

Kindergarten	First Grade	Second Grade
Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from. MGSEK.OA.1 Represent addition and subtraction with objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations. MGSEK.OA.2 Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem. MGSEK.OA.3 Decompose numbers less than or equal to 10 into pairs in more than one way, e.g., by using objects or drawings, and record each decomposition by a drawing or equation. (Drawings need not include an equation). MGSEK.OA.4 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 drawings, and record the answer with a drawing or equation. MGSEK.OA.5 Fluently add and subtract within 5.	Represent and solve problems involving addition and subtraction. MGSE1.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.1 MGSE1.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. Understand and apply properties of operations and the relationship between addition and subtraction. MGSE1.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 ten, so $2 + 6 + 4 = 2 + 10 = 12$. (Associative property of addition.) MGSE1.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. Add and subtract within 20. MGSE1.OA.5 Relate counting to addition and subtraction (e.g., by counting on 2 to add 2). MGSE1.OA.6 Add and subtract within 20. a. 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 $8 + 4$	Represent and solve problems involving addition and subtraction. MGSE2.OA.1 Use addition and subtraction within 100 to solve one and two step word problems by using drawings and equations with a symbol for the unknown number to represent the problem. Problems include contexts that involve adding to, taking from, putting together/taking apart (part/part/whole) and comparing with unknowns in all positions. ** Add and subtract within 20. MGSE2.OA.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 MGSE2.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. MGSE2.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.

	= 12, one knows $12 - 8 = 4$); and creating equivalent but easier or known sums (e.g., adding $6 + 7$ by creating the known equivalent $6 + 6 + 1 = 12 + 1 = 13$). b. Fluently add and subtract within 10. Work with addition and subtraction equations. MGSE1.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? $6 = 6$, $7 = 8 - 1$, $5 + 2 = 2 + 5$, $4 + 1 = 5 + 2$. MGSE1.OA.8 Determine the unknown whole number in an addition or subtraction equation relating to three whole numbers. For example, determine the unknown number that makes the equation true in each of the equations $8 + ? = 11$, $5 = \square - 3$, $6 + 6 = \Delta$.	
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