SAU 50
Grade 2
Mathematics
Operations and Algebraic Thinking
Numbers and Operations in Base 10

Operations: add and subtract within 20; solve problems using addition and subtraction.

Algebraic Thinking: represent problems involving addition and subtraction; working with addition and subtraction equations.

SAU 50 District Competency:

Students will independently use their learning to demonstrate flexibility and attend to precision and reasonableness using whole numbers to understand the nature of numbers and to solve problems.

Students will independently use their learning to make use of structure to represent, interpret, and analyze change or patterns in various contexts using models, rules, and explanations.

Essential Questions

- How does place determine value?

Acquisition

Students will demonstrate the following to meet the standards.

- I can use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.
- I can fluently add and subtract within 20 using mental strategies.
- I can know from memory all sums of two one-digit numbers.
- I can 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.
- I can 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. (e.g., 5+5+5=15 can be shown by a 3x5 rectangle.)

- I can count to 999.
- I can count within 1000; skip-count by 5s, 10s, and 100s.
- I can write numbers to 1000.
- I can read numbers to 1000.
- I can read, write, and show numbers to 1000 using base ten numerals.
- I can compare two three-digit numbers using <, >, and = to record results of comparisons.
- I can use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, by using drawings and equations with a symbol for the unknown number to represent the problem.
- I can fluently subtract within 100 using different strategies.
- I can add up to four two-digit numbers using strategies based on place value and properties of operations.
- I can add and subtract within 1000 using concrete models.
- I can add whole numbers with regrouping.
- I can mentally add or subtract 10 or 100 to a given number 100-900.
- I can explain why addition and subtraction strategies work, using place value and the properties of operations.

Standards

NH College and Career Ready Standards

Key to Standard Notation:

2.OA.1: 2 *(grade level)* **OA** *(domain: Operations and Algebraic Thinking) or* **NBT** *(domain: Numbers in Base 10)* **1** *(number of the standard)*

Operations and Algebraic Thinking
Represent and solve problems involving addition and subtraction.
2.OA.1: Use addition and subtraction within 100 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.
Add and subtract within 20.
2.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.
Work with equal groups of objects to gain foundations for multiplication.
2.OA.3: Determine whether a group of objects (up to 20) has an odd or even number of members, by pairing objects or counting them by 2s; write and equation to express an even number as a sum of two equal addends.
2.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.

Numbers and Operations in Base Ten
Understand place value.
2.NBT.1: Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones,. Understand the following as special cases:
2.NBT.1.a: 100 can be thought of as a bundle of ten tens—called a "hundred".
2. NBT.1.b: The numbers 100, 200, 300, 400, 500, 600, 700, 800, 900 refer to one, two, three, four, five, six, seven, eight, or nine hundreds (and 0 tens and 0 ones).
2. NBT.2: Count within 1000; skip-count by 5s, 10s, and 100s.
2. NBT.3: Read and write numbers to 1000 using base-ten numerals, number names, and expanded form.
2.NBT.4: Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using >, =, and < symbols to record the results of comparisons.
Use place value understanding and properties of operations to add and subtract.
2.NBT.5: Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.
2.NBT.6: Add up to four two-digit numbers using strategies based on place value and properties of operations.
2.NBT.7: Add and subtract within 1000, using concrete models or drawings an strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method. Understand that in adding or subtracting three-digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones; and sometimes it is necessary to compose or decompose tens or hundreds.
2.NBT.8: Mentally add 10 or 100 to a given number 100-900, and mentally subtract 10 or 100 from a given number 100-900.
2.NBT.9: Explain why addition and subtraction strategies work, using place value and the properties of operations.

New Hampshire College and Career Ready Standards

References:

National Governors Association Center for Best Practices, Council of Chief State School Officers. (2010). *Common Core Standards for Mathematics* (United States, National Governors Association Center for Best Practices, Council of Chief State School Officers). Retrieved August 10, 2016, from http://www.corestandards.org/assets/CCSSI_Math%20Standards.pdf

Math is fun/definitions. (n.d.). Retrieved April 17, 2017, from http:/www.mathisfun.com/definitions