



Grade K - Unit F - Problems All Around Us

Unit Focus

Throughout the next 3 -4 weeks, students strengthen their understanding of the connections between quantity, number related combinations, and written notation to 20. They spend more time developing fluency with addition and subtraction to 5 and continue to develop strategies for adding and subtracting to 10. A deeper understanding of subtraction is developed seeing subtraction as both taking away and comparing. Students learn to identify and solve problems by applying known facts or using materials to model and then solve problems.

Stage 1: Desired Results - Key Understandings

Standard(s)	Transfer		
Standards - Common Core <i>Mathematics: K</i> - Know number names and the count sequence. - Count to 100 by ones and by tens. (CCSS.MATH.CONTENT.K.CC.A.1) - Count forward beginning from a given number within the known sequence (instead of having to begin at 1). (CCSS.MATH.CONTENT.K.CC.A.2) - Understand addition, and understand subtraction. - Represent addition and subtraction with objects, fingers, mental images, drawings¹, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations. (CCSS.MATH.CONTENT.K.OA.A.1) - Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem. (CCSS.MATH.CONTENT.K.OA.A.2) - 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). (CCSS.MATH.CONTENT.K.OA.A.3) - 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. (CCSS.MATH.CONTENT.K.OA.A.4) - Fluently add and subtract within 5. (CCSS.MATH.CONTENT.K.OA.A.5) - Mathematical Practices - Make sense of problems and persevere in solving them. (CCSS.MATH.MP.1) - Look for and make use of structure. (CCSS.MATH.MP.7)	<i>Students will be able to independently use their learning to...</i> T1 Initiate a plan using a variety of methods/strategies appropriately, execute it, and evaluate the reasonableness and accuracy of the solution. T2 Construct viable arguments using clear and appropriate mathematical language and critique the reasoning of others.		
	Meaning		
	Understanding(s)	Essential Question(s)	
	<i>Students will understand that...</i> U1 Mathematicians work to make sense of the problem before trying to solve it. U2 Mathematicians construct viable arguments to explain problems, solutions, and mathematical representations. U3 Mathematicians create or use models to generalize, represent, and solve problems.	<i>Students will keep considering...</i> Q1 What do effective problem solvers do when they get stuck? Q2 Have I sufficiently supported my answer and shown my work? Q3 What model best represents this problem?	
	Acquisition of Knowledge and Skill		
Knowledge	Skill(s)		
<i>Students will know...</i> K1 We can use tools and models to understand quantities and solve story problems K2 There are more efficient strategies than counting each object/dot/etc in order to add	<i>Students will be skilled at...</i> S1 Recognizing combinations of two numbers that make a sum of numbers less than 10 S2 Adding and subtracting within 5		

Stage 1: Desired Results - Key Understandings

Madison Public Schools Profile of a Graduate

Analyzing: Examining information/data/evidence from multiple sources to identify possible underlying assumptions, patterns, and relationships in order to make inferences. (POG.1.2)

K3 A fact family demonstrates the relationship between addition and subtraction

K4 Connections between equations and quantities

K5 Subtraction can mean taking away from a total or comparing the difference between two quantities.

K6 Vocabulary: add, addition, combinations, equal, equation, fact family, in all, minus, plus, subtract, subtraction

S3 Writing equations for sums to 10

S4 Counting backward in order to solve subtraction equations

S5 Discussing multiple solution strategies

S6 Representing addition and solving addition story problems

S7 Representing subtraction and solving subtraction story problems