

NJDOE MODEL CURRICULUM PROJECT

CONTENT AREA: Mathematics	GRADE: 1	UNIT: # 1	UNIT NAME: Add and Subtract within 20
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#	STUDENT LEARNING OBJECTIVES	CORRESPONDING CCSS
1	Count utilizing written or verbal numerals starting at any number less than 100.	1.NBT.1
2	Count forward or backwards from any number within 20 to solve addition & subtraction problems.	1.OA.5
3	Compose and decompose numbers to 20 to identify the value of the number in the tens & ones place.	1.NBT.2
4	Add or subtract whole numbers within 20 using strategies including making a 10 or decomposing a number leading to a 20.	1.OA.6
5	Apply properties of operations to add or subtract whole numbers within 20 (Commutative & Associative properties of addition).	1.OA.3
6	Solve subtraction problems using unknown addends (within 20).	1.OA.4

Repeated Standards

SLO #1 is a benchmark for standard **1.NBT.1** in this unit: **Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral.**

SLO #3 is a benchmark for standard **1.NBT.2** in this unit: **Understand that the two digit number represent amounts of tens and ones.**

Understand the following as special cases:

a. 10 can be thought of as a bundle of ten ones – called a “ten.”

b. The numbers from 11 to 19 are composed of a ten and a one, two, three, four, five, six, seven, eight or nine ones.

c. The number 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).

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SLO #4 is a benchmark for standard **1.OA.6** in this unit: **Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g., $8 + 6 = 8 + 2 + 4 = 10 + 4 = 14$); 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 $6 + 6 + 1 = 12 + 1 = 13$).**

Bold type indicates grade level fluency requirements. (Identified by PARCC Model Content Frameworks).

Selected Opportunities for Connection to Mathematical Practices

1. Make sense of problems and persevere in solving them.

SLO #3 Explain what it means to decompose a number into two separate quantities (less than or equal to 20).

SLO #4 Understand that the decomposition of numbers is a starting point to solving addition or subtraction of whole numbers within 20.

SLO #6 Know the process and necessary information needed to solve subtraction problems with unknown addends (within 20).

2. Reason abstractly and quantitatively.

SLO #3 Reason about the quantities and relationship among the decomposed parts of numbers and the composed number (up to 20).

SLO #4 Understand what each decomposed number represents in relation to an addition or subtraction problem within 20.

SLO #5 Know how to correctly and appropriately apply the property of operations to either addition or subtraction problems (e.g. commutative and associative properties can be applied to addition but not subtraction problems).

3. Construct viable arguments and critique the reasoning of others.

4. Model with mathematics.

5. Use appropriate tools strategically.

6. Attend to precision.

7. Look for and make use of structure.

SLO #3 Understand the structure of decomposed numbers (the two addends are equivalent to the number being decomposed).

SLO #4 Look for a pattern or structure in the steps to solving addition or subtraction problems (within 20).

8. Look for and express regularity in repeated reasoning.

Bold type identifies possible starting points for connections to the SLOs in this unit.

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Code #	Common Core State Standards
1.NBT.1	Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral.
1.OA.5	Relate counting to addition and subtraction (e.g., by counting on 2 to add 2).
1.NBT.2	Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases: <ul style="list-style-type: none"> a. 10 can be thought of as a bundle of ten ones - called a "ten." b. The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones. c. The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).
1.OA.6	Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g., $8 + 6 = 8 + 2 + 4 = 10 + 4 = 14$); 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 $6 + 6 + 1 = 12 + 1 = 13$).
1.OA.3	Apply properties of operations as strategies to add and subtract. ³ <i>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>
1.OA.4	Understand subtraction as an unknown-addend problem. <i>For example, subtract $10 - 8$ by finding the number that makes 10 when added to 8.</i>

Bold type indicates grade level fluency requirements. (Identified by PARCC Model Content Frameworks).