Kindergarten Thru Grade 5 Alabama New Math Standards are virtual duplicates of Common Core State Standards as seen in yellow highlights.

A Side-by-Side Comparison of the Kindergarten Standards in the 2019 Alabama Course of Study: Mathematics and the Common Core State Standards for Mathematics

	2019 Alabama Course of Study: Mathematics		Common Core State Standards for Mathematics
1	Count forward orally from 0 to 100 by ones and by tens. Count backward orally from 10 to 0 by ones.	K.CC.1	Count to 100 by ones and by tens.
2	Count to 100 by ones beginning with any given number between 0 and 99.	K.CC.2	Count forward beginning from a given number within the known sequence (instead of having to begin at 1).
3	Write numerals from 0 to 20. a. Represent 0 to 20 using concrete objects when given a written numeral from 0 to 20 (with 0 representing a count of no objects).	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).
4	4. Connect counting to cardinality using a variety of concrete objects. a. Say the number names in consecutive order when counting objects. b. Indicate that the last number name said tells the number of objects counted in a set. c. Indicate that the number of objects in a set is the same regardless of their arrangement or the order in which they were counted. d. Explain at each successive number name refers to a quantity that is one larger.	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 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.
5	Count to answer "how many?" questions. a. Count using no more than 20 concrete objects arranged in a line, a rectangular array, or a circle. b. Count using no more than 10 concrete objects in a scattered configuration. c. Draw the number of objects that matches a given numeral from 0 to 20.	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.
6	Orally identify whether the number of objects in one group is greater/more than, less/fewer than, or equal/the same as the number of objects in another group, in groups containing up to 10 objects, by using matching, counting, and other strategies.	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.
7	Compare two numbers between 0 and 10 presented as written numerals (without using inequality symbols).	K.CC.7	Compare two numbers between 1 and 10 presented as written numerals.
8	Represent addition and subtraction up to 10 with concrete objects, fingers, pennies, mental images, drawings, claps or other sounds, acting out situations, verbal explanations, expressions, or equations.	K.OA .1	Represent addition and subtraction with objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations.

9	Solve addition and subtraction word problems, and add and subtract within 10, by using concrete objects or drawings to represent the problem.	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.
10	Decompose numbers less than or equal to 10 into pairs of smaller numbers in more than one way, by using concrete objects or drawings, and record each decomposition by a drawing or equation. Example: 5 = 2 + 3 and 5 = 4 + 1	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).
11	For any number from 0 to 10, find the number that makes 10 when added to the given number, by using concrete objects or drawings, and record the answer with 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.
12	Fluently add and subtract within 5.	K.OA .5	Fluently add and subtract within 5.
13	Duplicate and extend simple patterns using concrete objects.		
14	Compose and decompose numbers from 11 to 19 by using concrete objects or drawings to demonstrate understanding that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones.	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 (e.g., 18 = 10 + 8); understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones.
15	Classify objects into given categories of 10 or fewer; count the number of objects in each category and sort the categories by count.	K.MD.3	Classify objects into given categories; count the numbers of objects in each category and sort the categories by count.
16	Identify and describe measurable attributes (length, weight, height) of a single object using vocabulary such as long/short, heavy/light, or tall/short.	K.MD.1	Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object.
17	Directly compare two objects with a measurable attribute in common to see which object has "more of " or "less of" the attribute and describe the difference. Example: Directly compare the heights of two children and describe one child as "taller " or "shorter. "	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.*
18	Describe objects in the environment using names of shapes, and describe the relative positions of these objects using terms such as above, be/ow, beside, in front of, behind, and next to.	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*.
19	Correctly name shapes regardless of their orientations or overall sizes.	K.G.2	Correctly name shapes regardless of their orientations or overall size.
20	Identify shapes as two-dimensional (lying in a plane, "flat") or three-dimensional ("solid').	K.G.3	Identify shapes as two-dimensional (lying in a plane, “flat”) or three-dimensional (“solid”).
21	Analyze and compare two- and three-dimensional shapes, in different sizes and orientations, using informal language to describe their similarities, differences, parts (number of sides and vertices or "comers"), and other attributes. Example: having sides of equal length	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).
22	Model shapes in the world by building them from sticks, clay balls, or other components and by drawing them.	K.G.5	Model shapes in the world by building shapes from components (e.g., sticks and clay balls) and drawing shapes.
23	Use simple shapes to compose larger shapes. Example: Join two triangles with full sides touching to make a rectangle.	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?”*

A Side-by-Side Comparison of the First Grade Standards
in the
2019 Alabama Course of Study: Mathematics and the Common Core State Standards for Mathematics

	2019 Alabama Course of Study: Mathematics		Common Core State Standards for Mathematics
1	Use addition and subtraction to solve word problems within 20 by using concrete objects, drawings, and equations with a symbol for the unknown number to represent the problem. a. Add to with change unknown to solve word problems within 20. b. Take from with change unknown to solve word problems within 20. c. Put together/take apart with addend unknown to solve word problems within 20. d. Compare quantities, with difference unknown, bigger unknown, and smaller unknown while solving word problems within 20.	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.
2	Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20 by using concrete objects, drawings, or equations with a symbol for the unknown number to represent the problem.	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.
3	Apply properties of operations as strategies to add and subtract. 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 and third numbers can be added to make a ten, so 2 + 6 + 4 = 2 + 10 = 12 (associative property of addition). When adding 0 to a number, the result is the same number (identity property of zero for addition).	1.OA.3	Apply properties of operations as strategies to add and subtract. *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.)*
4	Explain subtraction as an unknown-addend problem. Example: subtracting 10 - 8 by finding the number that makes 10 when added to 8	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.*
5	Relate counting to addition and subtraction Example: counting on 2 to add 2	1.OA.5	Relate counting to addition and subtraction (e.g., by counting on 2 to add 2).
6	Add and subtract within 20. a. Demonstrate fluency with addition and subtraction facts with sums or differences to 10 by counting on. b. Demonstrate fluency with addition and subtraction facts with sums or differences to 10 by making ten. c. Demonstrate fluency with addition and subtraction facts with sums or differences to 10 by decomposing a number leading to a ten. Example: 13 – 4 = 13 – 3 – 1 = 10 – 1 = 9 d. Demonstrate fluency with addition and subtraction facts with sums or differences to 10 by using the relationship between addition and subtraction. Example: Knowing that 8 + 4 = 12, one knows 12 – 8 = 4	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).

	e. Demonstrate fluency with addition and subtraction facts with sums or differences to 10 by creating equivalent but easier or known sums. Example: adding 6 + 7 by creating the known equivalent 6 + 6 + 1 = 12 + 1 = 13		
7	Explain that the equal sign means "the same as." Determine whether equations involving addition and subtraction are true or false. Example: determining which of the following equations are true and which are false: 6 = 6, 7 = 8 – 1, 5 + 2 = 2 + 5, 4 + 1 = 5 + 2	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.*
8	Solve for the unknown whole number in various positions in an addition or subtraction equation, relating three whole numbers that would make it true. Example: determining the unknown number that makes the equation true in each of the equations 8 + ? = 11, 5 = ? – 3, 6 + 6 = ?.	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 = □.*
9	Reproduce, extend, and create patterns and sequences of numbers using a variety of materials.		
10	Extend the number sequence from 0 to 120. a. Count forward and backward by ones, starting at any number less than 120. b. Read numerals from 0 to 120. c. Write numerals from 0 to 120. d. Represent a number of objects from 0 to 120 with a written numeral.	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.
11	Explain that the two digits of a two-digit number represent amounts of tens and ones. a. Identify a bundle of ten ones as a "ten." b. Identify the numbers from 11 to 19 as composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones. c. Identify the numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 as one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).	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).
12	Compare pairs of two-digit numbers based on the values of the tens and ones digits, recording the results of comparisons with the symbols >, =, and < and orally with the words "is greater than," "is equal to," and "is less than."	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 <.
13	Add within 100, using concrete models or drawings and strategies based on place value. a. Add a two-digit number and a one-digit number. b. Add a two-digit number and a multiple of 10. c. Demonstrate that in adding two-digit numbers, tens are added to tens, ones are added to ones, and sometimes it is necessary to compose a ten.	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.

	d. Relate the strategy for adding a two-digit number and a one-digit number to a written method and explain the reasoning used.		
14	Given a two-digit number, mentally find 10 more or 10 less than the number without having to count, and explain the reasoning used.	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.
15	Subtract multiples of 10 from multiples of 10 in the range 10-90 (positive or zero differences), 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.	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 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.
16	Organize, represent, and interpret data with up to three categories. a. Ask and answer questions about the total number of data points in organized data. b. Determine "how many" in each category using up to three categories of data. c. Determine "how many more" or "how many less" are in one category than in another using data organized	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.
17	Order three objects by length; compare the lengths of two objects indirectly by using a third object.	1.MD.1	Order three objects by length; compare the lengths of two objects indirectly by using a third object.
18	Determine the length of an object using non-standard units with no gaps or overlaps, expressing the length of the object with a whole number.	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.*
19	Tell and write time to the hours and half hours using analog and digital clocks.	1.MD.3	Tell and write time in hours and half-hours using analog and digital clocks.
20	Identify pennies and dimes by name and value.		
21	Build and draw shapes which have defining attributes. a. Distinguish between defining attributes and non-defining attributes. Examples: Triangles are closed and three- sided, which are defining attributes; color, orientation, and overall size are non-defining 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.
22	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.	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.
23	Partition circles and rectangles into two and four equal shares and describe the shares using the words halves, fourths, and quarters, and use the phrases half of, fourth of, and quarter of.	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

	a. Describe "the whole" as two of or four of the shares of circles and rectangles partitioned into two or four equal shares. b. Explain that decomposing into more equal shares creates smaller shares of circles and rectangles.		examples that decomposing into more equal shares creates smaller shares.

See the color coded legend on page 9

A Side-by-Side Comparison of the Second Grade Standards in the 2019 Alabama Course of Study: Mathematics and the Common Core State Standards for Mathematics

	2019 Alabama Course of Study: Mathematics		Common Core State Standards for Mathematics
1	Use addition and subtraction within 100 to solve one- and two-step word problems by using drawings and equations with a symbol for the unknown number to represent the problem.	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
2	Fluently add and subtract within 20 using mental strategies such as counting on, making ten, decomposing a number leading to ten, using the relationship between addition and subtraction, and creating equivalent but easier or known sums. a. State automatically all sums of two one-digit numbers.	2.OA.2	Fluently add and subtract within 20 using mental strategies. By end of Grade 2, know from memory all sums of two one-digit numbers.
3	Use concrete objects to determine whether a group of up to 20 objects is even or odd. a. Write an equation to express an even number as a sum of two equal addends.	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.
4	Using concrete and pictorial representations and repeated addition, determine the total number of objects in a rectangular array with up to 5 rows and up to 5 columns. a. Write an equation to express the total number of objects in a rectangular array with up to 5 rows and up to 5 columns as a sum of 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
5	Reproduce, extend, create, and describe patterns and sequences using a variety of materials.		
6	Explain that the three digits of a three-digit number represent amounts of hundreds, tens, and ones. a. Explain the following three-digit numbers as special cases: 100 can be thought of as a bundle of ten tens, called a “hundred,” and 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).	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).
7	Count within 1000 by ones, 5s, 10s, and 100s.	2.NBT.2	Count within 1000; skip-count by 5s, 10s, and 100s.
8	Read and write numbers to 1000 using base-ten numerals, number names, and expanded form.	2.NBT.3	Read and write numbers to 1000 using base-ten numerals, number names, and expanded form.
9	Compare two three-digit numbers based on the value of the hundreds, tens, and ones digits, recording the results of comparisons with the symbols >, =, and < and orally with the words “is greater than,” “is equal to,” and “is less than.”	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.

10	Fluently add and subtract within 100, using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.	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.
11	Use a variety of strategies to add up to four two-digit numbers.	2.NBT.6	Add up to four two-digit numbers using strategies based on place value and properties of operations.
12	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. a. Explain 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.	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.
13	Mentally add and subtract 10 or 100 to a given number between 100–900.	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.
14	Explain why addition and subtraction strategies work, using place value and the properties of operations.	2.NBT.9	Explain why addition and subtraction strategies work, using place value and the properties of operations.
15	Measure lengths of several objects to the nearest whole unit. a. Create a line plot where the horizontal scale is marked off in whole-number units to show the lengths of several measured objects.	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.
16	Create a picture graph and bar graph to represent data with up to four categories. a. Using information presented in a bar graph, solve simple “put-together,” “take-apart,” and “compare” problems.	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.
17	Measure the length of an object by selecting and using standard units of measurements shown on rulers, yardsticks, meter sticks, and measuring tapes.	2.MD.1	Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.
18	Measure objects with two different units, and describe how the two measurements relate to each other and the size of the unit chosen.	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.
19	Estimate lengths using the following standard units of measurement: inches, feet, centimeters, and meters.	2.MD.3	Estimate lengths using units of inches, feet, centimeters, and meters.
20	Measure to determine how much longer one object is than another, expressing the length difference of the two objects using standard units of length.	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.
21	Use addition and subtraction within 100 to solve word problems involving same units of length, representing the problem with drawings (such as drawings of rulers) and/or equations with a symbol for the unknown number.	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.
22	Create a number line diagram using whole numbers with equally spaced points and use it to represent whole-number sums and differences within 100.	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.

23	Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m. a. Express an understanding of common terms such as, but not limited to, *quarter past, half past*, and *quarter to*.	2.MD.7	Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.
24	Solve problems with money. a. Identify nickels and quarters by name and value. b. Find the value of a collection of quarters, dimes, nickels, and pennies. c. Solve word problems by adding and subtracting within one dollar, using the $ and ¢ symbols appropriately (not including decimal notation).	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?
25	Identify triangles, quadrilaterals, pentagons, hexagons, and cubes. a. Recognize and draw shapes having specified attributes. Examples: a given number of angles or a given number of equal faces.	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.
26	Partition a rectangle into rows and columns of same-size squares, and count to find the total number of squares.	2.G.2	Partition a rectangle into rows and columns of same-size squares and count to find the total number of them.
27	Partition circles and rectangles into two, three, or four equal shares. Describe the shares using such terms as *halves, thirds, half of*, or *a third of*, and describe the whole as *two halves, three thirds*, or *four fourths*. a. Explain that equal shares of identical wholes need not have the same shape.	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.

	Identical standards.
	Identical sentences, phrases, and wording.
	Indicates insignificant word changes or words added to identical standards.
	2019 AL and CCSS standards are similar but worded quite different. One standard may be more explicit than the other.

Yellow Highlights are Alabama Standards that match with Common Core State Standards Math. This is CCSS all over again.

A Side-by-Side Comparison of the Third Grade Standards
in the
2019 Alabama Course of Study: Mathematics and the Common Core State Standards for Mathematics

	2019 Alabama Course of Study: Mathematics		Common Core State Standards for Mathematics
1	Illustrate the product of two whole numbers as equal groups by identifying the number of groups and the number in each group and represent as a written expression.	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.
2	Illustrate and interpret the quotient of two whole numbers as the number of objects in each group or the number of groups when the whole is partitioned into equal shares.	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.
3	Solve word situations using multiplication and division within 100 involving equal groups, arrays, and measurement quantities; represent the situation using models, drawings, and equations with a symbol for the unknown number.	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 with a symbol for the unknown number to represent the problem.
4	Determine the unknown whole number in a multiplication or division equation relating three whole numbers.	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 = ?.
5	Develop and apply properties of operations as strategies to multiply and divide.	3.OA.5	Apply properties of operations as strategies to multiply and divide. 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.)
6	Use the relationship between multiplication and division to represent division as an equation with an unknown factor.	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.
7	Use strategies based on properties and patterns of multiplication to demonstrate fluency with multiplication and division within 100. a. Fluently determine all products obtained by multiplying two one-digit numbers.	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.
8	Create and justify solutions for two-step word problems using the four operations and write an equation with a letter standing for the unknown quantity. Determine reasonableness of answers using	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.

	number sense, context, mental computation, and estimation strategies including rounding.		
9	Recognize and explain arithmetic patterns using properties of operations.	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.
10	Identify the nearest 10 or 100 when rounding whole numbers, using place value understanding.	3.NBT.1	Use place value understanding to round whole numbers to the nearest 10 or 100.
11	Use various strategies to add and subtract fluently within 1000.	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.
12	Use concrete materials and pictorial models based on place-value and properties of operations to find the product of a one-digit whole number by a multiple of ten (from 10 to 90).	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.
13	Demonstrate that a unit fraction represents one part of an area model or length model of a whole that has been equally partitioned; explain that a numerator greater than one indicates the number of unit pieces represented by the fraction.	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.
14	Interpret a fraction as a number on the number line; locate or represent fractions on a number line diagram. a. Represent a unit fraction (*1/b*) on a number line by defining the interval from 0 to 1 as the whole and partitioning it into b equal parts as specified by the denominator. b. Represent a fraction (*a/b*) on a number line by marking off *a* lengths of slze (*1/b*) from zero.	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.
15	Explain equivalence and compare fractions by reasoning about their size using visual fraction models and number lines. a. Express whole numbers as fractions and recognize fractions that are equivalent to whole numbers. b. Compare two fractions with the same numerator or with the same denominator by reasoning about their size (recognizing that actions must refer to the same whole for the comparison to be valid.) Record comparisons using <, >, or = and justify conclusions	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. 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.
16	Tell and write time to the nearest minute; measure time intervals in minutes (within 90 minutes.) a. Solve real world problems involving addition and subtraction of time intervals in minutes by representing the problem on a number line diagram.	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.
17	Estimate and measure liquid volumes and masses of objects using liters (l), grams (g), and kilograms (kg). a. Use the four operations to solve one-step word problems involving masses or volumes given in the same metric units.	3.MD.2	Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l).6 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.
18	Find the area of a rectangle with whole number side lengths by tiling without gaps or overlays and counting unit squares.	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 × b and a × 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.
20	Relate area to the operations of multiplication using real-world problems, concrete materials, mathematical reasoning, and the distributive property.		
21	Decompose rectilinear figures into smaller rectangles to find the area, using concrete materials.		
19	Count unit squares (square cm, square m, square in, square ft, and improvised or non-standard units) to determine area.	3.MD.6	Measure areas by counting unit squares (square cm, square m, square in, square ft, and improvised units).
22	Construct rectangles with the same perimeter and different areas or the same area and different perimeters.	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.
23	Solve real-world problems involving perimeters of polygons, including finding the perimeter given the side lengths and finding an unknown side length of rectangles.		
24	For a given or collected set of data, create a scaled (one-to-many) picture graph and scaled bar graph to represent a data set with several categories. a. Solve one- and two-step "how many more" and "how many less" problems using information presented in scaled graphs.	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.

25	Measure lengths using rulers marked with halves and fourths of an inch to generate data and create a line plot marked off in appropriate units to display the data.	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.
26	Recognize and describe polygons (up to 8 sides), triangles, and quadrilaterals (rhombuses, rectangles, and squares) based on the number of sides and the presence or absence of square corners. a. Draw examples of quadrilaterals that are and are not rhombuses, rectangles, and squares.	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.
		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.
		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. 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.

A Side-by-Side Comparison of the 2019 Alabama 4th Grade Standards to Common Core State Standards

Page	2019 Alabama Course of Study: Mathematics	Notes	Common Core State Standards for Mathematics
	Legend		
	Match to CCSS with possible one word or two difference		
	Virtually the same just one or few words changed.		
	Alabama Added wording		
	Alabama did not place these words in their standards.		
	These standards not in Alabama Standards		
42	**Operations and Algebraic Thinking**		**Operations and Algebraic Thinking**
42	Gain familiarity with factors and multiples.		Gain familiarity with factors and multiples.
42	Solve problems with whole numbers using the four operations..		Use the four operations with whole numbers to solve problems.
42	Generate and analyze patterns.		Generate and analyze patterns.
42			
42	**Operations with Numbers: Base Ten**	Switched words	**Number and Operations in Base Ten**
42	Generalize place value understanding for multi-digit whole numbers.		Generalize place value understanding for multi-digit whole numbers.
42	Use place value understanding and properties of operations to perform multidigit arithmetic		Use place value understanding and properties of operations to perform multidigit arithmetic.
42	with whole numbers.	Added	
42			
42	**Operations with Numbers: Fractions**	Switched words	**Number and Operations—Fractions**
42	Extend understanding of fraction equivalence and ordering.		Extend understanding of fraction equivalence and ordering.
42	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
42	Understand decimal notation for fractions, and compare decimal fractions.		Understand decimal notation for fractions, and compare decimal fractions.

Magenta and light green denotes a virtual match of Alabama new math to CCSS.

42	**Data Analysis**	Split the two	**Measurement and Data**
42	Represent and interpret data.		Represent and interpret data.
42	**Measurement**	Split	
42	Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.		Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.
42	Geometric measurement: understand concepts of angles and measure angles.		Geometric measurement: understand concepts of angle and measure angles.
42			
42	**Geometry**		**Geometry**
42	Draw and identify lines and angles, and identify shapes by properties of their lines and angles.	One word changed "identify"	Draw and identify lines and angles, and classify shapes by properties of their lines and angles.
42			
42	**Student Mathematical Practices**	Added "Student"	**Mathematical Practices**
42	Make sense of problems and persevere in solving them.		Make sense of problems and persevere in solving them.
42	Reason abstractly and quantitatively.		Reason abstractly and quantitatively.
42	Construct viable arguments and critique the reasoning of others.		Construct viable arguments and critique the reasoning of others.
42	Model with mathematics.		Model with mathematics.
42	Use appropriate tools strategically.		Use appropriate tools strategically.
42	Attend to precision.		Attend to precision.
42	Look for and make use of structure.		Look for and make use of structure.
42	Look for and express regularity in repeated reasoning.		Look for and express regularity in repeated reasoning.

43	**Content Priorities**	Different words	**Grade 4 Introduction**
43	In Grade 4, instructional time should focus on three areas:	removed "critical"	In Grade 4, instructional time should focus onthree critical areas:
43	(1) developing understanding and fluency with multi-digit multiplication, and developing understanding of division to find quotients involving multi-digit dividends;	changed one word "division"	(1) developing understanding and fluency with multi-digit multiplication, and developing understanding of dividing to find quotients involving multi-digit dividends;
43	(2) developing understanding of fraction equivalence, addition and subtraction of fractions with like denominators, and multiplication of fractions by whole numbers; and		(2) developing understanding of fraction equivalence, addition and subtraction of fractions with like denominators, and multiplication of fractions by whole numbers;
43	(3)understanding that geometric figures can be analyzed and classified based on their properties, such as having parallel sides, perpendicular sides, particular angle measures, and symmetry		(3)understanding that geometric figures can be analyzed and classified based on their properties, such as having parallel sides, perpendicular sides, particular angle measures, and symmetry
43			
43	Please note that while every standard in the grade level has not been included in this overview, all standards should be included in instruction.	Added	
43	**Through their learning in Operations with Numbers: Base Ten Alabama Content Area, students:**		
43	generalize their understanding of place value to 1,000,000, understanding the relative sizes of numbers in each place.		Students generalize their understanding of place value to 1,000,000, understanding the relative sizes of numbers in each place.
43	apply their understanding of models for multiplication (equal-sized groups, arrays, area models), place value, and properties of operations, in particular the distributive property, as they develop, discuss, and use efficient, accurate, and generalizable methods to compute products of multi-digit whole numbers		They apply their understanding of models for multiplication (equal-sized groups, arrays, area models), place value, and properties of operations, in particular the distributive property, as they develop, discuss, and use efficient, accurate, and generalizable methods to compute products of multi-digit whole numbers
43	select and accurately apply appropriate methods to estimate or mentally calculate products Depending on the numbers and the context	Switched words around	Depending on the numbers and the context, they select and accurately apply appropriate methods to estimate or mentally calculate products

43	develop fluency with efficient procedures for multiplying whole numbers; understand and explain why the procedures work based on place value and properties of operations; and use them to solve problems		They develop fluency with efficient procedures for multiplying whole numbers; understand and explain why the procedures work based on place value and properties of operations; and use them to solve problems
43	apply their understanding of models for division, place value, properties of operations, and the relationship between division and multiplication as they develop, discuss, and use efficient, accurate, and generalizable procedures to find quotients involving multi-digit dividends.	Changed two words	Students apply their understanding of models for division, place value, properties of operations, and the relationship of division to multiplication as they develop, discuss, and use efficient, accurate, and generalizable procedures to find quotients involving multi-digit dividends.
43	select and accurately apply appropriate methods to estimate and mentally calculate quotients, and interpret remainders based upon the context.		They select and accurately apply appropriate methods to estimate and mentally calculate quotients, and interpret remainders based upon the context.
43			
43	**Through their learning in the Operations with Numbers: Fractions Alabama Content Area, students**	Added	
43	develop understanding of fraction equivalence and operations with fractions.		Students develop understanding of fraction equivalence and operations with fractions.
43	recognize that two different fractions can be equal (e.g., 15/9 = 5/3), and develop methods for generating and recognizing equivalent fractions, and		They recognize that two different fractions can be equal (e.g., 15/9 = 5/3), and they develop methods for generating and recognizing equivalent fractions
43	extend previous understandings about how fractions are built from unit fractions, compose fractions from unit fractions, decompose fractions into unit fractions, and use the meaning of fractions and the meaning of multiplication to multiply a fraction by a whole number.	A few words changed but no change to content.	Students extend previous understandings about how fractions are built from unit fractions, composing fractions from unit fractions, decomposing fractions into unit fractions, and using the meaning of fractions and the meaning of multiplication to multiply a fraction by a whole number.
43			
43	Through their learning in the Geometry Alabama Content Area, students	Added	

43	describe, analyze, compare, and identify two-dimensional shapes, using formal language based on the definition of the shapes.	Changed word to "identify". Added last portion of sentence.	Students describe, analyze, compare, and classify two-dimensional shapes. Through building, drawing, and analyzing two-dimensional shapes
43	deepen their understanding of properties of two-dimensional objects (e.g., angles, parallelism, or symmetry); and	Changed wording around	students deepen their understanding of properties of two-dimensional objects
43	use properties of two-dimensional object to solve problems involving symmetry.	Added words at end.	and the use of them to solve problems involving symmetry.
43			
43	Note: Although not all content areas in the grade level have been included in the overview, all standards should be included in instruction.	Added	
44	**Grade 4 Content Standards**		
44	Each content standard completes the stem, Students will…"	Added	
44	**Operations and Algebraic Thinking**		**Operations & Algebraic Thinking**
44	Solve problems with whole numbers using the four operations	Switched words around	Use the four operations with whole numbers to solve problems.
44	Interpret a multiplication equation as a comparison	Left off the last portion beginning with e.g.	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.

44	solve word problems involving multiplicative comparison, using drawings and write equations to represent the problem, using a symbol for the unknown number.	Changed the wording around but basically same meaning.	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
44	Determine and justify solutions for multi-step word problems, including problems where reminders must be interprested.	Rearranged wording	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.
44	Write equations to show solutions for multi-step word problems with a letter standing for the unknown quantity.	Rearrange wording	Represent these problems using equations with a letter standing for the interpreted. Represent these problems using equations with a letter standing for the unknown quantity.
44	Determine reasonableness of answers for multi-step word problems, using mental computation and estimation strategies including rounding.	Added a few words .	Assess the reasonableness of answers using mental computation and estimation strategies including rounding.
44			
44	**Gain familiarity with factors and multiples.**		**Gain familiarity with factors and multiples.**
44	For whole numbers in the range 1-100, find all factor pairs. identifying a number as a multiple of each of its factors.	Words just rearranged	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.
44	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 a multiple of a given one-digit number.
44	Determine whether a given whole number in the range 1-100 is prime or composite.		Determine whether a given whole number in the range 1-100 is prime or composite.
44			

44	**Generate and analyze patterns.**		**Generate and analyze patterns.**
44	Generate a number or shape pattern that follows a given rule.		Generate a number or shape pattern that follows a given rule.
44		Alabama did not place these words in their standards..	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.
44			
44	**Operatopms with Numbers: Base Ten**		**Grade 4 » Number & Operations in Base Ten**
44			
44	**Generalize place value understanding for multi-digit whole numbers.**		**Generalize place value understanding for multi-digit whole numbers.**
44	Using models and quantative reasoning, explain that in a multi-digit whole number, a digit in any place represents ten times what it represents in the place to its right.	Alabama added	
44	Read and write multi-digit whole numbers using standard from, word form, and expanded form.	Reworded	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.in each place, using >, =, and < symbols to record the results of comparisons.
44	Use place value understanding to compare two multi--digit numbers using >, =, and < symbols.	Reworded	
45	Round multi-digit whole numbers to any place using place value understand.	Reworded	
45			
45	Use place value understanding and properties of operations to perform multi-digit arithmetic with whole numbers	Reworded	Use place value understanding and properties of operations to perform multi-digit arithmetic.
45	Use place value strategies to fluently add and subtract multi-digit whole numbers and connect strategies to the standard algorithm.	Reworded	Fluently add and subtract multi-digit whole numbers using the standard algorithm.

45	Find the produce of two factors (up to four digits by a one-digit number and two two-digit numbers), using strategies based on place value and the properties of operations. a. Illustrate and explain the product of two factors using equations, rectangular arrays and area models.	Reworded	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
45	Use strategies based on place value, properties of operation, and/or the relationship between multiplication and division to find whole-number quotients and remainders with on-digit divisors and up to four-digit dividends. A. Illustrate and explain quotients using equations, rectangular arrayss and area models.	Reworded	Find whole-number quotients and remainders with up to four-digit dividends and onedigit 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.
45			
45	**Operations with Numbers - Fractions**		**Grade 4 » Number & Operations—Fractions**
45	**Extend understanding of fraction equivalence and ordering.**		**Extend understanding of fraction equivalence and ordering.**
45	Using area and length fraction models, explain why one fraction is equivalent to another, taking into account that the number and size of the parts differ even though the two fractions themselves are the same size. A. Apply principles of fraction equivalence to recognize and generate equivalent fractions. Example: a/b is equivalent to ma/mb	Reworded with changes made	Explain why a fraction a/b is equivalent to a fraction (n × a)/(n × 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. Use this principle to recognize and generate equivalent fractions.
45	Denominators are limited to 2,3,4,5,6,7,10,12, and 100	Added	
45	Compare two fractions with different numerators and different denominators using concrete models, benchmarks (0, 1/2, 1), common denominators, and/or common numerators, recording the comparisonwith symbols >, =, or <, and justify the conclusions. a. Explain that comparison of two fractions is valid only when two fractions refer to the same whole.	Reworded with some changes made.	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
45			

45	**Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.**	Reworded and some new	**Build fractions from unit fractions.**
45	Model and justify decomposition of fractions and explain addition and subtraction of fractions as joining or separating parts referring to the same whole.		
45	a. Decompose a fraction as a sum of unit fractions and explain addition and subtraction of fractions with the same denominator in more than one way using area models, area models, length models, and equations.	Reworded and some wording new and some left out.	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 +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.
45	b. Add and subtract fractions and mixed numbers with like denominations using fraction equivalence, properties of operations, and the relationship between adddition and subtraction.	Reworded.	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
45	c. Solve word problems involving additiona and subtraction of fractions and mixed numbers having like denominators, using drawings, visual fraction models, and equivalent to represent the problem	Reworded	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.
45	Apply and extend previous understandings of multiplication to multiply a whole number times a fraction	Reworded	Apply and extend previous understandings of multiplication to multiply a fraction by a whole number
46	a. Model and explain how a non-unit fraction can be represented by a whole number times the unit fraction. Example: 9/8=9x1/8		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)
46	b. Extend previous understanding of multiplication to multifply a whole number times any fraction less than one. Example: 4x2/3=4x2/3= 8/3		Understand addition and subtraction of fractions as joining and separating parts referring to the same whole.

46	c. Solve word problems by multiplying a whole number times a fraction using virtual fraction models and equations to represent the problem. Example: 3x1/2=6x1/8	Reworded. Example different, but standard same.	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?
46			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).
46			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.)
46			
46	**Understand decimal notation for fractions, and compare decimal fractions.**		**Understand decimal notation for fractions, and compare decimal fractions.**
46	Denominations are limited to 10 and 100	Added	
46	Express, model and explain the equivalence between fractions with denominators of 10 and 100 . A. Use fraction equivalency to add two fractions with denominators of 10 and 100,	Reworded	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. For example, express 3/10 as 30/100, and add 3/10 + 4/100 = 34/100
46	Use models and decimal notation to represent fractions with denominators of 10 and 100.	Reworded	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.
46	Use visual models and reasoning to compare two decimals to hundreths (referring to the same whole) recording comparisons using symbols >, +, or <, and justifying the conclusions.	Reworded	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.
46			

46	**Measurement**		**Grade 4 » Measurement & Data**
46	**Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit**	Reworded	**Solve problems involving measurement and conversion of measurements.**
46	Select and use an appropriate unit of measurement for a given attribute (length, mass, liquod, volume, time) within one system of units: metric - km, m, cm; kg, g, l, ml; customary - lb,oz, time - hr, min, sec. A. Within one system of units, express measurements of a larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table.	Somewhat similar.	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), ...
46	Use the four operations to solve word problems with distances, intervals of time, liquid volumes, mass of objects, and money, a. Solve measurement problems involving simple fractions or decimals, b. Solve measurement problems that require expressing measurements given in a larger unit in terms of a smaller unit. c. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.	Few words changed	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.
46	Apply area and perimeter formulas for rectangles in real-world and mathematical situations.	Example left out of Alabama	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.

47	**Geometric measurement: understand concepts of angle and measure angles.**		**Geometric measurement: understand concepts of angle and measure angles.**
47	Identify an angle as a geometric shape formed wherever two rays share a common endpoint.	Some words changed.	Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement:
47	Use a protractor to measure angles in whole-number degrees and sketch angles of specified measure.	Some words changed	Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.
47	Decompose an angle into non-overlapping parts to demonstrate that the angle measure of the whole is the sum of the angle measures of the parts. A. Solve addition and subtraction problems on a diagram to find unknown angles in real-world or mathematical problems.	Some words changed.	Recognize angle measure as additive. When an angle is decomposed into nonoverlapping 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.
47		Not in Alabama standards	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
47		Not in Alabama standards	An angle that turns through n one-degree angles is said to have an angle measure of n degrees.
47			

47	**Data Analysis**		**Grade 4 » Measurement & Data**
47	**Represent and interpret data**		**Represent and interpret data.**
47	Interpret data in graphs (picture, bar, and line plots). To solve problems using numbers and operations.	Same but reworded.	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.
47	a. Create a line plot to display a data set of measuremets in fractions of a unit (1/2, 1/4, 1/8)		
47	b. Solve problems involving addition and subtraction of fractions using information presented in line plots.		
47			
47	**Geometry**		**Grade 4 » Geometry**
47	**Draw and identify lines and angles, and classify shapes by properties of their lines and angles.**		**Draw and identify lines and angles, and classify shapes by properties of their lines and angles.**
47	Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.		Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.
47	Identify 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. A. Describe right triangles as a category, and identify right triangles.	Word change	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.
47	Define 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. A. Identify line-symmetric figures and draw lines of symmetry.		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.
	Legend		
	Match to CCSS with possible one word or two difference		
	Virtually the same just one or few words changed.		
	Alabama Added wording		
	Alabama did not place these words in their standards.		
	These standards not in Alabama Standards		

It is obvious that the New Alabama Math Standards are a virtual duplicate of CCSS, but reworded and rearranged to make it look like they are different. Yellow highlight shows words and phrases that match to CCSS. There may be a few words highlighted that are different words from CCSS but have the same meaning. These stand out as though the author of the Alabama Math Standards were trying to make it look like a new changed standard, but they are not new. They match CCSS.

A Side-by-Side Comparison of the Fifth Grade Standards
in the
2019 Alabama Course of Study: Mathematics and the Common Core State Standards for Mathematics

	2019 Alabama Course of Study: Mathematics		Common Core State Standards for Mathematics
1	Write, explain, and evaluate simple numerical expressions involving the four operations to solve up to two-step problems. Include expressions involving parentheses, brackets, or braces, using commutative associative, and distributive properties.	5.OA.1	Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.
2	2. Generate two numerical patterns using two given rules and complete an input/output table for the data. a. Use data from input/output table to identify apparent relationships between corresponding terms. b. Form ordered pairs from values in an input/output table. c. Graph ordered pairs from an input/output table on a coordinate plane.	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.
3	Using models and quantitative reasoning, explain that in a multi-digit number, including decimals, a digit in any place represents ten times what It represents in the place to Its right and 1/10 of what It represents in the place to its left. a. Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, using whole-number exponents to denote powers of 10. b. Explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10, using whole-number exponents to denote powers of 10.	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.
		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.
4	Read, write, and compare decimals to thousandths. a. Read and write decimals to thousandths using base-ten numerals, number names, and expanded form. Example: 347.392 - 3 x 100 + 4 x 10 + 7 x 1 + 3 x (1/10) + 9 x (1/100) + 2 x (1/1000). b. Compare two decimals to thousandths based on the meaning of the digits in each place, using >, =, and < to record the results of comparisons.	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.
5	Use place value understanding to round decimals to any place.	5.NBT.4	Use place value understanding to round decimals to any place.

6	Fluently multiply multi-digit whole numbers using the standard algorithm.	5.NBT.5	Fluently multiply multi-digit whole numbers using the standard algorithm.
7	Use strategies based on place value, properties of operations, and/or the relationship between multiplication and division to find whole-number quotients and remainders with up to four-digit dividends and two-digit divisors. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.	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 and explain the calculation by using equations, rectangular arrays, and/or area models.
8	Add, subtract, multiply, and divide decimals to hundredths using strategies based on place value, properties of operations, and/or the relationships between addition/subtraction and multiplication/division; relate the strategy to a written method, and explain the reasoning used. a. Use concrete models and drawings to solve problems with decimals to hundredths. b. Solve problems in a real-world context with decimals to hundredths.	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.
9	Model and solve real-word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, 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. Example: Recognize an incorrect result 2/5 + ½ = 3/7 by observing that 3/7 < ½.	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.
10	Add and subtract fractions and mixed numbers with unlike denominators, using fraction equivalence to calculate a sum or difference of fractions or mixed numbers with like denominators.	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.)
11	Solve word problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers. a Model and interpret a fraction as division of the numerator by the denominator ($\frac{a}{b} = a/b$) b. Use visual fraction models, drawings, or equations to represent word problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers	5.NF.3	Interpret a fraction as division of the numerator by the denominator (a/b = a ÷ 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?
12	Apply and extend previous understandings of multiplication to find the product of a fraction times a whole number or a fraction times a fraction. a. Use a visual fraction model (area model, set model, or linear	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) × q as a parts of a partition of q into b equal parts; equivalently, as the result of a sequence of operations a × q ÷ b. For example, use a visual fraction model to

	model) to show (a/b) x q and create a story context for this equation to interpret the product as a parts of a partition of q into b equal parts. b. Use a visual fraction model (area model, set model, or linear model) to show (a/b) x (c/d) and create a story context for this equation to interpret the product. c. Multiply fractional side lengths to find areas of rectangles, and represent fraction products as rectangular areas. d. Find the area of a rectangle with fractional side lengths by tiling it with unit squares of the appropriate unit fraction side ls to show that the area is the same as would be found by multiplying the side lengths.		show (2/3) × 4 = 8/3, and 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.
13	Interpret multiplication as scaling (resizing). a. Compare 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. Example: Use reasoning to determine which expression is greater? 225 or ¾ x 225: 11/50 or 3/2 x 11/50 b. Explain why multiplying a given number by a fraction greater than 1 results in a product greater than the given number and relate the principle of fraction equivalence. c. Explain why multiplying a given number by a fraction less than 1 results in a product smaller than the given number and relate the principle of fraction equivalence.	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×a)/(n×b) to the effect of multiplying a/b by 1.
14	Model and solve real-world problems involving multiplication of fractions and mixed numbers using visual fraction models, drawings, or equations to represent the problem.	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.
15	Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions. a. Solve real-world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions and illustrate using visual fraction models, drawings, and equations to represent the problem. b. Create a story context for a unit fraction divided by a whole number, and use a visual fraction model to show the quotient. c. Create a story context for a whole number divided by a unit fraction, and use a visual action model to show the quotient.	5.NF.7	Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions. 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, 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?

16	Convert among different-sized standard measurement units within a given measurement system and use these conversions in solving multi-step, real-world problems.	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.
17	Identify volume as an attribute of solid figures, and measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and improvised (non-standard) units. a. Pack a solid figure without gaps or overlaps using n unit cubes to demonstrate volume as n cubic units.	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.
		5.MD.4	Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and improvised units.
18	Relate volume to the operations of multiplication and addition, and solve real-world and mathematical problems involving volume. a. Use the associative property of multiplication to find the volume of a right rectangular prism with unit cubes. Show that the volume can be determined by multiplying the three edge lengths or by multiplying the height by the area of the base. b. Apply the formulas V = l x w x h and V = B x 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. Find volumes of solid figures composed of two non-overlapping right rectangular prisms by adding the volumes of the two parts, applying this technique to solve real-world problems.	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 products as volumes, e.g., to represent the associative property of multiplication. b. Apply the formulas V = l x w x h and V = b x 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.
19	Make a line plot to display a data set of measurements in fractions of a unit (1/2, ¼, 1/8). a. Add, subtract, multiply, and divide fractions to solve problems involving information presented in line plots.	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.
20	Graph points in the first quadrant of the coordinate plane, and interpret coordinate values of points to represent real-world and mathematical 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.
21	Classify triangles according to side length (isosceles, equilateral, scalene) and angle measure (acute, obtuse, right, equiangular).		
22	Classify quadrilaterals in a hierarchy based on properties.	5.G.4	Classify two-dimensional figures in a hierarchy based on properties.
23	Explain that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category. Example: All rectangles have four right angles, and squares have four right angles, so squares are rectangles.	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.

		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.
		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).