



First Grade Mathematics: Operations and Algebraic Thinking		
Grade-Level Standards	DLM Essential Element	Unpacked
Represent and solve problems involving addition and subtraction		
<p>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.</p>	<p>EE.1.OA.1.a. Represent addition and subtraction with objects, fingers, mental images, drawings, sounds (e.g., claps), or acting out situations.</p>	<p>Concept: The quantity of a set can change when items are added or subtracted.</p> <p>Skills: Represent addition and subtraction; count objects in sets to determine if they are equal in quantity; communicate "same quantity"; use put together to solve problems.</p> <p>Big Idea: There are flexible methods of representating addition and subtraction in order to solve problems. One-to-one correspondence can be used to compare sets.</p>
	<p>EE.1.OA.1.b. Recognize two groups that have the same or equal quantity.</p>	
<p>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.</p>	<p>EE.1.OA.2. Use "putting together" to solve problems with two sets.</p>	<p>Essential Questions: How can I represent the problem? How many items will there be if items are added or subtracted? How do I know if two sets have the same quantity? What does putting together do to the set?</p>



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Understand and apply properties of operations and the relationship between addition and subtraction		
<p>1.OA.3. Apply properties of operations as strategies to add and subtract. Examples: If $8 + 3 = 11$ is known, then $3 + 8 = 11$ is also known. (Commutative property of addition.) To add $2 + 6 + 4$, the second two numbers can be added to make a 10, so $2 + 6 + 4 = 2 + 10 = 12$. (Associative property of addition.)</p>	<p>Not applicable. See EE.6.EE.3 and EE.N-CN.2.</p>	<p>Not applicable.</p>
<p>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.</p>	<p>Not applicable. See EE.1.NBT.4 and EE.1.NBT.6.</p>	



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Add and subtract within 20		
<p>1.OA.5. Relate counting to addition and subtraction (e.g., by counting on 2 to add 2).</p>	<p>EE.1.OA.5.a. Use manipulatives or visual representations to indicate the number that results when adding one more.</p> <hr/> <p>EE.1.OA.5.b. Apply knowledge of “one less” to subtract one from a number.</p>	<p>Concept: The quantity of a set can change when items are added or subtracted.</p> <p>Skills: Use manipulatives and pictorial representations to add or subtract one; indicate the quantity when adding and subtracting one; use 1:1 correspondence.</p>
<p>1.OA.6. Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g., $8 + 6 = 8 + 2 + 4 = 10 + 4 = 14$); decomposing a number leading to a ten (e.g., $13 - 4 = 13 - 3 - 1 = 10 - 1 = 9$); using the relationship between addition and subtraction (e.g., knowing that $8 + 4 = 12$, one knows $12 - 8 = 4$); and creating equivalent but easier or known sums (e.g., adding $6 + 7$ by creating the known equivalent $6 + 6 + 1 = 12 + 1 = 13$).</p>	<p style="text-align: center;">Not applicable. See EE.3.OA.4.</p>	<p>Big Idea: Adding to a set makes the quantity more and subtracting from a set makes the quantity less.</p> <p>Essential Questions: How do I represent a collection of objects when adding or subtracting one? What number represents the set when I add or subtract one? What happens to set when I add or subtract one?</p>



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Work with addition and subtraction equations		
<p>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? $6 = 6$, $7 = 8 - 1$, $5 + 2 = 2 + 5$, $4 + 1 = 5 + 2$.</p>	<p>Not applicable. See EE.1.OA.1.b and EE.2.NBT.5.a.</p>	<p>Not applicable.</p>
<p>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 $8 + ? = 11$, $5 = _ - 3$, $6 + 6 = _$.</p>	<p>Not applicable. See EE.3.OA.4.</p>	



First Grade Mathematics: Numbers and Operations in Base Ten		
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Extend the counting sequence		
<p>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.</p>	<p>EE.1.NBT.1.a. Count by ones to 30.</p>	<p>Concept: Numbers have a sequence and represent quantity.</p> <p>Skills: Count objects using a one-to-one correspondence using correct sequence of number words; identify or represent total quantity using a single number word; identify or represent total quantity using a single numeral; count items (concrete, pictorial) to tell how many; recognize a counted set moved to another position doesn't change the value. (conservation of number).</p> <p>Big Idea: A numeral represents a quantity. Counting tells how many objects in a quantity. When counting, the last number counted is the total number of items; it is a cumulative count.</p> <p>Essential Questions: What number comes next? How many objects are there in the group? What was the last number I counted? How many do I have now (when a set is moved to a different position)?</p>
	<p>EE.1.NBT.1.b. Count as many as 10 objects and represent the quantity with the corresponding numeral.</p>	

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Understand place value		
<p>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:</p>	<p>EE.1.NBT.2. Create sets of 10.</p>	<p>Concept: Sets of ten must be perceived as a single entity when interpreting numbers using place value (e.g., 1 ten is one group, it is 10 ones).</p> <p>Skills: Count objects to 10; separate objects into groups of 10; identify 10 as a composition of ten ones; compare groups of objects.</p> <p>Big Idea: Objects that are grouped are a set; objects can be grouped by a given number. Benchmark numbers such as 5 and 10 can be used to compare sets.</p> <p>Essential Questions: How many items do I want to put in each group? How do I keep track of the number of items I put in a group? Are the groups more, less or the same? How do I know when I have 10? What do I do with my extras? How many (more or less) do I need to make a set of 5 or 10?</p>
<p>1.NBT.2.a. 10 can be thought of as a bundle of ten ones—called a “ten.”</p>		
<p>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.</p>		
<p>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).</p>		
<p>1.NBT.3. Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the</p>	<p>EE.1.NBT.3. Compare two groups of 10 or fewer items when the number of items in each group is similar.</p>	



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Use place value understanding and properties of operations to add and subtract		
<p>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.</p>	<p>EE.1.NBT.4. Compose numbers less than or equal to five in more than one way.</p>	<p>Concept: Any number can be represented in a number of ways that have the same value.</p> <p>Skills: Identify the smaller numbers that make up a larger number (part-part-whole); use smaller quantities to compose larger quantities; break apart a larger quantity into at least two groups of smaller quantities; put the two groups back together to produce the original quantity; describe quantities in comparison to the benchmark of 5.</p>
<p>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.</p>	<p>Not applicable. See EE.1.OA.5.a and EE.1.OA.5.b.</p>	<p>Big Idea: Numbers can be composed and decomposed. The same quantity can be created in many ways.</p>



<p>1.NBT.6. Subtract multiples of 10 in the range 10–90 from multiples of 10 in the range 10–90 (positive or zero differences), using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.</p>	<p>EE.1.NBT.6. Decompose numbers less than or equal to five in more than one way.</p>	<p>Essential Questions: How can I represent the same quantity in different ways? What is the number name for that quantity? How does this quantity compare to the quantity of 5? What words can I use to describe the quantity?</p>
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First Grade Mathematics: Measurement and Data		
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Measure lengths indirectly and by iterating length units		
<p>1.MD.1. Order three objects by length; compare the lengths of two objects indirectly by using a third object.</p> <p>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.</p>	<p>EE.1.MD.1–2. Compare lengths to identify which is longer/shorter, taller/shorter.</p>	<p>Concept: Length is an attribute that can be compared.</p> <p>Skills: Use direct comparison to determine the lengths of objects that are longer/shorter, taller/shorter; compare objects to determine which has more or less length.</p> <p>Big Idea: Objects can be different lengths. Words can be used to describe and compare the length of objects.</p> <p>Essential Questions: Which object has more or less length? What words describe an object with less length or more length?</p>



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Tell and write time		
<p>1.MD.3. Tell and write time in hours and half-hours using analog and digital clocks.</p>	<p>EE.1.MD.3.a. Demonstrate an understanding of the terms tomorrow, yesterday, and today.</p>	<p>Concept: Events occur at different times.</p>
	<p>EE.1.MD.3.b. Demonstrate an understanding of the terms morning, afternoon, day, and night.</p>	<p>Skills: Identify events that occur today, tomorrow, or yesterday; identify events that occur in the morning and the afternoon, day and night; identify activities that come before, next, and after; anticipate a familiar activity based on the daily schedule; recognize that some events happen every day; represent time with words.</p>
	<p>EE.1.MD.3.c. Identify activities that come before, next, and after.</p>	
	<p>EE.1.MD.3.d. Demonstrate an understanding that telling time is the same every day.</p>	<p>Big Idea: Use words to describe when an event takes place.</p> <p>Essential Questions: What words can I use to describe when an event happens or is going to happen? How do I know what is going to happen at different times of the day? What are things that happen at similar times every day? What happens after lunch? What do I do in the morning? Based on my schedule or routine, what do I think will happen next?</p>



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Represent and interpret data		
<p>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.</p>	<p>EE.1.MD.4. Organize data into categories by sorting.</p>	<p>Concept: Use data to answer questions.</p> <p>Skills: Identify the question the data refers to; identify the data; categorize or group information by similarity; organize data by categories from most to least or least to most.</p> <p>Big Idea: Data can be arranged in categories.</p> <p>Essential Questions: What is the question? What do the numbers (data) represent? How can items or visual representations of items be organized? How does data help me answer questions?</p>

First Grade Mathematics: Geometry		
Grade-Level Standards	DLM Essential Element	Unpacked
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	EE.1.G.1. Identify the relative position of objects that are on, off, in, and out.	Concept: Shapes and objects can be oriented in many ways, and it's location can be described.
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.	EE.1.G.2. Sort shapes of same size and orientation (circle, square, rectangle, triangle).	Skills: Use the words on, off, in, and out to describe the position of an object; find an object when given its relative position to another familiar object; name the shapes; sort shapes of same size and orientation; put parts together to make a whole.
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.	EE.1.G.3. Put together two pieces to make a shape that relates to the whole (i.e., two semicircles to make a circle, two squares to make a rectangle).	Big Idea: Words can describe where an object is located. Shapes have specific names and attributes. Shapes can be sorted by attributes. Shapes can be broken into parts and put back together to create the whole. Essential Questions: What word describes where an object is located? How do I know these shapes are the same? What parts make a whole? What shape is this?