Kindergarten

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.

Counting and Cardinality			**Counting and Cardinality**
Proposed Standard Abbreviation	**SCOS MATH ADOPTED 2017**	**Proposed Standard Abbreviation**	**First Draft Proposed ECS Standard**
Know number names and the counting sequence.			**Know number names and the counting sequence.**
NC.K.CC.1	Know number names and recognize patterns in the counting sequence by: · Counting to 100 by ones. · Counting to 100 by tens.	**NC.K.CC.1**	Use concrete and pictoral representations to count up to 10 items by ones. ~~1. Understand number words as representing a quantity. 2. Understand the concept of "one" and "more". 3. Count forward using the 1-10 sequence. 4. Write or use an alternative pencil to write numbers 0-10.~~
NC.K.CC.2	Count forward beginning from a given number within the known sequence, instead of having to begin at 1.	**NC.K.CC.2**	
NC.K.CC.3	Write numbers from 0 to 20. Represent a number of objects with a written numeral 0-20, with 0 representing a count of no objects.	**NC.K.CC.3**	n/a
Count to tell the number of objects.			**Count to tell the number of objects.**
NC.K.CC.4	Understand the relationship between numbers and quantities.• When counting objects, say the number names in the standard order, pairing each object with one and only one	NC.K.CC.4	Demonstrates one to one correspondence by pairing one object with one and only one number and each name with only one object.~~4. Write or use an alternative pencil to write numbers 0-10.~~
NC.K.CC.5	Count to answer "How many?" in the following situations: · 20 objects arranged in a line, a rectangular array, and a circle. · 10 objects in a scattered configuration	**NC.K.CC.5**	Count out up to three objects from a larger set, pairing each object with one and only one number name to tell how many. ~~5. Understand the relationship between numbers and quantities (0-10); connect counting to cardinality. a. When counting objects, indicate the number names in the standard order, pairing each object~~

Compare numbers.			**Compare numbers.**
NC.K.CC.6	Identify whether the number of objects, within 10, in one group is greater than, less than, or equal to the number of objects in another group, by using matching and counting strategies.	**NC.K.CC.6**	Identify whether the number of objects in one group is more than, less than, or equal to the number of objects in another group, when the quantities are clearly different. ~~6. Count to answer "how many?" questions about as many as 10 things arranged in a line or a rectangular array; given a number from 1-10, count out~~
NC.K.CC.7	Compare two numbers, within 10, presented as written numerals.	**NC.K.CC.7**	n/a ~~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.~~
and Algebraic Thinking			**Operations and Algebraic Thinking**
Proposed Standard Abbreviation	**Fiant Draft Standard**		
Understand addition and subtraction.			**Understand addition and subtraction.**
NC.K.OA.1	Represent addition and subtraction, within 10, with objects, fingers, mental images, drawings, sounds, acting out situations, verbal explanations, expressions, OR equations.	**NC.K.OA.1**	Represent addition as putting together, and subtraction as taking away in everday activities. ~~Use informal language (take away, give, add, more, same quantity) to describe the joining situations (putting together) and separating situations (breaking apart).~~
NC.K.OA.2	Solve addition and subtraction word problems, within 10, using objects or drawings to represent the problem, when solving: · Add to/Take from-Result Unknown	NC.K.OA.2	NA 2. ~~Use joining and separating to solve problems (to at least 10) using objects, representations and numbers using only two sets~~
NC.K.OA.3	Decompose numbers less than or equal to 10 into pairs in more than one way using objects or drawings, and record each decomposition by a drawing OR equation.	**NC.K.OA.3**	NA ~~Describe equal sets as same quantity after counting objects (up to ten~~
NC.K.OA.4	For any number from 0 to 10, find the number that makes 10 when added to the given number using objects or drawings, and record the answer with a drawing OR equation.	**NC.K.OA.4**	NA ~~Use objects and representations to make two sets equal~~
NC.K.OA.6	Recognize and combine groups with totals up to 5 (conceptual subitizing).	**NC.K.OA.6**	NA

NC.K.OA.5	Demonstrate fluency with addition and subtraction within 5.	**NC.K.OA.5**	n/a
Number and Operations in Base Ten			**Number and Operations in Base Ten**
Proposed Standard Abbreviation	**Final Draft Standard**		
Build foundation for place value.			**Build foundation for place value.**
NC.K.NBT.1	Compose and decompose numbers from 11 to 19 into ten ones and some further ones by: · Using objects or drawings · Recording each composition or decomposition by a drawing OR	**NC.K.NBT.1**	n/a
	Measurement and Data		**Measurement and Data**
Proposed Standard Abbreviation		**Proposed Standard Abbreviation**	
Describe and compare measureable attributes.			**Describe and compare measureable attributes.**
NC.K.MD.1	Describe measurable attributes of objects; and describe several different measurable attributes of a single object.	**NC.K.MD.1**	Classify objects by attributes,(long,short, heavy, light, big, small)., ~~Compare the length of two objects using direct comparison~~
NC.K.MD.2	Directly compare two objects with a measurable attribute in common, to see which object has "more of"/"less of" the attribute, and describe the difference.	NC.K.MD.2	NA see K.MD.1 ~~2. Use appropriate vocabulary to describe differences in length (e.g., longer/ shorter). Concepts added at this grade to begin development of background knowledge for concepts developed in later grades.3. Use the words before/after, now/later, soon/never to~~

Classify objects and count the number of objects in each category.			**Classify objects and count the number of objects in each category.**
NC.K.MD.3	Classify objects into given categories; count the numbers of objects in each category and sort the categories by count.	**NC.K.MD.3**	NA see K.MD.1 5~~. Identify objects as "same" or "different." 6. Recognize similarities and differences between objects (attribute). 7. Sort objects according to attribute and count "how many" in sets (1-5 objects per set).~~
Geometry			**Geometry**
Proposed Standard Abbreviation	**Final Draft Standard**		
Identify and describe shapes.			**Identify and describe shapes.**
NC.K.G.1	Describe objects in the environment using names of shapes, and describe the relative positions of these objects using positional terms.	**NC.K.G.1**	n/a 1.~~ Describe objects in the environment using names of shapes.~~
NC.K.G.2	Correctly name squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres regardless of their orientations or overall size.	**NC.K.G.2**	Identify shapes of same size and orientation (circle, square, rectangle, triangle). ~~Describe the relative position of objects using terms such as in, on, out, under, off to locate objects.~~
NC.K.G.3	Identify squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres as two-dimensional or three-dimensional.	**NC.K.G.3**	NAsee K.G.2
Analyze, compare, create, and compose shapes.			**Analyze, compare, create, and compose shapes.**
NC.K.G.4	Analyze and compare two- and three-dimensional shapes, in different sizes and orientations, using informal language to describe their similarities, differences, attributes and other	**NC.K.G.4**	NA ~~Compare a variety of two-dimensional shapes, in different sizes to describe differences (big/little, small/medium/large).~~
NC.K.G.5	Model shapes in the world by building shapes from components and drawing shapes.	**NC.K.G.5**	n/a

NC.K.G.6	Compose larger shapes from simple shapes.	**NC.K.G.6**	n/a

FIRST GRADE

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			Operations and Algebraic Thinking
Proposed Standard Abbreviation	**SCOS MATH ADOPTED 2017**	**Proposed Standard Abbreviation**	**First Draft Proposed ECS Standard**
Represent and solve problems.			**Represent and solve problems.**
NC.1.OA.1	Represent and solve addition and subtraction word problems, within 20, with unknowns in all positions, by using objects, drawings, and equations with a symbol for the unknown number to represent the problem,	**NC.1.OA.1**	Represent addition and subtraction with objects, fingers, drawings, or sounds (e.g., claps) within 10. ~~Use informal language (take away, give, add, more, same quantity) to describe the joining situations (putting together) and separating situations (breaking apart)~~
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.	**NC.1.OA.2**	n/a included in 1.OA.1 . ~~Use joining and separating to solve problems (to at least 10) using objects, representations and numbers using only two sets. 3. Describe equal sets as same quantity after counting objects (up to ten). 4. Use objects and representations to make two sets equal.~~
Understand and apply the properties of operations.			**Understand and apply the properties of operations.**
NC.1.OA.3	Apply the commutative and associative properties as strategies for solving addition problems within 20.	**NC.1.OA.3**	NA
NC.1.OA.4	Solve an unknown-addend problem by using addition strategies and/or changing it to a subtraction problem, within 20.	NC.1.OA.4	n/a
Add and subtract within 20.			**Add and subtract within 20.**
	STANDARD REMOVED		
NC.1.OA.9	Demonstrate fluency with addition and subtraction within 10.	**NC.1.OA.7**	n/a
NC.1.OA.6	Add and subtract, within 20, using strategies such as: · Counting on · Making ten · Decomposing a number leading to a ten	**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.			**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 correct.	**NC.1.OA.7**	Recognize two groups that have the same or equal quantity.
NC.1.OA.8	Determine the unknown whole number in an addition or subtraction equation involving three whole numbers.	**NC.1.OA.8**	n/a
Number and Operations in Base Ten			**Number and Operations in Base Ten**
Proposed Standard Abbreviation	**Final Draft Standard**		
Extend and recognize patterns in the counting sequence.			**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.1**	Use concrete and pictoral representations to count up to 20 items by ones. Count ~~forward using the~~ 1-20 ~~sequence.~~
NC.1.NBT.7	Read and write numerals, and represent a number of objects with a written numeral, to 100.	**NC.1.NBT.7**	Count as many as 10 objects and represent the quantity with the corresponding numeral. . ~~Write or use an alternative pencil to write numbers 0- 2~~
Understand place value.			**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	NC.1.NBT.2	Create sets up to 10 .
NC.1.NBT.3	Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols >, =, and <.	**NC.1.NBT.3**	Compare two groups of 10 or fewer items when the number of items in each group is similar. ~~Illustrate whole numbers to 20 using objects, representations and numbers.~~
Use place value understanding and properties of operations.			**Use place value understanding and properties of operations.**
NC.1.NBT.4	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.4**	Compose numbers less than or equal to five in more than one way. ~~Use number word (0-20) of last object counted in a set, to name the total number of objects in the set when asked, "How many?" (cardinality)~~
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.5**	NA See 1.OA.6 ~~Use zero to indicate no objects when asked, "How many?~~
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	NC.1.NBT.6	Decompose numbers less than or equal to five in more than one way. ~~Compare objects, representations and numbers (1-20) using words "more" and "less". 7. Use a set of objects and separate set into smaller sets (number partners). 8. Understand a set has smaller quantities within the~~
Measurement and Data			**Measurement and Data**
Proposed Standard Abbreviation	**Final Draft Standard**		
Measure lengths.			**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.1**	Compare ~~Describe~~ lengths to determine which is longer, shorter, taller,shorter ~~of an object (long/short, big/small).~~
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	**NC.1.MD.2**	n/a ~~Directly compare two objects with a measurable attribute in common, to see which object has "more of"/"less of" the attribute.~~
Build understanding of time and money.			**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.3**	~~Use the words~~Identify tomorrow, yesterday, today morning, afternoon, day, night and activities that come before, next, and after. and yesterday" ~~to refer to personal activities and events. 4. Use a schedule to keep track of events with modeling. 5. Remember, in order, the names of the days of the~~
NC.1.MD.5	Identify quarters, dimes, and nickels, and relate their values to pennies.	**NC.1.MD.5**	n/a
Represent and interpret data.			**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.	**NC.1.MD.4**	Organize data into categories by sorting. . ~~Collect and categorize objects or pictures to answer questions about topics relevant to student. 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.~~

Geometry			Geometry
Proposed Standard Abbreviation	**Final Draft Standard**		
Reason with shapes and their attributes.			**Reason with shapes and their attributes.**
NC.1.G.1	Distinguish between defining and non-defining attributes; build and draw shapes with defining attributes.	**NC.1.G.1**	Identify common two-dimensional shapes: square, circle, triangle, and rectangle ~~Describe attributes of the shape.2. Correctly name shapes regardless of their orientations or overall size.~~
NC.1.G.2	Create composite shapes by: · Making a two-dimensional composite shape using rectangles, squares, trapezoids, triangles, half-circles, and quarter-circles naming the components of the new	**NC.1.G.2**	~~Correctly name~~ Sort shapes of same size and orientation (circle, square, rectangle, triangle). ~~regardless of their~~ orientations ~~or overall~~ size
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	**NC.1.G.3**	Put together two pieces to make a shape that relates to the whole. ~~Partition circles and rectangles into two and four equal shares or recognize when circles and squares have been partitioned equally.4. Identify congruent two-dimensional shapes.~~

		Second Grade	
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			**Operations and Algebraic Thinking**
Proposed Standard Abbreviation	**SCOS MATH ADOPTED 2017**	**Proposed Standard Abbreviation**	**First Draft Proposed ECS Standard**
Represent and solve problems.			**Represent and solve problems.**
NC.2.OA.1	Represent and solve addition and subtraction word problems, within 100, with unknowns in all positions, by using representations and equations with a symbol for the unknown number to represent the problem, when solving:	**NC.2.OA.1**	NA 1. ~~Use objects and representations to add and subtract groups of objects.2. Use objects, representations and numerals to add and subtract within real life one-step story problems to at~~
Add and subtract within 20.			**Add and subtract within 20.**
NC.2.OA.2	Demonstrate fluency with addition and subtraction, within 20, using mental strategies.	**NC.2.OA.2**	n/a ~~3. Share fairly collections of up to 20 items between 2-4 people. 4. Describe set as "same quantity" after breaking apart and reassembling a given quantity (up to ten).~~
Work with equal groups.			**Work with equal groups.**
NC.2.OA.3	Determine whether a group of objects, within 20, has an odd or even number of members by: · Pairing objects or counting them by 2s. · Determining whether objects can be placed into two	**NC.2.OA.3**	Equally distribute even numbers of objects (up to 20) between two groups. ~~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~~
NC.2.OA.4	Use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns; write an equation to express the total as a sum of equal addends.	**NC.2.OA.4**	Use addition to find the total number of objects arranged within equal groups up to a total of 20
Number and Operations in Base Ten			**Number and Operations in Base Ten**
Proposed Standard Abbreviation	**Final Draft Standard**		
Understand place value.			**Understand place value.**
NC.2.NBT.1	Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones. · Unitize by making a hundred from a collection of ten tens.	NC.2.NBT.1	Represent numbers up to 30 with sets of tens and ones using objects in columns or arrays. ~~Count (0-30) by indicating one object at a time (one-toone tagging) using one counting word for every object (synchrony), while~~
NC.2.NBT.2	Count within 1000; skip-count by 5s, 10s, and 100s.	**NC.2.NBT.2**	30 items by ones. ~~Use a number line (0-30) to determine the number before and after (1 more and 1 less). 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,~~
NC.2.NBT.3	Read and write numbers, within 1000, using base-ten numerals, number names, and expanded form.	**NC.2.NBT.3**	Count sets (1 to 30) of concrete and pictoral representations, ~~then identify the corresponding numeral. 5. Illustrate whole numbers to 30 using objects, representations and numbers~~
NC.2.NBT.4	Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using >, =, and < symbols to record the results of comparisons.	**NC.2.NBT.4**	Compare sets of numbers or objects to determine greater than, less than, or equal . ~~using appropriate vocabulary (more, less, equal, one more, one less, etc.). 7. Determine how many more to ten.~~
Use place value understanding and properties of operations.			**Use place value understanding and properties of operations.**

NC.2.NBT.5	Demonstrate fluency with addition and subtraction, within 100, by: · Flexibly using strategies based on place value, properties of operations, and/or the relationship between	**NC.2.NBT.5**	Model the meaning of the symbols for addition (+) and subtraction (-) by using manipulatives to compose and decompose numbers up to 20. ~~Use part-part-whole relationships (including 2 or more parts)~~
NC.2.NBT.6	Add up to three two-digit numbers using strategies based on place value and properties of operations.	NC.2.NBT.6	Identify how many tens and ones are in numbers up to 30. ~~Compare numbers (0-30) in relationship to benchmark number 10~~
NC.2.NBT.7	Add and subtract, within 1000, using: · Concrete models or drawings · Strategies based on place value · Properties of operations	**NC.2.NBT.7**	Use objects, representations, and numbers (0–20) ~~(0-30)~~to add and subtract.
NC.2.NBT.8	Mentally add 10 or 100 to a given number 100–900, and mentally subtract 10 or 100 from a given number 100–900.	**NC.2.NBT.8**	NA ~~Use objects and representations (0-30) to add and subtract groups using real life story problems~~.
	STANDARD REMOVED		
Measurement and Data			**Measurement and Data**
Proposed Standard Abbreviation	**Final Draft Standard**		
Measure and estimate lengths.			**Measure and estimate lengths.**
NC.2.MD.1	Measure the length of an object in standard units by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.	**NC.2.MD.1**	~~Use~~ Measure the length of objects using non-standard units. to ~~compare~~
NC.2.MD.2	Measure the length of an object twice, using length units of different lengths for the two measurements; describe how the two measurements relate to the size of the unit chosen.	**NC.2.MD.2**	n/a
NC.2.MD.3	Estimate lengths using standard units of inches, feet, yards, centimeters, and meters.	**NC.2.MD.3**	Order by length using non-standard units.
NC.2.MD.4	Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit.	NC.2.MD.4	NA
Relate addition and subtraction to length.			**Relate addition and subtraction to length.**
NC.2.MD.5	Use addition and subtraction,within100, to solve word problems involving lengths that are given in the same units, using equations with a symbol for the unknown number to represent the problem.	**NC.2.MD.5**	Increase or decrease length by adding or subtracting units. ~~Add the number of same units to determine the length of a given object.~~
NC.2.MD.6	Represent whole numbers as lengths from 0 on a number line diagram with equally spaced points and represent whole-number sums and differences,within100, on a number line diagram.	**NC.2.MD.6**	Use a number line to add one more unit of length.
Build understanding of time and money.			**Build understanding of time and money.**
NC.2.MD.7	Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.	**NC.2.MD.7**	Identify on a digital clock the hour that matches a routine activity. ~~Use the names of the days of the week to describe when personal activities will occur. 4. Use a calendar to mark differences between a day and a week.~~
NC.2.MD.8	Solve word problems involving: · Quarters, dimes, nickels, and pennies within 99¢, using¢symbols appropriately. · Whole dollar amounts, using the $ symbol	NC.2.MD.8	Recognize that money has value.
Represent and interpret data.			**Represent and interpret data.**
	STANDARD REMOVED		~~Organize and represent data using concrete objects to create picture graphs.~~

NC.2.MD.10	Organize, represent, and interpret data with up to four categories. · Draw a picture graph and a bar graph with a single-unit scale to represent a data set.	**NC.2.MD.10**	Create picture graphs from collected measurement data. ~~nterpret collected to determine the answer to the question posed.~~
Geometry			**Geometry**
Proposed Standard Abbreviation	**Final Draft Standard**		
Reason with shapes and their attributes.			**Reason with shapes and their attributes.**
NC.2.G.1	Recognize and draw triangles, quadrilaterals, pentagons, and hexagons, having specified attributes; recognize and describe attributes of rectangular prisms and cubes.	NC.2.G.1	Indicate ~~Use~~ the names of shapes (circle, square, rectangle, triangle). ~~to describe shapes~~
	STANDARD REMOVED		
NC.2.G.3	Partition circles and rectangles into two, three, or four equal shares. · Describe the shares using the words halves, thirds, half of, a third of, fourths, fourth of	**NC.2.G.3**	Use manipulatives to partition shapes into equal parts. ~~dentify shapes larger and smaller than model as same shape. 4. Use shapes separately, to make a picture. 5. Match 2 halves of a shape to create whole shape~~

THIRD GRADE

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			Operations and Algebraic Thinking
Proposed Standard Abbreviation	**SCOS MATH ADOPTED 2017**	**Proposed Standard Abbreviation**	**First Draft Proposed ECS Standard**
Represent and solve problems involving multiplication and division.			**Represent and solve problems involving multiplication and division.**
NC.3.OA.1	up to and including 10: • Interpret the factors as representing the number of equal groups and the number of objects in each group. • Illustrate and explain strategies including arrays,	**NC.3.OA.1**	Use repeated addition, bar models, and arrays to find a total product when there are repeated equal groups. ~~Compose and decompose numbers on both sides of the equal sign to show equality.~~
NC.3.OA.2	with a one-digit divisor and a one-digit quotient: • Interpret the divisor and quotient in a division equation as representing the number of equal groups and the number of objects in each	**NC.3.OA.2**	n/a ~~Solve addition and subtraction problems when result is unknown (i.e. 8 + 2 =╕ 6 – 3 =╕).~~
Understand properties of multiplication and the relationship between multiplication and division.			**Understand properties of multiplication and the relationship between multiplication and division.**
NC.3.OA.3	Represent and solve problems relating three whole numbers involving multiplication and division. · Solve multiplication word problems with	NC.3.OA.3	n/a
	COMBINED WITH 3.OA.3		n/a
Understand properties of multiplication and the relationship between multiplication and division			**Understand properties of multiplication and the relationship between multiplication and division.**
NC.3.OA.5	Incorporated in to 3.OA.1	**NC.3.OA.5**	~~Build models that represent repeated addition. (i.e., 2 groups of 4 is the same quantity as 4 + 4)~~
	Solve an unknown-factor problem, by using division strategies and/or changing it to a multiplication problem.		4. ~~Share equally collections of up to 30 items between 2 to 4 people to solve real life story problems~~
Multiply and divide within 100.			**Multiply and divide within 100.**
NC.3.OA.7	Demonstrate fluency with multiplication and division. · Demonstrate fluency with the multiplication of two whole numbers up to and including 10.	**NC.3.OA.7**	n/a
Solve two-step problems.			**Solve two-step problems.**
NC.3.OA.8	Solve two-step word problems using addition, subtraction, and multiplication.	**NC.3.OA.8**	n/a

Explore patterns of numbers			**Explore patterns of numbers**
NC.3.OA.9	Interpret patterns of multiplication on a hundreds board and/or multiplication table.	NC.3.OA.9	Identify arithmetic patterns.
Number and Operations in Base Ten			**Number and Operations in Base Ten**
Proposed Standard Abbreviation	**Final Draft Standard**		
Use place value to add and subtract.			**Use place value to add and subtract.**
	STANDARD INCORPORATED INTO 3.NBT.2		n/a ~~Use a number line (0-30) to determine the number 1 more and 1 less and 2 more and 2 less. 2. Illustrate ten and some more with numbers 11-30 using objects (bundles of ten). 3. Use part-part-whole~~
NC.3.NBT.2	Add and subtract up to and including 1,000. · Use estimation strategies to assess reasonableness of answers. · Model and explain how the relationship	**NC.3.NBT.2**	Use decade numbers (10, 20, 30) as benchmarks to demonstrate understanding of place value for numbers 0–30.
Generalize place value understanding for multi-digit numbers.			**Generalize place value understanding for multi-digit numbers.**
NC.3.NBT.3	Use concrete and pictorial models, based on place value and the properties of operations, to find the product of a one-digit whole number by a multiple of 10 in the range 10–90.0 in the		Count by tens using models such as objects, base ten blocks, ten-frames, or money.
Number and Operations- Fractions			**Number and Operations- Fractions**
Proposed Standard Abbreviation	**Final Draft Standard**		
Understand fractions as numbers.			**Understand fractions as numbers.**
NC.3.NF.1	Interpret fractions with denominators of 2, 3, 4, 6, and 8 as quantities formed when a whole is partitioned into equal parts; understand that the unit fraction is one of those parts. Explain that a	**NC.3.NF.1**	Differentiate ~~Identify~~ a fractional part from a whole. ~~and half using concrete models (use continuous and discrete items).~~
NC.3.NF.2	6, and 8 using area and length models. • Using an area model, explain that the numerator of a fraction represents the number of equal parts of the unit fraction. • Using a number line, explain	**NC.3.NF.2**	NA ~~Use symbolic representation for each equal part.~~
NC.3.NF.3	length models by: • Composing and decomposing fractions into equivalent fractions using related fractions: halves, fourths and eighths; thirds and sixths. • Explaining that a	**NC.3.NF.3**	n/a
3.NF.?	Compare two fractions with the same numerator or the same denominator by reasoning about their size and using area and length models. Recognize that comparisons are valid only	3.NF.?	n/a

Measurement and Data			Measurement and Data
Proposed Standard Abbreviation	**Final Draft Standard**		
Solve problems involving measurement.			**Solve problems involving measurement.**
NC.3.MD.1	Tell and write time to the nearest minute. Solve word problems involving addition and subtraction of time intervals within the same hour.	**NC.3.MD.1**	Tell time to the hour on a digital clock. ~~Recall names of the months. 2. Use a full day schedule to order the events of the day~~
NC.3.MD.2	Solve problems involving customarymeasurement. · Estimate and measure lengths in customary units to the quarter-inch and half-inch, and feet	**NC.3.MD.2**	Measure the length of objects using standard units. ~~Compare two~~ objects ~~using direct comparison~~ of length. 4~~. Solve problems using appropriate vocabulary to describe differences in length (e.g.~~
NC.3.MD.3	graphs: • Collect data by asking a question that yields data in up to four categories. • Make a representation of data and interpret data in a frequency table, scaled picture graph, and/or	NC.3.MD.3	Use picture or bar graph data to answer questions about data. ~~Organize and represent data using a line plot. 7. Title and label axis of graph~~. 8. Answer questions ~~posedthe collected~~
	STANDARD INCORPORATEDWITH 3.MD.2; LINE PLOT MOVED TO 4TH GRADE.		
Understand the concept of area.			**Understand the concept of area.**
NC.3.MD.5	Find the area of a rectangle with whole-number side lengths by tiling without gaps or overlaps and counting unit squares. ounting unit squares.	**NC.3.MD.5**	NA
	COMBINED WITH 3.MD.5		
NC.3.MD.7	Relate area to the operations of multiplication and addition. · Find the area of a rectangle with whole-number side lengths by tiling it, and show that	NC.3.MD.7	n/a
Understand the concept of perimeter.			**Understand the concept of perimeter.**
NC.3.MD.8	Solve problems involving perimeters of polygons, including finding the perimeter given the side lengths, and finding an unknown side length.	**NC.3.MD.8**	Recognize that perimeter is the distance around a shape.
Geometry			**Geometry**
Proposed Standard Abbreviation	**Fianl Draft Standard**		
Reason with shapes and their attributes.			**Reason with shapes and their attributes.**

NC.3.G.1	Reason with two-dimensional shapes and their attributes. • Investigate, describe, and reason about composing triangles	**NC.3.G.1**	Identify ~~Recognize~~ the attributes of two dimensional shapes (circle, square, rectangle, triangle, oval, rhombus). Recognize the attributes o~~f a rhombus and other quadrilaterals.~~
	STANDARD INCORPORATED INTO 3.NF – AREA MODELS		~~Partition shapes into equal halves. Express the area of each part as the fraction ½. Demonstrate understanding that this is 1 or 2 parts.~~

		FOURTH GRADE	

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			**Operations and Algebraic Thinking**
Proposed Standard Abbreviation	**SCOS MATH ADOPTED 2017**	**Proposed Standard Abbreviation**	**First Draft Proposed ECS Standard**
Represent and solve problems involving multiplication and division.			**Represent and solve problems involving multiplication and division.**
NC.4.OA.1	a comparison. Multiply or divide to solve word problems involving multiplicative comparisons using models and equations with a symbol	**NC.4.OA.1**	Demonstrate the connection between repeated addition and multiplication.(2*3= 2+2+2) ~~Solve addition and subtraction problems when change is unknown (i.e. 8 + ? = 10, 6 – ? = 3). 2.~~
NC.4.OA.2	***STANDARD INCORPORATED INTO 4.OA.1***	NC.4.OA.2	
NC.4.OA.3	Solve two- step word problems involving the four operations with whole numbers. · Use estimation strategies to assess	**NC.4.OA.3**	Solve one step word problem using addition or subraction within 20.
Gain familiarity with factors and multiples.			**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.	**NC.4.OA.4**	Show one way to arrive at a product. ~~Illustrate multiplication and division by making equal sized groups using models. 4. Understand that even numbers are sets that can be shared~~
Generate and analyze patterns. .			**Generate and analyze patterns. .**
NC.4.OA.5	Generate and analyze a number or shape pattern that follows a given rule.	**NC.4.OA.5**	6. Use repeating ~~shape~~ patterns to make predictions. ~~and extend simple repeating patterns. 7. Understand the concept of counting by 2's.~~
Number and Operations in Base Ten			**Number and Operations in Base Ten**
Proposed Standard Abbreviation	**Final Draft Standard**		
Generalize place value understanding for multi-digit whole numbers.			**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 10times as much as it represents inthe place to its right, up	**NC.4.NBT.1**	n/a Illustrate whole numbers to 50 by composing and decomposing numbers.
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.2	Use concrete and pictoral representations to count up to 100 items. Use a number line or hundreds chart to compare numbers greater than, less than or equal to.
NC.4.NBT.7	Compare two multi-digit numbers up to and including 100,000 based on meanings of the digits in each place.	**NC.4.NBT.7**	Round any whole number 0-30 to the nearest ten.
	STANDARD INCORPORATEDINTO 4.OA.3	**4.NBT.3**	
Use place value understanding and properties of operations to perform multi-digit arithmetic.			**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 10,000 using the standard algorithm with place value understanding.	**NC.4.NBT.4**	Add and subtract two-digit whole numbers. Illustrate multiplication and division by making 2 equal sized groups up to 10.
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 numberswith place value	NC.4.NBT.5	n/a
NC.4.NBT.6	Find whole-number quotients and remainders with up to three-digit dividends and one-digit divisors using rectangular arrays, area models,	**NC.4.NBT.6**	n/a
Number and Operations Fractions			**Number and Operations Fractions**
Proposed Standard Abbreviation	**Final Draft Standard**		
Extend understanding of fractions.			**Extend understanding of fractions.**
NC.4.NF.1	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	**NC.4.NF.1**	Identify models of one half (1/2) and one fourth (1/4). whole, half, and fourth using concrete models (use continuous and discrete items). 2. Use symbolic representation for each
NC.4.NF.2	Compare two fractions having different numerators and different denominators, using the denominators 2, 3, 4, 5, 6, 8, 10, 12,	**NC.4.NF.2**	n/a
Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.			**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.	**NC.4.NF.3**	Represent one half as one of two parts to make 1 whole.Use a number line to identify between each number.

NC.4.NF.8		**NC.4.NF.8**	
NC.4.NF.9		**NC.4.NF.9**	
	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	**NC.4.NF.4**	n/a
Understand decimal notation for fractions, and compare decimal fractions			
NC.4.NF.5	***STANDARD INCORPORATEDINTO 4.NF.6***	**NC.4.NF.5**	
NC.4.NF.6	Use decimal notation to represent fractions. · Model and explain the equivalence between fractions with denominators	**NC.4.NF.6**	
NC.4.NF.7	Compare two decimals to hundredths by reasoning about their size using area and length models, recording the results of comparisons with the	**NC.4.NF.7**	
Measurement and Data			**Measurement and Data**
Proposed Standard Abbreviation	**Final Draft Standard**		
Solve problems involving measurement.			**Solve problems involving measurement.**
NC.4.MD.1	units. Solve problems involving metric measurement. • Measure to solve problems involving metric units:, centimeter, meter, gram,	NC.4.MD.1	Identify the smaller measurement unit that comprises a larger unit within a measurement system (inches/foot, centimeter/meter, minutes/hour). ~~Tell time to the nearest hour.~~
NC.4.MD.2	Use multiplicative reasoning to convert metric measurements from a larger unit to a smaller unit using place value understanding,	**NC.4.MD.2**	
NC.4MD.8	Solve word problems involving addition and subtraction of time intervals that cross the hour.		
	Solve problems involving area and perimeter		***Solve problems involving area and perimeter***
NC.4.MD.3	Solve problems with area and perimeter. · Find areas of rectilinear figures by decomposing them into non-	**NC.4.MD.3**	Determine the area of a square or rectangle by counting units of measure (unit squares).

Represent and interpret data.			**Represent and interpret data.**
NC.4.MD.4	Represent and interpret data. · Collect data by asking a question that yields numerical data. · Make a representation of data and	NC.4.MD.4	Interpret data from a picture or bar graph. ~~Organize and represent using bar graphs. 5. Title and label axis of graph. 6. Answer questions posed about the collected data~~
Understand concepts of angle and measure angles.			**Understand concepts of angle and measure angles.**
NC.4.MD.5	***STANDARD INCORPORATED INTO 4.MD.6***	**NC.4.MD.5**	
NC.4.MD.6	Develop an understanding of angles and angle measurement. · Measure and sketch angles in whole-number degrees using a	**NC.4.MD.6**	Identify angles in geometric shapes.
NC.4.MD.7	***STANDARD INCORPORATEDINTO 4.MD.6***	NC.4.MD.7	
Geometry			**Geometry**
Proposed Standard Abbreviation	**Final Draft Standard**		
Classify shapes based on lines and angles in two-dimensional figures.			**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.1**	Recognize parallel lines and intersecting lines. ~~Identify angles in each shape~~.
NC.4.G.2	Classify quadrilaterals and triangles based on angle measure, side lengths, and the presence or absence of parallel or perpendicular	**NC.4.G.2**	Describe the attributes of two dimensional shapes.
NC.4.G.3	Recognize symmetry in a figure, and identify and draw lines of symmetry.	**NC.4.G.3**	Use lines of symmetry to partition shapes into equal areas.

FIFTH GRADE

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			Operations and Algebraic Thinking
Proposed Standard Abbreviation	**SCOS MATH ADOPTED 2017**	**Proposed Standard Abbreviation**	**First Draft Proposed ECS Standard**
Write, explain, and evaluate expressions.			**Write, explain, and evaluate expressions.**
NC.5.OA.1	***STANDARD INCORPORATEDIN 5.OA.2***	**NC.5.OA.1**	
NC.5.OA.2	Write and explain numerical expressions involving the four operations, and use them to solve problems. Include expressions	**NC.5.OA.2**	n/a ~~Write and solve a number problem based on a real-word situation.~~
Analyze patterns and relationships			**Analyze patterns and relationships**
NC.5.OA.3	Generate two numerical patterns using two given rules. · Identify apparent relationships between corresponding terms.	**NC.5.OA.3**	Identify and extend ~~Use repeating shape and~~ numerical patterns. ~~to identify the unit, correct errors, and extend the pattern. 3. Understand the concept of counting by 2's and 5's. 4. Understand~~
Number and Operations in Base Ten			**Number and Operations in Base Ten**
Proposed Standard Abbreviation	**Final Draft Standard**		
Understand the place value system			**Understand the place value system**
NC.5.NBT.1	Explain patterns in the place value system from one million to the thousandths place. · Explain that in a multi-digit number,	**NC.5.NBT.1**	Identify equivalent groupings for quantities up to 99. ~~Understand the sequential order of the counting numbers (0-100) and their relative magnitudes.~~
	STANDARD INCORPORATEDINTO5. NBT.1 CONCEPTS OF EXPONENTS TO DENOTE POWERS OF 10 MOVED		
Generalize place value understanding for multi-digit numbers.			**Generalize place value understanding for multi-digit numbers.**
NC.5.NBT.3	Read, write, and compare decimals to thousandths. · Write decimals using base-ten numerals, number names, and	**NC.5.NBT.3**	Compare ~~Illuastrate~~ whole numbers up to 100 using symbols (<, >, =). ~~in groups of one's and ten's by composing and decomposing.~~

	STANDARD INCORPORATEDINTO 5.NBT.7.		
Perform operations with multi-digit whole numbers.			**Perform operations with multi-digit whole numbers.**
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	**NC.5.NBT.5**	Multiply whole numbers up to 5 × 5. ~~Solve addition and subtraction problems when initial is unknown (i.e.†+ 2 = 10;†-2 = 8). 4. Use concrete objects to illustrate the commutative property. 5. Solve single~~
NC.5.NBT.6	dividing whole numbers with up to four-digit dividends and two-digit divisors using rectangular arrays, area models, repeated subtraction, partial quotients,	**NC.5.NBT.6**	Use fair and equal shares to solve division problems ~~Illustrate the concept of division by making 1-5 equal sized groups and count number of groups.~~
	Perform operations with decimals.		
NC.5.NBT.7	problems with multi-digit whole numbers and decimal numbers. • Add and subtract decimals to thousandths using models, drawings or strategies	**NC.5.NBT.7**	n/a ~~Illustrate "left over" using objects and representations (remainder~~).
Number and Operations- Fractions			**Number and Operations- Fractions**
Proposed Standard Abbreviation	**Final Draft Standard**		
Use equivalent fractions as a strategy to add and subtract fractions.			**Use equivalent fractions as a strategy to add and subtract fractions.**
NC.5.NF.1	Add and subtract fractions, including mixed numbers, with unlike denominatorsusing related fractions: halves, fourths and eighths; thirds	**NC.5.NF.1**	Identify models of halves (1/2, 2/2), fourths (1/4, 2/4, 3/4, 4/4), thirds (1/3. 2/3, 3/3), and tenths (1/10, 2/10, 3/10, 4/10, 5/10, 6/10, 7/10, 8/10, 9/10, 10/10). u~~sing concrete models (use~~
NC.5.NF.2	***STANDARD INCORPORATEDINTO 5.NF.1***	**NC.5.NF.2**	n/a ~~Add fractions with like denominators to make a whole (halves, thirds, fourths~~)
Apply and extend previous understandings of multiplication and division to multiply and divide fractions.			**Apply and extend previous understandings of multiplication and division to multiply and divide fractions.**
NC.5.NF.3	Use fractions to model and solve division problems. · Model and interpret a fraction as the division of the numerator by the	**NC.5.NF.3**	n/a
NC.5.NF.4	understandings of multiplication to multiply a fraction or whole number by a fraction, including mixed numbers. • Use area and length models to	**NC.4.NF.4**	n/a
NC.5.NF.5	***STANDARD INCORPORATEDINTO 5.NF.4***	**NC.5.NF.5**	

NC.5.NF.6	***STANDARD INCORPORATED INTO 5.NF.4***	**NC.5.NF.6**	
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	**NC.5.NF.7**	n/a
Measurement and Data			**Measurement and Data**
Proposed Standard Abbreviation	**Final Draft Standard**		
Convert like measurement units within a given measurement system			**Convert like measurement units within a given measurement system**
NC.5MD.1	Given a conversion chart, use multiplicative reasoning to solve onestep conversion problems within a given	**NC.5MD.1**	Use standard units to measure weight and length of objects. ~~Tell time to the nearest 5 minutes.~~ 2. ~~Compare~~ ~~using two different units. 3. Estimate~~ ~~which standard unit will need more or less units to~~
Represent and interpret data.			**Represent and interpret data.**
NC.5.MD.2	Represent and interpret data. · Collect data by asking a question that yields data that changes over time.	**NC.5.MD.2**	Represent and interpret ~~Collect, organize and display~~ data ~~on~~ on a picture, line plot, or bar graph. ~~6. Interpret graphs (more, less, same).~~
Understand concepts of volume.			**Understand concepts of volume.**
5.MD.3	***STANDARD INCORPORATEDINTO 5.MD.4***	**5.MD.3**	
NC.5.MD.4	Recognize volume as an attribute of solid figures and understand concepts of volume measurement by counting unit cubes, using cubic cm, cubic in,	**NC.5.MD.4**	n/a
NC.5.MD.5	Relate volume to the operations of multiplication and addition. · Find the volume of a right rectangular prism with whole-number	**NC.5.MD.5**	Determine the volume of a rectangular prism by counting units of measure (unit cubes).
Geometry			**Geometry**
Proposed Standard Abbreviation	**Final Draft Standard**		
Understand the coordinate plane.			**Understand the coordinate plane.**
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.	**NC.5.G.1**	Use the x and y axis to locate a point or object on a graph. ~~Plot~~ points ~~in 1st quadrant~~.

	STANDARD INCORPORATEDINTO 5.G.1		
NC.5.G.3	Classify quadrilaterals into categories based on their properties. · Explain that attributes belonging to a category of quadrilaterals also belong	NC.5.G.3	Sort two-dimensional figures and identify the attributes (angles, number of sides, corners) they have in common. ~~Classify figures based on angles and parallel sides.~~
5.G.4	***STANDARD INCORPORATED INTO***	**5.G.4**	

SIXTH GRADE

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.

Ratio and Proportional Relationships			Ratio and Proportional Relationships
Proposed Standard Abbreviation	**SCOS MATH ADOPTED 2017**	**Proposed Standard Abbreviation**	**First Draft Proposed ECS Standard**
Understand ratio concepts and use ratio reasoning to solve problems.			**Understand ratio concepts and use ratio reasoning to solve problems.**
NC.6.RP.1	Understand the concept of a ratio and use ratio language to: Describe a ratio as a multiplicative relationship	NC.6.RP.1	Demonstrate a ratio relationship with whole numbers using pictures or numbers. ~~Compare part-part and part-whole relationships (i.e., how many pieces of fruit? How many are apples how many are oranges?).~~
NC.6.RP.2	Understand that ratios can be expressed as equivalent unit ratios by finding and interpreting both unit ratios in context.	NC.6.RP.2	n/a ~~Write ratios to represent relationships between two quantities.~~
NC.6.RP.3	equivalent whole-number ratios to solve real-world and mathematical problems by: • Creating and using a table to	NC.6.RP.3	Find equivalent ratios by multiplying or dividing the quantities by the same whole number.
NC.6.RP.4	world and mathematical problems with percents by: • Understanding and finding a percent of a quantity as a ratio	NC.6.RP.4	
The Number System			**The Number System**
Proposed Standard Abbreviation	**Final Draft Standard**		
Apply and extend previous understandings of multiplication and division to divide fractions by fractions.			**Apply and extend previous understandings of multiplication and division to divide fractions by fractions.**
NC.6.NS.1	Use visual models and inverse relationships to: · Interpret and compute quotients of fractions.	NC.6.NS.1	Compare the relationships between two unit fractions.
Compute fluently with multi-digit numbers and find common factors and multiples.			**Compute fluently with multi-digit numbers and find common factors and multiples.**
NC.6.NS.2	Fluently divide using long division with a minimum of a four-digit dividend.	NC.6.NS.2	Apply the concept of fair share and equal shares to divide.
NC.6.NS.3	understandings of decimals to develop and fluently use the standard algorithms for addition, subtraction, multiplication and	NC.6.NS.3	Solve two-factor multiplication problems with products up to 50 using concrete objects and using a calculator.
NC.6.NS.4	Understand and use prime factorization and the relationships between factors to: · Find the unique prime	NC.6.NS.4	n/a

Apply and extend previous understandings of numbers to the system of rational numbers.			**Apply and extend previous understandings of numbers to the system of rational numbers.**
NC.6.NS.5	numbers to: • Describe quantities having opposite directions or values. • Represent quantities in real-	**NC.6.NS.5**	Use integers to decibe real world context, include zero and negative numbers.
NC.6.NS.6	Understand rational numbers as points on the number line and as ordered pairs on a coordinate plane.	NC.6.NS.6	See 6.NS.5
NC.6.NS.7	Understand ordering and absolute value of rational numbers. a. Interpret statements of	NC.6.NS.7	See 6.NS.5
NC.6.NS.8	Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate	NC.6.NS.8	
NC.6.NS.9	Apply and extend previous understandings of addition and subtraction. a. Understand additive inverses	NC.6.NS.9	See 6.NS.5
Expressions and Equations			**Expressions and Equations**
Proposed Standard Abbreviation	**Final Draft Standard**		
Apply and extend previous understandings of arithmetic to algebraic expressions.			**Apply and extend previous understandings of arithmetic to algebraic expressions.**
NC.6.EE.1	Write and evaluate numerical expressions, with and without grouping symbols, involving whole-number exponents.	NC.6.EE.1	Identify equivalent number sentences. ~~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~~
NC.6.EE.2	Write, read, and evaluate algebraic expressions. · Write expressions that record operations with numbers and	NC.6.EE.2	see 6.EE.1
NC.6.EE.3	Apply the properties of operations to generate equivalent expressions without exponents.	NC.6.EE.3	Apply the properties of addition to identify equivalent numerical expressions.
NC.6.EE.4	Identify when two expressions are equivalent.	NC.6.EE.4	n/a
Reason about and solve one-variable equations.			**Reason about and solve one-variable equations.**
NC.6.EE.5	Use substitution to determine whether a given number in a specified set makes an equation true.	NC.6.EE.5	n/a
NC.6.EE.6	Use variables to represent numbers and write expressions when solving a real-world or mathematical problem.	NC.6.EE.6	n/a
NC.6.EE.7	Solve real-world and mathematical problems by writing and solving equations of the form:	NC.6.EE.7	Identify an equation that represents a real-world problem in which variables are used to represent numbers.
Reason about one-variable inequalities.			**Reason about one-variable inequalities.**

NC.6.EE.8	Reason about inequalities by: · Using substitution to determine whether a given number in a specified set makes	NC.6.EE.8	n/a
Represent and analyze quantitative relationships between dependent and independent variables.			**Represent and analyze quantitative relationships between dependent and independent variables.**
NC.6.EE.9	Represent and analyze quantitative relationships by: · Using variables to represent two quantities in a real-world	NC.6.EE.9	n/a
Geometry			**Geometry**
Proposed Standard Abbreviation	**Final Draft Standard**		
Solve real-world and mathematical problems involving area, surface area, and volume.			**Solve real-world and mathematical problems involving area, surface area, and volume.**
NC.6.G.1	Create geometric modelsto solve real-world and mathematical problems to: · Find the area of triangles by	NC.6.G.1	Solve real-world and mathematical problems about area using unit squares. ~~Determine the perimeter of rectangular figures. 2. Partition rectangular figures into rows and columns of same-size squares without gaps and overlaps~~
NC.6.G.2	Apply and extend previous understandings of the volume of a right rectangular prism to find the volume of right rectangular	NC.6.G.2	
NC.6.G.3	Use the coordinate plane to solve real-world and mathematical problems by: · Drawing polygons in the	NC.6.G.3	n/a
NC.6.G.4	Represent prisms and pyramids using nets made up of rectangles and triangles, and use the nets to find the surface	NC.6.G.4	n/a
Statistics and Probability			**Statistics and Probability**
Proposed Standard Abbreviation	**Final Draft Standard**		
Develop understanding of statistical variability.			**Develop understanding of statistical variability.**
NC.6.SP.1	Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it	NC.6.SP.1	Display data on a graph or table that shows variability in the data. ~~Develop and implement a survey to collect~~ data
NC.6.SP.2	Understand that a set of data collected to answer a statistical question has a distribution which can be described by its	NC.6.SP.2	n/a
NC.6.SP.3	Understand that both measures of center and variability should be considered when describing a data set.	NC.6.SP.3	n/a
Summarize and describe distributions.			**Summarize and describe distributions.**

NC.6.SP.4	on a number line. • Use dot plots, histograms, and box plots to represent data. • Compare the attributes of different	NC.6.SP.4	n/a ~~Display numerical data.~~
	Summarize numerical data sets in relation to their context. a. Describe the collected data by:		Summarize ~~numerical~~ data ~~sets~~ distributions shown in graphs or tables. ~~in relation to their context by reporting the number of observations.~~

SEVENTH GRADE

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.

Ratio and Proportional Relationship			Ratio and Proportional Relationships
Proposed Standard Abbreviation	**SCOS MATH ADOPTED 2017**	**Proposed Standard Abbreviation**	**First Draft Proposed ECS Standard**
Analyze proportional relationships and use them to solve real-world and mathematical problems.			
NC.7.RP.1	Compute unit rates associated with ratios of fractions to solve real-world and mathematical problems.	NC.7.RP.1	Model part-to-whole and part-to-part ~~equivalent~~ ratios to compare two measures of the same type. (i.e~~., 2:1 two reds and 1 blue; If I put down to more red blocks how many blue blocks should be added?).~~
NC.7.RP.2	Recognize and represent proportional relationships between quantities. a. Understand that a proportion is	NC.7.RP.2	See 7.RP.1
NC.7.RP.3	Use scale factors and unit rates in proportional relationships to solve ratio and percent problems.	NC.7.RP.3	See 7.RP.1
The Number System			**The Number System**
Proposed Standard Abbreviation	**Final Draft Standard**		
Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.			Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.
NC.7.NS.1	understandings of addition and subtraction to add and subtract rational numbers, using the properties of operations, and	NC.7.NS.1	Add ~~Subtract~~ fractions with like denominators (halves, thirds, fourths, and tenths) with sums less than or equal to one. ~~by modeling with fraction bars. 2. Use all operations to solve problems with whole numbers (0-100).~~
NC.7.NS.2	Apply and extend previous understandings of multiplication and division. a. Understand that a rational	NC.7.NS.2	a. Solve multiplication problems with products up to 100 using a calculator b. Solve division problems with divisors up to five and also with a
NC.7.NS.3	Solve real-world and mathematical problems involving numerical expressions with rational numbers using the four operations.	NC.7.NS.3	Solve one-step real-world problems involving decimal numbers to the tenths place.
Expressions and Equations			**Expressions and Equations**
Proposed Standard Abbreviation	**Final Draft Standard**		

Use properties of operations to generate equivalent expressions.			**Use properties of operations to generate equivalent expressions.**
NC.7.EE.1	Apply properties of operations as strategies to: · Add, subtract, and expand linear expressions with rational	NC.7.EE.1	Use one of the four operations to determine if expressions are equivalent. ~~Understand that adding zero to a number leaves it unchanged. 2.~~
NC.7.EE.2	Understand that equivalent expressions can reveal contextual and mathematical relationships. Interpret the meaning of the parts	NC.7.EE.2	Identify arithmetic sequences where the difference between two consecutive terms is constant.
Solve real-world and mathematical problems using numerical and algebraic expressions, equations, and inequalities.			**Solve real-world and mathematical problems using numerical and algebraic expressions, equations, and inequalities.**
NC.7.EE.3	Solve multi-step real-world and mathematical problems posed with rational numbers in algebraic expressions.	NC.7.EE.3	n/a ~~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). 5. Use the concept of equality to solve problems with unknown quantities.~~
NC.7.EE.4	Use variables to represent quantities to solve real-world or mathematical problems. a. Construct equations to solve	NC.7.EE.4	Use the concept of equality with models to solve one-step addition and subtraction equations.
Geometry			**Geometry**
Proposed Standard Abbreviation	**Final Draft Standard**		
Draw, construct, and describe geometrical figures and describe the relationships between them.			**Draw, construct, and describe geometrical figures and describe the relationships between them.**
NC.7.G.1	Solve problems involving scale drawings of geometric figures by: · Building an understanding that angle measures remain the same	NC.7.G.1	Identify two similar geometric shapes that are proportional in size and in the same orientation. ~~Use rectangles and multiplication to solve area problems~~
NC.7.G.2	Understand the characteristics of angles and side lengths that create a unique triangle, more than one triangle or no triangle. Build	NC.7.G.2	Recognize geometric shapes with given conditions.
	STANDARD REMOVED		
Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.			**Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.**
NC.7.G.4	Understand area and circumference of a circle. · Understand the relationships between the radius, diameter,	NC.7.G.4	Determine the perimeter of a rectangle by adding the measures of the sides.
NC.7.G.5	Use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve	NC.7.G.5	Recognize angles that are acute, obtuse, and right.
NC.7.G.6	Solve real-world and mathematical problems involving: · Area and perimeter of two-dimensional objects composed of	NC.7.G.6	Determine the area of a rectangle using the formula for length × width, and confirm the result using tiling or partitioning into unit squares.

Statistics and Probability			Statistics and Probability
Proposed Standard Abbreviation	**Final Draft Standard**		
Use random sampling to draw inferences about a population.			Use random sampling to draw inferences about a population
NC.7.SP.1	used to gain information about a population by: • Recognizing that generalizations about a population from a sample are valid only if the	NC.7.SP.1	Answer a question related to the collected data from an experiment, given model of data, or from data collected by the student. ~~Identify a representative random sample (i.e., would not select only the people who ride buses)~~
NC.7.SP.2	Generate multiple random samples (or simulated samples) of the same size to gauge the variation in estimates or predictions, and use	NC.7.SP.2	See 7.SP.1 ~~Use samples to gain information about a population. 3. Interpret the results of the sampling.~~
Make informal inferences to compare two populations.			**Make informal inferences to compare two populations.**
NC.7.SP.3	Recognize the role of variability whe	NC.7.SP.3	Compare two sets of data within a single data display such as a picture graph, line plot, or bar graph.
NC.7.SP.4	Use measures of center and measures of variability from numerical data from random samples to draw comparative	NC.7.SP.4	n/a
Investigate chance processes and develop, use, and evaluate probability models.			**Investigate chance processes and develop, use, and evaluate probability models.**
NC.7.SP.5	Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring.	NC.7.SP.5	Describe ~~Understand~~ the probability of events occurring as possible or impossible.
NC.7.SP.6	Collect data to calculate the experimental probability of a chance event, observing its long-run relative frequency. Use this	NC.7.SP.6	See 7.SP.5
NC.7.SP.7	Develop a probability model and use it to find probabilities of simple events. a. Develop a uniform probability	NC.7.SP.7	See 7.SP.5
NC.7.SP.8	compound events using organized lists, tables, tree diagrams, and simulation. a. Understand that, just as with simple events, the	NC.7.SP.7	n/a

EIGHTH GRADE

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.

The Number System			The Number System
Proposed Standard Abbreviation	**SCOS MATH ADOPTED 2017**	**Proposed Standard Abbreviation**	**First Draft Proposed ECS Standard**
Know that there are numbers that are not rational, and approximate them by rational numbers.			**Know that there are numbers that are not rational, and approximate them by rational numbers.**
NC.8.NS.1	Understand that every number has a decimal expansion. Know that an irrational number is defined as a non-repeating, non-terminating decimal.	NC.8.NS.1	Subtract fractions with like denominators (halves, thirds, fourths, and tenths) with minuends less than or equal to one.
NC.8.NS.2	Use rational approximations of irrational numbers to compare the size of irrational numbers and locate them approximately on a number line. Estimate the value of expressions involving:	NC.8.NS.2	a. Express a fraction with a denominator of 100 as a decimal. b. Compare decimal quantites using less than(<), greater than(>), or equal to (=), in real-world examples to the hundredths
Expressions and Equations			**Expressions and Equations**
Proposed Standard Abbreviation	**Final Draft Standard**		
Work with radicals and integer exponents.			**Work with radicals and integer exponents.**
NC.8.EE.1	Develop and apply the properties of integer exponents to generate equivalent numerical expressions.	NC.8.EE.1	Identify the meaning of an exponent (limited to single digits and exponents of 2). ~~Make equivalent ratios given the unit rate. 2. Graph equivalent ratios in the first quadrant.~~
NC.8.EE.2	Use square root and cube root symbols to: · Represent solutions to equations of the form and, where p is a positive rational number. Evaluate square roots of perfect squares and	NC.8.EE.2	n/a
NC.8.EE.3	Use numbers expressed in scientific notation to estimate very large or very small quantities and to express how many times as much one is than the other.	NC.8.EE.3	Compose and decompose whole numbers up to 999. ~~Use equations to solve problems using all operations when a part is unknown.~~
NC.8.EE.4	Perform multiplication and division with numbers expressed in scientific notation to solve real-world problems, including problems where both decimal and scientific notation are used.	NC.8.EE.4	n/a
NC.8.EE.5	STANDARD INCORPORATED INTO NC.7.RP.2 AND NC.8.F.4		Given a table or graph with idenified points, determine a ratio that describes the relationship between quantities.
NC.8.EE.6	***CONTENT MOVED TO 8.F.4***	NC.8.EE.6	
Analyze and solve linear equations and inequalities.			**Analyze and solve linear equations and inequalities.**

NC.8.EE.7	writing and solving equations and inequalities in one variable. • Recognize linear equations in one variable as having one solution, infinitely many solutions, or no solutions. • Solve linear equations	NC.8.EE.7	Solve simple algebraic equations with one variable using addition and subtraction.
NC.8.EE.8	Analyze and solve a system of two linear equations in two variables in slope-intercept form. · Understand that solutions to a system of two linear equations correspond to the points of	NC.8.EE.8	n/a
Functions			**Functions**
Proposed Standard Abbreviation	**Final Draft Standard**		
Define, evaluate, and compare functions.			**Define, evaluate, and compare functions.**
NC.8.F.1	Understand that a function is a rule that assigns to each input exactly one output. · Recognize functions when graphed as the set of ordered pairs consisting of an input and exactly	NC.8.F.1	See 8.F.2
NC.8.F.2	Compare properties of two linear functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions).	NC.8.F.2	Given a linear function table containing at least 2 complete ordered pairs, identify a missing number that completes another ordered pair (limited to linear functions).
NC.8.F.3	Identify linear functions from tables, equations, and graphs.	NC.8.F.3	See 8.F.2
Use functions to model relationships between quantities.			**Use functions to model relationships between quantities.**
NC.8.F.4	Analyze functions that model linear relationships. · Understand that a linear relationship can be generalized by y = mx + b. · Write an equation in slope-intercept form to	NC.8.F.4	Determine the values or rule of a function using a graph or a table.
NC.8.F.5	Qualitatively analyze the functional relationship between two quantities. · Analyze a graph determining where the function is increasing or decreasing; linear or non-linear.	NC.8.F.5	Describe how a graph represents a relationship between two quantities as increasing or decreasing.
Geometry			**Geometry**
Proposed Standard Abbreviation	**Final Draft Standard**		First Draft Proposed Standard
Understand congruence and similarity using physical models, transparencies, or geometry software.			Understand congruence and similarity using physical models, transparencies, or geometry software.
NC.8.G.1	STANDARD INCORPORATED IN NC.8.G.2 AND NC.8.G.4	NC.8.G.1	n/a ~~Describe the attributes of figures: number of faces or edges, equal sizes of sides and number angles. 2. Understand congruence in polygons with different orientations (proximity, position, directions and turns~~
NC.8.G.2	Use transformations to define congruency. · Understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations,	NC.8.G.2	Identify congruent shapes after transformation (translation, rotation, and reflection).
NC.8.G.3	translations, rotations about the origin in 90 degree increments, and reflections across the x-axis and y-axis on two-dimensional figures using coordinates.	NC.8.G.3	n/a
NC.8.G.4	experimentally the properties of dilations that create similar figures. • Understand that a two-dimensional figure is similar to another if the second can be obtained from the first by a	NC.8.G.4	Identify similar shapes after dilation (resizing)
	Analyze angle relationships.		

NC.8.G.5	Use informal arguments to analyze angle relationships. · Recognize relationships between interior and exterior angles of a triangle.	NC.8.G.5	Compare any angle to a right angle, and describe the angle as greater than, less than, or congruent to a right angle.
Understand and apply the Pythagorean Theorem.			Understand and apply the Pythagorean Theorem.
NC.8.G.6	Explain the Pythagorean Theorem and its converse.	NC.8.G.6	n/a~~Recognize volume as an attribute of solid figures and understand concepts of volume measurement. a. A cube with side length 1 unit called a "unit cube" is said to have "one cubic unit" of volume, and can be used to measure volume. b.~~
NC.8.G.7	Apply the Pythagorean Theorem and its converse to solve real-world and mathematical problems.	NC.8.G.7	n/a
NC.8.G.8	Apply the Pythagorean Theorem to find the distance between two points in a coordinate system.	NC.8.G.8	n/a
Solve real-world and mathematical problems involving volume of cylinders, cones, and spheres.			**Solve real-world and mathematical problems involving volume of cylinders, cones, and spheres**
NC.8.G.9	Understand how the formulas for the volumes of cones, cylinders, and spheres are related and use the relationship to solve real-world and mathematical problems.	NC.8.G.9	Use the formula for volume to solve real-world and mathematical problems (limited to volume of rectangular prisms). ~~Describe trends such as positive, negative or no association given a scatter plot.~~
Statistics and Probability			**Statistics and Probability**
Investigate patterns of association in bivariate data			**Investigate patterns of association in bivariate data**
NC.8.SP.1	measurement data to investigate patterns of association between two quantities. Investigate and describe patterns such as clustering, outliers, positive or negative association, linear	NC.8.SP.1	Construct a graph or table from given categorical data and compare data categorized in the graph or table
NC.8.SP.2	quantitative data to: • Informally fit a straight line for a scatter plot that suggests a linear association. • Informally assess the model fit by judging the closeness of the data points to the line	NC.8.SP.2	n/a
NC.8.SP.3	Use the equation of a linear model to solve problems in the context of bivariate quantitative data, interpreting the slope and y-intercept.	NC.8.SP.3	n/a
NC.8.SP.4	be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table. • Construct and interpret a two-way table summarizing data on two categorical variables	NC.8.SP.4	n/an/a