

Operations and Algebraic Thinking: Kindergarten

Stage 1 Desired Results		
ESTABLISHED GOALS: <u>Competencies:</u> • <i>Students will demonstrate the ability to solve problems by counting using whole numbers.</i> • <i>Students will demonstrate the ability to model operations by utilizing objects and drawings, and equations.</i> • <i>Students will demonstrate the ability to apply number sense by comparing, composing, and decomposing whole numbers.</i> <u>Content Standards:</u> • K.OA.1 Represent addition and subtraction with objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations. • K.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. • K.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 (e.g., $5 = 2 + 3$ and $5 = 4 + 1$). • K.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. • K.OA.5 Fluently add and subtract within 5. • MP4 Model with mathematics. • MP5 Use appropriate tools strategically. • MP7 Look for and make use of structure. • MP8 Look for and express regularity in repeated reasoning.	<i>Transfer</i>	
	<i>Students will be able to independently use their learning to know when to add or subtract to answer everyday questions.</i>	
	<i>Meaning</i>	
	ENDURING UNDERSTANDINGS <i>Students will understand that...</i> • mathematical operations are used in solving problems in which a new value is produced from one or more values. • algebraic thinking involves choosing, combining, and applying effective strategies for answering quantitative questions.	ESSENTIAL QUESTIONS • <i>Which is easier? Taking something apart or putting something together?</i>
	<i>Acquisition</i>	
	<i>Students will know...</i> • that addition is putting together and adding to, and that subtraction is taking apart and taking from. • that addition and subtraction problems are placed in four basic categories: joining problems, separating problems, part-part whole problems, and comparing problems. • various combinations of numbers can be used to represent the same quantity. • the symbols (+, -, =) in math problems. • that addition and subtraction problems can be represented using a variety of strategies. <u>vocabulary:</u> addition, add, joining, combine, plus, subtraction, subtract, take away, separate, minus, compose, decompose, equation, number sentence, compare, quantity, sum, difference, equal to	<i>Students will be skilled at...</i> • adding and subtracting numbers within 10, fluently within 5. • solving addition and subtraction word problems with answers (0-10) using objects and drawings. • decomposing numbers to 10 using objects or drawings or equations. • recording answers using a drawing or equation. • determining the number to add a given number 1-9 to make 10, using pictures, objects, or equations. • giving a verbal explanation of addition and subtraction models through 10. • checking their work.
Content Area Literacy Standards		21st Century Skills
not applicable		• <i>solve problems</i> • <i>reason effectively</i>

Stage 2 - Evidence

<i>Evaluative Criteria</i>	<i>Assessment Evidence</i>
	PERFORMANCE TASK(S):
	OTHER EVIDENCE:

Stage 3 – Learning Plan

Summary of Key Learning Events and Instruction

<i>Language Arts Integration</i>	<i>Mathematics Integration</i>
1.OA.1 Use	not applicable
<i>Technology Integration</i>	<i>District Materials</i>
1.OA.1 Use	