# Lesson 8

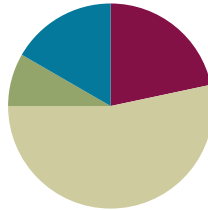## Objective:  Compare quantities and numerals from left to right.

**Related Topics:**
More Lesson Plans for Grade 1 Common Core Math

## Suggested Lesson Structure

■ Fluency Practice          (13 minutes)
■ Application Problem        (5 minutes)
■ Concept Development        (32 minutes)
■ Student Debrief           (10 minutes)
  **Total Time**            **(60 minutes)**

## Fluency Practice  (13 minutes)

▪ Subtraction with Cards  **1.OA.6**                          (5 minutes)
▪ Core Subtraction Fluency Review  **1.OA.6**                 (5 minutes)
▪ Beep Counting by Ones and Tens  **1.OA.5, 1.NBT.3**   (3 minutes)

### Subtraction with Cards  (5 minutes)

Materials:   (S) 1 pack of numeral cards 0–10 per set of partners (from G1–M1–Lesson 36)

Note:  This activity reviews yesterday's lesson and provides practice with subtraction within 10.  Students' fluency with these facts will be assessed after this game.

Students combine their numeral cards and place them face down between them.  Each partner flips over two cards and subtracts the smaller number from the larger one.  The partner with the smallest difference says a *less than* sentence and keeps the cards played by both players.  If both players have the same difference, each partner flips two more cards and the player with the smaller difference says a *less than* sentence and keeps all the cards. The player with the most cards at the end of the game wins.

### Core Subtraction Fluency Review  (5 minutes)

Materials:  (S) Core Subtraction Fluency Review

Note:  This subtraction review sheet contains the majority of subtraction facts within 10 (excluding some –0 and –1 facts), which are part of the required core fluency for Grade 1.  Consider using this sheet to monitor progress towards mastery.

Students complete as many problems as they can in three minutes.  Choose a counting sequence for early finishers to practice on the backs of their papers.  When time runs out, read the answers aloud so students

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can correct their work.  Encourage students to remember how many they got correct today so they can try to improve their scores on future Core Subtraction Fluency Reviews.

## Beep Counting by Ones and Tens  (3 minutes)

Say a series of three numbers but replace one of the numbers with the word *beep* (e.g., 1, 2, 3, beep).  When signaled, students say the number that was replaced by the word *beep* in the sequence.  Scaffold number sequences, beginning with easy sequences and moving to more complex ones.  Choose sequences that count forward and backward by ones and tens within 40.

Suggested sequence type:  10, 11, 12, beep; 20, 21, 22, beep; 20, 19, 18, beep; 30, 29, 28 beep; 0, 10, 20, beep; 1, 11, 21, beep; 40, 30, 20, beep; 39, 29, 19, beep.  Continue with similar sequences, changing the sequential placement of the beep.

## Application Problem  (5 minutes)

Anton picked 25 strawberries.  He picked some more strawberries.  Then he had 35 strawberries.
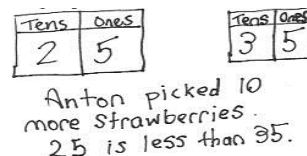
a.  Use a place value chart to show how many more strawberries Anton picked.

b.  Write a statement comparing the two amounts of strawberries using one of these phrases:  *greater than, less than,* or *equal to*.

Note:  In this *add to with change unknown* problem, students are now asked to use their understanding of place value to identify how many more strawberries Anton picked and to compare the beginning and ending quantities.

## Concept Development  (32 minutes)

Materials:   (T) Comparison cards  (S) Comparison cards, personal white boards, ten-sticks and coins from personal math toolkit

Note:  For this lesson, use the word side of the comparison cards.  The symbol side will be used in future lessons.

Project the following two sequences on the board, both of which were used in today's Beep Counting:  10, 11, 12, 13 and 40, 30, 20, 10

T:   You said these numbers during fluency.  What is different about them?

S:   One set goes up and one set goes down.  → One we count up by ones and one set we count down by tens.

T:   What do you mean it *goes up*?

> **NOTES ON MULTIPLE MEANS OF REPRESENTATION:**
>
> Be sure your English Language Learners understand the word *compare*. Remind students about comparing the length of objects as they learned about in Module 3 and show some concrete examples.  Help students make the connection between comparing length and comparing numbers.

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S:   The numbers get bigger.

T:   Let's use our math language to explain that.  Who remembers the words we used yesterday when we were comparing two numbers?

S:   Greater than.  → Less than.  → Equal to.

T:   Are you saying this number (point to 10) is less than or greater than 11 (point to 11)?

S:   Less than.

T:   What about the next numbers?  11 is…

S:   Less than 12.

T:   Let's say the whole sequence and use the comparison words as we compare each number in the set.

S/T: (Continue pointing to each number.)  10 is less than 11.  11 is less than 12.  12 is less than 13.

T:   When we compare numbers using words, we read from left to right, just like when we are reading a sentence in a book or when we are reading a number sentence.

T:   40, 30, 20, 10 is in a different order.  Turn to your partner and discuss which word we will use when comparing them.  Remember we start with 40.

S:   (Discuss.)  Greater than!

T:   Let's read the whole sequence, using greater than to compare the number pairs as we go.

S/T: 40 is greater than 30.  30 is greater than 20.  20 is greater than 10.

T:   Today, we are reading left to right when we compare numbers.  (Distribute comparison cards to students.  Write 13 and 23 on the board.)  Partner A (seated on the left), show 13 with your ten-sticks.  Partner B, show 23 with your ten-sticks.  Find the card with the comparison words that show how your number compares to your partner's number and put it under your ten-sticks.

S:   (Partners place cubes and cards.)

T:   I see these cards under your numbers.  (Write *less than* under 13 and *greater than* under 23.)  To read this from left to right, we would say 13 is….?

S:   Less than 23!

T:   Yes, less than.  Let's move the less than card between our numbers.  We'll read together.  (Move card between 13 and 23.)

S/T: 13 is less than 23.
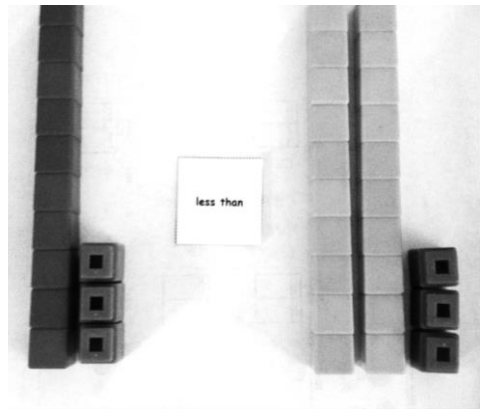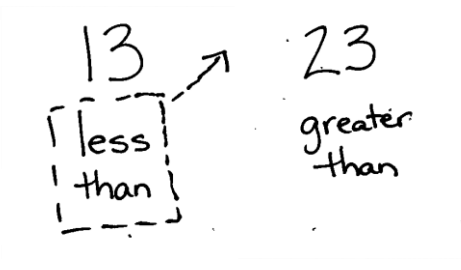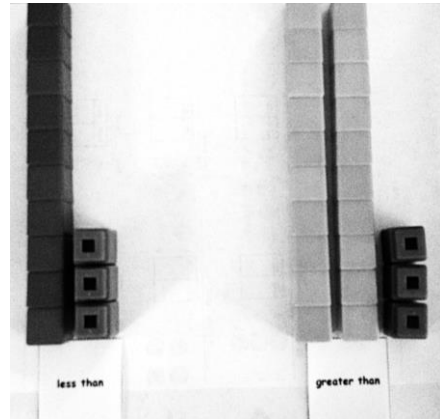
**NOTES ON MULTIPLE MEANS Of ACTION AND EXPRESSION:**

Some students may still need concrete models after others are ready to move on.  When moving to using numbers only, ask the students who need more concrete supports to be the class helper by modeling the numbers with linking cubes.

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Repeat the process with the following suggested sequence:  15 and 19, 21 and 19, 3 tens 5 ones and 2 tens 8 ones, 21 and 31, 18 and 9, 38 and 12, and 27 and 19.  Move quickly to quick ten drawings or no visual supports as appropriate for the group of students.  Grouping students by readiness levels will make this easier.
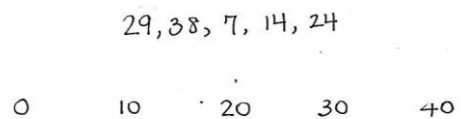
- T: Does anyone else notice something interesting about which card we have been using when we read the comparison from left to right?
- S: We always use Partner A's card!
- T: Do we even *need* Partner B's card to say our comparison sentence?
- S: No!
- T: Ok, switch spots so that we can use Partner B's card.  (Partners switch spaces so that Partner B is sitting on the left.)

Repeat the process with the following suggested sequence:  14 and 17, 3 tens and 2 tens, 2 tens 9 ones and 3 tens, 24 and 38, and 34 and 28.  This time, only Partner B should use the comparison cards, since it has been determined that only the comparison card on the left gets moved into the middle to read the comparison sentence.

> **NOTES ON MULTIPLE MEANS OF REPRESENTATION:**
>
> Highlight the critical vocabulary for English language learners as you teach the lesson by showing objects as a visual as you say the words. Vocabulary in this lesson that you will want to highlight is *in order, in front of, before,* and *between*.  Without understanding these words, English language learners will have difficulty placing numbers into the tens sequence.

- T: (Leave 34 and 28 on display.)  Which digit in each number did you look at first to compare them?
- S: We looked at the digit in the tens place!
- T: Why do we look at the tens place first when we compare two numbers?  Turn and talk to your partner.
- S: The digit 3 in 34 stands for 30.  The digit 2 in 24 stands for 20.  30 is greater than 20.  Even if there were 9 ones that's still less than a ten.
- T: (Write the multiples of 10 from 0 to 40 across the board, with space in between the numbers.  Write the following five numbers above the sequence:  29, 38, 7, 14, 24.)  If I want to place these numbers into this set of numbers, *in order*, where would they go?  Where would I put 29?



- S: In front of the 30.  It's less than 30.  (Write 29 between 20 and 30.)
- T: Where would I put 38?
- S: Between 30 and 40.  It's greater than 30 and less than 40.  (Write 38 between 30 and 40.  Continue with this process until all the numbers are placed.)
- T: (Leave this sequence on the board.  Write the numbers 40, 30, 20, 10, 0 on the board with space in between the numbers.)  Let's put those same numbers in order into *this* set.
- T: Where does 29 go now?
- S: Between the 30 and 20.  29 is less than 30.  It's greater than 20.  (Continue having students place the numbers in order in the sequence.)
- T: Let's read the first sequence we made, starting on the...

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S:     Left!

S/T:  (Point to the numbers as students read the sequence.)  0 is less than 7.  7 is less than 10. (Continue on.)

T:     What will we say when we are comparing the numbers in the second set?

S:     Greater than!

S/T:  (Point to the numbers as students read the sequence.)  40 is greater than 38.  38 is greater than 30.  (Continue on.)

## Problem Set  (10 minutes)

In this Problem Set, students wil be ordering numbers from least to greatest and greatest to least, it would be helpful to review the meaning of the words least and greatest to prepare students to answer these questions. 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.

## Student Debrief  (10 minutes)

**Lesson Objective:**  Compare quantities and numerals from left to right.

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.

You may choose to use any combination of the questions below to lead the discussion.

▪   Look at Problem 2.  Use math drawings, materials or place value charts to prove your solution for 36 _____ 3 tens 6 ones.

- How did Problem 3 help you solve Problem 4?  What is the same about these two problems?  What is different?
- Rewrite your statement for the Application Problem using only numbers and the phrase *greater than* or *less than* to compare the two sets of strawberries.  Start with Anton's amount of strawberries.
- Share your solution to Problem 5 with your partner.  Did you have the same solution?  If your solutions were different explain how they could both be correct.

## Exit Ticket  (3 minutes)

After the Student Debrief, instruct students to complete the Exit Ticket.  A review of their work will help you assess the students' understanding of the concepts that were presented in the lesson today and plan more effectively for future lessons.  You may read the questions aloud to the students.

Name _____    Date _____

## Core Subtraction Fluency Review

1. $8 - 0 =$ _____

2. $8 - 1 =$ _____

3. $7 - 7 =$ _____

4. $3 - 3 =$ _____

5. $3 - 2 =$ _____

6. $4 - 2 =$ _____

7. $5 - 2 =$ _____

8. $5 - 3 =$ _____

9. $9 - 2 =$ _____

10. $8 - 2 =$ _____

11. $7 - 2 =$ _____

12. $4 - 4 =$ _____

13. $4 - 3 =$ _____

14. $5 - 4 =$ _____

15. $8 - 3 =$ _____

16. $9 - 3 =$ _____

17. $10 - 3 =$ _____

18. $10 - 4 =$ _____

19. $10 - 2 =$ _____

20. $10 - 8 =$ _____

21. $10 - 7 =$ _____

22. $10 - 6 =$ _____

23. $6 - 6 =$ _____

24. $7 - 7 =$ _____

25. $7 - 6 =$ _____

26. $8 - 8 =$ _____

27. $8 - 7 =$ _____

28. $9 - 9 =$ _____

28. $9 - 8 =$ _____

30. $10 - 9 =$ _____

31. $5 - 5 =$ _____

32. $6 - 5 =$ _____

33. $7 - 5 =$ _____

34. $8 - 5 =$ _____

35. $8 - 4 =$ _____

36. $10 - 5 =$ _____

37. $9 - 5 =$ _____

38. $9 - 4 =$ _____

39. $6 - 3 =$ _____

40. $6 - 4 =$ _____

41. $7 - 3 =$ _____

42. $7 - 4 =$ _____

43. $8 - 6 =$ _____

44. $9 - 6 =$ _____

45. $9 - 7 =$ _____

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Name _____     Date _____

1. Draw quick tens and ones to show each number.  Label the first
   drawing as *less (L), greater (G),* or *equal* to *(E)* the second.
   Write a phrase from the word bank to compare the numbers.

a.

20 _____ 18

b.      2 tens          3 tens

2 tens _____ 3 tens

c.      24          15

24 _____ 15

d.      26          32

26 _____ 32

2. Write a phrase from the word bank to compare the numbers.

36 _____ 3 tens 6 ones

1 ten 8 ones _____ 3 tens 1 one

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38 _____ 26

1 ten 7 ones _____ 27

15 _____ 1 ten 2 ones

30 _____ 28

29 _____ 32

3. Put the following numbers in order from *least* to *greatest*. Cross off each number after it has been used.

   | 9 | 40 | 32 | 13 | 23 |
   |---|----|----|----|----|

4. Put the following numbers in order from *greatest* to *least*. Cross off each number after it has been used.

   | 9 | 40 | 32 | 13 | 23 |
   |---|----|----|----|----|

5. Use the digits 8, 3, 2, and 7 to make 4 different two-digit numbers less than 40. Write them in order from *greatest* to *least*.

   | 8 | 3 | 2 | 7 |
   |---|---|---|---|

   Examples: 32, 27….

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Name _____        Date _____

Write the numbers in order from *greatest* to *least*.

| 40 |
|---|
| 39            29 |
| 30 |

_____  _____  _____  _____

Complete the sentence frames using the phrases from the word bank to compare the two numbers.

Word Bank

| is greater than |
|---|
| is less than |
| is equal to |

17 _____ 24

23 _____ 2 tens 3 ones

29 _____ 20

Name _____     Date _____

| |
|---|
| is greater than |
| is less than |
| is equal to |

1.  Draw the numbers using quick tens and circles.  Use the phrases from the word bank to complete the sentence frames to compare the numbers.

| 20                         30 | 14                         22 |
|---|---|
| 20 _____ 30 | 14 _____ 22 |
| 15                     1 ten 5 ones | 39                         29 |
| 15 _____ 1 ten 5 ones | 39 _____ 29 |
| 31                         13 | 23                         33 |
| 31 _____ 13 | 23 _____ 33 |

2.  Circle the numbers that are *greater* than 28.

    32        29        2 tens 8 ones        4 tens        18

3.  Circle the numbers that are *less* than 31.

    29        3 tens 6 ones        3 tens        13        3 tens 9 ones

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4.  Write the numbers in order from *least* to *greatest*.

| | | |
|---|---|---|
| | 23 | |
| 32 | | 30 |
| | 29 | |

_____  _____  _____  _____

Where would the number 27 go in this order?  Use words or rewrite the numbers to explain.

5.  Write the numbers in order from *greatest* to *least*.

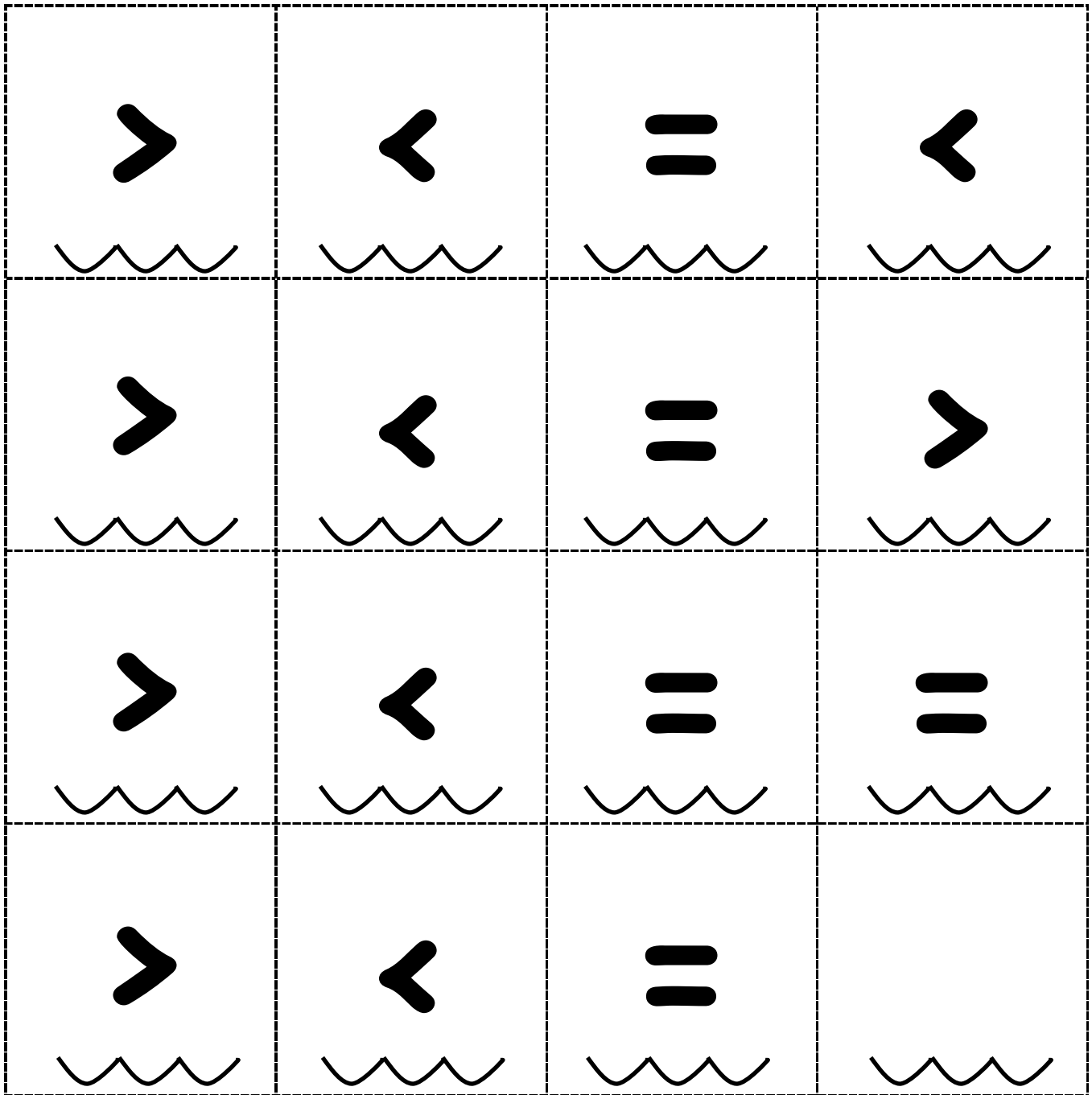| | | |
|---|---|---|
| | 40 | |
| 13 | | 30 |
| | 31 | |

_____  _____  _____  _____

Where would the number 23 go in this order?  Use words or rewrite the numbers to explain.

6.  Use the digits 9, 4, 3, and 2 to make 4 different two-digit numbers less than 40.  Write them in order from *least* to *greatest*.

| 9 3 4 2 |
|---|
| Examples: 34, 29…. |

Comparison cards, p. 1.  Print double-sided on cardstock.  Distribute each of the three cards to students.

Comparison cards, p. 2.  Print double-sided on cardstock.  Distribute each of the three cards to students.

| | | | |
|---|---|---|---|
| **less than** | **equal to** | **less than** | **greater than** |
| **greater than** | **equal to** | **less than** | **greater than** |
| **equal to** | **equal to** | **less than** | **greater than** |
| | **equal to** | **less than** | **greater than** |