


17. Keep on Counting: Train of Tens

• COUNT BY TENS AND ONES

TEACHER NEEDS:
train of the number of
blocks students will be
practicing counting (built
before class)

SUGGESTED NUMBERS:
43, 57, 64, 72, 85, 91

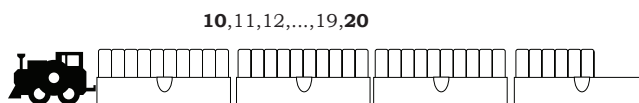
 25 minutes

TEACHER NOTE:
Repeat this lesson with
increasing numbers
throughout the year.

Repeat this lesson often, increasing the number each time, until students are proficient at counting by tens and ones to at least 100. Remember that the transition from the last 10 from the last full car to the ones in the caboose car of leftovers is a difficult concept for young students. However, as students become proficient at this method through continued practice, they will be counting by tens **with understanding**, not simply memorization.

GROUP ACTIVITY:

1. Remind students that we have shortcuts for counting to big numbers. For example, to count to 100, we may want to count by tens because it will be faster than counting by ones. “Today, we will practice counting by tens and learn how to count by tens to larger numbers.”
2. Position the train (built before class) where children can see it and so that the “front” of the train is to their left.
3. Starting at the “front” of the train, point to each block individually as the class counts the blocks out loud by ones.
4. Explain that the class is going to count the blocks again by ones. However, this time, each time you point to the last block in a holder, the students should do a special hand signal or clap as they say each multiple of ten.
5. Count the blocks by ones again, this time clearly emphasizing the last block in each holder. (1, 2, 3, 4, 5, 6, 7, 8, 9, **10**, 11, 12, 13, 14, 15, 16, 17, 18, 19, **20**, 21, 22...).
6. Recount a third time by pointing to the last block in the first holder and asking, “What number is this?” (10) “Do we need to start with one?” (no) “We can skip to 10.”



7. From the 10th block, point to the 11th block and start counting on from 10. This time emphasize the 20.
8. On the fourth count, point to the 10th block (10) and skip count to the 20th block (20) and count on from 20. (10, 20, 21, 22,...)
9. Continue this pattern for each full car.
10. On the final count, point to the end of each holder as the class counts by tens. (10, 20, 30, 40,...)
11. When you get to the end of the last full holder, emphasize switching to counting by ones to count the leftover blocks. A very common mistake is that students will continue counting by tens as they count the single blocks in the last holder. When this happens, ask, “Where would the nth block be?” Prompt students to realize it would be the last block in the incomplete holder.
12. Repeat counting the train by tens and ones several times.
13. Point out that when you count this way, you are skipping the numbers between 10 and 20, 20 and 30, etc. This is called **skip counting**.
14. Ask students if they get the same answer when they count all of the blocks by ones and when they count the full cars by tens. (Yes) Point out that counting the full cars by tens is faster than counting the whole train by ones.
15. Make a new train in the same tens family and repeat the steps.

Assessment:

DOES THE STUDENT:

- count aloud by tens and by ones correctly

Differentiation:

REINFORCEMENT:

- Allow students time to count many trains repeatedly by ones. When they are very comfortable and accurate with this process, ask, “Is there a faster way to count?” Point to the 10th block and ask, “What block is this?” Prompt them to name the 20th and 30th blocks and so on.

EXTENSION:

- Divide class into several small groups. Each group makes a train. As a class, count each train in unison at least twice.
- Ask students to build and to count a train independently.