.Content.K.CC.B.5b - Understand that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted.

CCSS.NCEX.Math.Content.K.CC.B.5c - Understand that each successive number name refers to a quantity that is one larger.

CCSS.NCEX.Math.Content.K.CC.B.6 - Count to answer

CCSS.NCEX.Math.Content.K.CC.C - Compare numbers.

CCSS.NCEX.Math.Content.K.CC.C.7 - Identify whether the number of objects in one group is more, less, or equal to the number of objects in another group, e.g., by using matching and counting strategies.

Geometry

CCSS.NCEX.Math.Content.K.G.A - Identify and describe shapes (squares and circles).

CCSS.NCEX.Math.Content.K.G.A.1 - Describe objects in the environment using names of shapes.

CCSS.NCEX.Math.Content.K.G.A.2 - Describe the relative position of objects using terms such as in, on, out, under, off to locate objects.

CCSS.NCEX.Math.Content.K.G.B - Compare shapes.

CCSS.NCEX.Math.Content.K.G.B.3 - Compare a variety of two-dimensional shapes, in different sizes to describe differences (big/little, small/medium/large).

Measurement and Data

CCSS.NCEX.Math.Content.K.MD.A - Describe and compare measurable attributes.

CCSS.NCEX.Math.Content.K.MD.A.1 - Compare the length of two objects using direct comparison.

CCSS.NCEX.Math.Content.K.MD.A.2 - Use appropriate vocabulary to describe differences in length (e.g., longer/ shorter).

CCSS.NCEX.Math.Content.K.MD.A.3 - Use the words, before/after, now/later, soon/never to refer to personal activities and events (time concepts).

CCSS.NCEX.Math.Content.K.MD.A.4 - Understand first-then schedule (time concepts).

CCSS.NCEX.Math.Content.K.MD.B - Sort objects and count the number of objects in each category.



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CCSS.NCEX.Math.Content.K.MD.B.5 - Identify objects as

CCSS.NCEX.Math.Content.K.MD.B.6 - Recognize similarities and differences between objects (attribute).

CCSS.NCEX.Math.Content.K.MD.B.7 - Sort objects according to attribute and count

Grade 1:

Number and Operations in Base Ten

CCSS.NCEX.Math.Content.1.NBT.A - Extend the counting sequence.

CCSS.NCEX.Math.Content.1.NBT.A.1 - Count forward using the 1-20 sequence.

CCSS.NCEX.Math.Content.1.NBT.A.2 - Write or use an alternative pencil to write numbers 0-20.

CCSS.NCEX.Math.Content.1.NBT.A.3 - Illustrate whole numbers to 20 using objects, representations and numbers.

CCSS.NCEX.Math.Content.1.NBT.A.4 - Use number word (0-20) of last object counted in a set, to name the total number of objects in the set when asked,

CCSS.NCEX.Math.Content.1.NBT.A.5 - Use zero to indicate no objects when asked,

CCSS.NCEX.Math.Content.1.NBT.A.6 - Compare objects, representations and numbers (1-20) using words

CCSS.NCEX.Math.Content.1.NBT.A.7 - Use a set of objects and separate set into smaller sets (number partners).

CCSS.NCEX.Math.Content.1.NBT.A.8 - Understand a set has smaller quantities within the whole set (inclusion).

CCSS.NCEX.Math.Content.1.NBT.A.9 - Illustrate the relationship between subsets and the whole (part-part-whole) using objects.

Operations and Algebraic Thinking

CCSS.NCEX.Math.Content.1.OA.A - Solve problems involving joining and separating.

CCSS.NCEX.Math.Content.1.OA.A.1 - Use informal language (take away, give, add, more, same quantity) to describe the joining situations (putting together) and separating situations (breaking apart).

CCSS.NCEX.Math.Content.1.OA.A.2 - Use joining and separating to solve problems (to at least 10) using objects, representations and numbers using only two sets.

CCSS.NCEX.Math.Content.1.OA.A.3 - Describe equal sets as same quantity after counting objects (up to ten).

CCSS.NCEX.Math.Content.1.OA.A.4 - Use objects and representations to make two sets equal.

Geometry

CCSS.NCEX.Math.Content.1.G.A - Compare shapes and their attributes (circles, rectangles, squares and triangles).

CCSS.NCEX.Math.Content.1.G.A.1 - Describe attributes of the shape.

CCSS.NCEX.Math.Content.1.G.A.2 - Correctly name shapes regardless of their orientations or overall size.

CCSS.NCEX.Math.Content.1.G.A.3 - Partition circles and rectangles into two and four equal shares or recognize when circles and squares have been partitioned equally.

CCSS.NCEX.Math.Content.1.G.A.4 - Identify congruent two-dimensional shapes.



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Measurement and Data

CCSS.NCEX.Math.Content.1.MD.A - Describe similarities and differences in length when measuring objects directly and indirectly.

CCSS.NCEX.Math.Content.1.MD.A.1 - Describe length of an object (long/short, big/small).

CCSS.NCEX.Math.Content.1.MD.A.2 - Directly compare two objects with a measurable attribute in common, to see which object has

CCSS.NCEX.Math.Content.1.MD.B - Use the concept of time as it relates to sequences.

CCSS.NCEX.Math.Content.1.MD.B.3 - Use the words

CCSS.NCEX.Math.Content.1.MD.B.4 - Use a schedule to keep track of events with modeling.

CCSS.NCEX.Math.Content.1.MD.B.5 - Remember, in order, the names of the days of the week.

CCSS.NCEX.Math.Content.1.MD.C - Represent and interpret data.

CCSS.NCEX.Math.Content.1.MD.C.6 - Collect and categorize objects or pictures to answer questions about topics relevant to student.

CCSS.NCEX.Math.Content.1.MD.C.7 - Use data to answer questions about the total number of data points and whether there are more or less in one category than in another.

Grade 2:

Number and Operations in Base Ten

CCSS.NCEX.Math.Content.2.NBT.A - Understand place value.

CCSS.NCEX.Math.Content.2.NBT.A.1 - Count (0-30) by indicating one object at a time (one-to-one tagging) using one counting word for every object (synchrony), while keeping track of objects that have and have not been counted.

CCSS.NCEX.Math.Content.2.NBT.A.2 - Write or use an alternative pencil to write numbers 0-30.

CCSS.NCEX.Math.Content.2.NBT.A.3 - Use a number line (0-30) to determine the number before and after (1 more and 1 less).

CCSS.NCEX.Math.Content.2.NBT.A.4 - Use number word (0-30) of last object counted in a set, to name the total number of objects in the set when asked,

CCSS.NCEX.Math.Content.2.NBT.A.5 - Illustrate whole numbers to 30 using objects, representations and numbers.

CCSS.NCEX.Math.Content.2.NBT.A.6 - Compare sets of objects and numbers using appropriate vocabulary (more, less, equal, one more, one less, etc.).

CCSS.NCEX.Math.Content.2.NBT.A.7 - Determine how many more to ten.

CCSS.NCEX.Math.Content.2.NBT.B - Use place value understanding to add and subtract.

Operations and Algebraic Thinking

CCSS.NCEX.Math.Content.2.OA.A - Represent and solve problems involving addition and subtraction (0-30).

CCSS.NCEX.Math.Content.2.OA.A.1 - Use objects and representations to add and subtract groups of objects.

CCSS.NCEX.Math.Content.2.OA.A.2 - Use objects, representations and numerals to add and subtract within real life one-step story problems to at least 30.



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Mathematics

CCSS.NCEX.Math.Content.2.OA.B - Work with equal groups of objects to gain foundations for multiplication.

CCSS.NCEX.Math.Content.2.OA.B.3 - Share fairly collections of up to 20 items between 2-4 people.

CCSS.NCEX.Math.Content.2.OA.B.4 - Describe set as

CCSS.NCEX.Math.Content.2.OA.B.5 - Determine whether two or more groups of objects (up to 20) has an odd or even number of members, e.g., by pairing objects; determine equivalent relationships, using the equal symbol (=).

Geometry

CCSS.NCEX.Math.Content.2.G.A - Reason with shapes and their attributes (circles, rectangle, squares and triangles).

CCSS.NCEX.Math.Content.2.G.A.1 - Use shape names to describe shapes.

CCSS.NCEX.Math.Content.2.G.A.2 - Match same shapes with different orientation.

CCSS.NCEX.Math.Content.2.G.A.3 - Identify shapes larger and smaller than model as same shape.

CCSS.NCEX.Math.Content.2.G.A.4 - Use shapes separately, to make a picture.

CCSS.NCEX.Math.Content.2.G.A.5 - Match 2 halves of a shape to create whole shape.

Measurement and Data

CCSS.NCEX.Math.Content.2.MD.A - Measure lengths in non-standard units.

CCSS.NCEX.Math.Content.2.MD.A.1 - Use nonstandard units to compare length of objects.

CCSS.NCEX.Math.Content.2.MD.B - Relate addition to length.

CCSS.NCEX.Math.Content.2.NBT.B.8 - Use part-part-whole relationships (including 2 or more parts) to compose and decompose numbers.

CCSS.NCEX.Math.Content.2.NBT.B.9 - Compare numbers (0-30) in relationship to benchmark number 10.

CCSS.NCEX.Math.Content.2.NBT.B.10 - Use objects, representations and numbers (0-30) to add and subtract.

CCSS.NCEX.Math.Content.2.NBT.B.11 - Use objects and representations (0-30) to add and subtract groups using real life story problems.

CCSS.NCEX.Math.Content.2.MD.B.2 - Add the number of same units to determine the length of a given object.

CCSS.NCEX.Math.Content.2.MD.C - Work with time and money.

CCSS.NCEX.Math.Content.2.MD.C.3 - Use the names of the days of the week to describe when personal activities will occur.

CCSS.NCEX.Math.Content.2.MD.C.4 - Use a calendar to mark differences between a day and a week.

CCSS.NCEX.Math.Content.2.MD.C.5 - Use a half day schedule to keep track of events with modeling.

CCSS.NCEX.Math.Content.2.MD.C.6 - Solve word problems using one dollar bills or pennies.

CCSS.NCEX.Math.Content.2.MD.D - Represent and interpret data.

CCSS.NCEX.Math.Content.2.MD.D.7 - Organize and represent data using concrete objects to create picture graphs.

CCSS.NCEX.Math.Content.2.MD.D.8 - Interpret collected data to determine the answer to the question posed.



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Mathematics

Grade 3:

Number and Operations in Base Ten

CCSS.NCEX.Math.Content.3.NBT.A - Use place value understanding to add and subtract.

CCSS.NCEX.Math.Content.3.NBT.A.1 - Use a number line (0-30) to determine the number 1 more and 1 less and 2 more and 2 less.

CCSS.NCEX.Math.Content.3.NBT.A.2 - Illustrate ten and some more with numbers 11-30 using objects (bundles of ten).

CCSS.NCEX.Math.Content.3.NBT.A.3 - Use part-part-whole relationships (including 2 or more parts), to compose and decompose numbers (0-30).

CCSS.NCEX.Math.Content.3.NBT.A.4 - Compare numbers (0-30) in relationship to benchmark numbers 5 and 10.

CCSS.NCEX.Math.Content.3.NBT.A.5 - Compare sets of objects (0-30) by their relative magnitude (e.g., more, less, equal, one more, one less, bigger, smaller).

CCSS.NCEX.Math.Content.3.NBT.A.6 - Use estimation to determine if a set of objects is

CCSS.NCEX.Math.Content.3.NBT.A.7 - Use language and symbols (subtract, add, equal) to describe addition and subtraction problems.

CCSS.NCEX.Math.Content.3.NBT.A.8 - Use addition and subtraction symbols in solving problems up to 30.

Operations and Algebraic Thinking

CCSS.NCEX.Math.Content.3.OA.A - Represent and solve problems.

CCSS.NCEX.Math.Content.3.OA.A.1 - Compose and decompose numbers on both sides of the equal sign to show equality.

CCSS.NCEX.Math.Content.3.OA.A.2 - Solve addition and subtraction problems when result is unknown (i.e. $8 + 2 = \quad$, 6)

CCSS.NCEX.Math.Content.3.OA.B - Represent repeated addition.

CCSS.NCEX.Math.Content.3.OA.B.3 - Build models that represent repeated addition. (i.e., 2 groups of 4 is the same quantity as $4 + 4$)

CCSS.NCEX.Math.Content.3.OA.B.4 - Share equally collections of up to 30 items between 2 to 4 people to solve real life story problems.

Number and Operations-Fractions

CCSS.NCEX.Math.Content.3.NF.A - Develop understanding of simple fractions.

CCSS.NCEX.Math.Content.3.NF.A.1 - Identify whole and half using concrete models (use continuous and discrete items).

CCSS.NCEX.Math.Content.3.NF.A.2 - Use symbolic representation for each equal part.

Geometry

CCSS.NCEX.Math.Content.3.G.A - Reason with shapes and their attributes.

CCSS.NCEX.Math.Content.3.G.A.1 - Recognize the attributes of a rhombus and other quadrilaterals.

CCSS.NCEX.Math.Content.3.G.A.2 - Partition shapes into equal halves. Express the area of each part as the fraction



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Measurement and Data

CCSS.NCEX.Math.Content.3.MD.A - Solve problems with measurements involving time and length.

CCSS.NCEX.Math.Content.3.MD.A.1 - Recall names of the months.

CCSS.NCEX.Math.Content.3.MD.A.2 - Use a full day schedule to order the events of the day.

CCSS.NCEX.Math.Content.3.MD.A.3 - Compare two objects using direct comparison of length.

CCSS.NCEX.Math.Content.3.MD.A.4 - Solve problems using appropriate vocabulary to describe differences in length (e.g. more, less, same).

CCSS.NCEX.Math.Content.3.MD.A.5 - Use standard customary unit to measure length (inch).

CCSS.NCEX.Math.Content.3.MD.B - Represent and interpret data.

CCSS.NCEX.Math.Content.3.MD.B.6 - Organize and represent data using a line plot.

CCSS.NCEX.Math.Content.3.MD.B.7 - Title and label axis of graph.

CCSS.NCEX.Math.Content.3.MD.B.8 - Answer questions posed about the collected data.

Grade 4:

Number and Operations in Base Ten

CCSS.NCEX.Math.Content.4.NBT.A - Generalize place value understanding for multi-digit whole numbers.

CCSS.NCEX.Math.Content.4.NBT.A.1 - Illustrate whole numbers to 50 by composing and decomposing numbers.

CCSS.NCEX.Math.Content.4.NBT.A.2 - Use a number line or hundreds chart to compare numbers greater than, less than or equal to.

CCSS.NCEX.Math.Content.4.NBT.B - Use place value understanding and properties of operations to perform multi-digit arithmetic.

CCSS.NCEX.Math.Content.4.NBT.B.3 - Illustrate multiplication and division by making 2 equal sized groups up to 10.

Operations and Algebraic Thinking

CCSS.NCEX.Math.Content.4.OA.A - Use the two operations with whole numbers to solve problems (up to 50).

CCSS.NCEX.Math.Content.4.OA.A.1 - Solve addition and subtraction problems when change is unknown (i.e. $8 + = 10$, 6

CCSS.NCEX.Math.Content.4.OA.A.2 - Use part-part-whole problem, to combine two parts into one whole when whole is unknown.

CCSS.NCEX.Math.Content.4.OA.B - Understand relationship between multiplication and division.

CCSS.NCEX.Math.Content.4.OA.B.3 - Illustrate multiplication and division by making equal sized groups using models.

CCSS.NCEX.Math.Content.4.OA.B.4 - Understand that even numbers are sets that can be shared equally between 2 people and odd sets cannot.

CCSS.NCEX.Math.Content.4.OA.B.5 - Use the symbolic representation of multiplication and division to write a number sentence.

CCSS.NCEX.Math.Content.4.OA.C - Analyze patterns.

CCSS.NCEX.Math.Content.4.OA.C.6 - Use repeating shape patterns to make predictions and extend



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simple repeating patterns.

CCSS.NCEX.Math.Content.4.OA.C.7 - Understand the concept of counting by 2

Number and Operations-Fractions

CCSS.NCEX.Math.Content.4.NF.A - Develop understanding of fractions as numbers.

CCSS.NCEX.Math.Content.4.NF.A.1 - Identify whole, half, and fourth using concrete models (use continuous and discrete items).

CCSS.NCEX.Math.Content.4.NF.A.2 - Use symbolic representation for each fractional part.

CCSS.NCEX.Math.Content.4.NF.A.3 - Use a number line to identify the half between each number.

Geometry

CCSS.NCEX.Math.Content.4.G.A.1 - Identify lines, angles, and properties of a shape (circle, square, rectangle, triangle, and rhombus).

CCSS.NCEX.Math.Content.4.G.A.1 - Identify angles in each shape.

CCSS.NCEX.Math.Content.4.G.A.2 - Describe the attributes of two-dimensional shapes (i.e., number sides and angles, straight vs curved lines).

Measurement and Data

CCSS.NCEX.Math.Content.4.MD.A - Solve problems involving measurement time and mass.

CCSS.NCEX.Math.Content.4.MD.A.1 - Tell time to the nearest hour.

CCSS.NCEX.Math.Content.4.MD.A.2 - Compare two objects using direct comparison of mass.

CCSS.NCEX.Math.Content.4.MD.A.3 - Solve problems using appropriate vocabulary to describe differences in weight (e.g. more, less, same).

CCSS.NCEX.Math.Content.4.MD.A.4 - Use customary unit to measure weight (ounces and pounds).

CCSS.NCEX.Math.Content.4.MD.B - Represent and interpret data.

CCSS.NCEX.Math.Content.4.MD.B.4 - Organize and represent data using bar graphs.

CCSS.NCEX.Math.Content.4.MD.B.5 - Title and label axis of graph.

CCSS.NCEX.Math.Content.4.MD.B.6 - Answer questions posed about the collected data.

Grade 5:

Number and Operations in Base Ten

CCSS.NCEX.Math.Content.5.NBT.A - Understand the place value system.

CCSS.NCEX.Math.Content.5.NBT.A.1 - Understand the sequential order of the counting numbers (0-100) and their relative magnitudes.

CCSS.NCEX.Math.Content.5.NBT.A.2 - Illustrate whole numbers in groups of one

CCSS.NCEX.Math.Content.5.NBT.B - Perform operations with multi-digit whole numbers (0-100).

CCSS.NCEX.Math.Content.5.NBT.B.3 - Solve addition and subtraction problems when initial is unknown (i.e. $+ 2 = 10$; $- 2 = 8$).

CCSS.NCEX.Math.Content.5.NBT.B.4 - Use concrete objects to illustrate the commutative property.

CCSS.NCEX.Math.Content.5.NBT.B.5 - Solve single and multi-digit addition and subtraction equations (no regrouping).

CCSS.NCEX.Math.Content.5.NBT.B.6 - Illustrate the concept of multiplication by using equal shares to make 1-5 equal groups.



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CCSS.NCEX.Math.Content.5.NBT.B.7 - Illustrate the concept of division by making 1-5 equal sized groups and count number of groups.

CCSS.NCEX.Math.Content.5.NBT.B.8 - Illustrate "left over" using objects and representations (remainder).

Operations and Algebraic Thinking

CCSS.NCEX.Math.Content.5.OA.A - Write a simple numerical expression.

CCSS.NCEX.Math.Content.5.OA.A.1 - Write and solve a number problem based on a real-word situation.

CCSS.NCEX.Math.Content.5.OA.B - Analyze patterns and relationships.

CCSS.NCEX.Math.Content.5.OA.B.2 - Use repeating shape and numerical patterns to identify the unit, correct errors, and extend the pattern.

CCSS.NCEX.Math.Content.5.OA.B.3 - Understand the concept of counting by 2

CCSS.NCEX.Math.Content.5.OA.B.4 - Understand counting by 10

Number and Operations-Fractions

CCSS.NCEX.Math.Content.5.NF.A - Develop an understanding of addition with fractions.

CCSS.NCEX.Math.Content.5.NF.A.1 - Identify whole, half, fourth and third using concrete models (use continuous and discrete items).

CCSS.NCEX.Math.Content.5.NF.A.2 - Use symbolic representation for each fractional part.

CCSS.NCEX.Math.Content.5.NF.A.3 - Understand a set must be divided into equal parts of the whole and when reassembled recreates the whole using a model.

CCSS.NCEX.Math.Content.5.NF.A.4 - Add fractions with like denominators to make a whole (halves, thirds, fourths).

Geometry

CCSS.NCEX.Math.Content.5.G.A - Graph points on the coordinate plane.

CCSS.NCEX.Math.Content.5.G.A.1 - Plot points in 1st quadrant.

CCSS.NCEX.Math.Content.5.G.B - Classify two-dimensional figures into categories based their properties.

CCSS.NCEX.Math.Content.5.G.B.2 - Classify figures based on angles and parallel sides.

CCSS.NCEX.Math.Content.5.G.B.3 - Sort figures and describe the common attribute(s). Sort figures and describe the common attribute(s).

Measurement and Data

CCSS.NCEX.Math.Content.5.MD.A - Solve measurement problems using time, length, and mass (Customary System).

CCSS.NCEX.Math.Content.5.MD.A.1 - Tell time to the nearest 5 minutes.

CCSS.NCEX.Math.Content.5.MD.A.2 - Compare the weight and length of an object using two different units.

CCSS.NCEX.Math.Content.5.MD.A.3 - Estimate which standard unit will need more or less units to measure same item.

CCSS.NCEX.Math.Content.5.MD.A.4 - Solve problems using appropriate vocabulary to describe differences in length and weight (e.g. more, less, same).



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CCSS.NCEX.Math.Content.5.MD.B - Represent and interpret data.

CCSS.NCEX.Math.Content.5.MD.B.5 - Collect, organize and display data on a picture, line plot or bar graph.

CCSS.NCEX.Math.Content.5.MD.B.6 - Interpret graphs (more, less, same).

Grade 6:

Expressions and Equations

CCSS.NCEX.Math.Content.6.EE.A - Apply and extend previous understandings of arithmetic to algebraic expressions.

CCSS.NCEX.Math.Content.6.EE.A.1 - Write, read, and evaluate addition and subtraction expressions in which letters stand for numbers; i.e., 2 numbers with one number being represented by one letter (fixed variable $7+X=9$ where x can only be one number).

The Number System

CCSS.NCEX.Math.Content.6.NS.A - Extend previous understandings of fractions.

CCSS.NCEX.Math.Content.6.NS.A.1 - Compare the relationships between the unit fractions ($1/2$, $1/3$,

CCSS.NCEX.Math.Content.6.NS.A.2 - Add fractions with like denominators to make a whole (halves, thirds, fourths, fifths, sixths, eighths, and tenths).

CCSS.NCEX.Math.Content.6.NS.B - Multiply with numbers 0-10.

CCSS.NCEX.Math.Content.6.NS.B.3 - Solve multiplication problems when groups and size of groups is known but the whole is unknown ($a \times b =$).

CCSS.NCEX.Math.Content.6.NS.C - Apply and extend previous understandings of numbers to the system of rational numbers.

CCSS.NCEX.Math.Content.6.NS.C.4 - Understand that the order of the digits determines the given number and use this understanding to compare sets and numbers (i.e., 24 and 42, 24 is less than 42 because it contains 2 tens and 42 contains 4 tens).

CCSS.NCEX.Math.Content.6.NS.C.5 - Compare temperatures including negatives (use a nondigital thermometer).

Ratios and Proportional Relationships

CCSS.NCEX.Math.Content.6.RP.A - Understand ratio concepts.

CCSS.NCEX.Math.Content.6.RP.A.1 - Compare part-part and part-whole relationships (i.e., how many pieces of fruit? How many are apples how many are oranges?).

CCSS.NCEX.Math.Content.6.RP.A.2 - Write ratios to represent relationships between two quantities.

Statistics and Probability

CCSS.NCEX.Math.Content.6.SP.A - Develop understanding of statistical variability.

CCSS.NCEX.Math.Content.6.SP.A.1 - Develop and implement a survey to collect data.

CCSS.NCEX.Math.Content.6.SP.B - Summarize distributions on picture graphs, line plots, and bar graphs.

CCSS.NCEX.Math.Content.6.SP.B.2 - Display numerical data.

CCSS.NCEX.Math.Content.6.SP.B.3 - Summarize numerical data sets in relation to their context by reporting the number of observations.



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Geometry

CCSS.NCEX.Math.Content.6.G.A - Solve real-world and mathematical problems involving area and perimeter.

CCSS.NCEX.Math.Content.6.G.A.1 - Determine the perimeter of rectangular figures.

CCSS.NCEX.Math.Content.6.G.A.2 - Partition rectangular figures into rows and columns of same-size squares without gaps and overlaps and count them to find the area.

Grade 7:

Expressions and Equations

CCSS.NCEX.Math.Content.7.EE.A - Use properties of operations to generate equivalent expressions.

CCSS.NCEX.Math.Content.7.EE.A.1 - Understand that adding zero to a number leaves it unchanged.

CCSS.NCEX.Math.Content.7.EE.A.2 - Use concrete objects and representations to illustrate addition of 3 or more numbers, regardless of which pair is added first, equal the cardinal number (associative).

CCSS.NCEX.Math.Content.7.EE.A.3 - Use concrete objects and representations to illustrate multiplication of 2 numbers regardless of order equal the cardinal number (commutative).

CCSS.NCEX.Math.Content.7.EE.B - Solve real-life and mathematical addition and subtraction problems using numerical and algebraic equations.

CCSS.NCEX.Math.Content.7.EE.B.4 - Understand the concept of equality with models (i.e., if there is a quantity of 5 on one side of the equation and a quantity of 2 on the other what quantity is added to make it equal).

CCSS.NCEX.Math.Content.7.EE.B.5 - Use the concept of equality to solve problems with unknown quantities.

The Number System

CCSS.NCEX.Math.Content.7.NS.A - Apply and extend previous understandings of operations with fractions and whole numbers.

CCSS.NCEX.Math.Content.7.NS.A.1 - Subtract fractions with like denominators (halves, thirds, fourths, fifths, sixths, eighths, and tenths) by modeling with fraction bars.

CCSS.NCEX.Math.Content.7.NS.A.2 - Use all operations to solve problems with whole numbers (0-100).

Ratios and Proportional Relationships

CCSS.NCEX.Math.Content.7.RP.A - Understand ratio concepts and use ratio reasoning to solve problems.

CCSS.NCEX.Math.Content.7.RP.A.1 - Model equivalent ratios (i.e., 2:1 two reds and 1 blue; If I put down to more red blocks how many blue blocks should be added?).

Statistics and Probability

CCSS.NCEX.Math.Content.7.SP.A - Use random sampling to draw inferences about a population.

CCSS.NCEX.Math.Content.7.SP.A.1 - Identify a representative random sample (i.e., would not select only the people who ride buses)

CCSS.NCEX.Math.Content.7.SP.A.2 - Use samples to gain information about a population.

CCSS.NCEX.Math.Content.7.SP.A.3 - Interpret the results of the sampling.

CCSS.NCEX.Math.Content.7.SP.B - Draw informal comparative inferences about two populations.



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North Carolina Extended Content Standards

Mathematics

CCSS.NCEX.Math.Content.7.SP.B.4 - Compare data from two picture graphs, line plots, or bar graphs.

CCSS.NCEX.Math.Content.7.SP.C - Investigate chance processes and develop, use and evaluate probability models.

CCSS.NCEX.Math.Content.7.SP.C.5 - Understand the events of probability as being possible or impossible.

Geometry

CCSS.NCEX.Math.Content.7.G.A - Solve real-life and mathematical problems involving area.

CCSS.NCEX.Math.Content.7.G.A.1 - Use rectangles and multiplication to solve area problems.

Grade 8:

Expressions and Equations

CCSS.NCEX.Math.Content.8.EE.A - Understand the connections between proportional relationships, lines, and linear equations.

CCSS.NCEX.Math.Content.8.EE.A.1 - Make equivalent ratios given the unit rate.

CCSS.NCEX.Math.Content.8.EE.A.2 - Graph equivalent ratios in the first quadrant.

CCSS.NCEX.Math.Content.8.EE.B - Analyze and solve linear equations and pairs of simultaneous linear equations.

CCSS.NCEX.Math.Content.8.EE.B.3 - Use equations to solve problems using all operations when a part is unknown.

Statistics and Probability

CCSS.NCEX.Math.Content.8.SP.A - Investigate patterns of association in bivariate data.

CCSS.NCEX.Math.Content.8.SP.A.1 - Describe trends such as positive, negative or no association given a scatter plot.

Geometry

CCSS.NCEX.Math.Content.8.G.A - Understand congruence using physical models.

CCSS.NCEX.Math.Content.8.G.A.1 - Describe the attributes of figures: number of faces or edges, equal sizes of sides and number angles.

CCSS.NCEX.Math.Content.8.G.A.2 - Understand congruence in polygons with different orientations (proximity, position, directions and turns).

CCSS.NCEX.Math.Content.8.G.B - Solve real-world and mathematical problems involving volume of right rectangular prisms.

CCSS.NCEX.Math.Content.8.G.B.3 - Recognize volume as an attribute of solid figures and understand concepts of volume measurement.

CCSS.NCEX.Math.Content.8.G.B.3a - A cube with side length 1 unit called a

CCSS.NCEX.Math.Content.8.G.B.3b - Understand volume is the number of cubes used to fill a solid figure without gaps and overlaps.

CCSS.NCEX.Math.Content.8.G.B.4 - Measure volumes of right rectangular figures by counting unit cubes.



NORTH CAROLINA ESSENTIAL STANDARDS

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North Carolina Extended Content Standards

Mathematics

High School:

Algebra

CCSS.NCEX.Math.Content.HSA-SSE.A - Use equivalent expressions to solve problems.

CCSS.NCEX.Math.Content.HSA-SSE.A.1 - Identify the equivalent addition expression from a multiplication expression (e.g., given $3r$ student identifies equivalent $r+r+r$).

CCSS.NCEX.Math.Content.HSA-SSE.A.2 - Evaluate an algebraic expression (If $r=2$, then the value of $4r$ is $4 \times 2=8$).

CCSS.NCEX.Math.Content.HSA-CED.A - Use inequalities to describe numbers and relationships.

CCSS.NCEX.Math.Content.HSA-CED.A.1 - Use inequalities to describe the relationship between two quantities (less than, $<$, greater than, $>$).

CCSS.NCEX.Math.Content.HSA-CED.A.2 - Identify non-negative integers that would make an inequality true (e.g., x is less than 10, so x could be equal to 0,1,2,

CCSS.NCEX.Math.Content.HSA-REI.A - Solve equations and inequalities in one variable.

CCSS.NCEX.Math.Content.HSA-REI.A.1 - Use equations to solve problems using addition and subtraction with decimals when a part is unknown (e.g., a can of soda cost \$0.75 and John has \$0.50 how much more money does he need?).

CCSS.NCEX.Math.Content.HSA-REI.A.2 - Use inequalities to solve problems using addition and subtraction when a part is unknown (e.g. $3 + x > 8$).

Number and Quantity

CCSS.NCEX.Math.Content.HSN-RN.A - Extend the properties of the base ten system (limit to tenths and hundredths).

CCSS.NCEX.Math.Content.HSN-RN.A.1 - Identify decimal values.

CCSS.NCEX.Math.Content.HSN-RN.A.2 - Compare decimal values.

CCSS.NCEX.Math.Content.HSN-RN.A.3 - Order decimal values.

CCSS.NCEX.Math.Content.HSN-RN.B - Use properties of the base ten system (limit to tenths and hundredths).

CCSS.NCEX.Math.Content.HSN-RN.B.4 - Calculate the sum of decimal values.

CCSS.NCEX.Math.Content.HSN-RN.B.5 - Calculate the difference of decimal values.

CCSS.NCEX.Math.Content.HSN-Q.A - Reason quantitatively and use units to solve problems.

CCSS.NCEX.Math.Content.HSN-Q.A.1 - Interpret the unit rate from a graph of equivalent ratios using scales greater than 1 on the y axis (e.g., speed= miles per hour).

