For the Wyoming Department of Education

Comparison of the Common Core Standards to the Wyoming Mathematics Standards, Grades K–8

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Mathematics Gap Analysis		
The Common Core Standards Compared to the Wyoming Standards		
Common Core State Standards	**Alignment Rating with Comment**	**Wyoming Content Standards**
Kindergarten		
K.NCC Number—Counting and Cardinality		
K.NCC. Number names		
K.NCC.1. Say the number name sequence to 100.	Partial alignment (scope): WY content does not include numbers 10–100.	MAK.1.1 Students read and represent numbers up to 9.
K.NCC.2. Know the decade words to ninety and recite them in order ("ten, twenty, thirty, …").	No match	
K.NCC.3. Say the number name sequence forward or backward beginning from a given number within the known sequence (instead of always beginning at 1).	No match	
K.NCC.4. Write numbers from 1 to 20 in base-ten notation.	Partial alignment (scope): WY content does not include numbers 10–20. Partial alignment (grade level): The WY standard is at the 1st grade level and the CC standard is at the Kindergarten level. In WY numbers 1–9 are covered in K and 10–20 are covered in 1st.	MAK.1.1 Students read and represent numbers up to 9. MA1.1.1 Students use the concept of place value to read and represent numbers up to 99.
K.NCC. Counting to tell the number of objects		
K.NCC.5. Count to answer "how many?" questions about as many as 20 things. *Objects may be arranged in a line, a rectangular array, a circle, or a scattered configuration.*	Strong alignment	MAK.1.4 Students count with understanding up to 21 objects to solve problems.

K.NCC.6. Understand that when counting objects, a. The number names are said in the standard order. b. Each object is paired with one and only one number name. c. The last number name said tells the number of objects counted.	Partial alignment (specificity): CC specifies what the student needs to understand about counting, and the WY content specifies that students count up to 21 objects.	MAK.1.4 Students count with understanding up to 21 objects to solve problems.
K.NCC.7. Understand that when counting forward, each successive number name refers to a quantity that is 1 larger.	Partial alignment (specificity): CC specifies what the student needs to understand about counting, and the WY content specifies that students count up to 21 objects.	MAK.1.4 Students count with understanding up to 21 objects to solve problems.
K.NCC. Comparing and ordering numbers		
K.NCC.8. 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. *Include groups with up to ten objects.*	Strong alignment	MAK.1.2 Students recognize the larger of two sets. (Which set has more or less?)
K.NCC.9. Compare and put in order numbers between 1 and 10 presented in written symbols: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10.	No match	
K.NOP. Number – Operations and the Problems They Solve		
K.NOP. Composing and decomposing numbers; addition and subtraction		
K.NOP.1. Understand addition as putting together—e.g., finding the number of objects in a group formed by putting two groups together.	Weak alignment: Content is similar, but there is a significant difference in the emphasis. WY content is specifically	MA1.1.5 Students make a picture or use objects as strategies to solve problems.

Understand subtraction as taking apart—e.g., finding the number of objects left when a one group is taken from another.	about strategies to use, while CC content is about the concept of addition and subtraction. It is a reasonable inference that the problems referenced in the WY benchmark are related to addition and subtraction, but it is not explicit.	
K.NOP.2. Represent addition and subtraction with objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations. Note that drawings need not show details, but should show the mathematics in the problem. (This note also applies wherever drawings are mentioned in subsequent standards.)	Partial alignment (scope): Content is similar, but there is a significant difference in the phrasing and emphasis. WY content is specifically about strategies to use, while CC content is about the concept of addition and subtraction. Also, the WY content does not include the use of fingers, mental images, sounds, verbal explanations, expressions, or equations.	MAK.1.5 Students act out or use objects as strategies to solve problems. MA1.1.5 Students make a picture or use objects as strategies to solve problems.
K.NOP.3. Decompose numbers less than or equal to 10 into pairs in various ways, e.g., using objects or drawings, and record each decomposition by a drawing or equation (e.g., 5 = 2 + 3). Compose numbers whose sum is less than or equal to 10, e.g., using objects or drawings, and record each composition by a drawing or equation (e.g., 3 + 1 = 4).	Weak alignment: Content is similar, but there is some difference in the phrasing and emphasis, as well as a grade level difference. The WY content is specifically about computational fluency, while the CC standard specifies creating sums and differences using objects or drawings and representing these operations in an equation. In addition, this content appears in first grade in WY.	MA1.1.4 Students demonstrate computational fluency with basic facts (add to 10).
K.NOP.4. Compose and decompose numbers less than or equal to 10 in two different ways,	Weak alignment: Content is similar, but there is some difference in the	MA1.1.4 Students demonstrate computational fluency with basic facts

and record compositions and decompositions by drawings or equations. *For example, 7 might be composed or decomposed in two different ways by a drawing showing how a group of 2 and a group of 5 together make the same number as do a group of 3 and a group of 4.*	phrasing and emphasis, as well as a grade level difference. The WY content is specifically about computational fluency, while the CC standard specifies creating sums and differences using equations or drawing. In addition, this content appears in 1st grade in WY.	(add to 10).
K.NOP.5. Understand that addition and subtraction are related. *For example, when a group of 9 is decomposed into a group of 6 and a group of 3, this means not only 9 = 6 + 3 but also 9 – 3 = 6 and 9 – 6 = 3.*	Weak alignment: The WY content emphasizes the skill, while the CC content emphasizes the concept. In addition, WY content is in 2nd grade.	MA.2.1.5 Students use mental math (fact families) and estimation strategies (referent to a group of 10) to solve problems.
K.NOP.6. Solve addition and subtraction word problems, and calculate additions and subtractions within 10, e.g., using objects or drawings to represent the problem.	Weak alignment: Content is similar, but there is some difference in the emphasis, and the WY content is found in first grade. WY content is specific as to which strategies should be used (objects or drawings) to solve problems, and not specific about what types of problems will be solved.	MA1.1.5 Students make a picture or use objects as strategies to solve problems.
K.NOP.7. Fluently add and subtract, for sums and minuends of 5 or less.	Weak alignment: WY is at the 1st grade level and CC is at the Kindergarten level. In addition, the WY content includes sums and minuends of 6–10.	MA1.1.4 Students demonstrate computational fluency with basic facts (add to 10).
K.NBT. Number—Base Ten		
K.NBT. Two-digit numbers		
K.NBT.1. Understand that 10 can be thought of as a bundle of ones—a unit called a “ten.”	No match	

K.NBT.2. Understand that a teen number is composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones.	No match	
K.NBT.3. Compose and decompose teen numbers into a ten and some ones, e.g., by using objects or drawings, and record the compositions and decompositions in base-ten notation. *For example, 10 + 8 = 18 and 14 = 10 + 4.*	No match .	
K.NBT.4. Put in order numbers presented in base-ten notation from 1 to 20 (inclusive), and be able to explain the reasoning.	No match	
K.NBT.5. Understand that a decade word refers to one, two, three, four, five, six, seven, eight, or nine tens.	No match	
K.NBT.6. Understand that the two digits of a two-digit number represent amounts of tens and ones. *In 29, for example, the 2 represents two tens and the 9 represents nine ones.*	Weak alignment: WY content is in 1st grade and is less specific. The CC content specifies what students need to understand about how place value relates to two-digit numbers.	MA1.1.1 Students use the concept of place value to read and represent numbers up to 99.
K.NBT. Composing and decomposing ten		
K.NBT.7. Decompose 10 into pairs of numbers, e.g., by using objects or drawings, and record each decomposition with a drawing or equation.	Weak alignment: WY content is in 1st grade and is less specific. The CC content specifies creating sums and differences using objects or drawings and representing these operations in drawings or equations.	MA1.1.4 Students demonstrate computational fluency with basic facts (add to 10).
K.NBT.9. 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	Weak alignment: This content is in 1st grade in WY and is less specific. The CC content specifies creating sums	MA1.1.4 Students demonstrate computational fluency with basic facts (add to 10).

drawings, and record the answer with a drawing or equation.	using drawings or equations.	
K.MD. Measurement and Data		
K.MD. Direct measurement		
K.MD.1. Understand that objects have measurable attributes, such as length or weight. A single object might have several measurable attributes of interest.	No match	
K.MD.2. Directly compare two objects with a measurable attribute in common, to see which object has "more of" the attribute. *For example, directly compare the heights of two books and identify which book is taller.*	Weak alignment: Content is similar, but there is a significant difference in the phrasing or emphasis. WY content specifies non-standard units up to 9 should be used. CC content specifies that students compare and not measure.	MAK.3.1 Students apply estimation and measurement of length to content problems using non-standard units up to 9 units.
K.MD. Representing and interpreting data		
K.MD.3. Classify objects or people into given categories; count the numbers in each category and sort the categories by count. Limit category counts to be less than or equal to 10.	Partial alignment (specificity): CC specifies limits on category counts.	MAK.5.1 Students sort real objects to create graphs.
K.G. Geometry		
K.G. Shapes, their attributes, and spatial reasoning		
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*.	Partial alignment (scope): WY doesn't address the relative position of objects.	MAK.2.1 Students recognize, name, compare, and sort geometric shapes (circle, square, triangle and rectangle).

K.G.2. Understand that names of shapes apply regardless of the orientation or overall size of the shape. *For example, a square in any orientation is still a square. Students may initially need to physically rotate a shape until it is "level" before they can correctly name it.*	Partial alignment (specificity): CC specifies the size and orientation of the shape.	MAK.2.1 Students recognize, name, compare, and sort geometric shapes (circle, square, triangle and rectangle).
K.G.3. Understand that shapes can be two-dimensional (lying in a plane, "flat") or three-dimensional ("solid").	Weak alignment: WY content is in 1st grade and WY content is more difficult, as the CC standard could be considered prerequisite to the WY standard.	MA1.2.1 Students recognize, name, compare, and sort 2- and 3-dimensional geometric objects.
K.G.4. Understand that shapes can be seen as having parts, such as sides and vertices ("corners"), and that shapes can be put together to compose other shapes.	No match	
K.G.5. Analyze and compare a variety of two- and three-dimensional shapes, in different sizes and orientations, using informal language to describe their similarities, differences, component parts (e.g., number of sides and vertices) and other attributes (e.g., having sides of equal length).	Partial alignment (specificity): CC specifies two- and three-dimensional shapes and the type of language that should be used to describe shapes. Weak alignment: WY content is in 1st grade and is less specific. CC specifies two- and three-dimensional shapes and the type of language that should be used to describe shapes.	MAK.2.1 Students recognize, name, compare, and sort geometric shapes (circle, square, triangle and rectangle). MA1.2.1 Students recognize, name, compare, and sort 2- and 3-dimensional geometric objects
K.G.6. Combine two- or three-dimensional shapes to solve problems such as deciding which puzzle piece will fit into a place in a	Weak alignment: Content is similar, but there is a significant difference in the emphasis. While both WY can CC are	MAK.2.2 Students select, use, and communicate organizational methods in a problem -solving situation using

puzzle.	about problems using geometric shapes, the WY content emphasizes organizational methods while the CC content emphasizes combining shapes.	geometric shapes.
Grade 1		
1.NOP. Number—Operations and the Problems They Solve		
1.NOP. Addition and subtraction		
1.NOP.1. Understand the properties of addition. a. Addition is commutative. *For example, if 3 cups are added to a stack of 8 cups, then the total number of cups is the same as when 8 cups are added to a stack of 3 cups; that is, 8 + 3 = 3 + 8.* b. Addition is associative. *For example, 4 + 3 + 2 can be found by first adding 4 + 3 = 7 then adding 7 + 2 = 9, or by first adding 3 + 2 = 5 then adding 4 + 5 = 9.* c. 0 is the additive identity.	Weak alignment: The majority of the WY content is in 8th grade. However, it may be inferred that students understand the commutative property if they are using fact families.	MA2.1.5 Students use mental math (fact families) and estimation strategies (referent to a group of 10) to solve problems. MA8.1.4 Students understand properties of operations with rational numbers.
1.NOP.2. Explain and justify properties of addition and subtraction, e.g., by using representations such as objects, drawings, and story contexts. Explain what happens when: a. The order of addends in a sum is changed in a sum with two addends. b. 0 is added to a number. c. A number is subtracted from itself. d. One addend in a sum is increased by 1 and the other addend is decreased by 1. Limit to two addends.	Weak alignment: WY content is in 2nd grade and is less specific. CC content specifies explaining and justifying properties of addition and subtraction.	MA2.1.5 Students use mental math (fact families) and estimation strategies (referent to a group of 10) to solve problems.

	Weak alignment: WY content is in 8th grade and is less specific. CC content specifies explaining and justifying properties of addition and subtraction.	MA8.1.4 Students understand properties of operations with rational numbers.
1.NOP.3. Understand that addition and subtraction have an inverse relationship. *For example, if 8 + 2 = 10 is known, then 10 – 2 = 8 and 10 – 8 = 2 are also known.*	Weak alignment: WY content is in the 2nd grade. In addition, the WY content emphasizes the skill, while the CC content emphasizes the concept. Partial alignment (grade level): WY content is in 5th grade.	MA2.1.5 Students use mental math (fact families) and estimation strategies (referent to a group of 10) to solve problems. MA5.1.3 Students demonstrate an understanding of whole number operations by: ▪ explaining the relationships between the operations of addition, subtraction, multiplication, and division; and ▪ multiplying by two-digit whole numbers and dividing by single-digit whole numbers.
1.NOP.4. Understand that when all but one of three numbers in an addition or subtraction equation are known, the unknown number can be found. *Limit to cases where the unknown number is a whole number.*	No match	
1.NOP.5. Understand that addition can be recorded by an expression (e.g., 6 + 3), or by an equation that shows the sum (e.g., 6 + 3 = 9). Likewise, subtraction can be recorded by an expression (e.g., 9 – 5), or by an equation that shows the difference (e.g., 9 – 5 = 4).	No match	

1.NOP. Describing situations and solving problems with addition and subtraction		
1.NOP.6. Understand that addition and subtraction apply to situations of adding-to, taking-from, putting together, taking apart, and comparing. *See Glossary, Table 1.*	Partial alignment (implicit): WY content emphasizes the skill, while the CC content emphasizes the concept.	MA1.1.4 Students demonstrate computational fluency with basic facts (add to 10).
1.NOP.7. Solve word problems involving addition and subtraction within 20, e.g., by using objects, drawings and equations to represent the problem. *Students should work with all of the addition and subtraction situations shown in the Glossary, Table 1, solving problems with unknowns in all positions, and representing these situations with equations that use a symbol for the unknown (e.g., a question mark or a small square). Grade 1 students need not master the more difficult problem types.*	Partial alignment (specificity): CC content specifies that students should solve word problem within 20. It also specifies addition and subtraction.	MA1.1.5 Students make a picture or use objects as strategies to solve problems.
1.NOP.8. Solve word problems involving addition of three whole numbers whose sum is less than or equal to 20.	Partial alignment (specificity): CC content specifies which operations and what types of problems that students should solve.	MA1.1.5 Students make a picture or use objects as strategies to solve problems.
1.NBT. Number—Base Ten		
1.NBT. Numbers up to 100		
1.NBT.1. Read and write numbers to 100.	Strong alignment	MA1.1.1 Students use the concept of place value to read and represent numbers up to 99.
1.NBT.3. Understand that when comparing two-digit numbers, if one number has more tens, it is greater; if the amount of tens is the same in each number, then the number with	Partial alignment (grade level): WY content is in 2nd grade, and includes comparing three-digit numbers.	MA2.1.2 Students compare and order whole numbers up to 999.

more ones is greater.		
1.NBT.4. Compare and order two-digit numbers based on meanings of the tens and ones digits, using > and < symbols to record the results of comparisons.	Weak alignment: WY content is in 2nd grade and it is less specific than the CC content. CC content specifies how the numbers should be compared and ordered. In addition, WY content includes the comparison of three-digit numbers.	MA2.1.2 Students compare and order whole numbers up to 999.
1.NBT. Adding and subtracting in base ten		
1.NBT.5. Calculate mentally, additions and subtractions within 20. a. Use strategies that include counting on; making ten (for example, 7 + 6 = 7 + 3 + 3 = 10 + 3 = 13); and decomposing a number (for example, 17 – 9 = 17 – 7 – 2 = 10 – 2 = 8).	Partial alignment (grade level): WY content is in the 2nd grade.	MA2.1.5 Students use mental math (fact families) and estimation strategies (referent to a group of 10) to solve problems.
1.NBT.6. Demonstrate fluency in addition and subtraction within 10.	Partial alignment (scope): WY content only includes addition and not subtraction. Partial alignment (grade level): WY content is in 2nd grade.	MA1.1.4 Students demonstrate computational fluency with basic facts (add to 10). MA2.1.4 Students demonstrate computational fluency with basic facts (add to 20, subtract from 10).
1.NBT.7. Understand that in adding or subtracting two-digit numbers, one adds or subtracts like units (tens and tens, ones and ones) and sometimes it is necessary to compose or decompose a higher value unit.	Weak alignment: WY content is in the 3rd grade and is less specific. CC specifies how to add and subtract two-digit numbers.	MA3.1.5 Students add and subtract two- and three-digit numbers with and without regrouping.
1.NBT.8. Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count.	No match	
1.NBT.9. Add one-digit numbers to two-digit	Weak alignment: WY content is in 2nd	MA2.1.4 Students demonstrate

numbers, and add multiples of 10 to one-digit and two-digit numbers.	grade and is less specific. WY content specifies adding basic facts to 20.	computational fluency with basic facts (add to 20, subtract from 10).
1.NBT.10. Explain addition of two-digit numbers using concrete models or drawings to show composition of a ten or a hundred.	No match	
1.NBT.11. Add two-digit numbers to two-digit numbers using strategies based on place value, properties of operations, and/or the inverse relationship between addition and subtraction; explain the reasoning used.	Weak alignment: WY content is in 3rd grade and it is different in scope because the WY content does not include using the properties of operations or the inverse relationship between operations.	MA3.1.5 Students add and subtract two- and three-digit numbers with and without regrouping.
1.MD. Measurement and Data		
1.MD. Length measurement		
1.MD.1. Order three objects by length; compare the length of two objects indirectly by using a third object.	No match	
1.MD.2. Understand that the length of an object can be expressed numerically by using another object as a length unit (such as a paper-clip, yardstick, or inch length on a ruler). The object to be measured is partitioned into as many equal parts as possible with the same length as the length unit. The length measurement of the object is the number of length units that span it with no gaps or overlaps. *For example, "I can put four paperclips end to end along the pencil, so the pencil is four paperclips long."*	Weak alignment: WY content is in Kindergarten and is more specific. WY content specifies measuring using up to 9 units.	MAK.3.1 Students apply estimation and measurement of length to content problems using non-standard units up to 9 units.
1.MD.3. Measure the length of an object by using another object as a length unit.	Weak alignment: WY content is in Kindergarten and is more specific. WY content specifies measuring using up	MAK.3.1 Students apply estimation and measurement of length to content problems using non-standard units up to

	to 9 units.	9 units.
1.MD. Time measurement		
1.MD.4. Tell time from analog clocks in hours and half- or quarter-hours.	Strong alignment	MA1.3.3 Students tell time, using both analog and digital clocks to the nearest half-hour.
1.MD. Representing and interpreting data		
1.MD.5. Organize, represent, and interpret data with several 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.	Strong alignment	MA1.5.1 Students collect and classify information to create graphs with pictures and report data in problem-solving situations. MA1.5.2 Students communicate conclusions about a set of data using graphs with pictures.
1.G. Geometry		
1.G. Shapes, their attributes, and spatial reasoning		
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) for a wide variety of shapes.	Weak alignment: WY content is in 2nd grade and is less specific. CC content specifies distinguishing between defining and non-defining attributes.	MA2.2.1 Students name, classify, and describe 2- and 3-dimensional geometric objects.
1.G.2. Understand that shapes can be joined together (composed) to form a larger shape or taken apart (decomposed) into a collection of smaller shapes. Composing multiple copies of some shapes creates tilings. *In this grade, "circles," "rectangles," and other shapes include their interiors as well as their boundaries*.	No match	

1.G.3. Compose two-dimensional shapes to create a unit, using cutouts of rectangles, squares, triangles, half-circles, and quarter-circles. Form new shapes by repeating the unit.	No match	
1.G.4. Compose three-dimensional shapes to create a unit, using concrete models of cubes, right rectangular prisms, right circular cones, and right circular cylinders. Form new shapes by repeating the unit. *Students do not need to learn formal names such as "right rectangular prism."*	No match	
1.G.5. Decompose circles and rectangles into two and four equal parts. Describe the parts using the words *halves, fourths, and quarters*, and using the phrases *half of, fourth of, and quarter of*. Describe the whole as two of, or four of the parts. Understand that decomposing into more equal shares creates smaller shares.	Partial alignment: WY content is in 4th grade.	MA4.1.7 Students recognize commonly used fractions (halves, thirds, fourths) as parts of a whole using an area model.
1.G.6. Decompose two-dimensional shapes into rectangles, squares, triangles, half-circles, and quarter-circles, including decompositions into equal shares.	No match	
Grade 2		
2.NOP. Number—Operations and the Problems They Solve		
2.NOP. Addition and subtraction		
2.NOP.1. Explain and justify properties of addition and subtraction, e.g., by using representations such as objects, drawings,	Weak alignment: WY content is in 8th grade and is less specific. CC specifies that students understand various	MA8.1.4 Students understand properties of operations with rational numbers.

and story contexts. Include properties such as: a. Changing the order of addends does not change their sum. b. Subtracting one addend from a sum of two numbers results in the other addend. c. If more is subtracted from a number, the difference is decreased, and if less is subtracted the difference is increased. d. In an addition equation, each addend can be decomposed and the parts can be recombined in any order without changing the sum. *For example, 5 + 3 = 8. Because 5 decomposes as 4 + 1, the first addend can be replaced by 4 + 1, yielding (4 + 1) + 3 = 8. Recombining in two different orders: 4 + 4 = 8, also 7 + 1 = 8.*	properties of numbers.	
2.NOP. Describing situations and solving problems with addition and subtraction		
2.NOP.2. Solve word problems involving addition and subtraction within 100, e.g., by using drawings or equations to represent the problem. *Students should work with all of the addition and subtraction situations shown in the Glossary, Table 1, solving problems with unknown sums, addends, differences, minuends, and subtrahends, and representing these situations with equations that use a symbol for the unknown (e.g., a question mark or a small square). Focus on the more difficult problem types.*	No match	

2.NOP.3. Solve two-step word problems involving addition and subtraction within 100, e.g., by using drawings or equations to represent the problem.	No match	
2.NBT. Number—Base Ten		
2.NBT. Numbers up to 1000		
2.NBT.1. Understand that 100 can be thought of as a bundle of tens—a unit called a "hundred."	No match	
2.NBT.2. Read and write numbers to 1000 using base-ten notation, number names, and expanded form.	Strong alignment	MA2.1.1 Students use the concept of place value to read and write designated numbers up to 999.
2.NBT.3. Count within 1000; skip count by 2s, 5s, 10s, and 100s.	No match	
2.NBT.4. Understand that when comparing three-digit numbers, if one number has more hundreds, it is greater; if the amount of hundreds is the same in each number, then the number with more tens is greater. If the amount of tens and hundreds is the same in each number, then the number with more ones is greater.	Partial alignment (implicit): The WY content emphasizes the skill, while the CC content emphasizes the concept	MA2.1.2 Students compare and order whole numbers up to 999.
2.NBT.5. Compare and order three-digit numbers based on meanings of the hundreds, tens, and ones digits.	Strong alignment	MA2.1.2 Students compare and order whole numbers up to 999.
2.NBT. Adding and subtracting in base ten		
2.NBT.6. Fluently add and subtract within 20. By end of Grade 2, know from memory sums of one-digit numbers.	Partial alignment (scope): WY content does not include computation fluency of subtraction above 10.	MA2.1.4 Students demonstrate computational fluency with basic facts (add to 20, subtract from 10).

	Partial alignment (grade level): WY content is in 3rd grade.	MA3.1.4 Students demonstrate computational fluency with basic facts (add to 20 and subtract from 20).
2.NBT.7. Mentally compute sums and differences of multiples of 10. *For example, mentally calculate 130 – 80.*	No match	
2.NBT.8. Understand that in adding or subtracting three-digit numbers, one adds or subtracts like units (hundreds and hundreds, tens and tens, ones and ones) and sometimes it is necessary to compose or decompose a higher value unit.	Weak alignment: WY content is in 3rd grade and it emphasizes the skill, while the CC content emphasizes the concept.	MA3.1.5 Students add and subtract two- and three-digit numbers with and without regrouping.
2.NBT.9. Given a number from 100 to 900, mentally find 10 more or 10 less than the number, and mentally find 100 more or 100 less than the number, without counting.	Weak alignment: WY content is in 3rd grade and is less specific. WY content includes all two- and three digit numbers, and does not specify mental calculations.	MA3.1.5 Students add and subtract two- and three-digit numbers with and without regrouping.
2.NBT.10. Understand that algorithms are predefined steps that give the correct result in every case, while strategies are purposeful manipulations that may be chosen for specific problems, may not have a fixed order, and may be aimed at converting one problem into another. *For example, one might mentally compute 503 – 398 as follows: 398 + 2 = 400, 400 + 100 = 500, 500 + 3 = 503, so the answer is 2 + 100 + 3, or 105.*	No match	
2.NBT.11. Compute sums and differences of one-, two-, and three-digit numbers using strategies based on place value, properties of	Partial alignment (specificity): CC specifies the types of strategies for student to use to achieve	MA2.1.4 Students demonstrate computational fluency with basic facts (add to 20, subtract from 10).

operations, and/or the inverse relationship between addition and subtraction; explain the reasoning used.	computational fluency. Weak alignment: WY content is in 3rd grade and is less specific. CC specifies the types of strategies for student to use to achieve computational fluency.	MA3.1.5 Students add and subtract two- and three-digit numbers with and without regrouping.
2.NBT.12. Explain why addition and subtraction strategies and algorithms work, using place value and the properties of operations. *Include explanations supported by drawings or objects. A range of reasonably efficient algorithms may be covered, not only the standard algorithm.*	No match	
2.NBT.13. Compute sums of two three-digit numbers, and compute sums of three or four two-digit numbers, using the standard algorithm; compute differences of two three-digit numbers using the standard algorithm.	Weak alignment: WY content is in 3rd grade and is less specific. CC specifies the number of two-digit numbers that students can compute.	MA3.1.5 Students add and subtract two- and three-digit numbers with and without regrouping.
2.MD. Measurement and Data		
2.MD. Length measurement		
2.MD.1. Understand that 1 inch, 1 foot, 1 centimeter, and 1 meter are conventionally defined lengths used as standard units.	Partial alignment (implicit): WY content is similar, with some difference in emphasis. The WY content emphasizes the skill, while the CC content emphasizes the concept.	MA2.3.1 Students apply estimation and measurement of length to content problems using standard units to the nearest inch.
2.MD.2. Measure lengths using measurement tools such as rulers, yardsticks and measuring tapes; understand that these tools are used to find out how many standard length units span an object with no gaps or overlaps, when the 0 mark of the tool is aligned with an end of the	Partial alignment (implicit): WY content is similar, with some difference in emphasis. WY content emphasizes the skill, while the CC content emphasizes the concept.	MA2.3.1 Students apply estimation and measurement of length to content problems using standard units to the nearest inch.

object.		
2.MD.3. Understand that when measuring a length, if a smaller unit is used, more copies of that unit are needed to measure the length than would be necessary if a larger unit were used.	No match	
2.MD.4. Understand that units can be decomposed into smaller units, e.g., 1 foot can be decomposed into 12 inches and 1 meter can be decomposed into 100 centimeters. A small number of long units might compose a greater length than a large number of small units.	Weak alignment: WY content is in 3rd grade, and is more specific. WY specifies problem-solving situations and U.S. customary units.	MA3.3.3 Students demonstrate relationships within the U.S. customary units in problem-solving situations.
2.MD.5. Understand that lengths can be compared by placing objects side by side, with one end lined up. The difference in lengths is how far the longer extends beyond the end of the shorter.	Weak alignment: Content is similar, but there is a significant difference in the phrasing or emphasis. WY content emphasizes estimating and measuring length. CC content emphasizes comparing lengths..	MA2.3.1 Students apply estimation and measurement of length to content problems using standard units to the nearest inch. MAK.3.1 Students apply estimation and measurement of length to content problems using non-standard units up to 9 units.
2.MD.6. Understand that a sum of two whole numbers can represent a combination of two lengths; a. difference of two whole numbers can represent a difference in length; find total lengths and differences in lengths	No match	

using addition and subtraction.		
2.MD. Time and money		
2.MD.7. Find time intervals between hours in one day.	Partial alignment (grade level): WY content is in 4th grade.	MA4.3.6 Students use time, in problem-solving situations to: • compare relationships among seconds, minutes, and hours; • use elapsed time to the nearest minute.
2.MD.8. Solve word problems involving dollar bills, quarters, dimes, nickels and pennies. *Do not include dollars and cents in the same problem.*	Partial alignment (implicit): WY content is similar, with some differences in emphasis. WY content relates to making a dollar with different combinations of coins while the CC standard is about solving word problems involving money. Weak alignment: WY content is in 3rd grade and has a different emphasis. WY content relates to making up to five dollars with different combinations of coins while the CC content is about solving word problems involving money.	MA2.1.3 Students use coins to compare the values and make combinations up to one dollar. MA3.1.3 Students use coins and bills to compare the values and make combinations up to five dollars.
2.MD. Representing and interpreting data		
2.MD.9. Generate measurement data by measuring whole-unit lengths of several objects, or by making repeated measurements of the same object. Show the measurements by making a dot plot, where the horizontal scale is marked off in whole-number units.	Partial alignment (specificity): WY content is less specific. CC specifies the student must generate data by making repeated measurements.	MA2.3.1 Students apply estimation and measurement of length to content problems using standard units to the nearest inch.
2.MD.10. Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with several categories. Connect representations on bar graph scales, rulers,	Partial alignment (specificity): WY is less specific. CC specifies the formats for reporting data and includes comparing problems using data found	MA2.5.1 Students collect, organize, and report data using graphs and Venn diagrams.

and number lines that begin with zero. Solve simple Put Together/Take Apart and Compare problems using information presented in a bar graph. See Glossary, Table 1.	in a bar graph.	
2.G. Geometry		
2.G. Shapes, their attributes, and spatial reasoning		
2.G.1. Understand that different categories of shapes (e.g., rhombuses, trapezoids, rectangles, and others) can be united into a larger category (e.g., quadrilaterals) on the basis of shared attributes (e.g., having four straight sides).	Partial alignment (implicit): The WY content is similar, with some difference in emphasis. The WY content emphasizes the skill, while the CC content emphasizes the concept.	MA2.2.1 Students name, classify, and describe 2- and 3-dimensional geometric objects.
2.G.2. Identify and name polygons of up to six sides by the number of their sides or angles.	Partial alignment (scope): WY content includes 3-dimensional objects.	MA2.2.1 Students name, classify, and describe 2- and 3-dimensional geometric objects.
2.G.3. Recognize rectangles, rhombuses, squares and trapezoids as examples of quadrilaterals; draw examples of quadrilaterals that do not belong to any of these subcategories.	Partial alignment (scope): WY content includes 2- or 3-dimensional shapes that are not quadrilaterals.	MA2.2.1 Students name, classify, and describe 2- and 3-dimensional geometric objects.
2.G.4. Draw and identify shapes that have specific attributes, such as number of equal sides or number of equal angles. *Sizes of lengths and angles are compared directly or visually, not compared by measuring.*	Strong alignment	MA2.2.1 Students name, classify, and describe 2- and 3-dimensional geometric objects.
2.G.5. Recognize objects as resembling spheres, right circular cylinders, and right rectangular prisms. *Students do not need to learn formal names such as "right rectangular prism."*	Weak alignment: Content is similar, but there is a significant difference in the phrasing or emphasis. WY requires students to classify 3-dimensional objects, while CC only requires	MA2.2.1 Students name, classify, and describe 2- and 3-dimensional geometric objects.

	recognition, and specifies that students do not have to learn the formal names.	
2.G.6. Decompose circular and rectangular objects into two, three, or four equal parts. Describe the parts using the words *halves, thirds, half of, a third of,* etc.; describe the wholes as two halves, three thirds, four fourths. Recognize that a half, a third, or a fourth of a circular or rectangular object—a graham cracker, for example—is the same size regardless of its shape.	Partial alignment (grade level): WY content is in 4th grade.	MA4.1.7 Students recognize commonly used fractions (halves, thirds, fourths) as parts of a whole using an area model.
Grade 3		
3.NOP. Number—Operations and the Problems They Solve		
3.NOP. Multiplication and division		
3.NOP.1. Understand that multiplication of whole numbers is repeated addition. *For example, 5 × 7 means 7 added to itself 5 times. Products can be represented by rectangular arrays, with one factor the number of rows and the other the number of columns.*	Weak alignment: WY content is in 4th grade and the WY content emphasizes the skill of multiplication, while the CC content emphasizes the concept. .	MA4.1.4 Students demonstrate computational fluency with basic facts (add to 20, subtract from 20, multiply by 0-10).
3.NOP.1. Understand that multiplication of whole numbers is repeated addition. *For example, 5 × 7 means 7 added to itself 5 times. Products can be represented by rectangular arrays, with one factor the number of rows and the other the number of columns.*	Partial alignment (grade level): WY content is found in 5th grade.	MA5.1.3 Students demonstrate an understanding of whole number operations by: • explaining the relationships between the operations of addition, subtraction,

		multiplication, and division; and • multiplying by two-digit whole numbers and dividing by single-digit whole numbers.
3.NOP.2. Understand the properties of multiplication. a. Multiplication is commutative. *For example, the total number in 3 groups with 6 things each is the same as the total number in 6 groups with 3 things each, that is, 3 × 6 = 6 × 3.* b. Multiplication is associative. *For example, 4 × 3 × 2 can be calculated by first calculating 4 × 3 = 12 then calculating 12 × 2 = 24, or by first calculating 3 × 2 = 6 then calculating 4 × 6 = 24.* c. 1 is the multiplicative identity. d. Multiplication distributes over addition (the distributive property). *For example, 5 × (3 + 4) = (5 × 3) + (5 × 4).*	Weak alignment: WY content is in 8th grade level and is less specific. CC content specifies understanding the properties of multiplication.	MA8.1.4 Students understand properties of operations with rational numbers.
3.NOP.3. Explain and justify properties of multiplication and division, e.g., by using representations such as objects, drawings, and story contexts. Include properties such as: a. Changing the order of two factors does not change their product. b. The product of a number and 1 is the number. c. Dividing a nonzero number by itself	Weak alignment: WY content is in 8th grade and less specific. CC specifies all the properties of multiplication and division. Weak alignment: WY content is in 5th grade and is less specific. CC specifies all the properties of multiplication and division.	MA8.1.4 Students understand properties of operations with rational numbers. MA5.1.3 Students demonstrate an understanding of whole number operations by: • explaining the relationships

yields 1. d. Multiplying a quantity by a nonzero number, then dividing by the same number, yields the original quantity. e. When one factor in a product is multiplied by a number and another factor divided by the same number, the product is unchanged. Limit to multiplying and dividing by numbers that result in whole- number quotients. f. Products where one factor is a one-digit number can be computed by decomposing one factor as the sum of two numbers, multiplying each number by the other factor, and adding the two products.		between the operations of addition, subtraction, multiplication, and division; and • multiplying by two-digit whole numbers and dividing by single-digit whole numbers.
3.NOP.4. Understand that multiplication and division have an inverse relationship. *For example, if 5 × 7 = 35 is known, then 35 ÷ 5 = 7 and 35 ÷ 7 = 5 are also known. The division 35 ÷ 5 means the number which yields 35 when multiplied by 5; because 5 × 7 = 35, then 35 ÷ 5 = 7.*	Weak alignment: WY content is in 5th grade and the WY content emphasizes the skill of using and explaining inverse operations, while the CC content emphasizes the concept.	MA5.1.3 Students demonstrate an understanding of whole number operations by: • explaining the relationships between the operations of addition, subtraction, multiplication, and division; and • multiplying by two-digit whole numbers and dividing by single-digit whole numbers.
3.NOP.5. Understand that when all but one of three numbers in a multiplication or division equation are known, the unknown number can	No match	

be found. *Limit to cases where the unknown number is a whole number.*		
3.NOP. Describing situations and solving problems with multiplication and division		
3.NOP.6. Understand that multiplication and division apply to situations with equal groups, arrays or area, and comparing. *See Glossary, Table 2.*	No match	
3.NOP.7. Solve word problems involving multiplication and division within 100, using an equation with a symbol for the unknown to represent the problem. *This standard is limited to problems with whole-number quantities and whole-number quotients. Focus on situations described in the Glossary, Table 2.*	No match	
3.NOP.8. Solve one- or two-step word problems involving the four operations. *This standard is limited to problems with whole-number quantities and whole-number quotients.*	No match	
3.NOP.9. Understand that multiplication and division can be used to compare quantities (see Glossary, Table 2); solve multiplicative comparison problems with whole numbers (problems involving the notion of “times as much”)	No match	
3.NBT. Number—Base Ten		
3.NBT. Numbers up to 10,000		
3.NBT.1. Understand that 1000 can be thought of as a bundle of hundreds—a unit called a “thousand.”	No match	

3.NBT.2. Read and write numbers to 10,000 using base-ten notation, number names, and expanded form.	Strong alignment	MA3.1.1 Students use the concept of place value to read and write designated numbers up to 9,999.
3.NBT.3. Count within 10,000; skip count by 10s, 100s and 1000s.	No match	
3.NBT.4. Understand that when comparing four-digit numbers, if one number has more thousands, it is greater; if the amount of thousands is the same in each number, then the number with more hundreds is greater; and so on. Compare and order four-digit numbers based on meanings of the digits.	Partial alignment (implicit): The WY content is similar, with some difference in emphasis. The WY content emphasizes the skill, while the CC content emphasizes the concept.	MA3.1.2 Students compare and order whole numbers up to 9,999.
3.NBT. Adding and subtracting in base ten		
3.NBT.5. Mentally calculate sums and differences of multiples of 10, 100, and 1000. *For example, mentally calculate 1300 – 800*	Partial alignment (scope): WY content includes all two- and three digit numbers, and does not specify mental calculations.	MA3.1.5 Students add and subtract two- and three-digit numbers with and without regrouping.
3.NBT.6. Given a number from 1000 to 9000, mentally find 100 more or 100 less than the number, and mentally find 1000 more or 1000 less than the number, without counting.	Partial alignment (scope): WY content includes all two- and three digit numbers, and does not specify mental calculations.	MA3.1.5 Students add and subtract two- and three-digit numbers with and without regrouping.
3.NBT. Multiplying and dividing in base ten		
3.NBT.7. Understand that the distributive property is at the heart of strategies and algorithms for multiplication and division computations with numbers in base-ten notation; use the distributive property and other properties of operations to explain	Weak alignment: WY content is in 8th grade and is less specific. The CC standard specifies understanding and using the distributive property.	MA8.1.4 Students understand properties of operations with rational numbers.

patterns in the multiplication table and to derive new multiplication and division equations from known ones. *For example, the distributive property makes it possible to multiply 4 × 7 by decomposing 7 as 5 + 2 and using 4 × 7 = 4 × (5 + 2) = (4 × 5) + (4 × 2) = 20 + 8 = 28.*		
3.NBT.8. Fluently multiply one-digit numbers by 10.	Partial alignment (grade level): WY content is in 4th grade.	MA4.1.4 Students demonstrate computational fluency with basic facts (add to 20, subtract from 20, multiply by 0-10).
3.NBT.9. Use a variety of strategies for multiplication and division within 100. By end of Grade 3, know from memory products of one-digit numbers where one of the factors is 2, 3, 4, or 5.	Partial alignment (grade level): WY content is in 5th grade.	MA5.1.2 Students demonstrate computational fluency with basic facts for all four operations, including identifying multiples and factors of designated numbers up to 100.
3.NF. Number—Fractions		
3.NF. Fractions as representations of numbers		
3.NF.1. Understand that a unit fraction corresponds to a point on a number line. *For example, 1/3 represents the point obtained by decomposing the interval from 0 to 1 into three equal parts and taking the right-hand endpoint of the first part. In Grade 3, all number lines begin with zero.*	Weak alignment: WY content is in 4th grade and is less specific. CC specifies using linear models as opposed to using area models (parts of a whole).	MA5.1.6 Students demonstrate an understanding of fractions as parts of wholes.
3.NF.2. Understand that fractions are built from unit fractions. *For example, 5/4 represents the point on a number line obtained by marking off five lengths of ¼ to the right of 0.*	Partial alignment (grade level): WY content is in 5th grade.	MA5.1.6 Students demonstrate an understanding of fractions as parts of wholes.

3.NF.3. Understand that two fractions are equivalent (represent the same number) when both fractions correspond to the same point on a number line. Recognize and generate equivalent fractions with denominators 2, 3, 4, and 6 (e.g., 1/2 = 2/4, 4/6 = 2/3), and explain the reasoning.	Weak alignment: WY content is in 6th grade and includes content beyond equivalent fractions. WY includes all fractions, while CC specifies the value of the denominators.	MA6.1.6 Students demonstrate an understanding of fractions and decimals by: • representing fractions as division of whole numbers; • converting between mixed numbers and improper fractions; • simplifying fractions and mixed numbers; • writing fractions in equivalent forms; • using parts of a set; • rounding decimal numbers to 10ths, 100ths, and whole numbers (units) place; and • converting between decimals (from .01 to .99), fractions and representing percentages.
3.NF.4. Understand that whole numbers can be expressed as fractions. Three important cases are illustrated by the examples 1 = 4/4, 6 = 6/1, and 7 = (4 × 7)/4. Expressing whole numbers as fractions can be useful for solving problems or making calculations.	Weak alignment: WY content is in 6th grade and includes content beyond expressing whole numbers as fractions.	MA6.1.6 Students demonstrate an understanding of fractions and decimals by: • representing fractions as division of whole numbers; • converting between mixed numbers and improper fractions; • simplifying fractions and mixed numbers; • writing fractions in equivalent forms; • using parts of a set; • rounding decimal numbers to 10ths, 100ths, and whole numbers (units) place; and • converting between decimals (from .01

		to .99), fractions and representing percentages.
3.NF. Fractional quantities		
3.NF.5. Understand that fractions apply to situations where a whole is decomposed into equal parts; use fractions to describe parts of wholes. *For example, to show 1/3 of a length, decompose the length into 3 equal parts and show one of the parts.*	Partial alignment (grade level): WY content is in 5th grade.	MA5.1.6 Students demonstrate an understanding of fractions as parts of wholes.
3.NF.6. Compare and order fractional quantities with equal numerators or equal denominators, using the fractions themselves, tape diagrams, number line representations, and area models. Use > and < symbols to record the results of comparisons.	Weak alignment: WY content is in 5th grade and does not include comparing and ordering fractions with equal numerators.	MA5.1.7 Students order, compare, add, and subtract fractions with like denominators.
3.MD. Measurement and Data		
3.MD. The number line and units of measure		
3.MD.1. Understand that a number line has an origin (0) and a unit (1), with whole numbers one unit distance apart. Use number lines to represent problems involving distances, elapsed time, amounts of money and other quantities. *In such problems, the interval from 0 to 1 may represent a unit of distance, time, money, etc.*	Weak alignment: WY content is in 6th grade and emphasizes the skill, while the CC content emphasizes the concept. WY content includes integers.	MA6.1.3 Students represent the number line using integers.
3.MD.2. Understand that a unit of measure can be decomposed into equal-sized parts, whose sizes can be represented as fractions of the unit. Convert measurements in one unit to measurements in a smaller or a larger unit, and solve problems involving such mixed units	Weak alignment: WY content is found in 11th grade, and includes all types of units (e.g., time).	MA11.3.2 Students demonstrate an understanding of both metric and U. S. customary systems. Students are able to convert within each system.

(e.g., feet and inches, weeks and days).		
3.MD. Perimeter and area		
3.MD.3. Understand and use 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 has an area of n square units. Areas of some other figures can be measured by using fractions of unit squares or using figures whose areas have been found by decomposing other figures. c. When measuring an area, if a smaller unit of measurement is used, more units must be iterated to measure the area in those units. d. Determine and compare areas by counting square units. Use cm^2, m^2, in^2, ft^2, and improvised units.	Weak alignment: WY content is in 4th grade and is less specific. CC specifies understanding and using the units of area.	MA4.3.5 Students determine area and perimeter of rectangles and squares using models in problem-solving situations.
3.MD.4. Understand that multiplication of whole numbers can be represented by area models; a rectangular region that is a length units by b length units (where a and b are whole numbers) and tiled with unit squares illustrates why the rectangle encloses an area of a × b square units.	No match	
3.MD.5. Solve problems involving perimeters of polygons.	Weak alignment: WY content is in 4th grade and is less specific. CC specifies	MA4.3.5 Students determine area and perimeter of rectangles and squares

a. Add given side lengths, and multiply for the case of equal side lengths. b. Find an unknown length of a side in a polygon given the perimeter and all other side lengths; represent these problems with equations involving a letter for the unknown quantity. c. Exhibit rectangles with the same perimeter and different area, and with the same area and different perimeter.	types of problems involving perimeters of polygons.	using models in problem-solving situations.
3.MD. Representing and interpreting data		
3.MD.6. 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. *Include single-unit scales and multiple-unit scales; for example, each square in the bar graph might represent 1 pet, 5 pets, or 10 pets.*	No match	
3.MD.7. Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a dot plot, where the horizontal scale is marked off in appropriate units—whole numbers, halves, or quarters.	Partial alignment (specificity): WY content is less specific. CC specifies generating and using measurements as data and using this data to create a dot plot.	MA3.3.1 Students apply estimation and measurement of length to content problems using actual measuring devices and express the results in U.S. customary units (inches, feet, and yards).
3.G. Geometry		
3.G. Properties of 2-dimensional shapes		
3.G.1. Understand that a given category of plane figures (e.g., triangles) has subcategories (e.g., isosceles triangles)	No match	

defined by special properties.		
3.G.2. Describe, analyze, compare and classify two-dimensional shapes by their properties and connect these properties to the classification of shapes into categories and subcategories (e.g., squares are “special rectangles" as well as “special rhombuses"). *Focus on triangles and quadrilaterals.*	Strong alignment	MA3.2.1 Students recognize, name, compare, and sort 2- and 3-dimensional geometric objects
3.G. Structuring rectangular shapes		
3.G.3. Understand that rectangular regions can be tiled with squares in rows and columns, or decomposed into such arrays.	No match	
3.G.4. Structure a rectangular region spatially by decomposing it into rows and columns of squares. Determine the number of squares in the region using that spatial structure (e.g., by multiplication or skip counting).	No match	
3.G.5. Understand that shapes can be decomposed into parts with equal areas; the area of each part is a unit fraction of the whole. *For example, when a shape is partitioned into 4 parts with equal area, the area of each part is ¼ of the area of the shape.*	No match	
Grade 4		
4.NOP. Number—Operations and the Problems They Solve		
4.NOP. Multiplication and division		
4.NOP.1. Find the factor pairs for a given whole number less than or equal to 100; recognize prime numbers as numbers greater than 1 with exactly one factor pair. Example:	Partial alignment (grade level): WY content is in 5th grade.	MA5.1.2 Students demonstrate computational fluency with basic facts for all four operations, including identifying multiples and factors of designated

The factor pairs of 42 are {42, 1}, {21, 2}, {14, 3}, {7, 6}.		numbers up to 100.
4.NOP. Problem solving with the four operations		
4.NOP.2. Solve multistep word problems involving the four operations with whole numbers.	Partial alignment (grade level): WY content is in 8th grade.	MA8.4.1 Students translate word phrases, which involve the four basic operations to mathematical expressions.
4.NOP.3. Solve problems posed with both whole numbers and fractions. Understand that while quantities in a problem might be described with whole numbers, fractions, or decimals, the operations used to solve the problem depend on the relationships between the quantities regardless of which number representations are involved.	No match	
4.NOP.4. Assess the reasonableness of answers using mental computation and estimation strategies including rounding to the nearest 10 or 100.	Partial alignment (scope): WY content does not include assessing the reasonableness of answers.	MA4.1.8 Students use estimation strategies to solve problems.
4.NBT. Number—Base Ten		
4.NBT. Numbers up to 100,000		
4.NBT.1. Understand that a digit in one place represents ten times what it represents in the place to its right. For example, 7 in the thousands place represents 10 times as many as than 7 in the hundreds place.	Partial alignment (implicit): The WY content emphasizes the skill, while the CC content emphasizes the concept.	MA4.1.1 Students use the concept of place value to read and write whole numbers up to 999,999 in words, standard, and expanded form.

4.NBT.2. Read, write and compare numbers to 100,000 using base-ten notation, number names, and expanded form.	Partial alignment (scope): WY content includes numbers from 100,001 up to 999,999. Partial alignment (specificity): WY content is less specific. CC specifies a limit on the types of numbers that students should be able to compare.	MA4.1.1 Students use the concept of place value to read and write whole numbers up to 999,999 in words, standard, and expanded form. MA4.1.2 Students compare and order whole numbers.
4.NBT. Multiplying and dividing in base ten		
4.NBT.3. Understand how the distributive property and the expanded form of a multi-digit number can be used to calculate products of multi-digit numbers. a. The product of a one-digit number times a multi-digit number is the sum of the products of the one-digit number with the summands in the expanded form of the multi-digit number. Illustrate this numerically and visually using equations, rectangular arrays, area models, and tape diagrams. b. Algorithms for multi-digit multiplication can be derived and explained by writing multi-digit numbers in expanded form and applying the distributive property.	Weak alignment: WY content is in 8th grade and is less specific. CC specifies the property (distributive property) and the expanded form of a multi-digit number that students need to understand.	MA8.1.4 Students understand properties of operations with rational numbers.
4.NBT.4. Fluently multiply and divide within 100. By end of Grade 4, know from memory products of one-digit numbers where one of	Partial alignment (grade level): WY content is in 5th grade.	MA5.1.2 Students demonstrate computational fluency with basic facts for all four operations, including identifying

the factors is 6, 7, 8, or 9.		multiples and factors of designated numbers up to 100.
4.NBT.5. Mentally calculate products of one-digit numbers and one-digit multiples of 10, 100, and 1000 (e.g., 7 × 6000). Mentally calculate whole number quotients with divisors of 10 and 100.	Partial alignment (specificity): WY content is less specific. CC specifies that students should be able to multiply and divide mentally using multiples of 10, 100, or 1000. Weak alignment: WY content is in 5th grade and is less specific. CC specifies mentally multiplying and dividing multiples of 10, 100, and 1000.	MA4.1.4 Students demonstrate computational fluency with basic facts (add to 20, subtract from 20, multiply by 0-10). MA5.1.3 Students demonstrate an understanding of whole number operations by: • explaining the relationships between the operations of addition, subtraction, multiplication, and division; and • multiplying by two-digit whole numbers and dividing by single-digit whole numbers.
6. Compute products and whole number quotients of two-, three- or four-digit numbers and one-digit numbers, and compute products of two two-digit numbers, using strategies based on place value, the properties of operations, and/or the inverse relationship between multiplication and division; explain the reasoning used.	Partial alignment (grade level): WY content is in 5th grade.	MA5.1.3 Students demonstrate an understanding of whole number operations by: • explaining the relationships between the operations of addition, subtraction, multiplication, and division; and • multiplying by two-digit whole numbers and dividing by single-digit whole numbers.
4.NBT.7. Explain why multiplication and division strategies and algorithms work, using place value and the properties of operations. Include explanations supported by drawings, equations, or both. A range of reasonably efficient algorithms may be covered, not only the standard algorithms.	No match	

4.NBT.8. Compute products of two-digit numbers using the standard algorithm, and check the result using estimation.	Weak alignment: WY content is in 5th grade and is less specific. CC specifies multiplying two two-digit numbers. Partial alignment (specificity): CC specifies the purpose of using estimation (checking work that results from multiplying two two-digit numbers).	MA5.1.3 Students demonstrate an understanding of whole number operations by: • explaining the relationships between the operations of addition, subtraction, multiplication, and division; and • multiplying by two-digit whole numbers and dividing by single-digit whole numbers. MA4.1.8 Students use estimation strategies to solve problems.
4.NBT.9. Given two whole numbers, find an equation displaying the largest multiple of one which is less than or equal to the other. For example, given 325 and 7, the equation 325 = 46 × 7 + 3 shows the largest multiple of 7 less than or equal to 325.	No match	
4.NF. Number—Fractions		
4.NF. Operations on fractions		
4.NF.1. Understand addition of fractions: a. Adding or subtracting fractions with the same denominator means adding or subtracting copies of unit fractions. For example, 2/3 + 4/3 is 2 copies of 1/3 plus 4 copies of 1/3, or 6 copies of 1/3 in all, that I s 6/3.b. Sums of related fractions can be computed by replacing one with an equivalent fraction that has the same denominator as the other. For example, the sum of the related fractions 2/3 and 1/6 can be computed by rewriting 2/3 as	Weak alignment: WY content is in 5th grade and WY content emphasizes the skill, while the CC content emphasizes the concept.	MA5.1.7 Students order, compare, add, and subtract fractions with like denominators.

4/6 and computing 4/6 + 1/6 = 5/6.		
4.NF.2. Compute sums and differences of fractions with like denominators, add and subtract related fractions within 1 (e.g., 1/2 + 1/4, 3/10 + 4/100, 7/8 – 1/4), and solve word problems involving these operations.	Weak alignment: WY content is in 5th grade and does not include solving word problems. In addition, CC specifies adding and subtracting related fractions or solving word problems involving fractions with like denominators.	MA5.1.7 Students order, compare, add, and subtract fractions with like denominators.
4.NF.3. Understand that the meaning of multiplying a fraction by a whole number comes from interpreting multiplication by a whole number as repeated addition. For example, 3 × 2/5 = 6/5 because 3 × 2/5 = 2/5 + 2/5 + 2/5 = 6/5.	No match	
4.NF.4. Solve word problems that involve multiplication of fractions by whole numbers; represent multiplication of fractions by whole numbers using tape diagrams and area models that explain numerical results.	No match	
4.NF.5. Understand that fractions give meaning to the quotient of any whole number by any non-zero whole number. For example, 3 ÷ 4 = 3/4, because 3/4 multiplied by 4 equals 3. (The division 3 ÷ 4 means the number which yields 3 when multiplied by 4.)	Weak alignment: WY content is in 6th grade and is less specific. CC specifies recognizing that a fraction multiplied by its denominator's reciprocal results in the numerator.	MA6.1.6 Students demonstrate an understanding of fractions and decimals by: • representing fractions as division of whole numbers; • converting between mixed numbers and improper fractions; • simplifying fractions and mixed numbers; • writing fractions in equivalent forms; • using parts of a set; • rounding decimal numbers to 10ths, 100ths, and whole numbers (units)

		place; and • converting between decimals (from .01 to .99), fractions and representing percentages.
4.NF.6. Solve word problems that involve non-whole number quotients of whole numbers; represent quotients of whole numbers using tape diagrams and area models that explain numerical results.	No match	
4.NF. Decimal concepts		
4.NF.7. Understand that a two-digit decimal is a sum of fractions with denominators 10 and 100. For example, 0.34 is 3/10 + 4/100.	Weak alignment: WY content is in 6th grade and the CC content emphasizes the concept, while WY emphasizes the skill.	MA6.1.6 Students demonstrate an understanding of fractions and decimals by: • representing fractions as division of whole numbers; • converting between mixed numbers and improper fractions; • simplifying fractions and mixed numbers; • writing fractions in equivalent forms; • using parts of a set; • rounding decimal numbers to 10ths, 100ths, and whole numbers (units) place; and • converting between decimals (from .01 to .99), fractions and representing percentages.
4.NF.8. Use decimals to hundredths to describe parts of wholes; compare and order decimals to hundredths based on meanings of the digits; and write fractions of the form a/10	Weak alignment: WY content is in 6th grade and does not include comparing and ordering decimals.	MA6.1.6 Students demonstrate an understanding of fractions and decimals by: • representing fractions as division of

or a/100 in decimal notation. Use > and < symbols to record the results of comparisons.		whole numbers; • converting between mixed numbers and improper fractions; • simplifying fractions and mixed numbers; • writing fractions in equivalent forms; • using parts of a set; • rounding decimal numbers to 10ths, 100ths, and whole numbers (units) place; and • converting between decimals (from .01 to .99), fractions and representing percentages.
4.MD. Measurement and Data		
4.MD. The number line and units of measure		
4.MD.1. Understand that the unit length on a number line (interval from 0 to 1) can be divided into parts of equal fractional length. Draw number line representations of problem situations involving length, height, and distance including fractional or decimal units. For example, show distances along a race course to tenths of a mile on a number line, by dividing the unit length into 10 equal parts to get parts of length 1/10; the endpoint of the segment of 1/10 length from 0 represents 1/10 of a mile from the starting point of the race. In Grade 4, all numbers lines begin with zero.	No match	
4.MD. Perimeter and area		
4.MD.2. Understand that if a region is	No match	

decomposed into several disjoint pieces, then the area of the region can be found by adding the areas of the pieces (when these areas are expressed in the same units).		
4.MD.3. Apply the formulas for area of squares and rectangles. Measure and compute whole-square-unit areas of objects and regions enclosed by geometric figures which can be decomposed into rectangles. Limit to situations requiring products of one-or two-digit numbers.	Weak alignment: WY content is in 5th grade and does not include measuring and computing whole-square unit areas nor does it limit the situations requiring products of one or two-digit numbers.	MA5.3.5 Students determine area and perimeter of triangles, rectangles, and squares using models in problem-solving situations using appropriate units.
4.MD.4. Find one dimension of a rectangle, given the other dimension and the area or perimeter; find the length of one side of a square, given the area or perimeter. Represent these problems using equations involving a letter for the unknown quantity.	No match	
4.MD. Angle measurement		
4.MD.5. Understand what an angle is and how it is measured: a. An angle is formed by two rays with a common endpoint. b. An angle is measured by reference to a circle with its center at the common endpoint of the rays. The measure of an angle is based on the fraction of the circle between the points where the two rays intersect the circle. c. A one-degree angle turns through 1/360 of a circle, where the circle is centered at the common endpoint of its rays; the measure of a given angle is	Weak alignment: WY content is in 6th grade and is less specific. CC specifies what information the student should know including that the measure of an angle is a fraction of a circle.	MA6.2.1 Students classify, describe, compare, and draw representations of 1- and 2- dimensional objects and angles.

the number of one-degree angles turned with no gaps or overlaps.		
4.MD.6. Measure angles in whole-number degrees using a protractor; sketch angles of specified measure; find the measure of a missing part of an angle, given the measure of the angle and the measure of a part of it, representing these problems with equations involving a letter for the unknown quantity.	Weak alignment: WY content is in 6th grade and is less difficult. CC includes problem solving with angles. Weak alignment: WY content is in 7th grade and is less difficult. CC includes problem solving with angles.	MA6.2.1 Students classify, describe, compare, and draw representations of 1- and 2- dimensional objects and angles. MA7.3.6 Students measure angles with a protractor.
4.MD. Representing and interpreting data		
4.MD.7. Make a dot 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 dot plots. For example, from a dot plot find and interpret the difference in length between the longest and shortest specimens in an insect collection.	No match	
4.G. Geometry		
4.G. Lines and angles		
4.G.1. Draw points, lines, line segments, rays, angles, and perpendicular and parallel lines; identify these in plane figures.	Weak alignment: WY content is in 6th grade and is less specific. CC specifies which objects and angles should be drawn (line segments, rays, perpendicular and parallel lines).	MA6.2.1 Students classify, describe, compare, and draw representations of 1- and 2- dimensional objects and angles.

4.G.2. Identify right angles, and angles smaller than or greater than a right angle in geometric figures; recognize right triangles.	Weak alignment: WY content is in 6th grade and is less specific. CC specifies the classification of right angles, and includes the recognition of right triangles.	MA6.2.1 Students classify, describe, compare, and draw representations of 1- and 2- dimensional objects and angles.
4.G.3. Classify shapes based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of specified size.	Partial alignment (implicit): Content is similar, with some difference in emphasis. WY content emphasizes classifying shapes based on attributes while the CC content classifies shapes based on the presence or absence of parallel or perpendicular lines.	MA4.2.1 Students classify and describe 2- and 3- dimensional geometric objects by their attributes (sides, edges, vertices, and faces).
4.G. Line symmetry		
4.G.4. Understand that a line of symmetry for a geometric figure is a line across the figure such that the figure can be folded along the line into matching part.	Weak alignment: WY content is in 2nd grade and emphasizes the skill, while the CC content emphasizes the concept. Weak alignment: WY content is in 3rd grade and emphasizes the skill, while the CC content emphasizes the concept. Weak alignment: WY content is in 5th grade and emphasizes the skill, while the CC content emphasizes the concept.	MA2.2.2 Students identify lines of symmetry in various geometric objects. MA3.2.2 Students describe and compare various geometric objects using congruency and lines of symmetry. MA5.2.3 Students describe and compare various geometric objects using congruency and lines of symmetry appropriate to grade level.

4.G.5. Identify line-symmetric figures; given a horizontal or vertical line and a drawing that is not a closed figure, complete the drawing to create a figure that is symmetric with respect to the given line	Weak alignment: WY content is in 2nd grade and does not include completing a drawing using symmetry.	MA2.2.2 Students identify lines of symmetry in various geometric objects.
	Weak alignment: WY content is in 3rd grade and does not include completing a drawing using symmetry. Weak alignment: WY content is in 5thgrade and does not include completing a drawing using symmetry.	MA3.2.2 Students describe and compare various geometric objects using congruency and lines of symmetry. MA5.2.3 Students describe and compare various geometric objects using congruency and lines of symmetry appropriate to grade level.
Grade 5		
5.NBT. Number—Base Ten		
5.NBT. Whole numbers in base ten		
5.NBT.1. Compute quotients of two-, three-, and four-digit whole numbers and two-digit whole numbers using strategies based on place value, the properties of operations, and/or the inverse relationship between multiplication and division; explain the reasoning used.	Partial alignment (scope): WY content does not include computing quotients of three-digit and four-digit numbers as well as the expressions of these problems in equations form.	MA5.1.3 Students demonstrate an understanding of whole number operations by: • explaining the relationships between the operations of addition, subtraction, multiplication, and division; and • multiplying by two-digit whole numbers and dividing by single-digit whole numbers.
5.NBT.2. Explain why division strategies and algorithms work, using place value and the properties of operations. Include explanations supported by drawings, equations, or both. A range of reasonably efficient algorithms may be covered, not only the standard algorithm.	No match	

5.NBT.3. Use the standard algorithm to compute quotients of two-, three- and four-digit whole numbers and two-digit whole numbers, expressing the results as an equation (e.g., 145 = 11 × 13 + 2 or 120 × 7 = 17 1/7).	Partial alignment (scope): WY content does not include dividing three-digit and four-digit numbers as well as the expressions of these problems in equations form.	MA5.1.3 Students demonstrate an understanding of whole number operations by: • explaining the relationships between the operations of addition, subtraction, multiplication, and division; and • multiplying by two-digit whole numbers and dividing by single-digit whole numbers.
5.NBT.4. Fluently add, subtract and multiply whole numbers using the standard algorithm for each operation.	Partial alignment (specificity): WY content is more specific. WY specifies fluency up to 100 and the CC does not specify a limit.	MA5.1.2 Students demonstrate computational fluency with basic facts for all four operations, including identifying multiples and factors of designated numbers up to 100.
5.NBT. Decimal concepts		
5.NBT.5. Read, write, and compare numbers expressed as decimals. Understand that a digit in one place represents ten times what it represents in the place to its right. For example, 7 in the hundredths place represents 10 times as many as 7 in the thousandths place.	Partial alignment (scope): WY content does not include comparing decimals.	MA5.1.1 Students use the concept of place value to read and write whole numbers (in words, standard, and expanded form) and decimals (10ths and 100ths).
5.NBT.6. Round decimals (to hundredths) to the nearest whole number.	Partial alignment (grade level): WY content is in 6^{th} grade.	MA6.1.6 Students demonstrate an understanding of fractions and decimals by: • representing fractions as division of whole numbers; • converting between mixed numbers and improper fractions; • simplifying fractions and mixed numbers; • writing fractions in equivalent forms;

		• using parts of a set; • rounding decimal numbers to 10ths, 100ths, and whole numbers (units) place; and • converting between decimals (from .01 to .99), fractions and representing percentages.
5.NBT.7. Write fractions in decimal notation for fractions with denominators 2, 4, 5, 8, 10, and 100.	Weak alignment: WY content is in 6th grade and is less specific. CC specifies which type of fractions to write in decimal form.	MA6.1.6 Students demonstrate an understanding of fractions and decimals by: • representing fractions as division of whole numbers; • converting between mixed numbers and improper fractions; • simplifying fractions and mixed numbers; • writing fractions in equivalent forms; • using parts of a set; • rounding decimal numbers to 10ths, 100ths, and whole numbers (units) place; and • converting between decimals (from .01 to .99), fractions and representing percentages.
5.NBT. Operations on decimals		
5.NBT.8. Understand that in adding or subtracting finite decimals, one adds or subtracts like units (tenths and tenths, hundredths and hundredths, etc.) and sometimes it is necessary to compose or decompose a higher value unit.	Partial alignment (implicit): The WY content emphasizes the skill, while the CC content emphasizes the concept.	MA5.1.5 Students add and subtract decimals to hundredths and solve problems in the context of money.

5.NBT.9. Fluently find 0.1 more than a number and less than a number; 0.01 more than a number and less than a number; and 0.001 more than a number and less than a number, for numbers expressed as finite decimals.	Weak alignment: The content is similar, with a significant difference in emphasis. While both WY and CC require students to add and subtract decimals, WY emphasizes the context of money, while CC emphasizes specific values of decimals to add and subtract up to the thousandths place.	MA5.1.5 Students add and subtract decimals to hundredths and solve problems in the context of money.
5.NBT.10. Compute sums and differences of finite decimals by expressing the decimals as fractions and adding the fractions. For example, 0.05 + 0.91 = 5/100 + 91/100 = 96/100 or 0.96.	Partial alignment (scope): WY content does not include converting decimals to fractions before they are added/ subtracted.	MA5.1.5 Students add and subtract decimals to hundredths and solve problems in the context of money.
5.NBT.11. Compute sums, differences, products, and quotients of finite decimals using strategies based on place value, the properties of operations, and/or the inverse relationships between addition and subtraction and between multiplication and division; explain the reasoning used. For example, transform 1.5 ÷ 0.3 into 15 ÷ 3 = 5.	Weak alignment: CC content does not include computations in the context of money. WY content is less specific. CC specifies using inverse relationships and place value. Weak alignment: WY content is in 6th grade and is less specific. CC specifies the types of strategies to be used to multiply and divide decimals.	MA5.1.5 Students add and subtract decimals to hundredths and solve problms in the context of money. MA6.1.2 Students multiply decimals (10ths & 100ths) and divide whole numbers by 2-digit divisors and divide decimals by whole numbers.
5.NBT.12. Explain why strategies and algorithms for computations with finite decimals work. Include explanations supported by drawings, equations, or both. A range of reasonably efficient algorithms may be covered, not only the standard algorithm.	No match	

5.NBT.13. Use the standard algorithm for each of the four operations on decimals (to hundredths).	Strong alignment Partial alignment (grade level): WY content is in 6th grade.	MA5.1.5 Students add and subtract decimals to hundredths and solve problems in the context of money. MA6.1.2 Students multiply decimals (10ths & 100ths) and divide whole numbers by 2-digit divisors and divide decimals by whole numbers.
5.NBT.14. Solve word problems involving operations on decimals.	No match	
5.NF. Number—Fractions		
5.NF. Fraction equivalence		
5.NF.1. Understand fraction equivalence: a. a. Multiplying the numerator and denominator of a fraction by the same nonzero whole number produces an equivalent fraction. For example, 2/3 = (2 × 4)/ (3 × 4) = 8/12. (1/3 is 4 copies of 1/12, so 2/3 is 8 copies of 1/12.) b. Equivalent fractions correspond to the same point on a number line. In Grade 5, all numbers lines begin with zero. c. When the numerators of equivalent fractions are divided by their denominators, the resulting quotients are the same.	Weak alignment: WY content is in 6th grade and is less specific. CC specifies different scenarios that demonstrate fractional equivalence.	MA6.1.6 Students demonstrate an understanding of fractions and decimals by: • representing fractions as division of whole numbers; • converting between mixed numbers and improper fractions; • simplifying fractions and mixed numbers; • writing fractions in equivalent forms; • using parts of a set; • rounding decimal numbers to 10ths, 100ths, and whole numbers (units) place; and • converting between decimals (from .01 to .99), fractions and representing percentages.

5.NF.2. Identify pairs of equivalent fractions; given two fractions with unlike denominators, find two fractions with the same denominator and equivalent to each.	Weak alignment: WY content is in 6th grade and is less specific. CC specifies identifying types of equivalent fractions.	MA6.1.6 Students demonstrate an understanding of fractions and decimals by: • representing fractions as division of whole numbers; • converting between mixed numbers and improper fractions; • simplifying fractions and mixed numbers; • writing fractions in equivalent forms; • using parts of a set; • rounding decimal numbers to 10ths, 100ths, and whole numbers (units) place; and • converting between decimals (from .01 to .99), fractions and representing percentages.
5.NF.3. Compare and order fractions with like or unlike denominators, e.g., by finding equivalent fractions with the same denominator, and describe the sizes of fractional quantities from a context with reference to the context. Compare using the fractions themselves, tape diagrams or number line representations, and area models.	Partial alignment (scope): WY content does not include comparing and ordering fractions with unlike denominators.	MA5.1.7 Students order, compare, add, and subtract fractions with like denominators.
5.NF. Operations on fractions		
5.NF.4. Understand that sums and differences of fractions with unlike denominators can be computed by replacing each with an equivalent fraction so that the resulting fractions have the same denominator. For example, 2/3 + 5/4 =	Weak alignment: WY content is in 7th grade. In addition, the WY content emphasizes the skill, while the CC content emphasizes the concept.	MA7.1.4 Students explain their choice of estimation and problem-solving strategies and justify results when performing number operations with fractions and decimals in problem-

8/12 + 15/12 = 23/12.		solving situations appropriate to grade level. Students add and subtract fractions and mixed numbers.
5.NF.5. Compute sums and differences of fractions with like or unlike denominators, and solve word problems involving addition and subtraction of fractions. Estimate fraction sums and differences to assess the reasonableness of results.	Partial alignment (grade level): WY content is in 7th grade.	MA7.1.4 Students explain their choice of estimation and problem- solving strategies and justify results when performing number operations with fractions and decimals in problem-solving situations appropriate to grade level. Students add and subtract fractions and mixed numbers.
5.NF.6. Understand that multiplying a fraction by a/b means taking a parts of a decomposition of the fraction into b equal parts. For example, to multiply 2/3 × 4/5 = 8/15, one may decompose a whole of size 4/5 into 3 equal parts; each part has size 4/15. Two of these parts then make 8/15, so 2/3 × 4/5 = 8/15. (In general, a/b × p/q = ap/bq.) This standard includes multiplication of a whole number by a fraction, by writing the whole number as fraction with denominator 1.	Weak alignment: WY content is found in 7th grade, and the WY content emphasizes the skill, while the CC content emphasizes the concept.	MA7.1.5 Students multiply and divide fractions and mixed numbers.
5.NF.7. Understand that the area of a rectangle with side lengths a/b and c/d is the product a/b × p/q. This extends the area formula for rectangles to fractional side lengths, and also allows products of fractions to be represented visually as areas of rectangles.	No match	

5.NF.8. Explain and justify the properties of operations with fractions, e.g., by using equations, number line representations, area models, and story contexts.	Partial alignment (grade level): WY content is in 7th grade.	MA7.1.4 Students explain their choice of estimation and problem- solving strategies and justify results when performing number operations with fractions and decimals in problem-solving situations appropriate to grade level. Students add and subtract fractions and mixed numbers.
5.NF.9. Understand division of unit fractions by whole numbers and division of whole numbers by unit fractions: a. Dividing a unit fraction 1/b by a whole number a results in a smaller unit fraction 1/a × b. For example, 1/3 ÷ 2 = 1/6 because when 1/3 is divided into 2 equal parts, the size of each part is 1/6; a third of a pound of cheese shared between two people will give each person a sixth of a pound. (Using the inverse relationship between multiplication and division: 1/3 ÷ 2 = 1/6 because 1/6 × 2 = 1/3.) b. Dividing a whole number a by a unit fraction 1/b results in a greater whole number a × b. For example, 2 ÷ 1/3 = 6 because 6 is the number of 1/3s in 2; two pounds of cheese will make six portions of a third of a pound each. (Using the inverse relationship between multiplication and division: 2 ÷ 1/3 = 6 because 6 × 1/3 = 2.)	Weak alignment: WY content is found in 7th grade, and the WY content emphasizes the skill, while the CC content emphasizes the concept.	MA7.1.5 Students multiply and divide fractions and mixed numbers.

5.NF.10. Calculate products of fractions, and quotients of unit fractions and nonzero whole numbers (with either as divisor), and solve word problems involving these operations. Represent these operations using equations, area models and length models.	Weak alignment: WY content is in 7th grade and is less specific. CC specifies solving word problems and representing calculation using equations, area models, and length models.	MA7.1.5 Students multiply and divide fractions and mixed numbers.
5.NF.11. Understand that a mixed number such as 3 2/5 represents the sum of a whole number and a fraction less than one. Because a whole number can be represented as a fraction (3 = 3/1), and the sum of two fractions is also a fraction, a mixed number also represents a fraction (3 2/5 = 3 + 2/5 = 15/5 + 2/5 = 17/5). Write fractions as equivalent mixed numbers and vice versa.	Weak alignment: WY content is in 6th grade and emphasizes the skill, while the CC content emphasizes the concept.	MA6.1.6 Students demonstrate an understanding of fractions and decimals by: • representing fractions as division of whole numbers; • converting between mixed numbers and improper fractions; • simplifying fractions and mixed numbers; • writing fractions in equivalent forms; • using parts of a set; • rounding decimal numbers to 10ths, 100ths, and whole numbers (units) place; and • converting between decimals (from .01 to .99), fractions and representing percentages.
5.MD. Measurement and Data		
5.MD. Units of measure		
5.MD.1. Understand that quantities expressed in like units can be added or subtracted giving a sum or difference with the same unit; different quantities may be multiplied to obtain a new kind of quantity (e.g., as when two lengths are multiplied to compute an area, or	No match	

when an area and a length are multiplied to compute a volume).		
5.MD.2. Understand that when measuring a quantity, if a smaller unit is used, more units must be iterated to measure the quantity in those units.	No match	
5.MD.3. Convert among different-sized standard measurement units within a given measurement system (e.g., feet to yards, centimeters to meters) and use conversion in solving multi-step word problems.	Partial alignment (grade level): WY content is in 7th grade.	MA7.3.1 Students apply estimation and measurement of length to content problems and convert within the U.S. customary (in, ft, yd, mi) and within the metric system (mm, cm, m, km).
	Weak alignment: CC content is in 11th grade and content is similar, but there is a significant difference in the emphasis. CC emphasize conversion between units within a given measurement system, while the WY content emphasizes understanding the metric and U.S. customary systems.	MA11.3.2 Students demonstrate an understanding of both metric and U. S. customary systems. Students are able to convert within each system.
5.MD. Volume		
5.MD.4. Understand concepts of volume measurement: a. A cube with side length 1 unit (a unit cube) is said to have "one cubic unit" of volume, and can be used to measure volume. b. The volume of a right rectangular prism with whole-unit side lengths can be found by packing it with unit cubes and	Weak alignment: WY content is in 8th grade and emphasizes the skill, while the CC content emphasizes the concept.	MA8.3.2 Students apply estimation and measurement of capacity/volume to content problems and convert within metric units (ml, l).

using multiplication to count their number. For example, decomposing a right rectangular prism 3 length units wide by 5 units deep by 2 units tall shows that its volume is 3 × 5 × 2 cubic units. The base of the prism has area 3 × 5 square units, so the volume can also be expressed as the height times the area of the base. c. When measuring a volume, if a smaller unit is used, more units must be iterated to measure the volume in those units. d. If a solid figure is decomposed into several disjoint pieces, then the volume enclosed by the figure can be found by adding the volumes of the pieces (when these volumes are expressed in the same units).		
5.MD.5. Decompose right rectangular prisms into layers of arrays of cubes; determine and compare volumes of right rectangular prisms, and objects well described as right rectangular prisms, by counting cubic units (using cm3, m3, in3, ft3, and improvised units).	No match	
5.MD. Representing and interpreting data		
5.MD.6. Make a dot 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 dot plots. For example, given	No match	

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.		
5.G. Geometry		
5.G. Coordinates		
5.G.1. Understand that a pair of perpendicular number lines, called axes, defines a coordinate system. a. Their intersection is called the origin, usually arranged to coincide with the 0 on each line. b. A given point in the plane can be located by using an ordered pair of numbers, called its coordinates. The first number indicates how far to travel from the origin in the direction of one axis, the second number indicates how far to travel in the direction of the second axis. c. To avoid ambiguity, conventions dictate that the names of the two axes and the coordinates correspond (e.g., x-axis and x- coordinate, y-axis and y-coordinate).	Weak alignment: WY content is in 7th grade and less specific. CC specifies the aspects of the coordinate system that students need to understand.	MA7.4.4 Students understand and use basic concepts of the coordinate system, including plotting points in all four quadrants.
5.G.2. Graph points in the first quadrant of the coordinate plane, and identify the coordinates of graphed points. Where ordered pairs arise in a problem situation, interpret the coordinate values in the context of the situation.	Weak alignment: WY content is in 7th grade and includes all four quadrants. In addition, CC specifies that students identify the location of ordered pairs and interpret coordinate values in problem solving situations.	MA7.4.4 Students understand and use basic concepts of the coordinate system, including plotting points in all four quadrants.

5.G. Plane figures		
5.G.3. Understand that properties belonging to a category of plane 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.	Strong alignment	MA5.2.1 Students describe, draw, and classify two-dimensional geometric figures such as triangles, quadrilaterals, and circles.
5.G.4. Classify plane figures in a hierarchy based on properties.	Strong alignment	MA5.2.1 Students describe, draw, and classify two-dimensional geometric figures such as triangles, quadrilaterals, and circles.
Grade 6		
6.RP. Ratios and Proportional Relationships		
6.RP. Ratios		
6.RP.1. Understand the concept of a ratio: Two quantities are said to be in a ratio of a to b when for every a units of the first quantity there are b units of the second. For example, in a flock of birds, the ratio of wings to beaks might be 2 to 1; this ratio is also written 2:1. In Grade 6, limit to ratios of whole numbers.	Weak alignment: WY content is in 8th grade. In addition, The WY content emphasizes the skill, while the CC content emphasizes the concept. Weak alignment: WY content is in 7th grade. In addition, while the content is similar, there is some difference in emphasis. Both documents require students to know what a ratio is, but WY only requires ratios in context of probability, while CC requires it in other contexts.	8.1.1 Students represent and apply numbers in a variety of equivalent forms (such as changing from percent to decimal to fraction, etc.) and in a problem-solving context: • prime factors, factors, and multiples; • rational numbers and proportions; and • square roots and powers. MA7.5.3 Students predict, compare, and report as ratios probable outcomes of experiments or simulations (i.e., impossible, equally likely, certain).

6.RP.2. Make tables of equivalent ratios relating quantities with whole-number measurements, find missing values in the tables, and plot the pairs of values on the coordinate plane.	No match	
6.RP.3. Solve for an unknown quantity in a problem involving two equal ratios.	Weak alignment: WY content is in 11th grade. In addition, WY content includes applying the concept to problem-solving situations.	11.3.3 Students identify and apply scale, ratios, and proportions in solving measurement problems.
6.RP.4. Describe categorical data sets using ratios (e.g., for every vote candidate A received, candidate C received nearly three votes; the ratio of type O blood donors to type B blood donors was 9:2).	Partial alignment (grade level): WY content is in 7th grade.	MA7.5.3 Students predict, compare, and report as ratios probable outcomes of experiments or simulations (i.e., impossible, equally likely, certain).
6.RP. Unit rates		
6.RP.5. Understand that for a ratio a:b, the corresponding unit rate is a/b. If there are a units of the first quantity for every b units of the second, where b ≠ 0, then there are a/b units of the first quantity for 1 unit of the second. For example, if a recipe has a ratio of 3 cups of flour to 4 cups of sugar, then there is 3/4 cup of flour for each cup of sugar.	No match	
6.RP.6. Solve unit rate problems including unit pricing and constant speed, including reasoning with equations such as d = r × t, r = d/t, t = d ÷ r.	Partial alignment (scope): WY content does not include using reasoning with equations to solve unit rate problems.	MA6.4.2 Students apply their knowledge of patterns to describe a constant rate of change when solving problems.
6.NS. The Number System		
6.NS. Operations		
6.NS.1. Understand that the properties of operations apply to, and can be used with,	Weak alignment: WY content is in 8th grade and is less specific. CC specifies	MA8.1.4 Students understand properties of operations with rational numbers.

addition and multiplication of fractions.	that the properties of operation can be applied to addition and multiplication of fractions.	
6.NS.2. Understand that division of fractions is defined by viewing a quotient as the solution for an unknown-factor multiplication problem. For example, (2/3) ÷ (5/7) = 14/15 because (5/7) × (14/15) = (2/3).	Weak alignment: WY content is in 7th grade and emphasizes the skill, while the CC content emphasizes the concept.	MA7.1.5 Students multiply and divide fractions and mixed numbers.
6.NS.3. Solve word problems requiring arithmetic with fractions, using the properties of operations and converting between forms as appropriate; estimate to check reasonableness of answers.	Weak alignment: WY content is in 7th grade and is less specific. CC specifies solving word problems and using properties of operation and conversion.	MA7.1.4 Students explain their choice of estimation and problem-solving strategies and justify results when performing number operations with fractions and decimals in problem-solving situations appropriate to grade level. Students add and subtract fractions and mixed numbers.
6.NS.4. Fluently divide whole numbers using the standard algorithm.	Partial alignment (specificity): WY specifies the number of digits in the divisors.	MA6.1.2 Students multiply decimals (10ths & 100ths) and divide whole numbers by 2-digit divisors and divide decimals by whole numbers.
6.NS The system of rational numbers		
6.NS.5. Understand that a number is a point on the number line.	Partial match (implicit): The WY content emphasizes the skill, while the CC content emphasizes the concept.	MA6.1.3 Students represent the number line using integers.
6.NS.6. Understand that some quantities have opposite directions, such as elevation above and below sea level or money received and spent. These quantities can be described using positive and negative numbers.	No match	
6.NS.7. Understand that number lines familiar	Weak alignment: The WY content	MA6.1.3 Students represent the number

from previous grades can be extended to represent negative numbers to the left of zero. Number lines can also be vertically oriented, as when a coordinate system is formed. Then the conventional terms “to the right of 0” and “to the left of 0” conventionally become “above 0” and “below 0.” a. Two different numbers, such as 7 and –7, that are equidistant from zero on a number line are said to be opposites of one another. The opposite of the opposite of a number is the number itself, e.g., – (–3) = 3. The opposite of 0 is 0. b. The absolute value of a number q, written |q|, is its distance from zero, and is always positive or zero. c. Fractions and their opposites form a system of numbers called the rational numbers, represented by points on a number line. Whole numbers and their opposites form the integers, which are contained in the rational numbers. d. Previous ways of comparing positive numbers can be extended to the rational numbers. The statement p > q means that p is located to the right of q on a number line, while p < q means that p is located to the left of q on a number line. Comparisons can also be made by reasoning appropriately about signed quantities (e.g., –3 > –7 makes	emphasizes the skill, while the CC content emphasizes the concept and WY content is less specific. CC specifies what students must understand about the number line.	line using integers.

sense because –3oC is a higher temperature than –7oC). The way two numbers compare does not always agree with the way their absolute values compare; for example, –3 > –7, but |–3| < |–7|.		
6.NS.8. Find and position rational numbers, including integers, on a number line.	Strong alignment	MA6.1.3 Students represent the number line using integers.
6.NS.9. Use rational numbers to describe quantities such as elevation, temperature, account balance and so on. Compare these quantities, recording the results of comparisons using > and < symbols.	No match	
6.NS.10. Graph points and identify coordinates of points on the coordinate plane in all four quadrants. Where ordered pairs arise in a problem situation, interpret the coordinate values in the context of the situation.	Weak alignment: WY content is in 7th grade and does not include interpreting the coordinate values in the context of the situation.	MA7.4.4 Students understand and use basic concepts of the coordinate system, including plotting points in all four quadrants.
6.EE. Expressions and Equations		
6.EE. Expressions		
6.EE.1. Understand that an expression records operations with numbers or with letters standing for numbers. For example, the expression 2 • (8 + 7) records adding 8 and 7 then multiplying by 2; the expression 5 – y records subtracting y from 5. Focus on the operations of addition, subtraction, multiplication and division, with some attention to square or cube roots.	Weak alignment: WY content is in 7th grade and emphasizes the skill, while the CC content emphasizes the concept.	MA7.4.1 Students translate word phrases, which involve addition and subtraction, into mathematical expressions.
6.EE.2. Understand the use of variables in expressions and algebraic conventions:	Partial alignment (scope): WY content does not include understanding that a	MA6.4.3 Students represent the idea of a variable as an unknown quantity, a

a. A letter is used to stand for a number in an expression in cases where the number is unknown, or where, for the purpose at hand, it can be any number in a domain of interest. Such a letter is called a variable. b. If a variable appears in an expression more than once (e.g., as in t + 3t), that variable is understood to refer to the same number in each instance. c. The multiplication symbol can be omitted when writing products of two or more variables or of a number and a variable. For example, the expressions xy and 2a indicate x × y and 2 × a, respectively.	variable can represent a domain of interest or how to combine variable expressions.	letter, or a symbol within any whole number operation.
6.EE.3. Describe the structure and elements of simple expressions using correct terminology (sum, term, product, factor, quotient, coefficient); describe an expression by viewing one or more of its parts as a single entity. For example, describe the expression 2(8 + 7) as a product of two factors, by viewing (8 + 7) as a single entity. The second factor is itself a sum of two terms.	No match	
6.EE.4. Understand and generate equivalent expressions: a. Understand that two expressions are equivalent if they name the same number regardless of which numbers the variables in them stand for. For example, the expressions x + 3 and 4x	Weak alignment: WY content is in 11th grade and emphasizes the skill, while the CC content emphasizes the concept.	MA11.4.2 Students write, model, and evaluate expressions, functions, equations, and inequalities.

are not equivalent, even though they happen to name the same number in the case when x stands for 1. b. Understand that applying the laws of arithmetic to an expression results in an equivalent expression. For example, applying the distributive law to the expression 3(2 + x) leads to the equivalent expression 6 + 3x. Applying the distributive law to y + y + y leads to the equivalent expression y × (1 + 1 + 1), i.e., y × 3 and then the commutative law of multiplication leads to the equivalent expression 3y. c. Generate equivalent expressions to reinterpret the meaning of an expression. For example, 2t + 3t records the addition of twice a quantity to three times itself; applying the distributive law leads to the equivalent expression 5t, so that the original expression can be reinterpreted as recording five times the quantity.		
6.EE. Quantitative relationships and the algebraic approach to problems		
6.EE.5. Understand that an equation is a statement that two expressions are equal, and a solution to an equation is a replacement value of the variable (or replacement values for all the variables if there is more than one) that makes the equation true.	Weak alignment: WY content is in 8th grade and emphasizes the skill, while the CC content emphasizes the concept.	MA8.4.2 Students solve one- and two-step linear equations each with an integer coefficient and integer solutions.
6.EE.6. Using the idea of maintaining equality	Partial alignment (specificity): CC	MA8.4.2 Students solve one- and two-

between both sides of the equation, solve equations of the form x + p = q and px = q for cases in which p, q and x are all nonnegative rational numbers.	specifies the forms of the linear equations.	step linear equations each with an integer coefficient and integer solutions.
6.EE.7. Choose variables to represent quantities in a word problem, and construct simple expressions or equations to solve the problem by reasoning about the quantities.	Weak alignment: WY content is in 7th grade and does not include solving word problems.	MA7.4.1 Students translate word phrases, which involve addition and subtraction, into mathematical expressions.
6.EE.8. Understand that a variable can be used to represent a quantity that can change, often in relationship to another changing quantity, and an equation can express one quantity, thought of as the dependent variable, in terms of other quantities, thought of as the independent variables; represent a relationship between two quantities using equations, graphs, and tables; translate between any two of these representations. For example, describe the terms in a sequence t = 3, 6, 9, 12, ... of multiples of 3 by writing the equation t = 3n for n = 1, 2, 3, 4, ….	Weak alignment: Content is similar, but there is a significant difference in the emphasis. WY content emphasizes the variables representing unknown quantities, while CC emphasizes variables representing quantities that can change. In addition, WY content does not include independent and dependent variables.	MA6.4.3 Students represent the idea of a variable as an unknown quantity, a letter, or a symbol within any whole number operation.
6.G. Geometry		
6.G. Properties of area, surface area, and volume		
6.G.1. Understand that plane figures can be decomposed, reassembled, and completed into new figures; use this technique to derive area formulas.	No match	
6.G.2. Find the areas enclosed by right triangles, other triangles, special quadrilaterals, and polygons (by composing into rectangles or decomposing into triangles	Weak alignment: WY content is in 7th grade and is less specific. CC specifies the types of triangles and the method used to find area.	MA7.3.5 Students calculate the areas of triangles and trapezoids.

and other shapes).		
6.G.3. Understand that three-dimensional figures can be formed by joining rectangles and triangles along their edges to enclose a solid region with no gaps or overlaps. The surface area is the sum of the areas of the enclosing rectangles and triangles.	No match	
6.G.4. Find the surface area of cubes, prisms and pyramids (include the use of nets to represent these figures).	Weak alignment: WY content is in 11th grade and is less specific. CC specifies the types of shapes to find surface area, as well as the use of nets.	MA11.3.1 Students apply estimation and measurement using the appropriate methods and units to solve problems involving length, weight/mass, area, surface area, volume, and angle measure.
6.G.5. Solve problems involving area, volume and surface area of objects.	Partial alignment (grade level): WY content is in 7th grade. Partial alignment (grade level): WY content is in 8th grade.	MA7.3.5 Students calculate the areas of triangles and trapezoids. MA8.3.3 Students select and use the appropriate methods, tools, and units to solve problems involving angle measure, perimeter, circumference, area (including circles), and volume of rectangular solids.
6.G.6. Give examples of right rectangular prisms with the same surface area and different volumes, and with the same volume and different surface areas.	No match	
6.G.7. Use exponents and symbols for square roots and cube roots to express the area of a square and volume of a cube in terms of their side lengths, and to express their side lengths in terms of their area or volume.	Weak alignment: WY content is in 8th grade, and is less specific than the CC content. CC content specifies the use of exponents and symbols for square and cube roots when using the appropriate units for volume.	MA8.3.3 Students select and use the appropriate methods, tools, and units to solve problems involving angle measure, perimeter, circumference, area (including circles), and volume of rectangular solids.

6.SP. Statistics and Probability		
6.SP. Variability and measures of center		
6.SP.1. Understand that a statistical question is one that anticipates variability in the data related to the question and accounts for it in the answers. For example, “How old am I?” is not a statistical question, but “How old are the students in my school?” is a statistical question because one anticipates variability in students’ ages.	No match	
6.SP.2. Understand that a set of data generated by answers to a statistical question typically shows variability—not all of the values are the same—and yet often the values show an overall pattern, often with a tendency to cluster. a. A measure of center for a numerical data set summarizes all of its values using a single number. The median is a measure of center in the sense that approximately half the data values are less than the median, while approximately half are greater. The mean is a measure of center in the sense that it is the value that each data point would take on if the total of the data values were redistributed fairly, and in the sense that it is the balance point of a data distribution shown on a dot plot. b. A measure of variation for a numerical data set describes how its values vary	Weak alignment: WY content is in 7th grade and emphasizes the skill, while the CC content emphasizes the concept.	MA7.5.2 Students calculate mean, median, mode, and range for data sets and use in real world setting.

using a single number. The interquartile range and the mean absolute deviation are both measures of variation.		
6.SP. Summarizing and describing distributions		
6.SP.3. Display numerical data in plots on a number line, including dot plots, histograms, and box plots.	Weak alignment: WY content is in 7th grade and does not include data displays like dot plots or box plots.	MA7.5.1 Students systematically collect, organize, describe, and analyze data using histograms.
6.SP.4. Summarize numerical data sets, such as by: a. Reporting the number of observations. b. Describing the nature of the variable, including how it was measured and its units of measurement. Data sets can include fractional values at this grade but not negative values. c. Describing center and variation, as well as describing any overall pattern and any striking deviations from the overall pattern.	Weak alignment: WY content is in 7th grade and is less specific. CC specifies several items such as: reporting the number of observations in a data set and describing the nature of the variable.	MA7.5.1 Students systematically collect, organize, describe, and analyze data using histograms.
6.SP.5. Relate the choice of the median or mean as a measure of center to the shape of the data distribution being described and the context in which it is being used. Do the same for the choice of interquartile range or mean average deviation as a measure of variation. For example, why are housing prices often summarized by reporting the median selling price, while students' assigned grades are often based on mean homework scores?	No match	

Grade 7		
7.RP. Ratios and Proportional Relationships		
7.RP. Analyzing proportional relationships		
7.RP.1. Form ratios of nonnegative rational numbers and compute corresponding unit rates. For example, a person might walk ½ mile in each ¼ hour; the unit rate for this ratio is (1/2)/(1/4) miles per hour, equivalently 2 miles per hour. Include ratios of lengths, areas and other quantities, including when quantities being compared are measured in different units.	No match	
7.RP.2. Recognize situations in which two quantities covary and have a constant ratio. (The quantities are then said to be in a proportional relationship and the unit rate is called the constant of proportionality.) Decide whether two quantities that covary are in a proportional relationship, e.g., by testing for equivalent ratios or graphing on a coordinate plane.	Weak match: WY content is in 8th grade. In addition, the WY content emphasizes the skill, while the CC content emphasizes the concept.	MA8.1.1 Students represent and apply numbers in a variety of equivalent forms (such as changing from percent to decimal to fraction, etc.) and in a problem-solving context: • prime factors, factors, and multiples; • rational numbers and proportions; and • square roots and powers.
7.RP.3. Compute unit rates and solve proportional relationship problems in everyday contexts, such as shopping, cooking, carpentry, party planning, etc. Represent proportional relationships by equations that express how the quantities are related via the constant of proportionality or unit rate. For example, total cost, t, is proportional to the number, n, purchased at a constant price, p; this relationship can be expressed as t = pn.	Weak Alignment: WY content is in 8th grade and is less specific. CC specifies solving proportions in everyday situations.	MA8.1.1 Students represent and apply numbers in a variety of equivalent forms (such as changing from percent to decimal to fraction, etc.) and in a problem-solving context: • prime factors, factors, and multiples; • rational numbers and proportions; and

		• square roots and powers.
7.RP.4. Plot proportional relationships on a coordinate plane where each axis represents one of the two quantities involved, observe that the graph is a straight line through the origin, and find unit rates from a graph. Explain what a point (x, y) means in terms of the situation, with special attention to the points (0, 0) and (1, r) where r is the unit rate.	Weak alignment: WY content is in 11th grade and is more specific. CC specifies using proportional reasoning to plot relationships on a coordinate plane.	MA11.1.4 Students use proportional reasoning to solve problems.
7.RP.5. Compare tables, graphs, formulas, diagrams, and verbal descriptions that represent or partially represent proportional relationships; explain correspondences among the representations including how the unit rate is shown in each.	Weak alignment: WY content is in 11th grade and is more specific. CC specifies using proportional reasoning when analyzing graphs, tables, formulas, and diagrams.	MA11.1.4 Students use proportional reasoning to solve problems.
7.RP.Percent		
7.RP.6. Understand that percentages are rates per 100. For example, 30% of a quantity means 30/100 times the quantity. A percentage can be a complex fraction, as in 3.75% = 3.75/100.	Weak Alignment: WY content is in 8th grade and emphasizes the skill, while the CC content emphasizes the concept.	MA8.1.1 Students represent and apply numbers in a variety of equivalent forms (such as changing from percent to decimal to fraction, etc.) and in a problem-solving context: • prime factors, factors, and multiples; • rational numbers and proportions; and • square roots and powers.
7.RP.7. Find a percentage of a quantity; solve problems involving finding the whole given a part and the percentage.	Weak Alignment: WY content is in 8th grade and is less specific. CC specifies solving proportions that use percentages.	MA8.1.1 Students represent and apply numbers in a variety of equivalent forms (such as changing from percent to decimal to fraction, etc.) and in a problem-solving context: • prime factors, factors, and

		multiples; • rational numbers and proportions; and • square roots and powers.
7.RP.8. Solve multistep percent problems. Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error, expressing monthly rent as a percentage of take-home pay.	No match	
7.NS. The Number System		
7.NS. The system of rational numbers		
7.NS.1. Understand that the rules for manipulating fractions extend to complex fractions.		No match
7.NS.2. Understand and perform addition and subtraction with rational numbers: a. Understand that on a number line, the sum p + q is the number located a distance |q| from p, to the right of p if q is positive and to the left of p if q is negative. A number and its opposite are additive inverses (i.e., their sum is zero). b. Compute sums of signed numbers using the laws of arithmetic. For example, 7 + (– 3) = 4 because 7 + (–3) = (4 + 3) + (–3) = 4 + [3 + (–3)] = 4 + [0] = 4. c. Understand that subtraction of rational numbers is defined by viewing a difference as the solution of an unknown-addend addition problem. Subtraction of a rational number gives the same answer as adding its additive	Weak alignment: WY content is in 8th grade and does not include performing operations. Strong Alignment Weak alignment: WY content is found in 8th grade and is less specific. CC specifies which properties students	MA8.1.4 Students understand properties of operations with rational numbers. MA7.1.2 Students use basic operations with integers in problem-solving situations. MA8.1.4 Students understand properties of operations with

inverse. d. Explain and justify rules for adding and subtracting rational numbers, using a number line and practical contexts. For example, relate r + (–s) = r – s to a bank transaction; explain why p – (q + r) = p – q – r. e. Understand that the additive inverse of a sum is the sum of the additive inverses, that is –(p + q) = –p + –q. For example, –(6 + –2) = (–6) + 2 because [6 + (–2)] + [(–6) + 2] = [6 + (–6)] + [(–2) + 2] = [0] + [0] = 0.	should understand (additive inverse). No match Weak Alignment: WY content is in 8th grade and is less specific. CC specifies understanding additive inverse.	rational numbers. MA8.1.4 Students understand properties of operations with rational numbers.
7.NS.3. Understand and perform multiplication and division with rational numbers: a. Understand that the extension of multiplication from fractions to rational numbers is determined by the requirement that multiplication and addition satisfy the laws of arithmetic, particularly the distributive law, leading to products such as (–1)(–1) = 1 and the rules for multiplying signed numbers. b. Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If p/q is a rational number, then –(p/q) = (– p)/q = p/(–q). c. Calculate products and quotients of rational numbers, and use multiplication and division	Weak Alignment: WY content is in 8th grade and does not include things such as performing operations or extending multiplication from fractions to rational numbers.	MA8.1.4 Students understand properties of operations with rational numbers.

to solve word problems. Include signed quantities.		
7.NS.The system of real numbers		
7.NS.4. Understand that there are numbers that are not rational numbers, called irrational numbers, e.g., pi and square root 2. Together the rational and irrational numbers form the real number system. In school mathematics, the real numbers are assumed to satisfy the laws of arithmetic.	No match	
7.EE. Expressions and Equations		
7.EE. Expressions		
7.EE.1. Interpret numerical expressions at a level necessary to calculate their value using a calculator or spreadsheet. For expressions with variables, use and interpret conventions of algebraic notation, such as y/2 is y ÷ 2 or 1/2 × y; (3 ± y)/5 is (3 ± y) ÷ 5 or 1/5 × (3 ± y); a2 is a × a, a3 is a × a × a, a2b is a × a × b.	Weak Alignment: WY content is in 8th grade and similar, with some difference in emphasis. CC emphasizes the interpretation of numerical expressions for calculation when using a calculator or spreadsheet. Weak Alignment: WY content is in 11th grade and is similar, with some difference in emphasis. CC emphasizes the interpretation of numerical expressions for calculation when using a calculator or spreadsheet.	MA8.1.2 Students extend understanding and use of basic arithmetic operations on rational numbers. • Simplify numerical expressions using the order of operations; • Order rational numbers expressed in a variety of forms MA11.4.2 Students write, model, and evaluate expressions, functions, equations, and inequalities.
7.EE.2. Generate equivalent expressions from a given expression using the laws of arithmetic and conventions of algebraic notation. Include: a. Adding and subtracting linear expressions, as	Weak Alignment: WY content is in 11th grade and is less specific. CC specifies using the laws of arithmetic and conventions of algebraic notation to simplify expressions.	MA11.4.2 Students write, model, and evaluate expressions, functions, equations, and inequalities.

in (2x + 3) + x + (2 – x) = 2x + 5. b. Factoring, as in 4x + 4y = 4(x + y) or 5x + 7x + 10y + 14y = 12x + 24y = 12(x + 2y). c. Simplifying, as in –2(3x – 5) + 4x = 10 – 2x or x/3 + (x – 2)/4 = 7x/12 – 1/2.		
7.EE. Quantitative relationships and the algebraic approach to problems		
7.EE.3. Choose variables to represent quantities in a word problem, and construct simple equations to solve the problem by reasoning about the quantities. a. Solve word problems leading to equations of the form px + q = r and p(x + q) = r, where p, q, and r are nonnegative rational numbers and the solution is a nonnegative rational number. Fluently solve equations of these forms, e.g., by undoing the operations involved in producing the expression on the left. b. Solve the same word problem arithmetically and algebraically. For example, "J. has 4 packages of balloons and 5 single balloons. In all, he has 21 balloons. How many balloons are in a package?" Solve this problem arithmetically (using a sequence of operations on the given numbers), and also solve it by using a variable to stand for the number of balloons in a package, constructing an equation such as 4b + 5 = 21 to describe the situation then solving the equation.	Weak alignment: WY content is found in 8th and 11th grade, and is less specific. CC specifies the types of word problems students should solve.	MA8.4.1 Students translate word phrases, which involve the four basic operations to mathematical expressions. MA11.4.1 Students use algebraic concepts, symbols, and skills to represent and solve real-world problems.

c. Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related. For example, P + 0.05P = 1.05P means that "increase by 5%" is the same as "multiply by 1.05."		
7.G. Geometry		
7.G. Congruence and similarity		
7.G.1. Verify experimentally the fact that a rigid motion (a sequence of rotations, reflections, and translations) preserves distance and angle, e.g., by using physical models, transparencies, or dynamic geometry software: a. Lines are taken to lines, and line segments to line segments of the same length. b. Angles are taken to angles of the same measure. c. Parallel lines are taken to parallel lines.	Weak alignment: WY content is in 8th grade, and is less specific. CC specifies what types of conjectures should be made.	MA8.2.2 Students make conjectures about geometric objects based on knowledge of geometric transformations, congruence, and similarity.
7.G.2. Understand the meaning of congruence: a plane figure is congruent to another if the second can be obtained from the first by a rigid motion.	Partial alignment (implicit): WY content emphasizes the skill, while the CC content emphasizes the concept.	MA7.2.2 Students make conjectures about geometric figures based on knowledge of congruence and similarity.
7.G.3. Verify experimentally that a dilation with scale factor k preserves lines and angle measure, but takes a line segment of length L to a line segment of length kL.	Partial alignment (specificity): WY content is in 8th grade, and is less specific. CC specifies which type of transformation and what kinds of conjectures should be made.	MA8.2.2 Students make conjectures about geometric objects based on knowledge of geometric transformations, congruence, and similarity.
7.G.4. Understand the meaning of similarity: a plane figure is similar to another if the second can be obtained from the first by a similarity transformation (a rigid motion followed by a dilation).	Partial alignment (implicit): WY content emphasizes the skill, while the CC content emphasizes the concept.	MA7.2.2 Students make conjectures about geometric figures based on knowledge of congruence and similarity.

7.G.5. Solve problems involving similar figures and scale drawings. Include computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale.	Weak alignment: Content is similar, but there is a significant difference in the phrasing. WY content is about making conjectures based on knowledge of similarity, while CC content is about solving problems that involve similar figures.	MA7.2.2 Students make conjectures about geometric figures based on knowledge of congruence and similarity.
7.G.6. Use informal arguments involving approximation by lines, squares, and cubes to see that a similarity transformation with a scale factor of k leaves angle measures unchanged, changes lengths by a factor of k, changes areas by a factor of k2, and changes volumes by a factor of k3.	Weak Alignment: WY content is in 8th grade and is less specific. CC specifies making conjectures about figures that are dilated by different scale factors.	MA8.2.2 Students make conjectures about geometric objects based on knowledge of geometric transformations, congruence, and similarity.
7.G.7. Know the formulas relating the area, radius and circumference of a circle and solve problems requiring the use of these formulas; give an informal derivation of the relationship between the circumference and area of a circle.	Weak alignment: WY content is in 8th grade and is less specific. CC specifies that students know the formulas that relate radius to the area and circumference of a circle.	MA8.3.3 Students select and use the appropriate methods, tools, and units to solve problems involving angle measure, perimeter, circumference, area (including circles), and volume of rectangular solids.
7.G. Angles		
7.G.8. Justify facts about the angle sum of triangles, exterior angles, and alternate interior angles created when parallel lines are cut by a transversal, e.g., by using physical models, transparencies, or dynamic geometry software to make rigid motions and give informal arguments. For example, arrange three copies of the same triangle so that the three angles appear to form a line, and give an argument in terms of transversals why this is so.	Weak alignment: WY content is found in 8th grade and is less specific.. CC specifies which parallel and perpendicular relationships should be understood. In addition, CC requires students to justify those relationships, and WY requires students to describe them.	MA8.2.1 Students classify and describe one-, two-, and three-dimensional geometric objects, including: • lines, rays, segments, and angles; • parallel and perpendicular relationships; • circles and spheres; • regular polygon types; • right prisms, cylinders, cones,

		and pyramids.
7.G.9. Use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure	Weak alignment: WY content is found in 8th grade and is less specific. CC specifies which parallel and perpendicular relationships should be understood. In addition, CC requires students to use those relationships, and WY requires students to describe them.	MA8.2.1 Students classify and describe one-, two-, and three-dimensional geometric objects, including: • lines, rays, segments, and angles; • parallel and perpendicular relationships; • circles and spheres; • regular polygon types; • right prisms, cylinders, cones, and pyramids.
7.SP. Statistics and Probability		
7.SP. Situations involving randomness		
7.SP.1. Simulate situations involving randomness using random numbers generated by a calculator or a spreadsheet or taken from a table. For example, if you guess at all ten true/false questions on a quiz, how likely are you to get at least seven answers correct?	No match	
7.SP.2. Use proportional reasoning to predict relative frequencies of outcomes for situations involving randomness, but for which a theoretical answer can be determined. For example, when rolling a number cube 600 times, one would predict that a 3 or 6 would be rolled roughly 200 times, but probably not exactly 200 times. How far off might your prediction be? Use technology to generate multiple samples to approximate a distribution of sample proportions. Repeat the process for smaller sample sizes.	Weak alignment: WY content is in 11th grade and is less specific. CC specifies using proportional reasoning to solve problems that involve frequency of outcomes for situations involving randomness. Weak alignment: WY content is in 8th	MA11.1.4 Students use proportional reasoning to solve problems. MA8.1.1 Students represent and

	grade and is less specific. CC specifies which problem solving contexts should be used when using proportions.	apply numbers in a variety of equivalent forms (such as changing from percent to decimal to fraction, etc.) and in a problem-solving context: • prime factors, factors, and multiples; • rational numbers and proportions; and • square roots and powers.
7.SP. Random sampling to draw inferences about a population		
7.SP.3. Understand that statistics can be used to gain information about a population by examining a sample of the population; generalizations about a population from a sample are valid only if the sample is representative of that population. Understand that random sampling tends to produce representative samples and support valid inferences.	Weak alignment: WY content is in 11th grade and emphasizes the skill, while the CC content emphasizes the concept.	MA11.5.3 Students communicate about the likelihood of events using concepts from probability. • sample space • evaluate simple probabilities • evaluate experimental vs. theoretical
7.SP.4. Understand the importance of measures of variation in sample quantities (like means or proportions) in reasoning about how well a sample quantity estimates or predicts the corresponding population quantity.	No match	
7.SP.5. Use data from a random sample to draw inferences about a population with an unknown characteristic of interest. Generate multiple samples (or simulated samples) of the same size to gauge the variation in estimates or predictions. For example,	Weak Alignment: WY content is in 11th grade and content is similar, but there is a significant difference in the emphasis.CC content relates more to drawing inferences about populations	MA11.5.3 Students communicate about the likelihood of events using concepts from probability. • sample space • evaluate simple probabilities

estimate the mean word length in a book by randomly sampling words from the book; predict the winner of a school election based on randomly sampled survey data. Gauge how far off the estimate or prediction might be.	given sample data, whereas the WY standard relate more to probability. Weak Alignment: WY content is in 11th grade and is less specific. CC content specifies how data should be analyzed and using estimation and prediction as part of the analysis.	• evaluate experimental vs. theoretical MA11.5.4 Students determine, collect, organize, and analyze relevant data needed to make conclusions.
7.SP. Comparative inferences about two populations		
7.SP.6. Informally assess the degree of visual overlap of two numerical data distributions with similar variabilities, measuring the difference between the centers by expressing it as a multiple of a measure of variability. For example, the mean height of players on the basketball team is 10 cm greater than the mean height of players on the soccer team, about twice the variability (mean average deviation) on either team; on a dot plot, the separation between the two distributions of heights is noticeable.	Weak Alignment: WY content is in 11th grade and is less specific. CC specifies the type of analysis that should be done.	MA11.5.4 Students determine, collect, organize, and analyze relevant data needed to make conclusions.
7.SP.7. Use measures of center and measures of variability for numerical data from uniform random samples to draw informal comparative inferences about two populations. For example, decide whether the words in a chapter of a seventh-grade book are generally longer than the words in a chapter of a sixth-grade book.	Weak Alignment: WY content is in 11th grade and is less specific. CC specifies that measures of central tendency should be used to analyze data.	MA11.5.1 Students apply knowledge of mean, median, mode, and range to interpret and evaluate information and data.

Grade 8		
8.NS. The Number System		
8.NS. The system of real numbers		
8.NS.1. Understand informally that every number on a number line has a decimal expansion, which can be found for rational numbers using long division. Rational numbers are those with repeating decimal expansions (this includes finite decimals which have an expansion that ends in a sequence of zeros).	Weak alignment: WY content is found in 11th grade, and is less specific than CC.	MA11.1.2 Students apply the structure and properties of the real number system.
8.NS.2. Informally explain why the square root of 2 is irrational.	Weak alignment: WY content is found in 11th grade, and is less specific than CC.	MA11.1.2 Students apply the structure and properties of the real number system.
8.NS.3. Use rational approximations (including those obtained from truncating decimal expansions) to compare the size of irrational numbers, locate them approximately on a number line, and estimate the value of expressions (e.g., π squared). For example, show that the square root of 2 is between 1 and 2, then between 1.4 and 1.5, and explain how to continue on to get better approximations.	Weak alignment: WY content is found in 11th grade, and is less specific than CC.	MA11.1.2 Students apply the structure and properties of the real number system.
8.EE. Expressions and Equations		
8.EE. Linear equations in one variable		
8.EE.1. Understand that a linear equation in one variable might have one solution, infinitely many solutions, or no solutions. Which of these possibilities is the case can be determined by successively transforming the given equation into simpler forms, until an equivalent equation of the form x = a, a = a, or a = b results (where a and b are different numbers).	No match	
8.EE.2. Solve linear equations with rational number coefficients, including equations that require expanding	Partial alignment (specificity): WY content is less specific. CC specifies solving equations	MA8.4.2 Students solve one- and two- step linear

expressions using the distributive law and collecting like terms.	that have rational coefficients and those that require expanding expressions using the distributive law and collecting like terms.	equations each with an integer coefficient and integer solutions.
8.EE. Linear equations in two variables		
8.EE.3. Understand that the slope of a non-vertical line in the coordinate plane has the same value for any two distinct points used to compute it. This can be seen using similar triangles.	Weak alignment: WY content is found in 11th grade, and there is some difference in emphasis. The WY content emphasizes the skill, while the CC content emphasizes the concept In addition; WY includes solving problems regarding the midpoint.	MA11.2.4 Students solve problems involving the coordinate plane such as the distance between two points, the midpoint, and slope.
8.EE.4. Understand that two lines with well-defined slopes are parallel if and only if their slopes are equal.	No match	
8.EE.5. Understand that the graph of a linear equation in two variables is a line, the set of pairs of numbers satisfying the equation. If the equation is in the form y = mx + b, the graph can be obtained by shifting the graph of y =mx by b units (upwards if b is positive, downwards if b is negative). The slope of the line is m.	Weak Alignment: WY content is in 11th grade and is less specific. CC specifies using slope-intercept.	MA11.4.3 Students graph linear equations and interpret the results in solving algebraic problems.
8.EE.6. Understand that a proportional relationship between two variable quantities y and x can be represented by the equation y = mx. The constant m is the unit rate, and tells how much of y per unit of x.	Weak alignment: WY content is in 11th grade and is less specific. CC specifies understanding proportional relationships between two variable quantities.	MA11.1.4 Students use proportional reasoning to solve problems.
8.EE.7. Graph proportional relationships and relationships defined by a linear equation; find the slope and interpret the slope in context.	Weak alignment: WY content is in 11th grade and is less specific. CC specifies graphing proportional relationships defined by linear equations.	MA11.1.4 Students use proportional reasoning to solve problems.
8.EE.8. Compare two different proportional relationships represented in different ways. For example, compare a distance-time graph to a distance-time equation to determine which of two moving objects	Weak alignment: WY content is in 11th grade and is more specific. CC specifies comparing two different proportional relationships.	MA11.1.4 Students use proportional reasoning to solve problems.

has greater speed.		
8.EE. Systems of linear equations		
8.EE.9. Understand that solutions to a system of two linear equations in two variables correspond to points of intersection of their graphs, because points of intersection satisfy both equations simultaneously.	Weak alignment: WY content is in 11th grade and emphasizes the skill, while the CC content emphasizes the concept.	MA11.4.4 Students solve, graph, or interpret systems of linear equations.
8.EE.10. Solve systems of two linear equations in two variables algebraically, and estimate solutions by graphing the equations. Solve simple cases by inspection. For example, 3x + 2y = 5 and 3x + 2y = 6 have no solution because the quantity 3x + 2y cannot simultaneously be 5 and 6.	Weak alignment: WY content is in 11th grade and does not include estimating solutions by graphing equations. CC also specifies a method to solve systems of equations.	MA11.4.4 Students solve, graph, or interpret systems of linear equations.
8.EE.11. Solve and explain word problems leading to two linear equations in two variables.	Weak alignment: WY content is in 11th grade and does not include solving word problems related to two linear equations in two variables.	MA11.4.4 Students solve, graph, or interpret systems of linear equations.
8.EE.12. Solve problems involving lines and their equations. For example, decide whether a point with given coordinates lies on the line with a given equation; construct an equation for a line given two points on the line or one point and the slope; given coordinates for two pairs of points, determine whether the line through the first pair of points intersects the line through the second pair.	Weak alignment: WY content is in 11th grade and the phrase “interpret the results in solving algebraic problems” lacks clarity. This content is topically related but specific coverage of WY content is unclear.	MA11.4.3 Students graph linear equations and interpret the results in solving algebraic problems.
	Weak alignment: WY content is found in 11th grade and is less specific. CC specifies the use of equations when solving problems on the coordinate plane. In addition, WY includes solving problems regarding the midpoint.	MA11.2.4 Students solve problems involving the coordinate plane such as the distance between two points, the midpoint, and slope.

8.F. Functions		
8.F. Function concepts		
8.F.1. Understand that a function from one set (called the domain) to another set (called the range) is a rule that assigns to each element of the domain (an input) exactly one element of the range (the corresponding output). The graph of a function is the set of ordered pairs consisting of an input and the corresponding output. Function notation is not required in Grade 8.	Weak Alignment: WY content is in 11th grade and is less specific. CC specifies understanding how a function works in terms of domain and range.	MA11.4.2 Students write, model, and evaluate expressions, functions, equations, and inequalities.
8.F.2. Evaluate expressions that define functions, and solve equations to find the input(s) that correspond to a given output.	Weak Alignment: WY content is in 11th grade and is less specific. CC specifies the relationship of expressions to functions for finding inputs that correspond to a given output.	MA11.4.2 Students write, model, and evaluate expressions, functions, equations, and inequalities.
8.F.3. Compare properties of two functions represented in different ways (algebraically, graphically, numerically in tables, or by verbal descriptions). For example, given a linear function represented by a table of values and a linear function represented by an algebraic expression, determine which function has the greater rate of change.	Weak Alignment: WY content is in 11th grade and content is similar, but there is a significant difference in the phrasing or emphasis. CC content emphasizes the comparison of functions rather than modeling or evaluating them.	MA11.4.2 Students write, model, and evaluate expressions, functions, equations, and inequalities.
8.F.4. Understand that a function is linear if it can be expressed in the form y = mx + b or if its graph is a straight line. For example, the function y = x2 is not a linear function because its graph contains the points (1,1), (–1,1) and (0,0), which are not on a straight line.	Weak Alignment: WY content is found in 11th grade and is less specific. CC specifies how to identify linear functions.	MA11.4.2 Students write, model, and evaluate expressions, functions, equations, and inequalities.

8.F. Functional relationships between quantities		
8.F.5. Understand that functions can describe situations where one quantity determines another.	Weak Alignment: WY content is found in 11th grade and emphasizes the skill, while the CC/WY content emphasizes the concept.	MA11.4.2 Students write, model, and evaluate expressions, functions, equations, and inequalities.
8.F.6. Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship; from two (x, y) values, including reading these from a table; or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation it models, and in terms of its graph or a table of values.	Weak Alignment: WY content is in 11th grade and is less specific.CC specifies that students be able to determine and interpret rates of change and initial values of a function.	MA11.4.2 Students write, model, and evaluate expressions, functions, equations, and inequalities.
8.F.7. Describe qualitatively the functional relationship between two quantities by reading a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been described verbally.	Weak Alignment: WY content is in 11th grade and is less specific.CC specifies that students describe functions qualitatively and sketch a graph given a set of qualitative features.	MA11.4.2 Students write, model, and evaluate expressions, functions, equations, and inequalities.
8.G. Geometry		
8.G. Congruence and similarity		
8.G.1. Use coordinate grids to transform figures and to predict the effect of dilations, translations, rotations and reflections.	Partial alignment (scope): CC content is *more difficult* because the WY content is prerequisite to the CC content. Students have to be able to represent geometric figures in the coordinate plane before they	MA8.2.5 Students represent geometric figures using a rectangular coordinate plane.

	can perform dilations in the coordinate plane.	
8.G.2. Explain using rigid motions the meaning of congruence for triangles as the equality of all pair of sides and all pairs of angles.	Weak alignment: WY content is in 7th grade and is less specific. CC specifies using rigid motion to explain why triangles are congruent. Partial alignment (specificity): WY content is less specific. CC specifies using rigid motion to explain why triangles are congruent.	MA7.2.2 Students make conjectures about geometric figures based on knowledge of congruence and similarity. MA8.2.2 Students make conjectures about geometric objects based on knowledge of geometric transformations, congruence, and similarity.
8.G.3. Give an informal explanation using rigid motions of the SAS and ASA criteria for triangle congruence, and use them to prove simple theorems.	Weak alignment: WY content is in 7th grade and is less specific. CC specifies what aspects of congruence to use and what conjectures to make. Partial alignment (specificity): WY content is less specific. CC specifies what aspects of congruence to use and what conjectures to make.	MA7.2.2 Students make conjectures about geometric figures based on knowledge of congruence and similarity. MA8.2.2 Students make conjectures about geometric objects based on knowledge of geometric transformations, congruence, and similarity.
8.G.4. Explain using similarity transformations the meaning of similarity for triangles as the equality of all pairs of angles and the proportionality of all pairs of sides.	Strong alignment	MA8.2.2 Students make conjectures about geometric objects based on knowledge of geometric transformations, congruence, and similarity.
	Weak alignment: WY content is in 11th grade and, while it is similar to the CC content, it has a different emphasis. Both WY and CC include the idea of the	MA11.3.5 Students solve indirect measurement problems.

	proportionality of similar figures. However, CC emphasizes the meaning of similarity, while WY emphasizes indirect measurement problems.	
8.G.5. Give an informal explanation using similarity transformations of the AA and SAS criteria for triangle similarity, and use them to prove simple theorems.	Weak alignment: WY content is in 7th grade and is less specific. CC specifies using AA and SAS criteria to prove theorems. Partial alignment (specificity): WY content is less specific. CC specifies using ASA and SAS criteria to prove theorems.	MA7.2.2 Students make conjectures about geometric figures based on knowledge of congruence and similarity. MA8.2.2 Students make conjectures about geometric objects based on knowledge of geometric transformations, congruence, and similarity.
The Pythagorean Theorem		
8.G.6. The side lengths of a right triangle are related by the Pythagorean Theorem. Conversely, if the side lengths of a triangle satisfy the Pythagorean Theorem, it is a right triangle.	Partial alignment (specificity): WY content is less specific. CC specifies how the sides of a right triangle relate to the Pythagorean Theorem.	MA8.2.3 Students use geometric formulas including the Pythagorean Theorem.
8.G.7. Explain a proof of the Pythagorean Theorem and its converse.	Weak alignment: Content is similar, but there is a significant difference in the phrasing or emphasis. While both CC and WY content is related to the Pythagorean Theorem, CC emphasizes explaining the proof of the Pythagorean Theorem, and WY emphasizes the use of formulas.	MA8.2.3 Students use geometric formulas including the Pythagorean Theorem.
8.G.8. Use the Pythagorean Theorem to determine unknown side lengths in right triangles and to solve problems in two and three dimensions.	Partial alignment (specificity): WY content is less specific. CC specifies a type of use for the Pythagorean Theorem.	MA8.2.3 Students use geometric formulas including the Pythagorean Theorem.
8.G.9. Use the Pythagorean Theorem to find the distance between two points in a	Partial alignment (specificity): WY content is less specific. CC specifies using the	MA8.2.3 Students use geometric formulas including the Pythagorean

coordinate system	Pythagorean Theorem to find the distance between two points.	Theorem.
	Weak alignment: CC content is found in 8th grade, and is more specific. CC specifies using the Pythagorean Theorem on the coordinate plane. In addition, WY includes solving problems regarding the midpoint.	MA11.2.4 Students solve problems involving the coordinate plane such as the distance between two points, the midpoint, and slope
Plane and solid geometry		
8.G.10. Draw (freehand, with ruler and protractor, and with technology) geometric shapes from given conditions. Focus on constructing triangles from three measures of angles or sides, noticing when the triangle is uniquely defined, ambiguously defined or nonexistent.	Weak alignment: WY content is in 11th grade and is less specific. CC specifies a focus on constructing triangles.	MA11.2.2 Students communicate, using mathematical language, to: Interpret, represent, or create geometric figures; Draw or build figures from a mathematical description; Analyze properties and determine attributes of 2- and 3- dimensional objects.
	Weak alignment: WY content is in 11th grade and is less specific. CC specifies a focus on constructing triangles.	MA11.2.2 Students communicate, using mathematical language, to: • Interpret, represent, or create geometric figures; • Draw or build figures from a mathematical description • Analyze properties and determine attributes of 2- and 3- dimensional objects.
8.G.11. Understand that slicing a three-dimensional figure with a plane produces a two-dimensional figure. Describe plane sections of right rectangular prisms and right rectangular pyramids.	Weak alignment: WY content is in 11th grade and emphasizes the skill, while the CC content emphasizes the concept.	MA11.2.2 Students communicate, using mathematical language, to: • Interpret, represent, or create geometric figures;

		• Draw or build figures from a mathematical description • Analyze properties and determine attributes of 2- and 3- dimensional objects.
8.G.12. Use hands-on activities to demonstrate and describe properties of: parallel lines in space, the line perpendicular to a given line through a given point, lines perpendicular to a given plane, lines parallel to a given plane, the plane or planes passing through three given points, and the plane perpendicular to a given line at a given point.	Weak alignment: WY content is in 11th grade and emphasizes using perpendicularity and parallelism to solve problems, while CC emphasizes using hands-on activities to describe the properties of perpendicularity and parallelism.	MA11.2.1 Students use transformations, congruency, symmetry, similarity, perpendicularity, parallelism, and the Pythagorean Theorem to solve problems.
8.SP. Statistics and Probability		
8.SP. Patterns of association in bivariate data		
8.SP.1. Understand that scatter plots for bivariate measurement data may reveal patterns of association between two quantities.	Weak alignment: WY content is in 11th grade and is less specific. CC specifies understanding and analyzing scatter plots for bivariate data to determine patterns of association.	MA11.5.2 Students draw reasonable inferences from statistical data and/or correlation/best fit line to predict outcomes.
	Weak alignment: WY content is in 11th grade and is less specific. CC specifies understanding and analyzing scatter plots to determine patterns of association.	MA11.2.1 Students use transformations, congruency, symmetry, similarity, perpendicularity, parallelism, and the Pythagorean Theorem to solve problems
8.SP.2. Construct and interpret scatter plots for bivariate measurement data. Describe patterns such as clustering, outliers, positive or negative association, linear association, nonlinear association.	Weak alignment: WY content is in 11th grade and is less specific. CC specifies constructing and interpreting scatter plots to determine patterns of association.	MA11.5.2 Students draw reasonable inferences from statistical data and/or correlation/best fit line to predict outcomes.

8.SP.3. Understand that a straight line is a widely used model for exploring relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit by judging the closeness of the data points to the line.	Weak alignment: WY content is in 11th grade and emphasizes the skill, while the CC content emphasizes the concept.	MA11.5.2 Students draw reasonable inferences from statistical data and/or correlation/best fit line to predict outcomes
8.SP.4. Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept. For example, in a linear model for a biology experiment, an additional hour of sunlight each day is associated with an additional 1.5 cm in mature plant height.	No match	
8.SP.5. Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table. Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects. Use relative frequencies calculated for rows or columns to describe possible association between the two variables. For example, collect data from students in your class on whether or not they have a curfew on school nights and whether or not they have assigned chores at home. Is there evidence that those who have a curfew also tend to have chores?	Weak alignment: WY content is in 11th grade and emphasizes the skill, while the CC content emphasizes the concept.	MA11.5.2 Students draw reasonable inferences from statistical data and/or correlation/best fit line to predict outcomes