MISSOURI MATHEMATICS CORE ACADEMIC STANDARDS CROSSWALK TO MISSOURI GLES/CLES
CONTENT ALIGNMENTS AND SHIFTS – Grade 1 *DRAFT*

Grade 1	
Critical Areas In Grade 1, instructional time should focus on four critical areas: 1. developing understanding of addition, subtraction, and strategies for addition and subtraction within 20; 2. developing understanding of whole number relationships and place value, including grouping in tens and ones; 3. developing understanding of linear measurement and measuring lengths as iterating length units; and 4. reasoning about attributes of, and composing and decomposing geometric shapes.	**Mathematical Practices** 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 1.OA		
Represent and solve problems involving addition and subtraction.		

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1.OA.1	Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem. (See CCSS Glossary p. 88, Table 1.) http://illustrativemathematics.org/illustrations/2 http://illustrativemathematics.org/illustrations/160 http://illustrativemathematics.org/illustrations/161 http://illustrativemathematics.org/illustrations/162 http://illustrativemathematics.org/illustrations/163 http://illustrativemathematics.org/illustrations/194 http://illustrativemathematics.org/illustrations/195 http://illustrativemathematics.org/illustrations/196 http://illustrativemathematics.org/illustrations/197	**N2A1** *represent/model a given situation involving addition and subtraction of whole numbers using pictures, objects, or symbols* **A2A1** *using addition or subtraction, represent a mathematical situation* as an expression or *number sentence* **A3A1** *model situations that involve the addition of whole numbers, using pictures, objects or symbols*	
1.OA.2	Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem. http://illustrativemathematics.org/illustrations/468	**A3A1** *model situations that involve the addition of whole numbers, using pictures, objects or symbols*	
Understand and apply properties of operations and the relationship between addition and subtraction.			

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1.OA.3	Apply properties of operations as strategies to add and subtract. (Students need not use formal terms for these properties.) *Examples: If 8 + 3 = 11 is known, then 3 + 8 = 11 is also known. (Commutative property of addition.) To add 2 + 6 + 4, the second two numbers can be added to make a ten, so 2 + 6 + 4 = 2 + 10 = 12. (Associative property of addition.)*	A2B1 **apply the commutative and associative properties of addition* to *whole numbers*	
1.OA.4	Understand subtraction as an unknown-addend problem. *For example, subtract 10 – 8 by finding the number that makes 10 when added to 8.*	N1C1 **compose or **decompose whole numbers up to 20 using** multiple strategies such as **known facts**, doubles and close to doubles, tens, and one place value	
Add and subtract within 20.			
1.OA.5	==*Relate counting to addition and subtraction (e.g., by counting on 2 to add 2).*==	N1C1 **compose or decompose whole numbers up to 20 using multiple strategies* such as known facts, doubles and close to doubles, tens, and one place value	
1.OA.6	Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g., 8 + 6 = 8 + 2 + 4 = 10 + 4 = 14)**;** decomposing a number leading to a ten (e.g., 13 - 4 = 13 - 3 - 1 = 10 - 1 = 9); using the relationship between addition and subtraction (e.g., knowing the 8 + 4 = 12, one knows 12 - 8 = 4); and creating equivalent but easier or known sums (e.g., adding 6 + 7 by creating the known equivalent 6 + 6 + 1 = 12 + 1 = 13).	N1C1 **compose or decompose whole numbers up to 20 using multiple strategies such as known facts, doubles and close to doubles, tens, and one place value* N3B1 **use strategies to develop fluency with basic number relationships of addition and subtraction for sums up to 20* N3C1 *apply* and describe *the strategy used to solve addition or subtraction problems*	
Work with addition and subtraction equations.			

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1.OA.7 **Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false.** *For example, which of the following equations are true and which are false? 6 = 6, 7 = 8 - 1, 5 + 2 = 2 + 5, 4 + 1 = 5 + 2.* http://illustrativemathematics.org/illustrations/466		
1.OA.8 Determine the unknown whole number in an addition or subtraction equation relating three whole numbers. *For example, determine the unknown number that makes the equation true in each of the equations 8 + ? = 11, 5 = □ - 3, 6 + 6 = □.* http://illustrativemathematics.org/illustrations/4	N1C1 *compose or decompose whole numbers up to 20 using multiple strategies such as known facts*, *doubles and close to doubles, tens, and one place value*	
Number and Operations in Base Ten 1.NBT		
Extend the counting sequence.		
1.NBT.1 **Count to 120, starting at any number less than 120.** In this range, read and write numerals and represent a number of objects with a written numeral. http://illustrativemathematics.org/illustrations/405	N1A1 **read, write**, and compare *whole numbers* less than 100	
Understand place value.		
1.NBT.2 Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases:		
1.NBT.2.a 10 can be thought of as a bundle of ten ones -- called a "ten".	N1C1 *compose or decompose whole numbers* up to 20 *using* multiple strategies such as known facts, doubles and close to doubles, *tens, and one place value*	

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1.NBT.2.b	The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones.	N1C1 *****compose or decompose whole numbers up to 20 using** multiple strategies such as known facts, doubles and close to doubles, **tens, and one place value**	
1.NBT.2.c	**The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).**		
1.NBT.3	Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols >, =, and <. http://illustrativemathematics.org/illustrations/6	N1A1 *****read, write, and *compare whole numbers less than 100*	
Use place value understanding and properties of operations to add and subtract.			
1.NBT.4	Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten.	N2A1 *****represent/model a given situation involving addition and subtraction of whole numbers using pictures, objects, or symbols*** N3C1 *****apply and describe the strategy used to solve addition or subtraction problems*** A2B1 *****apply the commutative and associative properties of addition to whole numbers*** A3A1 *****model situations that involve the addition of whole numbers, using pictures, objects or symbols***	N3C2 *****apply and describe the strategy used to compute 2-digit addition or subtraction problems with regrouping***
1.NBT.5	Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used.	N3A1 *****describe* or represent *the mental strategy used to compute addition and subtraction problems***	

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1.NBT.6	<mark>Subtract multiples of 10 in the range 10 - 90 from multiples of 10 in the range 10 - 90</mark> (positive or zero differences), using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.	N3C1 *apply and describe the strategy used to solve* addition or *subtraction problems*	N2B3 *describe the effects of adding and subtracting whole numbers as well as the relationship between the two operations*
Measurement and Data 1.MD			
Measure lengths indirectly and by iterating length units.			
1.MD.1	Order three objects by length; compare the lengths of two objects indirectly by using a third object.		M1AK *compare and order objects according to their size* or weight M2AK *measure objects by comparison of lengths* (shorter, same, longer) M2A3 *use a referent for measures to make comparisons* and estimates
1.MD.2	Express the length of an object as a whole number of length units, by laying multiple copies of a shorter object (the length unit) end to end; understand that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps. *Limit to contexts where the object being measured is spanned by a whole number of length units with no gaps or overlaps.*	M2A1 *use repetitions of a single unit to measure something larger than the unit, (e.g. length of book with paper clips)*	
Tell and write time.			
1.MD.3	Tell and write time in hours and half-hours using analog and digital clocks.	M1C1 *tell time to the nearest half hour*	
Represent and interpret data.			

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1.MD.4 Organize, represent, and interpret data with up to three categories; **ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another.** http://illustrativemathematics.org/illustrations/506	**D1B1** **sort and classify items* according to their attributes **D1C1** **represent* one-to-one correspondence *data using pictures* and bar graphs	**D1C3** read and *interpret information* from line plots and graphs (bar, line, pictorial)
Geometry 1.G		
Reason with shapes and their attributes.		
1.G.1 Distinguish between **defining attributes (e.g., triangles are closed and three-sided) versus non-defining attributes (e.g., color, orientation, overall size)**; build and draw shapes to possess defining attributes.	**G1A1** **identify, name and **describe 2-** and 3-dimensional shapes using physical models (circle, triangle, trapezoid, rectangle,* rhombus, sphere, rectangular prism, cylinder, pyramid*)* **G1C1** **use models to compose and decompose 2-dimensional shapes* **D1B1** **sort and classify items according to their attributes*	
1.G.2 Compose two-dimensional shapes (rectangles, squares, trapezoids, triangles, **half-circles, and quarter-circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape, and compose new shapes from the composite shape.** (Students do not need to learn formal names such as "right rectangular prism".)	**G1C1** **use models to **compose** and decompose 2-dimensional shapes*	

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1.G.3 **Partition circles and rectangles into** two and four equal shares, **describe the shares using the words** *halves, fourths,* **and** *quarters,* **and use the phrases** *half of, fourth of,* **and** *quarter of.* **Describe the whole as two of, or four of the shares. Understand for these examples that decomposing into more equal shares creates smaller shares.**	N1B1 *recognize 1/2 and 1/4 of a shape*	

Grade 1 GLEs not included in Grade 1 CAS
N1D1 *skip count by 2s, 5s and 10s
A1A1 *extend patterns of sound, shape, motion or a simple numeric pattern
A1B1 *describe how simple repeating patterns are generated
G2A1 *describe, name and interpret relative positions in space (left, right)
G3A1 *use manipulatives to model flips
G3C1 *recognize shapes that have symmetry
M1A1 *select the appropriate tool for the attribute being measured (size, temperature, time, weight)
M1D1 *count money to a dollar, including half dollars
D1A1 *pose questions and gather data about themselves and their surroundings