

**MISSOURI MATHEMATICS CORE ACADEMIC STANDARDS CROSSWALK TO MISSOURI GLES/CLES
CONTENT ALIGNMENTS AND SHIFTS – Grade 2 *DRAFT***

Grade 2	
<p>Critical Areas In Grade 2, instructional time should focus on four critical areas:</p> <ol style="list-style-type: none"> 1. extending understanding of base-ten notation; 2. building fluency with addition and subtraction; 3. using standard units of measure; and 4. describing and analyzing shapes. 	<p>Mathematical Practices</p> <ol style="list-style-type: none"> 1. Make sense of problems and persevere in solving them. 2. Reason abstractly and quantitatively. 3. Construct viable arguments and critique the reasoning of others. 4. Model with mathematics. 5. Use appropriate tools strategically. 6. Attend to precision. 7. Look for and make use of structure. 8. Look for and express regularity in repeated reasoning.

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Operations and Algebraic Thinking 2.OA

Represent and solve problems involving addition and subtraction.

<p>2.OA.1</p>	<p>Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem. (See CCSS Glossary p. 88, Table 1.) http://illustrativemathematics.org/illustrations/1</p>	<p>N3C2 <i>apply</i> and describe the strategy used to compute 2-digit addition or subtraction problems with regrouping A3A2 <i>*model situations that involve addition and subtraction of whole numbers, using pictures, objects or symbols</i></p>	
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Add and subtract within 20.

<p>2.OA.2</p>	<p>Fluently add and subtract within 20 using mental strategies. (See standard 1.OA.6 for a list of mental strategies.) By end of Grade 2, know from memory all sums of two one-digit numbers.</p>	<p>N3B2 <i>*demonstrate fluency including quick recall with basic number relationships of addition and subtraction for sums up to 20</i></p>	
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Work with equal groups of objects to gain foundations for multiplication.

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2.OA.3	Determine whether a group of objects (up to 20) has an odd or even number of members, e.g., by pairing objects or counting them by 2s; write an equation to express an even number as a sum of two equal addends. http://illustrativemathematics.org/illustrations/620	A3A2 <i>*model situations that involve addition and subtraction of whole numbers, using pictures, objects or symbols</i>	N1D1 <i>*skip count by 2s, 5s, and 10s</i> N1D3 <i>classify numbers by their characteristics, including odd and even</i>
2.OA.4	Use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns; write an equation to express the total as a sum of equal addends. http://illustrativemathematics.org/illustrations/3	A3A2 <i>*model situations that involve addition and subtraction of whole numbers, using pictures, objects or symbols</i>	N2A3 <i>*represent/model a given situation involving multiplication and related division using various models including sets, arrays, areas, repeated addition/subtraction, sharing and partitioning</i>
Number and Operations in Base Ten 2.NBT			
Understand place value.			
2.NBT.1	Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones. Understand the following as special cases: http://illustrativemathematics.org/illustrations/71 http://illustrativemathematics.org/illustrations/94 http://illustrativemathematics.org/illustrations/96 http://illustrativemathematics.org/illustrations/97 http://illustrativemathematics.org/illustrations/144 http://illustrativemathematics.org/illustrations/147 http://illustrativemathematics.org/illustrations/156 http://illustrativemathematics.org/illustrations/192 http://illustrativemathematics.org/illustrations/574		

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<p>2.NBT.1.a</p>	<p>100 can be thought of as a bundle of ten tens -- called a "hundred". http://illustrativemathematics.org/illustrations/157</p>	<p>N1C2 *<i>compose or decompose numbers</i> by <i>using</i> a variety of strategies, such as using known facts, <i>tens place value</i> or landmark numbers to solve problems</p>	
<p>2.NBT.1.b</p>	<p>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).</p>		
<p>2.NBT.2</p>	<p>Count within 1000; skip-count by 5s, 10s, and 100s.</p>	<p>N1D2 <i>skip count by multiples of numbers less than 10</i></p>	
<p>2.NBT.3</p>	<p>Read and write numbers to 1000 using base-ten numerals, number names, and expanded form.</p>	<p>N1A2 *<i>read, write, and compare whole numbers less than 1000</i></p>	<p>N1C3 <i>recognize equivalent representations for the same number and generate them by decomposing and composing numbers including expanded notation</i></p>
<p>2.NBT.4</p>	<p>Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using >, =, and < symbols to record the results of comparisons. http://illustrativemathematics.org/illustrations/7 http://illustrativemathematics.org/illustrations/111 http://illustrativemathematics.org/illustrations/396 http://illustrativemathematics.org/illustrations/575</p>	<p>N1A2 *<i>read, write, and compare whole numbers less than 1000</i></p>	
<p>Use place value understanding and properties of operations to add and subtract.</p>			

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<p>2.NBT.5</p>	<p>Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.</p>	<p>N3B2 <i>*demonstrate fluency including quick recall with basic number relationships of addition and subtraction for sums up to 20</i> N3C2 <i>*apply and describe the strategy used to compute 2-digit addition or subtraction problems with regrouping</i> A2B2 <i>*solve problems with whole numbers using the commutative and associative properties of addition</i></p>	
<p>2.NBT.6</p>	<p>Add up to four two-digit numbers using strategies based on place value and properties of operations.</p>	<p>N3C2 <i>*apply and describe the strategy used to compute 2-digit addition or subtraction problems with regrouping</i> A2B2 <i>*solve problems with whole numbers using the commutative and associative properties of addition</i></p>	
<p>2.NBT.7</p>	<p>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.</p>	<p>N1C2 <i>*compose or decompose numbers by using a variety of strategies, such as using known facts, tens place value or landmark numbers to solve problems</i> N2A2 <i>*represent/model a given situation involving two-digit whole number addition or subtraction</i> A2B2 <i>*solve problems with whole numbers using the commutative and associative properties of addition</i> A3A2 <i>*model situations that involve addition and subtraction of whole numbers, using pictures, objects or symbols</i></p>	<p>N3C3 <i>apply and describe the strategy used to compute up to 3-digit addition or subtraction problems</i></p>

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2.NBT.8	Mentally add 10 or 100 to a given number 100 - 900, and mentally subtract 10 or 100 from a given number 100 - 900.		
2.NBT.9	Explain why addition and subtraction strategies work, using place value and the properties of operations. (Explanations may be supported by drawings or objects.)	N3C2 *apply and describe the strategy used to compute 2-digit addition or subtraction problems with regrouping A2B2 *solve problems with whole numbers using the commutative and associative properties of addition A3A2 *model situations that involve addition and subtraction of whole numbers, using pictures, objects or symbols	
Measurement and Data 2.MD			
Measure and estimate lengths in standard units.			
2.MD.1	Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.	M1A2 *select an appropriate unit and tool for the attribute being measured (size, temperature, time, weight) and to the nearest inch, centimeter, degree, hour and pound	
2.MD.2	Measure the length of an object twice, using length units of different lengths for the two measurements; describe how the two measurements relate to the size of the unit chosen.	M2A2 *use standard units of measure (cm, inch) and the inverse relationships between the size and number of units	
2.MD.3	Estimate lengths using units of inches, feet, centimeters, and meters		M2A4 *select and use benchmarks to estimate measurements (linear, capacity, weight)
2.MD.4	Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit.	M2A2 *use standard units of measure (cm, inch) and the inverse relationships between the size and number of units	
Relate addition and subtraction to length.			

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2.MD.5	Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units, e.g., by using drawings (such as drawings of rulers) and equations with a symbol for the unknown number to represent the problem.	N2A2 <i>*represent/model</i> a given situation involving two-digit whole number addition or subtraction A2A2 <i>*using addition or subtraction, represent a mathematical situation as an expression or number sentence</i> A3A2 <i>*model situations that involve addition and subtraction of whole numbers, using pictures, objects or symbols</i>	
2.MD.6	Represent whole numbers as lengths from 0 on a number line diagram with equally spaced points corresponding to the numbers 0, 1, 2, ..., and represent whole-number sums and differences within 100 on a number line diagram.	A3A2 <i>*model situations that involve addition and subtraction of whole numbers, using pictures, objects or symbols</i>	N1A5 <i>*read, write and compare whole numbers less than 1,000,000, unit fractions and decimals to hundredths (including location of a number line)</i>
Work with time and money.			
2.MD.7	Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.	M1C2 <i>*tell time to the nearest one fourth (quarter) hour</i>	M1C3 <i>tell time to the nearest five minutes</i>
2.MD.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>		M1DK <i>*identify and know the value of a penny, nickel, dime, and quarter</i> M1D1 <i>*count money to a dollar, including half dollars</i>
Represent and interpret data.			

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2.MD.9	Generate measurement data by measuring lengths of several objects to the nearest whole unit, or by making repeated measurements of the same object. Show the measurements by making a line plot, where the horizontal scale is marked off in whole-number units. http://illustrativemathematics.org/illustrations/485 http://illustrativemathematics.org/illustrations/486 http://illustrativemathematics.org/illustrations/493	M2A2 <i>*use standard units of measure</i> (cm, inch) and the inverse relationships between the size and number of units	D1C4 <i>create</i> tables or <i>graphs to represent categorical and numerical data (including line plots)</i>
2.MD.10	Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put-together, take-apart, and compare problems using information presented in a bar graph. (See CCSS Glossary p. 88, Table 1)	D1C2 <i>*represent</i> one-to-many correspondence <i>data using pictures and bar graphs</i>	D1C3 <i>read and interpret information from line plots and graphs (bar, line, and pictorial)</i>
Geometry 2.G			
Reason with shapes and their attributes.			
2.G.1	Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces. (Sizes are compared directly or visually, not compared by measuring.) Identify triangles, quadrilaterals, pentagons, hexagons, and cubes.	G1A2 <i>*describe attributes and parts of 2- and 3- dimensional shapes (circle, triangle, trapezoid, rectangle, rhombus, sphere, rectangular prism, cylinder, pyramid)</i>	G1A1 <i>*identify</i> , name and describe 2- and 3-dimensional shapes using physical models (circle, triangle, trapezoid, rectangle , rhombus, sphere, rectangular prism, cylinder, pyramid)
2.G.2	Partition a rectangle into rows and columns of same-size squares and count to find the total number of them.		N2A3 <i>*represent/model a given situation</i> involving multiplication and related division <i>using various models including</i> sets, arrays, areas, repeated addition/subtraction, sharing and partitioning

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2.G.3	<p>Partition circles and rectangles into two, three, or four equal shares, describe the shares using the words halves, thirds, half of, a third of, etc., and describe the whole as two halves, three thirds, four fourths. Recognize that equal shares of identical wholes need not have the same shape.</p>	N1B2 <i>*recognize unit fractions of a shape</i>	N1B3 <i>*represents halves, thirds and fourths</i>
Grade 2 GLEs not included in Grade 2 CAS			
<p>N3A2 *describe or notate the mental strategy used to compute addition or subtraction of whole numbers, including 2-digit numbers</p> <p>N3D2 *estimate sums and difference of whole numbers</p> <p>A1A2 *describe an extend simple numeric patterns and change from one representation to another</p> <p>A1B2 *describe how simple growing patterns are generated</p> <p>A4A2 *describe qualitative change, such as students growing taller</p> <p>G2A2 *identify locations with simple relationships on a map (coordinate system)</p> <p>G3A2 *use manipulatives to model slides and turns</p> <p>G3C2 *create shapes that have symmetry</p> <p>M1D2 *make change from a dollar</p> <p>D1A2 *pose questions and gather data about themselves and their surroundings</p> <p>D1B2 *sort and classify items according to their attributes and organize data about the items</p>			