Elementary Overview
Summary of Major Revisions Across K – 5

Overall
- Most revisions in K-5 are the result of clarifying the intention of the standards.
- Some standards that shared similar concepts and expectations were combined.

Kindergarten
- Standards regarding perceptual and conceptual subitizing were clarified.

First Grade
- Two problem types were removed (compare-bigger unknown, compare-smaller unknown).
- Revised counting to 150 instead of 120 and read and write numerals to 100 instead of 120
- Coin identification was added.
- Removed the word "quarter" from partitioning.

Second Grade
- Two problem types were added (compare-bigger unknown, compare-smaller unknown).
- Removed line plot.
- Removed partitioning into rows and columns.

Third Grade
- Two-step word problems are limited to addition, subtraction, and multiplication.
- Measurement is limited to customary units.
- Finding the area of rectilinear figures has been moved to Grade 4.
- Data involving fractional values on a line plot has been removed and the focus is on only categorical data.

Fourth Grade
- Finding factors of a number is now limited to 50 instead of 100.
- The range of numbers for place value is 100,000 and addition and subtraction is 10,000.
- Measurement is limited to only metric units.
- Data standard involving fractional values on a line plot has been removed and the focus is on working with categorical and numerical data.

Fifth Grade
- Dividing decimals is expected to only be done with models (decimal grids) and repeated subtraction.
- Exponents to denote powers of 10 moved to sixth.
- Data involving fractional values on a line plot has been removed and the focus is data that changes over time, categorical, and numerical data.
- Finding the volume of combined rectangular prisms is limited to prisms with one-digit dimensions.

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			
Current Standard Abbreviation	**Current Standard**	**Proposed Standard Abbreviation**	**First Draft Proposed Standard**
Know number names and the count sequence.		**Know number names and the counting sequence.**	
K.CC.1	Count to 100 by ones and by tens.	**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.
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**	Count forward beginning from a given number within the known sequence, instead of having to begin at 1.
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**	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.
Count to tell the number of objects.		**Count to tell the number of objects.**	
K.CC.4	Understand the relationship between numbers and quantities; connect counting to cardinality. a. When counting objects, say 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. b. Understand that the last number name said tells the number of objects counted. The number of objects is	**NC.K.CC.4**	Understand the relationship between numbers and quantities. • Connect counting to cardinality. • Apply cardinality by stating the number of objects in a group, of up to 5 objects, without counting the objects (perceptual subitizing).

	the same regardless of their arrangement or the order in which they were counted. c. Understand that each successive number name refers to a quantity that is one larger.		
K.CC.5	Count to answer "how many?" questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1–20, count out that many objects.	**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. • Given a number from 1–20, count out that many objects.
Compare numbers.		**Compare numbers.**	
K.CC.6	Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group, e.g., by using matching and counting strategies.[1] (Note: Include groups with up to ten objects.)	**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.
K.CC.7	Compare two numbers between 1 and 10 presented as written numerals.	**NC.K.CC.7**	Compare two numbers, within 10, presented as written numerals.

Operations and Algebraic Thinking

Current Standard Abbreviation	Current Standard	Proposed Standard Abbreviation	First Draft Proposed Standard
Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.		**Understand addition and subtraction**.	
K.OA.1	Represent addition and subtraction with objects, fingers, mental images, drawings[1], sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations. (Note: Drawings need not show details, but should show the mathematics in the problem - this applies wherever drawings are mentioned in the Standards.)	**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.
K.OA.2	Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem.	**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 • Put Together/ Take Apart (Result Unknown and Two Addends Unknown)
K.OA.3	Decompose numbers less than or equal to 10 into pairs in more than one way, e.g., by using objects or drawings, and record each decomposition by a drawing or equation (e.g., 5 = 2 + 3 and 5 = 4 + 1).	**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.
K.OA.4	For any number from 1 to 9, find the number that makes 10 when added to the given number, e.g., by using objects or drawings, and record the answer with a drawing or equation.	**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.
	NEW STANDARD	**NC.K.OA.6**	Recognize and combine groups with totals up to 5 (conceptual subitizing).
K.OA.5	Fluently add and subtract within 5.	**NC.K.OA.5**	Demonstrate fluency with addition and subtraction within 5.

Number and Operations in Base Ten			
Current Standard Abbreviation	**Current Standard**	**Proposed Standard Abbreviation**	**First Draft Proposed Standard**
Work with numbers 11-19 to gain foundations for place value.		**Build foundation for place value.**	
K.NBT.1	Compose and decompose numbers from 11 to 19 into ten ones and some further ones, e.g., by using objects or drawings, and record each composition or decomposition by a drawing or equation (such as 18 = 10 + 8); understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones.	**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 equation • Understanding that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones.

Measurement and Data			
Current Standard Abbreviation	**Current Standard**	**Proposed Standard Abbreviation**	**First Draft Proposed Standard**
Describe and compare measureable attributes.		**Describe and compare measureable attributes.**	
K.MD.1	Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object.	**NC.K.MD.1**	Describe measurable attributes of objects; and describe several different measurable attributes of a single object.
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. *For example, directly compare the heights of two children and describe one child as taller/shorter.*	**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.
Classify objects and count the number of objects in each category.		**Classify objects and count the number of objects in each category.**	
K.MD.3	Classify objects into given categories; count the numbers of objects in each category and sort the categories by count. (Note: Limit category counts to be less than or equal to 10.)	**NC.K.MD.3**	Classify objects into given categories; count the numbers of objects in each category and sort the categories by count.

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Geometry			
Current Standard Abbreviation	**Current Standard**	**Proposed Standard Abbreviation**	**First Draft Proposed Standard**
Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres).		**Identify and describe shapes.**	
K.G.1	Describe objects in the environment using names of shapes, and describe the relative positions of these objects using terms such as *above*, *below*, *beside*, *in front of*, *behind*, and *next to*.	**NC.K.G.1**	Describe objects in the environment using names of shapes, and describe the relative positions of these objects using positional terms.
K.G.2	Correctly name shapes regardless of their orientations or overall size.	**NC.K.G.2**	Correctly name squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres regardless of their orientations or overall size.
K.G.3	Identify shapes as two-dimensional (lying in a plane, "flat") or three-dimensional ("solid").	**NC.K.G.3**	Identify squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres as two-dimensional or three-dimensional.
Analyze, compare, create, and compose shapes.		**Analyze, compare, create, and compose shapes.**	
K.G.4	Analyze and compare two- and three-dimensional shapes, in different sizes and orientations, using informal language to describe their similarities, differences, parts (e.g., number of sides and vertices/"corners") and other attributes (e.g., having sides of equal length).	**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 properties.
K.G.5	Model shapes in the world by building shapes from components (e.g., sticks and clay balls) and drawing shapes.	**NC.K.G.5**	Model shapes in the world by building shapes from components and drawing shapes.
K.G.6	Compose simple shapes to form larger shapes. *For example, "Can you join these two triangles with full sides touching to make a rectangle?"*	**NC.K.G.6**	Compose larger shapes from simple shapes.

1st 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

Current Standard Abbreviation	Current Standard	Proposed Standard Abbreviation	First Draft Proposed Standard
Represent and solve problems involving addition and subtraction.		**Represent and solve problems.**	
1.OA.1	Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem. (Note: See Glossary, Table 1).	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, when solving: • Add to/Take from-Change Unknown • Put together/Take Apart-Addend Unknown • Compare-Difference Unknown
1.OA.2	Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.	NC.1.OA.2	Represent and solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, by using objects, drawings, and equations with a symbol for the unknown number.
Understand and apply properties of operations and the relationship between addition and subtraction.		**Understand and apply the properties of operations.**	
1.OA.3	Apply properties of operations as strategies to add and subtract.[2] *Examples: If 8 + 3 = 11 is known, then 3 + 8 = 11 is also known. (Commutative property of addition.) To add 2 + 6 + 4, the second two numbers can be added to make a ten, so 2 + 6 + 4 = 2 + 10 = 12. (Associative property of addition.)*	NC.1.OA.3	Apply the commutative and associative properties as strategies for solving addition problems within 20.

1.OA.4	Understand subtraction as an unknown-addend problem. *For example, subtract 10 – 8 by finding the number that makes 10 when added to 8. Add and subtract within 20.*	**NC.1.OA.4**	Solve an unknown-addend problem by using addition strategies and/or changing it to a subtraction problem, within 20.
Add and subtract within 20.		**Add and subtract within 20.**	
1.OA.5	Relate counting to addition and subtraction (e.g., by counting on 2 to add 2).		***STANDARD REMOVED***
	NEW STANDARD	**NC.1.OA.7**	Demonstrate fluency with addition and subtraction within 10.
1.OA.6	Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g., 8 + 6 = 8 + 2 + 4 = 10 + 4 = 14); decomposing a number leading to a ten (e.g., 13 – 4 = 13 – 3 – 1 = 10 – 1 = 9); using the relationship between addition and subtraction (e.g., knowing that 8 + 4 = 12, one knows 12 – 8 = 4); and creating equivalent but easier or known sums (e.g., adding 6 + 7 by creating the known equivalent 6 + 6 + 1 = 12 + 1 = 13).	**NC.1.OA.6**	Add and subtract, within 20, using strategies such as: • Counting on • Making ten • Decomposing a number leading to a ten • Using the relationship between addition and subtraction • Creating equivalent but easier or known sums
Work with addition and subtraction equations.		**Analyze addition and subtraction equations within 20.**	
1.OA.7	Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false. For example, which of the following equations are true and which are false? 6 = 6, 7 = 8 – 1, 5 + 2 = 2 + 5, 4 + 1 = 5 + 2.	**NC.1.OA.7**	Apply understanding of the equal sign to determine if equations involving addition and subtraction are correct.
1.OA.8	Determine the unknown whole number in an addition or subtraction equation relating three whole numbers. *For example, determine the unknown number that makes the equation true in each of the equations 8 + ? = 11, 5 = _ – 3, 6 + 6 = _.*	**NC.1.OA.8**	Determine the unknown whole number in an addition or subtraction equation involving three whole numbers.

Number and Operations in Base Ten

Current Standard Abbreviation	Current Standard	Proposed Standard Abbreviation	First Draft Proposed Standard
Extend the counting sequence.		**Extend and recognize patterns in the counting sequence.**	
1.NBT.1	Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral.	**NC.1.NBT.1**	Count to 150, starting at any number less than 150.
	Part of 1.NBT.1	**NC.1.NBT.7**	Read and write numerals, and represent a number of objects with a written numeral, to 100.
Understand place value.		**Understand place value.**	
1.NBT.2	Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases: a. 10 can be thought of as a bundle of ten ones — called a "ten." b. The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones. c. The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).	**NC.1.NBT.2**	Understand that the two digits of a two-digit number represent amounts of tens and ones. • Unitize by making a ten from a collection of ten ones. • Model the numbers from 11 to 19 as composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones. • Demonstrate that the numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens, with 0 ones.
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 two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols >, =, and <.
Use place value understanding and properties of operations to add and subtract.		**Use place value understanding and properties of operations.**	
1.NBT.4	Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten.	**NC.1.NBT.4**	Add, within 100, using concrete models or drawings and strategies based on place value, and properties of operations in the following situations: • A two-digit number and a one-digit number. • A two-digit number and a multiple of 10.
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**	Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used.
1.NBT.6	Subtract multiples of 10 in the range 10-90 from multiples of 10 in the range 10-90 (positive or zero differences), using	**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 or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.		• Concrete models and drawings • Number lines • Strategies based on place value • Properties of operations • The relationship between addition and subtraction

Measurement and Data			
Current Standard Abbreviation	**Current Standard**	**Proposed Standard Abbreviation**	**First Draft Proposed Standard**
Measure lengths indirectly and by iterating length units.		**Measure lengths.**	
1.MD.1	Order three objects by length; compare the lengths of two objects indirectly by using a third object.	**NC.1.MD.1**	Order three objects by length; compare the lengths of two objects indirectly by using a third object.
1.MD.2	Express the length of an object as a whole number of length units, by laying multiple copies of a shorter object (the length unit) end to end; understand that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps. *Limit to contexts where the object being measured is spanned by a whole number of length units with no gaps or overlaps.*	**NC.1.MD.2**	Measure lengths with non-standard units. • Express the length of an object as a whole number of non-standard length units. • Measure by laying multiple copies of a shorter object (the length unit) end to end (iterating) with no gaps or overlaps.
Tell and write time.		**Build understanding of time and money.**	
1.MD.3	Tell and write time in hours and half-hours using analog and digital clocks.	**NC.1.MD.3**	Tell and write time in hours and half-hours using analog and digital clocks.
	NEW STANDARD	**NC.1.MD.5**	Identify quarters, dimes, and nickels, and relate their values to pennies.
Represent and interpret data.		**Represent and interpret data.**	
1.MD.4	Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another.	**NC.1.MD.4**	Organize, represent, and interpret data with up to three categories. • Ask and answer questions about the total number of data points. • Ask and answer questions about how many in each category. • Ask and answer questions about how many more or less are in one category than in another.

Geometry

Current Standard Abbreviation	Current Standard	Proposed Standard Abbreviation	First Draft Proposed Standard
Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres).		**Reason with shapes and their attributes.**	
1.G.1	Distinguish between defining attributes (e.g., triangles are closed and three-sided) versus non-defining attributes (e.g., color, orientation, overall size); build and draw shapes to possess defining attributes.	**NC.1.G.1**	Distinguish between defining and non-defining attributes; build and draw shapes with defining attributes.
1.G.2	Compose two-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles, and quarter-circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape, and compose new shapes from the composite shape. (Note: Students do not need to learn formal names such as "right rectangular prism.")	**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 shape. • Making a three-dimensional composite shape using cubes, right rectangular prisms, right circular cones, and right circular cylinders naming the components of the new shape.
1.G.3	Partition circles and rectangles into two and four equal shares, describe the shares using the words *halves*, *fourths*, and *quarters*, and use the phrases *half of*, *fourth of*, and *quarter of*. Describe the whole as two of, or four of the shares. Understand for these examples that decomposing into more equal shares creates smaller shares.	**NC.1.G.3**	Partition circles and rectangles into two and four equal shares. • Describe the shares as *halves* and *fourths*, as *half of* and *fourth of* • Describe the whole as two of, or four of the shares • Explain that decomposing into more equal shares creates smaller shares.

2nd 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			
Current Standard Abbreviation	**Current Standard**	**Proposed Standard Abbreviation**	**First Draft Proposed Standard**
Represent and solve problems involving addition and subtraction.		**Represent and solve problems.**	

2.OA.1	Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem. (See Glossary, Table 1.)	**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:
			• One-Step problems:
			  • Add to/Take from-Start Unknown
			  • Compare-Bigger Unknown
			  • Compare-Smaller Unknown
			• Two-Step problems involving single digits
			  • Add to/Take from- Change Unknown
			  • Add to/Take From- Result Unknown

Add and subtract within 20.		**Add and subtract within 20.**	
2.OA.2	Fluently add and subtract within 20 using mental strategies. (Note: See standard 1.0A.6 for a list of mental	**NC.2.OA.2**	Demonstrate fluency with addition and subtraction, within 20, using mental strategies.

	strategies). By end of Grade 2, know from memory all sums of two one-digit numbers.		
Work with equal groups of objects to gain foundations for multiplication.		**Work with equal groups.**	
2.OA.3	Determine whether a group of objects (up to 20) has an odd or even number of members, e.g., by pairing objects or counting them by 2s; write an equation to express an even number as a sum of two equal addends.	**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 equal groups. • Writing an equation to express an even number as a sum of two equal addends.
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 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.

Number and Operations in Base Ten			
Current Standard Abbreviation	**Current Standard**	**Proposed Standard Abbreviation**	**First Draft Proposed Standard**
Understand place value.		**Understand place value.**	
2.NBT.1	Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones. Understand the following as special cases: a. 100 can be thought of as a bundle of ten tens — called a "hundred." b. The numbers 100, 200, 300, 400, 500, 600, 700, 800, 900 refer to one, two, three, four, five, six, seven, eight, or nine hundreds (and 0 tens and 0 ones).	**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. • Demonstrate that the numbers 100, 200, 300, 400, 500, 600, 700, 800, 900 refer to one, two, three, four, five, six, seven, eight, or nine hundreds, with 0 tens and 0 ones. • Compose and decompose numbers using various groupings of hundreds, tens, and ones.
2.NBT.2	Count within 1000; skip-count by 5s, 10s, and 100s.	**NC.2.NBT.2**	Count within 1000; skip-count by 5s, 10s, and 100s.
2.NBT.3	Read and write numbers to 1000 using base-ten numerals, number names, and expanded form.	**NC.2.NBT.3**	Read and write numbers, within 1000, using base-ten numerals, number names, and expanded form.
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 two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using >, =, and < symbols to record the results of comparisons.
Use place value understanding and properties of operations to add and subtract.		**Use place value understanding and properties of operations.**	
2.NBT.5	Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.	**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 addition and subtraction. • Comparing addition and subtraction strategies, and explaining why they work. • Selecting an appropriate strategy to efficiently compute numbers.
2.NBT.6	Add up to four two-digit numbers using strategies based on place value and properties of operations.	**NC.2.NBT.6**	Add up to three two-digit numbers using strategies based on place value and properties of operations.
2.NBT.7	Add and subtract within 1000, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method. Understand that in adding or subtracting three-digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones; and sometimes it is necessary to compose or decompose tens or hundreds.	**NC.2.NBT.7**	Add and subtract, within 1000, using: • Concrete models or drawings • Strategies based on place value • Properties of operations • Relationship between addition and subtraction • Relate the strategy to a written method.

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**	Mentally add 10 or 100 to a given number 100–900, and mentally subtract 10 or 100 from a given number 100–900.
2.NBT.9	Explain why addition and subtraction strategies work, using place value and the properties of operations. (Note: Explanations may be supported by drawings or objects.)		***STANDARD REMOVED***

Measurement and Data			
Current Standard Abbreviation	**Current Standard**	**Proposed Standard Abbreviation**	**First Draft Proposed Standard**
Measure and estimate lengths in standard units.		**Measure and estimate lengths.**	
2.MD.1	Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.	**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.
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**	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.
2.MD.3	Estimate lengths using units of inches, feet, centimeters, and meters.	**NC.2.MD.3**	Estimate lengths using standard units of inches, feet, yards, centimeters, and meters.
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**	Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit.
Relate addition and subtraction to length.		**Relate addition and subtraction to length.**	
2.MD.5	Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units, e.g., by using drawings (such as drawings of rulers) and equations with a symbol for the unknown number to represent the problem.	**NC.2.MD.5**	Use addition and subtraction, within 100, 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.
2.MD.6	Represent whole numbers as lengths from 0 on a number line diagram with equally spaced points corresponding to the numbers 0, 1, 2, ..., and represent whole-number sums and differences within 100 on a number line diagram.	**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, within 100, on a number line diagram.
Work with time and money.		**Build understanding of time and money.**	
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**	Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.
2.MD.8	Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using $ and ¢ symbols appropriately. Example: If you have 2 dimes and 3 pennies, how many cents do you have?	**NC.2.MD.8**	Solve word problems involving: • Quarters, dimes, nickels, and pennies within 99¢, using ¢ symbols appropriately. • Whole dollar amounts, using the $ symbol appropriately.
Represent and interpret data.		**Represent and interpret data.**	
2.MD.9	Generate measurement data by measuring lengths of several objects to the nearest whole unit, or by making repeated measurements of the same object. Show the measurements by making a line plot, where the horizontal scale is marked off in whole-number units.		***STANDARD REMOVED***

2.MD.10	Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put-together, take-apart, and compare problems using information presented in a bar graph. (Note: See Glossary, Table 1.)	**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. • Solve simple put-together, take-apart, and compare problems using information presented in a bar graph.

Geometry			
Current Standard Abbreviation	**Current Standard**	**Proposed Standard Abbreviation**	**First Draft Proposed Standard**
Reason with shapes and their attributes.		**Reason with shapes and their attributes.**	
2.G.1	Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces. Identify triangles, quadrilaterals, pentagons, hexagons, and cubes. (Note: Sizes are compared directly or visually, not compared by measuring.)	**NC.2.G.1**	Recognize and draw triangles, quadrilaterals, pentagons, and hexagons, having specified attributes; recognize and describe attributes of rectangular prisms and cubes.
2.G.2	Partition a rectangle into rows and columns of same-size squares and count to find the total number of them.		***STANDARD REMOVED***
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, etc., and describe the whole as two halves, three thirds, four fourths. Recognize that equal shares of identical wholes need not have the same shape.	**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* • Describe the whole as two halves, three thirds, four fourths. • Explain that equal shares of identical wholes need not have the same shape.

3rd 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

Current Standard Abbreviation	Current Standard	Proposed Standard Abbreviation	First Draft Proposed Standard
Represent and solve problems involving multiplication and division.		**Represent and solve problems involving multiplication and division.**	
3.OA.1	Interpret products of whole numbers, e.g., interpret 5 × 7 as the total number of objects in 5 groups of 7 objects each. *For example, describe a context in which a total number of objects can be expressed as 5 × 7.*	**NC.3.OA.1**	Use strategies to solve multiplication problems using factors up to and including 10. Illustrate and explain strategies including arrays, decomposing a factor, and the commutative property.
3.OA.2	Interpret whole-number quotients of whole numbers, e.g., interpret 56 ÷ 8 as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each. *For example, describe a context in which a number of shares or a number of groups can be expressed as 56 ÷ 8.*	**NC.3.OA.2**	Use strategies, such as arrays and repeated subtraction, to solve division problems with a one-digit divisor and a one-digit quotient, to find the number of groups or the number in each group.
		Understand properties of multiplication and the relationship between multiplication and division.	
3.OA.3	Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations	**NC.3.OA.3**	Represent and solve problems relating three whole numbers involving multiplication and division. • Solve multiplication word problems with factors up to and including 10. Represent the problem using arrays, pictures,

	with a symbol for the unknown number to represent the problem.		and/or equations with a symbol for the unknown number to represent the problem. • Solve division word problems with a divisor and quotient up to and including 10. Represent the problem using arrays, pictures, repeated subtraction and/or equations with a symbol for the unknown number to represent the problem.
3.OA.4	Determine the unknown whole number in a multiplication or division equation relating three whole numbers. *For example, determine the unknown number that makes the equation true in each of the equations 8 × ? = 48, 5 = _ ÷ 3, 6 × 6 = ?*		***COMBINED WITH 3.OA.3***
Understand properties of multiplication and the relationship between multiplication and division.		**Understand the properties of multiplication.**	
3.OA.5	Apply properties of operations as strategies to multiply and divide.[2] *Examples: If 6 × 4 = 24 is known, then 4 × 6 = 24 is also known. (Commutative property of multiplication.) 3 × 5 × 2 can be found by 3 × 5 = 15, then 15 × 2 = 30, or by 5 × 2 = 10, then 3 × 10 = 30. (Associative property of multiplication.) Knowing that 8 × 5 = 40 and 8 × 2 = 16, one can find 8 × 7 as 8 × (5 + 2) = (8 × 5) + (8 × 2) = 40 + 16 = 56. (Distributive property.)*	**NC.3.OA.5**	Use strategies to solve multiplication problems using factors up to and including 10. Illustrate and explain strategies including arrays, decomposing a factor, and the commutative property.
3.OA.6	Understand division as an unknown-factor problem. *For example, find 32 ÷ 8 by finding the number that makes 32 when multiplied by 8.*		***COMBINED WITH 3.OA.5***
Multiply and divide within 100.		**Multiply and divide within 100.**	
3.OA.7	Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 × 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.	**NC.3.OA.7**	Demonstrate fluency with multiplication and division. • Demonstrate fluency with the multiplication of two whole numbers up to and including 10. • Know from memory all products with factors up to and including 10. • Demonstrate fluency with the division of a whole number where the divisor and quotient are both less than or equal to 10. • Illustrate and explain using the relationship between multiplication and division. • Determine the unknown whole number in a multiplication or division equation relating three whole numbers.
Solve problems involving the four operations, and identify and explain patterns in arithmetic.		**Solve two-step problems.**	

3.OA.8	Solve two-step word problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.	**NC.3.OA.8**	Solve two-step word problems using addition, subtraction, and multiplication.
3.OA.9	Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations. *For example, observe that 4 times a number is always even, and explain why 4 times a number can be decomposed into two equal addends.*	**Explore patterns of numbers**	
		NC.3.OA.9	Identify and explain patterns of multiplication on a hundreds board and/or multiplication table.

Number and Operations in Base Ten			
Current Standard Abbreviation	**Current Standard**	**Proposed Standard Abbreviation**	**First Draft Proposed Standard**
Use place value understanding and properties of operations to perform multi-digit arithmetic. (Note: A range of algorithms may be used.)		**Use place value to add and subtract.**	
3.NBT.1	Use place value understanding to round whole numbers to the nearest 10 or 100.		***STANDARD INCORPORATED INTO 3.NBT.2***
3.NBT.2	Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.	**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 between addition and subtraction can be applied to solve addition and subtraction problems. • Use expanded form to add and subtract whole numbers less than or equal to 1,000.
		Generalize place value understanding for multi-digit numbers.	
3.NBT.3	Multiply one-digit whole numbers by multiples of 10 in the range 10–90 (e.g., 9 × 80, 5 × 60) using strategies based on place value and properties of operations.	**NC.3.NBT.3**	Use models to find the product of a one-digit whole number by a multiple of 10 in the range 10–90.

Number and Operations – Fractions

Current Standard Abbreviation	Current Standard	Proposed Standard Abbreviation	First Draft Proposed Standard
Develop understanding of fractions as numbers.		**Understand fractions as numbers.**	
3.NF.1	Understand a fraction 1/*b* as the quantity formed by 1 part when *a* whole is partitioned into *b* equal parts; understand a fraction *a*/*b* as the quantity formed by a parts of size 1/*b*.	**NC.3.NF.1**	Understand 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.
3.NF.2	Understand a fraction as a number on the number line; represent fractions on a number line diagram. a. Represent a fraction 1/*b* on a number line diagram by defining the interval from 0 to 1 as the whole and partitioning it into *b* equal parts. Recognize that each part has size 1/*b* and that the endpoint of the part based at 0 locates the number 1/*b* on the number line. b. Represent a fraction *a*/*b* on a number line diagram by marking off a lengths 1/*b* from 0. Recognize that the resulting interval has size *a*/*b* and that its endpoint locates the number *a*/*b* on the number line.	**NC.3.NF.2**	Explain that a fraction with a numerator greater than one can be composed by repeatedly adding the unit fraction. Represent fractions with denominators or 2, 3, 4, 6, and 8 with area models and on a number line.
3.NF.3	Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size. a. Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line. b. Recognize and generate simple equivalent fractions, e.g., 1/2 = 2/4, 4/6 = 2/3). Explain why the fractions are equivalent, e.g., by using a visual fraction model. c. Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. *Examples: Express 3 in the form 3 = 3/1; recognize that 6/1 = 6; locate 4/4 and 1 at the same point of a number line diagram.*	**NC.3.NF.3**	Represent equivalent fractions with area and length models by composing and decomposing fractions into equivalent fractions using related fractions: halves, fourths and eighths; thirds and sixths.
	d. Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.	**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 when the two fractions refer to the same whole with denominators: halves, fourths and eighths; thirds and sixths.

Measurement and Data			
Current Standard Abbreviation	**Current Standard**	**Proposed Standard Abbreviation**	**First Draft Proposed Standard**
Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects.		**Solve problems involving measurement.**	
3.MD.1	Tell and write time to the nearest minute and measure time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes, e.g., by representing the problem on a number line diagram.	**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.
3.MD.2	Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l).[1] Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem. (Note: Excludes multiplicative comparison problems- problems involving notions of "times as much"; see Glossary, Table 2.)	**NC.3.MD.2**	Solve problems involving customary measurement. • Estimate and measure lengths in customary units to the quarter-inch and half-inch, and feet and yards to the whole unit. • Estimate and measure capacity and weight in customary units to a whole number: cups, pints, quarts, gallons, ounces, and pounds. • Add, subtract, multiply, or divide to solve one-step word problems involving whole number measurements of length, weight, and capacity in the same customary units.
Represent and interpret data.			
3.MD.3	Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step "how many more" and "how many less" problems using information presented in scaled bar graphs. *For example, draw a bar graph in which each square in the bar graph might represent 5 pets.*	**NC.3.MD.3**	Use scaled picture and bar graphs to: • 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 scaled bar graph with axes provided. • Solve one- and two-step "how many more" and "how many less" problems using information from these graphs.
3.MD.4	Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units— whole numbers, halves, or quarters.		***STANDARD INCORPORATED WITH 3.MD.2; LINE PLOT MOVED TO 4TH GRADE.***
Geometric measurement: understand concepts of area and relate area to multiplication and to addition.		**Understand the concept of area.**	
3.MD.5	Recognize area as an attribute of plane figures and understand concepts of area measurement. a. A square with side length 1 unit, called "a unit square," is said to have "one square unit" of area, and can be used to measure area.	**NC.3.MD.5**	Find the area of a rectangle with whole-number side lengths by tiling the shape and counting unit squares.

	b. A plane figure which can be covered without gaps or overlaps by n unit squares is said to have an area of n square units.		
3.MD.6	Measure areas by counting unit squares (square cm, square m, square in., square ft, and improvised units).		***COMBINED WITH 3.MD.5***
3.MD.7	Relate area to the operations of multiplication and addition. a. Find the area of a rectangle with whole-number side lengths by tiling it, and show that the area is the same as would be found by multiplying the side lengths. b. Multiply side lengths to find areas of rectangles with whole-number side lengths in the context of solving real world and mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning. c. Use tiling to show in a concrete case that the area of a rectangle with whole-number side lengths a and $b + c$ is the sum of $a \times b$ and $a \times c$. Use area models to represent the distributive property in mathematical reasoning. d. Recognize area as additive. Find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts, applying this technique to solve real world problems.	**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 the area is the same as would be found by multiplying the side lengths. • Multiply side lengths to find areas of rectangles with whole-number side lengths in the context of solving problems, and represent whole-number products as rectangular areas in mathematical reasoning. • Use tiles and/or arrays to illustrate and explain that the area of a rectangle can be found by partitioning it into two smaller rectangles, and that the area of the large rectangle is the sum of the two smaller rectangles.
		Understand the concept of perimeter.	
3.MD.8	Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.	**NC.3.MD.8**	Solve problems involving perimeters of polygons, including finding the perimeter given the side lengths, and finding an unknown side length.

Geometry			
Current Standard Abbreviation	**Current Standard**	**Proposed Standard Abbreviation**	**First Draft Proposed Standard**
Reason with shapes and their attributes.		**Reason with shapes and their attributes.**	
3.G.1	Understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories.	**NC.3.G.1**	Reason with shapes and their attributes. • Recognize examples and non-examples of types of quadrilaterals. Draw examples of quadrilaterals that do not belong to any of these subcategories. • Describe the attributes of rhombuses, rectangles, squares, parallelograms, and trapezoids based on their side lengths, number of parallel sides, and the presence or absence of right angles.
3.G.2	Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole. *For example, partition a shape into 4 parts with equal area, and describe the area of each part as 1/4 of the area of the shape.*		***STANDARD INCORPORATED INTO 3.NF – AREA MODELS***

4^{th} 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

Current Standard Abbreviation	Current Standard	Proposed Standard Abbreviation	First Draft Proposed Standard
Use the four operations with whole numbers to solve problems.		**Represent and solve problems involving multiplication and division.**	
4.OA.1	Interpret a multiplication equation as a comparison, e.g., interpret 35 = 5 × 7 as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as multiplication equations.	**NC.4.OA.1**	Explain a multiplication equation as a comparison. Multiply or divide to solve word problems involving multiplicative comparison using models and equations with a symbol for the unknown number.
4.OA.2	Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.(Note: See Glossary, Table 2.)	**NC.4.OA.2**	***STANDARD INCORPORATED INTO 4.OA.1***
4.OA.3	Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.	**NC.4.OA.3**	Solve two- step word problems involving the four operations with whole numbers. • Use estimation strategies to assess reasonableness of answers • Interpret remainders in word problems. • Represent problems using equations with a letter standing for the unknown quantity.

Gain familiarity with factors and multiples.		**Gain familiarity with factors and multiples.**	
4.OA.4	Find all factor pairs for a whole number in the range 1–100. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1–100 is a multiple of a given one-digit number. Determine whether a given whole number in the range 1–100 is prime or composite.	**NC.4.OA.4**	Find all factor pairs for whole numbers up to and including 50 to: • Recognize that a whole number is a multiple of each of its factors. • Determine whether a given whole number is a multiple of a given one-digit number. • Determine if the number is prime or composite.
Generate and analyze patterns.		**Explore patterns of numbers.**	
4.OA.5	Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself. *For example, given the rule "Add 3" and the starting number 1, generate terms in the resulting sequence and observe that the terms appear to alternate between odd and even numbers. Explain informally why the numbers will continue to alternate in this way.*	**NC.4.OA.5**	Identify and explain patterns of multiplication and division using a table.

Number and Operations in Base Ten

Current Standard Abbreviation	Current Standard	Proposed Standard Abbreviation	First Draft Proposed Standard
Generalize place value understanding for multi-digit whole numbers.		**Generalize place value understanding for multi-digit whole numbers.**	
4.NBT.1	Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right. *For example, recognize that 700 ÷ 70 = 10 by applying concepts of place value and division.*	**NC.4.NBT.1**	Explain that in a multi-digit whole number, a digit in one place represents 10 times as much as it represents in the place to its right, up to 100,000.
4.NBT.2	Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Compare two multi-digit numbers based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.	**NC.4.NBT.2**	Read and write multi-digit whole numbers up to and including 100,000 using numerals, number names and expanded form.
	PART OF 4.NBT.2	**NC.4.NBT.7**	Compare two multi-digit numbers up to and including 100,000 based on meanings of the digits in each place.
4.NBT.3	Use place value understanding to round multi-digit whole numbers to any place.		***STANDARD INCORPORATED INTO 4.OA.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.**	
4.NBT.4	Fluently add and subtract multi-digit whole numbers using the standard algorithm.	**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.
4.NBT.5	Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.	**NC.4.NBT.5**	Multiply a whole number of up to three digits by a one-digit whole number, and multiply up to two two-digit numbers with place value understanding using area models, partial products, and the properties of operations.
4.NBT.6	Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.	**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, repeated subtraction, partial quotients, and/or the relationship between multiplication and division.

Number and Operations – Fractions			
Current Standard Abbreviation	**Current Standard**	**Proposed Standard Abbreviation**	**First Draft Proposed Standard**
Extend understanding of fraction equivalence and ordering.		**Extend understanding of fractions.**	
4.NF.1	Explain why a fraction a/b is equivalent to a fraction $(n \times a)/(n \times b)$ by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size.	**NC.4.NF.1**	Model and explain why an equivalent fraction can be created by multiplying any fraction by a fraction equivalent to 1.
4.NF.2	Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction such as 1/2. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.	**NC.4.NF.2**	Compare two fractions having different numerators and different denominators, using the denominators 2, 3, 4, 5, 6, 8, 10, 12, and 100 by: • Reasoning about their size and using area and length models. • Using benchmark fractions 0, ½, and a whole.
Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.		**Use unit fractions to understand operations of fractions.**	
4.NF.3	Understand a fraction a/b with $a > 1$ as a sum of fractions $1/b$. a. Understand addition and subtraction of fractions as joining and separating parts referring to the same whole. b. Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. Justify decompositions, e.g., by using a visual fraction model. *Examples: 3/8 = 1/8 + 1/8 + 1/8 ; 3/8 = 1/8 + 2/8 ; 2 1/8 = 1 + 1 + 1/8 = 8/8 + 8/8 + 1/8.*	**NC.4.NF.3**	Decompose a fraction with a denominator of 2, 3, 4, 5, 6, 8, 10, 12, or 100 into a sum of fractions with the same denominator in more than one way using area models, length models, and equations.
	c. Add and subtract mixed numbers with like denominators, e.g., by replacing each mixed number with an equivalent fraction, and/or by using properties of operations and the relationship between addition and subtraction.	**NC.4.NF.8**	Add and subtract fractions, including mixed numbers, with like denominators of 2, 3, 4, 5, 6, 8, 10, 12, and 100, by: • Using area and length models • Replacing each mixed number with an equivalent fraction • Using properties of operations and the relationship between addition and subtraction.
	d. Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators, e.g., by using visual fraction models and equations to represent the problem.	**NC.4.NF.9**	Solve word problems involving addition and subtraction of fractions, including mixed numbers, with like denominators of 2, 3, 4, 5, 6, 8, 10, 12, and 100 by writing equations from visual representation of the problem.
4.NF.4	Apply and extend previous understandings of multiplication to multiply a fraction by a whole number.	**NC.4.NF.4**	Multiply fractions and whole numbers by:

	a. Understand a fraction *a*/*b* as a multiple of 1/*b*. *For example, use a visual fraction model to represent 5/4 as the product 5 × (1/4), recording the conclusion by the equation 5/4 = 5 × (1/4).* b. Understand a multiple of a/b as a multiple of 1/b, and use this understanding to multiply a fraction by a whole number. *For example, use a visual fraction model to express 3 × (2/5) as 6 × (1/5), recognizing this product as 6/5. (In general, n × (a/b) = (n × a)/b.)* c. Solve word problems involving multiplication of a fraction by a whole number, e.g., by using visual fraction models and equations to represent the problem. *For example, if each person at a party will eat 3/8 of a pound of roast beef, and there will be 5 people at the party, how many pounds of roast beef will be needed? Between what two whole numbers does your answer lie?*		• Modeling and explaining how a fraction can be represented by multiplying a whole number by a unit fraction. • Modeling and explaining how a multiplication problem between a whole number and a fraction is equal to a problem involving a whole number and a unit fraction with the same denominator. • Solving word problems involving multiplication of a fraction by a whole number by writing equations from visual representation of the problem.
Understand decimal notation for fractions, and compare decimal fractions.		**Understand decimals.**	
4.NF.5	Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100.[2] *For example, express 3/10 as 30/100, and add 3/10 + 4/100 = 34/100.*	**NC.4.NF.5**	***STANDARD INCORPORATED INTO 4.NF.6***
4.NF.6	Use decimal notation for fractions with denominators 10 or 100. *For example, rewrite 0.62 as 62/100; describe a length as 0.62 meters; locate 0.62 on a number line diagram.*	**NC.4.NF.6**	Use decimal notation to represent fractions. • Model and explain the equivalence between fractions with denominators of 10 and 100 and use this technique to add two fractions with respective denominators of 10 and 100. • Represent tenths and hundredths with concrete models, making connections between fractions and decimals.
4.NF.7	Compare two decimals to hundredths by reasoning about their size. Recognize that comparisons are valid only when the two decimals refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual model.	**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 symbols >, =, or <.

Measurement and Data			
Current Standard Abbreviation	**Current Standard**	**Proposed Standard Abbreviation**	**First Draft Proposed Standard**
Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.		**Solve problems involving measurement.**	
4.MD.1	Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table. *For example, know that 1 ft is 12 times as long as 1 in. Express the length of a 4 ft snake as 48 in. Generate a conversion table for feet and inches listing the number pairs (1, 12), (2, 24), (3, 36), ...*	**NC.4.MD.1**	Solve problems involving metric measurement. • Measure to solve problems involving metric units: centimeter, meter, gram, kilogram, Liter. • Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit using a two-column table. • Add, subtract, multiply and divide to solve one-step word problems involving whole number measurements of length, mass, and capacity that are given in metric units.
4.MD.2	Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.	**NC.4.MD.2**	***STANDARD INCORPORATED INTO 4.MD.3***
4.MD.3	Apply the area and perimeter formulas for rectangles in real world and mathematical problems. *For example, find the width of a rectangular room given the area of the flooring and the length, by viewing the area formula as a multiplication equation with an unknown factor.*	**NC.4.MD.3**	Solve problems with area and perimeter. • Find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts, applying this technique to solve real world problems. • Solve problems involving a fixed area and varying perimeters and a fixed perimeter and varying areas. • Apply the area and perimeter formulas for rectangles in real world and mathematical problems.
Represent and interpret data.		**Represent and interpret data.**	
4.MD.4	Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Solve problems involving addition and subtraction of fractions by using information presented in line plots. *For example, from a line plot find and interpret the difference in length between the longest and shortest specimens in an insect collection.*	**NC.4.MD.4**	Represent and interpret data. • Collect data by asking a question that yields numerical data. • Make a representation of data and interpret data in a frequency table, scaled bar graph, and/or line plot. • Determine whether a survey question will yield categorical or numerical data.
Geometric measurement: understand concepts of area and relate area to multiplication and to addition.		**Understand angles.**	

4.MD.5	Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement: a. An angle is measured with reference to a circle with its center at the common endpoint of the rays, by considering the fraction of the circular arc between the points where the two rays intersect the circle. An angle that turns through 1/360 of a circle is called a “one-degree angle,” and can be used to measure angles. b. An angle that turns through *n* one-degree angles is said to have an angle measure of *n* degrees.	**NC.4.MD.5**	***STANDARD INCORPORATED INTO 4.MD.6***
4.MD.6	Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.	**NC.4.MD.6**	Develop an understanding of angles and angle measurement. • Measure and sketch angles in whole-number degrees using a protractor. • Solve addition and subtraction problems to find unknown angles on a diagram in real world and mathematical problems.
4.MD.7	Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts. Solve addition and subtraction problems to find unknown angles on a diagram in real world and mathematical problems, e.g., by using an equation with a symbol for the unknown angle measure.	**NC.4.MD.7**	***STANDARD INCORPORATED INTO 4.MD.6***

Geometry

Current Standard Abbreviation	Current Standard	Proposed Standard Abbreviation	First Draft Proposed Standard
Draw and identify lines and angles, and classify shapes by properties of their lines and angles.		**Classify shapes based on lines and angles in two-dimensional figures.**	
4.G.1	Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.	**NC.4.G.1**	Draw and identify points, lines, line segments, rays, angles, and perpendicular and parallel lines.
4.G.2	Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a specified size. Recognize right triangles as a category, and identify right triangles.	**NC.4.G.2**	Classify quadrilaterals and triangles based on angle measure, side lengths, and the presence or absence of parallel or perpendicular lines.
4.G.3	Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts. Identify line-symmetric figures and draw lines of symmetry.	**NC.4.G.3**	Recognize symmetry in a figure, and identify and draw lines of symmetry.

5th 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

Current Standard Abbreviation	Current Standard	Proposed Standard Abbreviation	First Draft Proposed Standard
Write and interpret numerical expressions		**Write, explain, and evaluate expressions.**	
5.OA.1	Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.	**NC.5.OA.1**	***STANDARD INCORPORATED IN 5.OA.2***
5.OA.2	Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them. *For example, express the calculation "add 8 and 7, then multiply by 2" as 2 × (8 + 7). Recognize that 3 × (18932 + 921) is three times as large as 18932 + 921, without having to calculate the indicated sum or product.*	**NC.5.OA.2**	Write and explain numerical expressions involving the four operations, and use them to solve problems. Include expressions involving: • Parentheses, using the order of operations. • Commutative, associative and distributive properties.
Analyze patterns and relationships.		**Understand the properties of multiplication.**	
5.OA.3	Generate two numerical patterns using two given rules. Identify apparent relationships between corresponding terms. Form ordered pairs consisting of corresponding terms from the two patterns, and graph the ordered pairs on a coordinate plane. *For example, given the rule "Add 3" and the starting number 0, and given the rule "Add 6" and the starting number 0, generate terms in the resulting sequences, and observe that the terms in one sequence are twice the corresponding terms in the other sequence. Explain informally why this is so.*	**NC.5.OA.3**	Generate two numerical patterns using two given rules. • Identify apparent relationships between corresponding terms. • Form ordered pairs consisting of corresponding terms from the two patterns. • Graph the ordered pairs on a coordinate plane.

Number and Operations in Base Ten

Current Standard Abbreviation	Current Standard	Proposed Standard Abbreviation	First Draft Proposed Standard
Understand the place value system.		**Generalize place value understanding for multi-digit numbers.**	
5.NBT.1	Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and 1/10 of what it represents in the place to its left.	**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, a digit in one place represents 10 times as much as it represents in the place to its right and 1/10 of what it represents in the place to its left. • Explain patterns in products and quotients when numbers are multiplied by 1,000, 100, 10, 0.1, and 0.01 and/or divided by 10 and 100.
5.NBT.2	Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10.		***STANDARD INCORPORATED INTO 5. NBT.1 CONCEPTS OF EXPONENTS TO DENOTE POWERS OF 10 MOVED TO SIXTH GRADE.***
5.NBT.3	Read, write, and compare decimals to thousandths. a. Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., 347.392 = 3 × 100 + 4 × 10 + 7 × 1 + 3 × (1/10) + 9 × (1/100) + 2 × (1/1000). b. Compare two decimals to thousandths based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.	**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 expanded form. • Compare two decimals to thousandths using the >, <, and = symbols.
5.NBT.4	Use place value understanding to round decimals to any place.		***STANDARD INCORPORATED INTO 5.NBT.7.***
Perform operations with multi-digit whole numbers and decimals to hundredths.		**Compute with multi-digit whole numbers and decimal numbers.**	
5.NBT.5	Fluently multiply multi-digit whole numbers using the standard algorithm.	**NC.5.NBT.5**	Demonstrate fluency with the multiplication of two whole numbers up to a three-digit number by a two-digit number using the standard algorithm.
5.NBT.6	Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate	**NC.5.NBT.6**	Find whole-number quotients and remainders with up to four-digit dividends and two-digit divisors using rectangular arrays, area models, repeated subtraction, partial quotients, and/or the relationship between multiplication and division. Introduce the standard algorithm for division.

	and explain the calculation by using equations, rectangular arrays, and/or area models.		
5.NBT.7	Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.	**NC.5.NBT.7**	Perform operations with decimals to hundredths. • Use estimation strategies to assess reasonableness of answers. • Add, subtract, and multiply decimals to hundredths using concrete models, drawings or strategies based on place value. • Divide decimals using repeated subtraction or area models. • Represent and solve real-world problems involving decimals.

Number and Operations – Fractions			
Current Standard Abbreviation	**Current Standard**	**Proposed Standard Abbreviation**	**First Draft Proposed Standard**
Use equivalent fractions as a strategy to add and subtract fractions.		**Add and subtract fractions.**	
5.NF.1	Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. *For example, 2/3 + 5/4 = 8/12 + 15/12 = 23/12. (In general, a/b + c/d = (ad + bc)/bd.)*	**NC.5.NF.1**	Add and subtract fractions, including mixed numbers, with unlike denominators using related fractions: halves, fourths and eighths; thirds sixths and twelfths; fifths, tenths, and hundredths. • Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers. • Solve one and two-step word problems in context using area and length models. Represent the word problem in an equation.
5.NF.2	Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers. *For example, recognize an incorrect result 2/5 + 1/2 = 3/7, by observing that 3/7 < 1/2.*	**NC.5.NF.2**	***STANDARD INCORPORATED INTO 5.NF.1***
Apply and extend previous understandings of multiplication and division to multiply and divide fractions.		**Multiply and divide fractions.**	
5.NF.3	Interpret a fraction as the division of numerator by the denominator ($a/b = a \div b$). Solve word problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers, e.g., by using visual fraction models or equations to represent the problem. *For example, interpret 3/4 as the result of dividing 3 by 4, noting that 3/4 multiplied by 4 equals 3, and that when 3 wholes are shared equally among 4 people each person has a share of size 3/4. If 9 people want to share a 50-pound sack of rice equally by weight, how many pounds of rice should each person get? Between what two whole numbers does your answer lie?*	**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 denominator. • Solve word problems involving division of whole numbers leading to answers in the form of fractions and mixed numbers, with denominators of 2, 3, 4, 5, 6, 8, 10, 12, and 100 using area, length, and set models or equations.
5.NF.4	Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction. a. Interpret the product $(a/b) \times q$ as a parts of a partition of q into b equal parts; equivalently, as the result of a sequence of operations $a \times q \div b$. *For example, use a visual fraction model to show (2/3) × 4 = 8/3, and*	**NC.4.NF.4**	Solve one-step word problems involving multiplication of fractions, including mixed numbers, with the denominators 2, 3, 4, 5, 6, 8, 10, 12, and 100. • Multiply a fraction or whole number by a fraction using area models and equations.

	create a story context for this equation. Do the same with (2/3) × (4/5) = 8/15. (In general, (a/b) × (c/d) = ac/bd.) b. Find the area of a rectangle with fractional side lengths by tiling it with unit squares of the appropriate unit fraction side lengths, and show that the area is the same as would be found by multiplying the side lengths. Multiply fractional side lengths to find areas of rectangles, and represent fraction products as rectangular areas.		• Explain why multiplying a given number by a fraction greater than 1 results in a product greater than the given number and when multiplying a given number by a fraction less than 1 results in a product smaller than the given number.
5.NF.5	Interpret multiplication as scaling (resizing), by: a. Comparing the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication. b. Explaining why multiplying a given number by a fraction greater than 1 results in a product greater than the given number (recognizing multiplication by whole numbers greater than 1 as a familiar case); explaining why multiplying a given number by a fraction less than 1 results in a product smaller than the given number; and relating the principle of fraction equivalence $a/b = (n \times a)/(n \times b)$ to the effect of multiplying a/b by 1.	**NC.5.NF.5**	***STANDARD INCORPORATED INTO 5.NF.4***
5.NF.6	Solve real world problems involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or equations to represent the problem.	**NC.5.NF.6**	***STANDARD INCORPORATED INTO 5.NF.4***
5.NF.7	Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions. *(Note: Students able to multiply fractions in general can develop strategies to divide fractions in general, by reasoning about the relationship between multiplication and division. But division of a fraction by a fraction is not a requirement at this grade.)* a. Interpret division of a unit fraction by a non-zero whole number, and compute such quotients. *For example, create a story context for (1/3) ÷ 4, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that (1/3) ÷ 4 = 1/12 because (1/12) × 4 = 1/3.* b. Interpret division of a whole number by a unit fraction, and compute such quotients. *For example,*	**NC.5.NF.7**	Solve one-step word problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions using area and length models and equations to represent the problem.

	create a story context for 4 ÷ (1/5), and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that 4 ÷ (1/5) = 20 because 20 × (1/5) = 4. *c.* Solve real world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions, e.g., by using visual fraction models and equations to represent the problem. *For example, how much chocolate will each person get if 3 people share 1/2 lb of chocolate equally? How many 1/3-cup servings are in 2 cups of raisins?*		

Measurement and Data			
Current Standard Abbreviation	**Current Standard**	**Proposed Standard Abbreviation**	**First Draft Proposed Standard**
Convert like measurement units within a given measurement system.			
5.MD.1	Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real world problems.	**NC.5MD.1**	Solve problems involving the conversion of metric units of length: millimeter, centimeter, meter, kilometer.
Represent and interpret data.		**Represent and interpret data.**	
5.MD.2	Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Use operations on fractions for this grade to solve problems involving information presented in line plots. *For example, given different measurements of liquid in identical beakers, find the amount of liquid each beaker would contain if the total amount in all the beakers were redistributed equally.*	**NC.5.MD.2**	Represent and interpret data. • Collect data by asking a question that yields data that changes over time. • Make and interpret a representation of data line graph. • Determine whether a survey question will yield categorical or numerical data, or data that changes over time.
Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition.		**Understand concepts of volume.**	
5.MD.3	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. A solid figure which can be packed without gaps or overlaps using *n* unit cubes is said to have a volume of *n* cubic units.		***STANDARD INCORPORATED INTO 5.MD.4***
5.MD.4	Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and improvised units.	**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, cubic ft., and improvised units.
5.MD.5	Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume. a. Find the volume of a right rectangular prism with whole-number side lengths by packing it with unit cubes, and show that the volume is the same as would be found by multiplying the edge lengths, equivalently by multiplying the height by the area of the base. Represent threefold whole-number	**NC.5.MD.5**	Relate volume to the operations of multiplication and addition. • Find the volume of a right rectangular prism with whole-number side lengths by packing it with unit cubes, and show that the volume is the same as would be found by multiplying the edge lengths. • Build understanding of the volume formula for rectangular prisms with whole-number edge lengths in the context of solving problems.

	products as volumes, e.g., to represent the associative property of multiplication. b. Apply the formulas $V = l \times w \times h$ and $V = b \times h$ for rectangular prisms to find volumes of right rectangular prisms with whole-number edge lengths in the context of solving real world and mathematical problems. c. Recognize volume as additive. Find volumes of solid figures composed of two non-overlapping right rectangular prisms by adding the volumes of the non-overlapping parts, applying this technique to solve real world problems.		• Find volume of solid figures with one-digit dimensions composed of two non-overlapping right rectangular prisms.

Geometry			
Current Standard Abbreviation	**Current Standard**	**Proposed Standard Abbreviation**	**First Draft Proposed Standard**
Graph points on the coordinate plane to solve real-world and mathematical problems.		**Understand the coordinate plane.**	
5.G.1	Use a pair of perpendicular number lines, called axes, to define a coordinate system, with the intersection of the lines (the origin) arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates. Understand that the first number indicates how far to travel from the origin in the direction of one axis, and the second number indicates how far to travel in the direction of the second axis, with the convention that the names of the two axes and the coordinates correspond (e.g., *x*-axis and *x*-coordinate, *y*-axis and *y*-coordinate).	**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.
5.G.2	Represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation.		***STANDARD INCORPORATED INTO 5.G.1***
Classify two-dimensional figures into categories based on their properties.			
5.G.3	Understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category. For example, all rectangles have four right angles and squares are rectangles, so all squares have four right angles.	**NC.5.G.3**	Classify quadrilaterals into categories based on their properties. • Explain that attributes belonging to a category of quadrilaterals also belong to all subcategories of that category. • Classify quadrilaterals in a hierarchy based on properties.
5.G.4	Classify two-dimensional figures in a hierarchy based on properties.		***STANDARD INCORPORATED INTO 5.G.3***