

Vertical Progression:

TS Gold	<p>20. Uses number concepts and operations</p> <p>20a. Counts 8. Uses number names while counting to 100; counts 30 objects accurately; tells what number comes before and after a specified number up to 20</p> <p>20b. Quantifies 8. Uses a variety of strategies (counting objects or fingers, counting on, or counting back) to solve problems with more than 10 objects</p>
Kindergarten	<p>K.CC.A Know number names and the count sequence.</p> <ul style="list-style-type: none"> ○ K.CC.A.2 Count forward beginning from a given number within the known sequence (instead of having to begin at 1). <p>K.OA.A Understand addition as putting together and adding to, and subtraction as taking apart and taking from.</p> <ul style="list-style-type: none"> ○ K.OA.A.5 Fluently add and subtract within 5.
1st Grade	<p>1.OA.C Add and subtract within 20.</p> <ul style="list-style-type: none"> ○ 1.OA.C.5 Relate counting to addition and subtraction (e.g., by counting on 2 to add 2). ○ 1.OA.C.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 $6 + 6 + 1 = 12 + 1 = 13$).
2nd Grade	<p>2.OA.B Add and subtract within 20.</p> <ul style="list-style-type: none"> ○ 2.OA.2 Fluently add and subtract within 20 using mental strategies. By the end of Grade 2, know from memory all sums of two one digit numbers. <p>2.NBT.B Use place value understanding and properties of operations to add and subtract.</p> <ul style="list-style-type: none"> ○ 2.NBT.B.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.B.7 Add and subtract within 1000, using concrete models or drawings and 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.

Students will demonstrate command of the ELG by:

- Applying concepts of counting on and counting back.
- Constructing a model to show addition or subtraction.
- Demonstrating fluency for addition and subtraction within 10.
- Using manipulatives to demonstrate a variety of addition and subtraction strategies.
- Explaining orally and in writing strategies used to solve problems up to 20.

Vocabulary:

- add
- adding to
- addition
- counting all
- counting back
- counting on
- decompose
- difference
- doubles
- make ten
- putting together
- subtraction
- subtract
- sum
- taking apart
- taking from
- unknown

Sample Instructional/Assessment Tasks:

1) Standard(s): 1.OA.C.5

Source: <https://grade1commoncoremath.wikispaces.hcpss.org/Assessing+1.OA.5>)

Item prompt: Show Me! 1 more, 1 less, 2 more, 2 less

Provide students with a number line 0-20. Have students arrange digit cards in sequence from 0-9 along the top of the desk.

Ask them to find a specific number on the number line, 9. Then “SHOW” the number that is 1 more than, 1 less than, 2 more than, 2 less than.

Use the following numbers: 7, 6, 10, 12, and 16. Continue to have the students respond to 1 more, 1 less, 2 more, 2 less. Ask the students to show the response using the digit cards. Have the students share a related addition/subtraction fact using these numbers.

Correct Answer/Considerations:

Notice the way the students determine what is 2 more, 2 less, etc. Do they count on from the larger number or start at the beginning to count? When finding more, do they notice that the numbers are greater than the given number? When finding less, do they notice that the numbers are less than the given number? If students are able to do this easily, increase the difficulty using larger numbers such as 42, 51, etc.

2) Standard(s): 1.OA.C.5

Source: Howard County Public Schools, Assessment Task 4
(<https://grade1commoncoremath.wikispaces.hcpss.org/Assessing+1.OA.5>)

Item Prompt:

Carly was working to solve a math problem. She solved the problem by counting on, and she counted out loud. Carly counted, “6 ...7 ...8 ...9 ...10 ...11 ...12 ...13.” What is a problem that Carly could have been solving? Why do you think so?

Considerations:

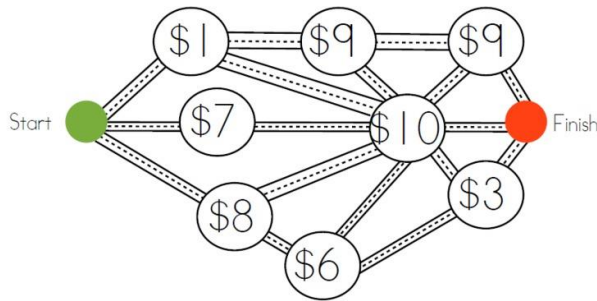
There are a variety of equations that students can write that would show an understanding of the target concept. Their equation should relate in some way to the numbers Carly counted. The equations they might write include, but are not limited to: $6+7=13$, $5+8=13$, $13-7=6$, $13-8=5$.

3) Standard(s): 1.OA.C.6

Source: Illustrative Mathematics
(<https://www.illustrativemathematics.org/content-standards/1/OA/C/6/tasks/1084>)

Item Prompt: \$20 Dot Map

The following graphic shows a map. You must get from start to finish by visiting three of the dots, at each dot you have to pay the specified number of dollars. If you have \$20 can you get from start to finish and visit three dots?



Bonus Question #1: Can you find a way to get from start to finish and spend all \$20? Can you find a way to get from start to finish and spend less than \$20?

Bonus Question #2: How many different routes can you find from start to finish that go to three dots and cost \$20 or less?

Correct Answer:

- $1+9+9=19$
- $1+9+10=20$
- $1+10+9=20$
- $7+10+3=20$
- $8+6+3=17$
- $1+10+3=14$

