



Grade 1 - Unit B - Equal: To Be or Not to Be?

Unit Focus

In this unit students will continue modeling with mathematical tools to build confidence using efficient and effective strategies to add and subtract single-digit numbers. While students have been using the equals sign before, this is the first time they learn that two expressions are of equal value (rather than just the symbol that means "the answer"). Students identify, select, and implement efficient strategies when problem solving in order to:

- develop their part-part-whole reasoning in order to see the part as distinct from the whole
- subitize within combinations of 5 and 10
- justify the most applicable and/or efficient tool/strategy for solving a given problem
- find missing addends and subtrahends (the number being subtracted)
- develop mastery with number facts up to 10 and use of strategies to model number families to 20

Stage 1: Desired Results - Key Understandings

Standard(s)	Transfer	
Standards <ul style="list-style-type: none"> • Common Core <ul style="list-style-type: none"> ○ <i>Mathematics: 1</i> <ul style="list-style-type: none"> ▪ Represent and solve problems involving addition and subtraction. ▪ 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. (<i>CCSS.MATH.CONTENT.1.OA.A.1</i>) ▪ Understand and apply properties of operations and the relationship between addition and subtraction. ▪ Apply properties of operations as strategies to add and subtract.2 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.) (<i>CCSS.MATH.CONTENT.1.OA.B.3</i>) ▪ Understand subtraction as an unknown-addend problem. For example, subtract $10 - 8$ by finding the number that makes 10 when added to 8. (<i>CCSS.MATH.CONTENT.1.OA.B.4</i>) ▪ Add and subtract within 20. ▪ Relate counting to addition and subtraction (e.g., by counting on 2 to add 2). (<i>CCSS.MATH.CONTENT.1.OA.C.5</i>) ▪ Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g., $8 + 6 = 8 + 2 + 4 = 10 + 4 =$ 	<i>Students will be able to independently use their learning to...</i> T1 Represent situations using mathematical reasoning and symbols. T2 Construct viable arguments using clear and appropriate mathematical language and critique the reasoning of others. T3 Identify and generalize patterns and structure in numbers, expressions, data and objects.	
	Meaning	
	Understanding(s)	Essential Question(s)
	<i>Students will understand that...</i> U1 Mathematicians make sense of quantities to represent situations mathematically. U2 Mathematicians construct viable arguments to explain problems, solutions, and mathematical representations. U3 Mathematicians see patterns to make generalizations about structures and relationships.	<i>Students will keep considering...</i> Q1 How can the relationship between quantities be represented? Q2 Have I sufficiently supported my answer and shown my work? Q3 What generalizations can be made from this pattern?

Stage 1: Desired Results - Key Understandings

<p>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><i>(CCSS.MATH.CONTENT.1.OA.C.6)</i></p> <ul style="list-style-type: none"> Work with addition and subtraction equations. 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><i>(CCSS.MATH.CONTENT.1.OA.D.7)</i></p> <ul style="list-style-type: none"> 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><i>(CCSS.MATH.CONTENT.1.OA.D.8)</i></p> <ul style="list-style-type: none"> Mathematical Practices Reason abstractly and quantitatively. <i>(CCSS.MATH.MP.2)</i> Construct viable arguments and critique the reasoning of others. <i>(CCSS.MATH.MP.3)</i> Look for and make use of structure. <i>(CCSS.MATH.MP.7)</i> <p>Madison Public Schools Profile of a Graduate</p> <p>Analyzing: Examining information/data/evidence from multiple sources to identify possible underlying assumptions, patterns, and relationships in order to make inferences. <i>(POG.1.2)</i></p>	Acquisition of Knowledge and Skill	
	<p style="text-align: center;">Knowledge</p> <p><i>Students will know...</i></p> <p>K1 Strategies for number facts up to 20, including doubles, even/odd numbers, make ten, ten and some more, comparison;</p> <p>K2 Models such as the number rack, unifix cubes, dominoes, dot cards, etc helps develop powerful reasoning strategies;</p> <p>K3 Models can be translated into equations</p> <p>K4 How to solve for an unknown in a given problem ;</p> <p>K5 Vocabulary: add(ition), count on, make 10, add 10, double(s), equal, sum or total, greater/ less than, equation, fact family, minus, plus, subtract(ion), strategies, difference, compare, even, odd, number tree, story problem,, combinations, backward, forward.</p>	<p style="text-align: center;">Skill(s)</p> <p><i>Students will be skilled at...</i></p> <p>S1 Using tools as a 'model for' a given operation</p> <p>S2 Seeing a combination of a number and writing it as an equation;</p> <p>S3 Subitizing to 20</p> <p>S4 Using part-part whole relations in problem contexts that involve combining or separating numbers</p> <p>S5 Thinking creatively and informally to strategize when problem solving</p> <p>S6 Recognizing and reproduce quantities without having to count individually</p> <p>S7 Recognizing numbers as odd or even</p> <p>S8 Counting forward and backward from any number in range 1-100</p>