

Math-U-See® Correlation with the Common Core State Standards for Mathematical Content for Second Grade

The second grade standards are all found in Beta, although much of the place value material is review for students who mastered Alpha. The use of Math-U-See's manipulatives in presenting multi-digit addition and subtraction emphasizes conceptual understanding rather than rote memorization of procedures. Beta introduces measurement units, perimeter, and number lines. The presentations of telling time and money surpass the relevant second grade standards. Be sure to utilize all of the resources available, which include the Decimal Street®/Block Clock poster, the online Worksheet Generator, and the online Math Drill.

KEY				
Domain Name	#	Standard	Location in Math-U-See Curriculum	Comments
		K.CC. – Counting and Cardinality		
Cluster		Know number names and the count sequence. (MAJOR)		
Standard # and Text from Common Core State Standards	1	Count to 100 by ones and by tens.	Counting to 100: Primer 14 (or Alpha 6)	Note that Math-U-See's method of counting begins with zero, not one.
			Where in the Math-U-See Curriculum this standard is met.	Additional Insights

#	Standard	Location in Math-U-See Curriculum	Comments
2.OA. – Operations and Algebraic Thinking			
Represent and solve problems involving addition and subtraction. (MAJOR)			
1	Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g. by using drawings and equations with a symbol for the unknown number to represent the problem.	Multiple-Digit Addition: Beta 5 Addition with Regrouping (Carrying): Beta 7 Multiple-Digit Subtraction: Beta 20 Subtraction with Regrouping (Borrowing): Beta 22 Application and Enrichment: Beta 6G	Students should have mastery within 100 by the end of Beta 22.
Add and subtract within 20. (MAJOR)			
2	Fluently add and subtract within 20 using mental strategies. By end of Grade 2, know from memory all sums of two one-digit numbers.	Fluency of single-digit addition and subtraction is a prerequisite for starting Beta.	This standard was mastered in Alpha and is considered review in Beta. See lessons listed for 1.OA.5–6
Work with equal groups of objects to gain foundations for multiplication. (Supporting)			
3	Determine whether a group of objects (up to 20) has an odd or even number of members, e.g., by pairing objects or counting them by 2s; write an equation to express an even number as a sum of two equal addends.	Odd and Even Numbers: Alpha 7 Skip Count by 2: Beta 6 (or Primer 17)	Be sure to do the blocks activity recommended in the Teaching Tip in Beta 6.

4	Use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns; write an equation to express the total as a sum of equal addends.	Application and Enrichment: Beta 28G	
2.NBT. – Number and Operations in Base Ten			
Understand place value. (MAJOR)			
1	Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones. Understand the following as special cases:		Place value is a foundational principle in Math-U-See. Students have been working with ones, tens, and hundreds since Primer.
1a	100 can be thought of as a bundle of ten tens - called a "hundred."	Beta 1 reviews this standard.	This standard is mastered in Alpha 1.
1b	The numbers 100, 200, 300, 400, 500, 600, 700, 800, 900 refer to one, two, three, four, five, six, seven, eight, or nine hundreds (and 0 tens and 0 ones).	Beta 1 reviews this standard.	This standard is mastered in Alpha 1.
2	Count within 1000; skip-count by 5s, 10s and 100s.	Thousands and place-value notation: Beta 16 Skip Count by 5: Beta 9 Skip Count by 10: Beta 8	Skip counting by 5 and 10 are mastered by the end of Alpha 13 and are considered review in Beta.
3	Read and write numbers to 1000 using base-ten numerals, number names, and expanded form.	Thousands and Place-Value Notation: Beta 16	Note that the standards use the term "expanded form" in place of Place-Value Notation.
4	Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using $>$, $=$, and $<$ symbols to record the results of comparisons.	Inequalities with three-digit numbers are found throughout the student worksheets after Beta 3 (first instance is on 4E).	Inequality symbols are introduced in Beta 3.
Use place value understanding and properties of operations to add and subtract. (MAJOR)			
5	Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.	Multiple-Digit Addition: Beta 5 Addition with Regrouping (Carrying): Beta 7 Multiple-Digit Subtraction: Beta 20 Subtraction with Regrouping (Borrowing): Beta 22	The concepts are presented by the end of Beta 22, and fluency will come with practice.
6	Add up to four two-digit numbers using strategies based on place value and properties of operations.	Multiple-Digit Column Addition: Beta 18	
7	Add and subtract within 1000, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method. Understand that in adding or subtracting three-digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones; and sometimes it is necessary to compose or decompose tens or hundreds.	Multiple-Digit Addition (with borrowing): Beta 5 Addition with Regrouping (Carrying): Beta 7 Multiple-Digit Subtraction: Beta 20 Subtraction with Regrouping (Borrowing): Beta 22 Subtraction Three-Digit Numbers: Beta 24	Beta 24 discusses borrowing in subtraction from tens and hundreds.
8	Mentally add 10 or 100 to a given number 100–900, and mentally subtract 10 or 100 from a given number 100–900.	Adding and Subtracting 10: Mental Math in Beta 24 Adding and Subtracting 100: Mental Math Beta 27	Additional Mental Math for adding and subtracting 10 can be found in Alpha 27.

9	Explain why addition and subtraction strategies work, using place value and the properties of operations. (Explanations may be supported by drawings or objects.)	Multiple-Digit Addition: Beta 5 Addition with Regrouping (Carrying): Beta 7 Multiple-Digit Subtraction: Beta 20 Subtraction with Regrouping (Borrowing): Beta 22	Using the blocks as demonstrated in the Instruction Manual and on the DVD is an excellent way for students to understand and explain addition and subtraction.
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2.MD. – Measurement and Data

Measure and estimate lengths in standard units. (MAJOR)

1	Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.	Measurement: Beta 14 Application and Enrichment: Beta 15G and 18G	Be sure to ask students why they are choosing to use one particular measuring tool over another for a particular task.
2	Measure the length of an object twice, using length units of different lengths for the two measurements; describe how the two measurements relate to the size of the unit chosen.	Application and Enrichment: Beta 15G	
3	Estimate lengths using units of inches, feet, centimeters, and meters.	Application and Enrichment: Beta 14G and 15G	
4	Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit.	Application and Enrichment: Beta 14G	

Relate addition and subtraction to length. (MAJOR)

5	Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units, e.g., by using drawings (such as drawings of rulers) and equations with a symbol for the unknown number to represent the problem.	Perimeter: Beta 15, including 15G	In order to fulfill the subtraction portion of this standard be sure to assign the perimeter problems found on Beta student worksheets 21F, 25F, and 27F.
6	Represent whole numbers as lengths from 0 on a number line diagram with equally spaced points corresponding to the numbers 0, 1, 2, . . . , and represent whole-number sums and differences within 100 on a number line diagram.	Number Line: Beta Instruction Manual and Student Workbook Appendix B	

Work with time and money. (Supporting)

7	Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.	Telling Time Minutes: Beta 21, including 21G Telling Time Hours: Beta 23, including 23G Using a.m. and p.m.: Beta 23	Math-U-See surpasses this standard by introducing students to analog clocks, hours, and minutes as early as Primer. Students are ready to work on telling time once they have mastered skip counting by 5 (Alpha 13). Here in Beta students exceed this standard by telling time to the nearest minute. Note that Math-U-See focuses practice on the analog clock, assuming that students will encounter the digital clock in daily life.
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8	Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using \$ and ¢ symbols appropriately. <i>Example: If you have 2 dimes and 3 pennies, how many cents do you have?</i>	Penny = 1¢: Beta 8 Dime = 10¢: Beta 8 Nickel = 5¢: Beta 9 Money Decimal Point and Dollars: Beta 10 Adding Money: Beta 12 Subtracting Money: Beta 27 Matching Money with Prices: Beta 8G, 9G, 10G, 13G Making Change: Beta 20G, 27G	Beginning in Alpha, word problems use dollars, dimes, pennies etc as units like the example given in the standard. When students have mastered Beta 27, they have far exceeded the standard as written, and there are no further standards concerning money specifically.
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Represent and interpret data. (Supporting)

9	Generate measurement data by measuring lengths of several objects to the nearest whole unit, or by making repeated measurements of the same object. Show the measurements by making a line plot, where the horizontal scale is marked off in whole-number units.	Application and Enrichment: Beta 30G	More information on line plots is given in Gamma Student Workbook Appendix Lesson A.
10	Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put-together, take-apart, and compare problems using information presented in a bar graph.	Bar Graphs and Line Graphs: Beta 30 Application and Enrichment: Beta 30G	

2.G. – Geometry

Reason with shapes and their attributes. (Additional)

1	Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces. (Sizes are compared directly or visually, not compared by measuring.) Identify triangles, quadrilaterals, pentagons, hexagons, and cubes.	Shapes Identifying and Sharing: Beta Instruction Manual and Student Workbook Appendix A	If students need review, the basic shapes of triangles, circles, rectangles, and squares are covered in Alpha 11 and 13.
2	Partition a rectangle into rows and columns of same-size squares and count to find the total number of them.	Shapes Identifying and Sharing: Beta Instruction Manual and Student Workbook Appendix A	
3	Partition circles and rectangles into two, three, or four equal shares, describe the shares using the words <i>halves</i> , <i>thirds</i> , <i>half of</i> , <i>a third of</i> , etc., and describe the whole as two halves, three thirds, four fourths. Recognize that equal shares of identical wholes need not have the same shape.	Shapes Identifying and Sharing: Beta Instruction Manual and Student Workbook Appendix A	Another worksheet on dividing circles into halves and quarters can be found in Alpha 14G.