

Stage 1 Desired Results

Second Grade Unit 1-Sums and Differences to 100

Module 1 sets the foundation for students to master sums and differences to 20. Students subsequently apply these skills to fluently add one-digit to two-digit numbers at least through 100 using place value understanding, properties of operations, and the relationship between addition and subtraction.

Focus Next Gen Standards:

Represent and solve problems involving addition and subtraction.

NY-2.OA.1a Use addition and subtraction within 100 to solve one-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions. e.g., using drawings and equations with a symbol for the unknown number to represent the problem.

NY-2.OA.1b Use addition and subtraction within 100 to develop an understanding of solving two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions. e.g., using drawings and equations with a symbol for the unknown number to represent the problem.

Add and subtract within 20.

NY-2.OA.2a Fluently add and subtract within 20 using mental strategies. Strategies could include: • counting on; • making ten; • decomposing a number leading to a ten; • using the relationship between addition and subtraction; and • creating equivalent but easier or known sums. *Note: Fluency involves a mixture of just knowing some answers, knowing some answers from patterns, and knowing some answers from the use of strategies.*

NY-2.OA.2b Know from memory all sums within 20 of two one-digit numbers.

Use place value understanding and properties of operations to add and subtract.

NY-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.

Notes: Students should be taught to use strategies based on place value, properties of operations, and the relationship between addition and subtraction; however, when solving any problem, students can choose any strategy. Fluency involves a mixture of just knowing some answers, knowing some answers from patterns, and knowing some answers from the use of strategies.

Essential Understandings: Students will advance from Grade 1's subtraction of a multiple of ten to a new complexity, subtracting single-digit numbers from both multiples of ten (e.g., $40 - 9$) and from any two-digit number within 100 (e.g., $41 - 9$). Focus on fluency practice working within 20 and extending the same fluencies to numbers within 100. Reactivate students' previous learning as they energetically practice decomposition and composition methods (decompositions of numbers within ten; partners to ten; and tens plus sums. Students make easier problems to add and subtract within 100 by using the number system's base ten structure moving to a new level of fluency.

Learning Outcomes:

Students will know:

- How to use addition and subtraction within 20 to solve one step word problems involving situations of adding to, taking from, putting together, taking apart, and/or comparing.
- Common addition and subtraction situations such as result unknown, change unknown, start unknown.
- How to add and subtract using strategies such as counting on, making tens, and decomposing a number leading to ten.
- From memory, all sums within 20 of two one digit numbers.
- In adding or subtracting up to 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.
- The definition of even and odd numbers by looking at patterns.

Students will be able to do:

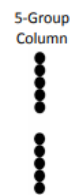
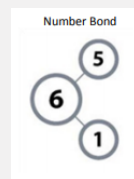
- Solve problems within 1000 by applying models for addition and subtraction.
- Fluently add and subtract within 20 using mental strategies.
- Fluently add and subtract within 1000 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.
- Explain why addition and subtraction strategies work, using place value and properties.
- Count within 1000.
- Work with equal groups of objects to gain foundations for multiplication.

Vocab/ Strategies - [Spanish Vocabulary Translation \(NEW\)](#)

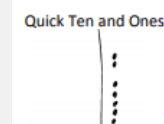
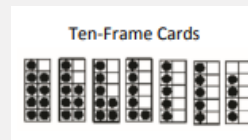
- Make a ten (compose a unit of ten, e.g., $49 + 3 = 40 + 10 + 2$)
- Addend (one of the numbers being added)
- A ten (a place value unit composed of 10 ones)
- Count on (count up from one addend to the total)
- Expression (e.g., $2 + 1$, $13 - 6$)
- Like units (e.g., frogs and frogs, ones and ones, tens and tens)
- Make ten and take from ten (e.g., $8 + 3 = 8 + 2 + 1$ and $15 - 7 = 10 - 7 + 5 = 3 + 5$)
- Number sentence (e.g., $2 + 3 = 5$, $7 = 9 - 2$, $10 + 2 = 9 + 3$)
- Number bond (see image to the right)
- One (a place value unit, 10 of which may be composed to make a ten)
- Part (e.g., “What is the unknown part? $3 + \underline{\quad} = 8$ ”)
- Partners to 10 (e.g., 10 and 0, 9 and 1, 8 and 2, 7 and 3, 6 and 4, 5 and 5)
- Say Ten counting (see the chart to the right)
- Ten plus facts (e.g., $10 + 3 = 13$, $10 + 5 = 15$, $10 + 8 = 18$)
- Total (e.g., for $3 + 4 = 7$ or $7 - 4 = 3$, seven is the whole, or total)

Suggested tools and Representations

- 100-bead Rekenrek
- 5-group column
- Dice
- Hide Zero cards (Lesson 2 Template 1)
- Linking cubes
- Number bond
- Personal white boards
- Place value chart
- Quick ten (vertical line representing a unit of ten)
- Ten-frame cards (Lesson 1 Fluency Template 1)



Regular	Say Ten
fifty-one	5 tens 1
sixty-seven	6 tens 7
seventy-five	7 tens 5
eighty-four	8 tens 4
ninety-five	9 tens 5



[ten frames](#)