# Lesson 19

## Objective: Model and use language to tell about 1 more and 1 less, 10 more and 10 less, and 100 more and 100 less.

### Suggested Lesson Structure

☐ Fluency Practice          (12 minutes)

☐ Concept Development       (28 minutes)

☐ Application Problem       (10 minutes)

■ Student Debrief           (10 minutes)

**Total Time**              **(60 minutes)**

## Fluency Practice (12 minutes)

▪       Sprint: Differences **2.OA.2**           (12 minutes)

### Sprint: Differences (12 minutes)

Materials: (S) Differences Sprint

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T:   Yesterday was our third day of practicing sums.  Time to move on to differences.

T:   5 – 3 is…?

S:   2.

T:   15 – 3 is…?

S:   12.

T:   7 – 1 is…?

S:   6.

T:   17 – 1 is…?

S:   16.

T:   Discuss what you see happening.  How do the simple problems relate to the subtraction from the teens?

S:   (Share.)

T:   That is a clue to help you with today's Sprint.  Take your mark, get set, think!

When closing this fluency activity, remind students that the same Sprint will be given tomorrow.

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## Concept Development  (28 minutes)

### Concrete  (10 minutes)

Materials:   (T)  Plenty of board space, sentence frames for *1 more than ___ is ___, 10 more than ___ is ___,* and *100 more than ___ is ___*  (with an analogous *less than* set)  (S) Unlabeled hundreds place value chart (Lesson 8 Template), place value disks (hundreds, tens, and ones)

T:   Show 110 on your place value chart.

S:   (Show.)

T:   Use tens disks to count by tens up to 150.  (Write 150 on the board.)

S:   120, 130, 140, 150.

T:   Add another tens disk.

S:   (Add.)

T:   10 more than 150 is…?

S:    160.

T:    (Write 160 on the board directly below 150.)  Good.

T:    (Post sentence frame *10 more than ___ is ___*.)
      10 more than 150 is 160.  Your turn.

S:    10 more than 150 is 160.

T:    Add another tens disk.  How many now?

S:    170.

T:    (Write 170 on the board under 160.)  Use the frame
      to say a complete sentence.

S:    10 more than 160 is 170.

T:    Look at the numbers we've counted (point to the list
      of 150, 160, 170).  Turn and tell your partner what's
      the same and different about them.

**MP.8**

S:    They all have three digits.  ⬜ The hundreds and ones
      places are the same.  ⬜ The tens are changing.  Every
      time we add a tens disk, the ten gets bigger.  5, 6, 7.

T:    I heard someone say that every time we add a tens
      disk, the number in the tens place grows.  Use our
      list to predict 10 more than 170.

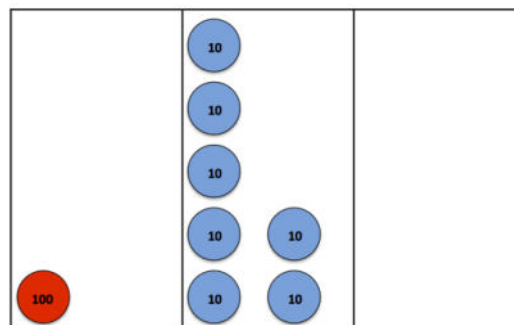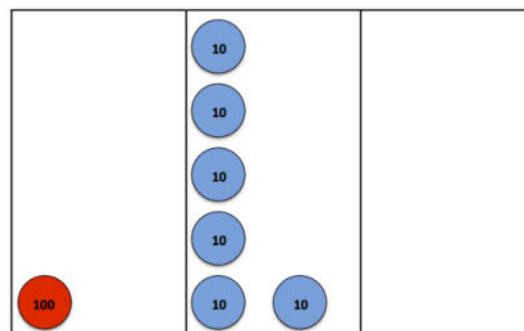S:    180.

T:    Using our sentence frame?

S:    10 more than 170 is 180.

T:    Good.  Add the tens disk to show 180.

S:    (Show 180.)


T:    (Write 180 under 170.)  Now, count by ones to show 186.  (Start another list on the board to the right
      of the tens, with 186 at the top.)

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S:   181, 182, 183, 184, 185, 186.

T:   (Post sentence frame *1 more than ___ is ___.*)  Add another one disk.  How many now?

S:   187.

T:   Use our sentence frame to describe what you know.  (Point to the *1 more than* frame.)

S:   1 more than 186 is 187.

T:   (Write 187 on the board under 186.)  Add another one disk.

S:   188.

T:   Using our sentence frame?

S:   1 more than 187 is 188.

T:   (Write 188 on the board under 187.)  Look at our new list of numbers.  What do you notice?

S:   The ones are changing.  ⬜ They're counting up by one each time we add a disk.

T:   I'll label this list (150, 160, 170, 180) *10 more* since we counted by tens and this list (186, 187, 188) *1 more* because we counted by ones.

T:   Talk to your partner about how our *1 more* and *10 more* lists are the same and different.

**MP.8**

S:   The hundreds are all the same.  ⬜ In both lists, only 1 number changes.  ⬜ When we count by tens, the tens place changes, same for the ones.  ⬜ The numbers in both lists grow by 1 each time. ⬜ They look like they're growing by 1 in the tens list, but they're really growing by 10.

T:   (Label a *100 more* list to the left of *10 more*.)  Let's count by hundreds.  What place will change?

S:   The hundreds place!

T:   We have 188 now (write 188 at the top of the *100 more* list).  Add a hundred disk.

**NOTES ON
MULTIPLE MEANS
OF ENGAGEMENT:**

English language learners may have a challenging time articulating how the *1 more* and *10 more* lists are the same

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and different.  Encourage them to use their place value disks to help them explain their thinking if needed.  Additionally, invite them to refer to the sentence frames posted on the board to support their responses.

S:    (Show.)

T:    How many now?

S:    288.

T:    So… (prompt students by posting the frame *100 more than ___ is ___*).

S:    100 more than 188 is 288.

T:    (Write 288 under 188 on the *100 more* list.)  Were we right?  Which place is changing?

S:    The hundreds place!

T:    Use the pattern to finish my sentence.  100 more than 288 is…?

S:    388.

T:    (Write 388 under 288.)  Good.  Place another hundred disk to check and see.

Continue, but switch so that students practice counting down by hundreds, tens, and ones.

## Pictorial  (8 minutes)

T:    With 1 more and 1 less, which place is changing?

S:    The ones!

T: (Draw and write 427.)  What number am I showing?

S: 427.

T: (Draw a one disk.)  Use our frame to describe what happened.  (Point to the *1 more* frame.)

**NOTES ON MULTIPLE MEANS OF ENGAGEMENT:**

If students have a hard time identifying which place value is changing, instruct them to circle, underline, or highlight the number or numbers that are changing.  This enables them to explicitly see the change in the digits in the ones, tens, or hundreds place.

S: 1 more than 427 is 428.

T: (Write 428 under 427.)  1 more than 428 is…?

T: (Draw a one disk.)

S: 429.

T: So, 1 less than 429 is…?

S: 428.

T: We can say, "1 less than 429 is 428."  Your turn.

S: 1 less than 429 is 428.

T: (Draw a tens disk.)  What place changed?

S: The tens!

T: Now, what's my number?

S: 439.

T: I'll add another ten (draw a tens disk).  What's my number now?

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S:    449.

T:    So, 10 less than 449 is…?

S:    439.

T:    We can say, "10 less than 449 is 439."  Your turn.

S:    10 less than 449 is 439.

T:    (Draw a hundred disk.)  What's my number?

S:    549.

T:    (Write 649 in standard form next to the drawing.)  What unit should I put in order to have 649?

S:    1 hundred.

T:    We can say, "100 more than 549 is 649."  Your turn.

S:    100 more than 549 is 649.

T:    (Write 650 next to 649.)  What is the difference between 649 and 650?

S:    A ten!

T:    Let's think about that.  Join in, and count with me.

S:    (Chorally count.)  646, 647, 648, 649, 650.

T:    So, what is the difference between 649 and 650?

S:    1.

T:    Yes.  We can say, "1 less than 650 is 649."  Your turn.

S:    1 less than 650 is 649.

Continue, alternating practice between *more* and *less*.

## Problem Set  (10 minutes)

Students should do their personal best to complete the Problem Set within the allotted 10 minutes.  For some classes, it may be appropriate to modify the assignment by specifying which problems they work on first.  Some problems do not specify a method for solving.  Students should solve these problems using the RDW approach

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used for Application Problems.

Instruct students to model each problem on the place value chart, complete the chart, and whisper the complete sentence.

## Application Problem  (10 minutes)

Mr. Palmer's second-grade class is collecting cans for recycling.  Adrian collected 362 cans, Jade collected 392 cans, and Isaiah collected 562 cans.

   a.   How many more cans did Isaiah collect than Adrian?

Extension:  How many fewer cans did Adrian collect than Jade?

Lead students as necessary through the sequence of questions they need to internalize.

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- What do you see?
- Can you draw something?
- What can you draw?
- What conclusions can you make from your drawing?

T: Use your RDW process.

T: Talk with your partner about different ways you can solve this problem using what you've learned.

S: I put 362 in my head and skip-counted by hundreds: 462, 562.

T: So, how many more cans did Isaiah collect than Adrian? Give me a complete sentence.

S: Isaiah collected 200 more cans than Adrian.

T: How can you show that your answer is correct?

S: I could draw bundles to show the numbers.

T: Would you please come up and show us, Stella?

T: Can someone show another way of proving that 562 is 200 more than 362?

S: I would draw a place value chart.

T: Please show us, Jesse.

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T: Thank you both. Would anyone else like to share their thinking?

S: I counted on and wrote 362, 462, 562. And then, I circled how many groups of 100 I had to jump, and it was two groups, so 200.

S: I wrote it in expanded form, and it was easy to see the tens and ones were the same, but 500 is 200 more than 300.

T: I so appreciate your many ways of seeing and solving this problem! And, we all agree on the same answer, which is…?

S: Isaiah collected 200 more cans than Adrian.

T: Yes! Please complete your drawings, and add that statement to your paper.

Repeat this process with Part (b) of the question.

## Student Debrief (10 minutes)

**Lesson Objective:** Model and use language to tell about 1 more and 1 less, 10 more and 10 less, and 100 more and 100 less.



NYS COMMON CORE MATHEMATICS CURRICULUM    Lesson 19 Problem Set 2•3

Name ___Kim___    Date _____

1. Model each change on your place value chart. Then, fill in the chart. Whisper the complete sentence: "____ more/less than ____ is ____."

| | 242 | 153 | 312 | 465 |
|---|---|---|---|---|
| 100 more | 342 | 253 | 412 | 565 |
| 100 less | 142 | 53 | 212 | 365 |
| 10 more | 252 | 163 | 322 | 475 |
| 10 less | 232 | 143 | 302 | 455 |
| 1 more | 243 | 154 | 313 | 466 |
| 1 less | 241 | 152 | 311 | 464 |

2. Fill in the blanks. Whisper the complete sentence.

a. 1 more than 314 is ___315___.
b. 10 more than 428 is ___438___.
c. 100 less than 635 is ___535___.
d. ___100___ more than 243 is 343.
e. ___10___ less than 578 is 568.
f. ___1___ less than 199 is 198.
g. 1 more than ___404___ is 405.
h. 10 less than ___382___ is 372.
i. 100 less than ___839___ is 739.
j. 10 more than ___936___ is 946.

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The Student Debrief is intended to invite reflection and active processing of the total lesson experience.

Invite students to review their solutions for the Problem Set. They should check work by comparing answers with a partner before going over answers as a class. Look for misconceptions or misunderstandings that can be addressed in the Debrief. Guide students in a conversation to debrief the Problem Set and process the lesson.



T: Bring your Problem Set to our Debrief.

T: Take a couple of minutes to check over your answers with a partner.

T: Which section slowed you down? Why?

S: The fill-in-the-blank section on the Problem Set, especially (g), (h), (i), and (j). When it said *10 less,* I knew I really had to look at the tens, and when it said *100 less,* I really looked at the hundreds because those places would change.

T: Turn and tell your partner Nadia's strategy for helping herself with the fill-in-the-blank section.

S: Nadia paid attention to the places of numbers. ⬜ Nadia used the *10 less* and *100 less* part of the question as a clue to help her know which numbers to look at and change.

T: Let's look at Tyron and Heather's strategies for solving the last problem. (Project student work.)

T: Tyron, tell us about your strategy for solving.

S: I drew 7 lines in a row. Then, I counted by hundreds and wrote each number on a line until I filled up all the lines.

T: Thumbs up if you used the same strategy.

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S:   (Some show thumbs up.)

T:   Now, look at Heather's strategy.  Heather, can you tell us about yours?

S:   I knew only the hundreds would change because we were counting by hundreds.  I noticed counting by hundreds 7 times is the same as 700.  I added those to the 200 in 217.  I wrote 200 + 700 = 900.  Then, I put 900 back together with 17 ones and got 917.

T:   Good.  How are these strategies the same and different?

S:   They're the same because they both got the right answer.  ⬜ They both only changed hundreds.  ⬜ In Tyron's you can see the pattern of growing by 100.  ⬜ Heather used a basic fact.

T:   Pick a strategy that is different from the one you used, and try it on your paper now.

S:   (Work.)

T:   Good.  Head back to your seats to complete your Exit Ticket.

## Exit Ticket  (3 minutes)

After the Student Debrief, instruct students to complete the Exit Ticket.  A review of their work will help with assessing students' understanding of the concepts that were presented in today's lesson and planning more effectively for future lessons.  The questions may be read aloud to the students.

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Number Correct: _____

# A

Differences

| | | |
|---|---|---|
| 1. | 3 – 1 = | |
| 2. | 13 – 1 = | |
| 3. | 5 – 1 = | |
| 4. | 15 – 1 = | |
| 5. | 7 – 1 = | |
| 6. | 17 – 1 = | |
| 7. | 4 – 2 = | |
| 8. | 14 – 2 = | |
| 9. | 6 – 2 = | |
| 10. | 16 – 2 = | |

| | | |
|---|---|---|
| 23. | 7 – 4 = | |
| 24. | 17 – 4 = | |
| 25. | 7 – 5 = | |
| 26. | 17 – 5 = | |
| 27. | 9 – 5 = | |
| 28. | 19 – 5 = | |
| 29. | 7 – 6 = | |
| 30. | 17 – 6 = | |
| 31. | 9 – 6 = | |
| 32. | 19 – 6 = | |

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Number Correct: _____

| | | |
|---|---|---|
| 11. | 8 – 2 = | |
| 12. | 18 – 2 = | |
| 13. | 4 – 3 = | |
| 14. | 14 – 3 = | |
| 15. | 6 – 3 = | |
| 16. | 16 – 3 = | |
| 17. | 8 – 3 = | |
| 18. | 18 – 3 = | |
| 19. | 6 – 4 = | |
| 20. | 16 – 4 = | |
| 21. | 8 – 4 = | |
| 22. | 18 – 4 = | |

| | | |
|---|---|---|
| 33. | 8 – 7 = | |
| 34. | 18 – 7 = | |
| 35. | 9 – 8 = | |
| 36. | 19 – 8 = | |
| 37. | 7 – 3 = | |
| 38. | 17 – 3 = | |
| 39. | 5 – 4 = | |
| 40. | 15 – 4 = | |
| 41. | 8 – 5 = | |
| 42. | 18 – 5 = | |
| 43. | 8 – 6 = | |
| 44. | 18 – 6 = | |

Improvement: _____

**B**

Differences

| | | |
|---|---|---|
| 1. | 2 – 1 = | |
| 2. | 12 – 1 = | |
| 3. | 4 – 1 = | |

| | | |
|---|---|---|
| 23. | 9 – 4 = | |
| 24. | 19 – 4 = | |
| 25. | 6 – 5 = | |

| | | | | | |
|---|---|---|---|---|---|
| 4. | 14 – 1 = | | 26. | 16 – 5 = | |
| 5. | 6 – 1 = | | 27. | 8 – 5 = | |
| 6. | 16 – 1 = | | 28. | 18 – 5 = | |
| 7. | 3 – 2 = | | 29. | 8 – 6 = | |
| 8. | 13 – 2 = | | 30. | 18 – 6 = | |
| 9. | 5 – 2 = | | 31. | 9 – 6 = | |
| 10. | 15 – 2 = | | 32. | 19 – 6 = | |
| 11. | 7 – 2 = | | 33. | 9 – 7 = | |
| 12. | 17 – 2 = | | 34. | 19 – 7 = | |
| 13. | 5 – 3 = | | 35. | 9 – 8 = | |
| 14. | 15 – 3 = | | 36. | 19 – 8 = | |
| 15. | 7 – 3 = | | 37. | 8 – 3 = | |
| 16. | 17 – 3 = | | 38. | 18 – 3 = | |
| 17. | 9 – 3 = | | 39. | 6 – 4 = | |
| 18. | 19 – 3 = | | 40. | 16 – 4 = | |
| 19. | 5 – 4 = | | 41. | 9 – 5 = | |
| 20. | 15 – 4 = | | 42. | 19 – 5 = | |

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| 21. | 7 – 4 = | | 43. | 7 – 6 = | |
|-----|---------|---|-----|---------|---|
| 22. | 17 – 4 = | | 44. | 17 – 6 = | |

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Name _____ Date _____

1. Model each change on your place value chart.  Then, fill in the chart.
   Whisper the complete sentence:  "_____ more/less than _____ is _____."

|          | 242 | 153 | 312 | 465 |
|----------|-----|-----|-----|-----|
| 100 more |     |     |     |     |
| 100 less |     |     |     |     |
| 10 more  |     |     |     |     |
| 10 less  |     |     |     |     |
| 1 more   |     |     |     |     |
| 1 less   |     |     |     |     |

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2. Fill in the blanks.  Whisper the complete sentence.

   a.  1 more than 314 is _____.

   b.  10 more than 428 is _____.

   c.  100 less than 635 is _____.

   d.  _____ more than 243 is 343.

   e.  _____ less than 578 is 568.

   f.  _____ less than 199 is 198.

   g.  1 more than _____ is 405.

   h.  10 less than _____ is 372.

   i.  100 less than _____ is 739.

   j.  10 more than _____ is 946.

3. Whisper the numbers as you count:

   a.  Count by 1s from 367 to 375.

   b.  Skip-count by 10s from 422 to 492.

   c.  Skip-count by 100s from 156 to 856.

   d.  Count by 1s from 269 to 261.

   e.  Skip-count by 10s from 581 to 511.

   f.  Skip-count by 100s from 914 to 314.

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g. I found letter _____ to be challenging because _____

_____.

4. My starting number is 217.

I skip-count up by 100s seven times.

What is the last number I count?

Explain your thinking below.

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Name _____    Date _____

Fill in the blanks.

a.  10 more than 239 is _____.

b.  100 less than 524 is _____.

c.  _____ more than 352 is 362.

d.  _____ more than 467 is 567.

e.  1 more than _____ is 601.

f.  10 less than _____ is 241.

g.  100 less than _____ is 878.

h.  10 more than _____ is 734.

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Name _____     Date _____

1. Fill in the chart. Whisper the complete sentence: "____ more/less than ____ is ____."

|          | 146 | 235 | 357 | 481 | 672 | 814 |
|----------|-----|-----|-----|-----|-----|-----|
| 100 more |     |     |     |     |     |     |
| 100 less |     |     |     |     |     |     |
| 10 more  |     |     |     |     |     |     |
| 10 less  |     |     |     |     |     |     |
| 1 more   |     |     |     |     |     |     |
| 1 less   |     |     |     |     |     |     |

2. Fill in the blanks. Whisper the complete sentence.

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a.  1 more than 103 is _____.

b.  10 more than 378 is _____.

c.  100 less than 545 is _____.

d.  _____ more than 123 is 223.

e.  _____ less than 987 is 977.

_____ less than 422 is 421.

1 more than _____ is 619.

10 less than _____ is 546.

100 less than _____ is 818.

10 more than _____ is 974.

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