
Pattern of the Count: Counting with the Counter

Relevant Chapters in the Digi-Block Comprehensive Teacher's Guide:

Book I, Unit 2-3: Using the Counter to Tell How Many, pages 39 - 41

Book I, Unit 2-4: Relating Single Blocks to Packed Blocks, pages 43 - 44

Book I, Unit 2-6: Seeing Patterns in the Count, pages 50 - 52

Lesson Overview

Children use the Counter to determine the quantity of a set of blocks. They hear the pattern of the count as they count one-by-one placing single blocks on the Counter. They see the pattern of the count as they move the dials each time they place a block on the Counter and as they record each number on the Activity Sheet.

Objectives

- To use the Counter as a tool for counting
- To reinforce one-to-one correspondence by moving the dial one turn for each block counted
- To see, to hear, and to write the pattern of the count
- To recognize the ways in which the digits 0-9 repeat when counting by ones
- To see how the Counter represents the base ten view of a number

Materials

Each student or group of students needs:

- A 2-place Counter with empty holders in place
- A 16 ounce drink cup filled with blocks
- Up to 99 single blocks and 19 small holders
- Pattern of the Count Recording Strip (Make multiple copies of the activity sheet. Fold and tape together to form one long strip with rows for numbers up to 99.)

Class Introduction

(10- minutes)

If children have not seen the Counter, facilitate a discussion that encourages the children to describe what they see, what it might be used for, and what it might be called.

Once children have established the fact that they can load blocks onto the Counter, explain that they will use the Counter to count how many blocks fit in a large paper cup. Tape a Recording Strip where all can see it and set the Counter where all can see it to demonstrate the following steps.

- Have a child take and place a single block on the Counter.
- Ask another child to set the dial beneath the small holder to that number. (1)
- Have still another child record that number on the Recording Strip. [Note: It is possible to start at the top or the bottom of the Recording Strip.]
- Repeat these steps placing the blocks one by one on the Counter, turning the dial(s) to indicate the count, and recording the count on the Recording Strip

until the tenth block is placed. Note:

- o If children have not seen the Counter, let them discover that when they place the tenth block in the holder, the holder ejects. Children may wonder at first what to do with the ejected block.
- o Facilitate a discussion that guides the children to the conclusion that they need to cover it with another holder and then place the block-of-10 in the larger holder.
- o Students now have 2 sizes of blocks. They need 2 dials or digit flip cards to show the count.
- o They need 2 columns to record, one column for the tens and one column for the ones:

1	0
	9
	8
	6
	6
	5
	4
	3
	2
	1

- Once children are confident that they are ready to repeat and continue the steps on their own, divide the class into small groups according to the number of available Counters or set up Counter(s) in a math center and have children work in pairs or in threes.

Activity

(20-30 minutes)

Give each group a Pattern of the Count Recording Strip and a cup of blocks. Explain that they take turns with the jobs:

1. Place a single block on the Counter.
2. Set the digit(s) accordingly.
3. Write the number of the count on the Activity Sheet.

Have children work in their small groups following the outlined steps to find out how many blocks they have in their cup.

- If they finish quickly, refill the cup of blocks and have them continue the count where they left off.

Closure

(10 - minutes)

Bring the children together to compare counts, Counters, and Pattern of the Count strips by asking such questions as:

- Are the counts all the same? Why or why not?
- How are the blocks organized on the Counter?
- Do the digits match the last number you recorded on your strip? Why or why not?
- How do you know if the last number you wrote is correct?

- How do you know that the digits are set correctly?
- What patterns do you hear when you say the numbers?
- What patterns do you see as you turn the digit card(s)?
- What patterns do you see in the numbers on your strip?

Assessment

Observe the children as they work and note:

- Do they follow the three step directions?
 1. take one block at a time
 2. turn the dial each time a block is added
 3. write the number on the recording sheet
- Do they count in correct sequence taking one block for each number?
- Do they turn the digits correctly in terms of the counting sequence?
- Do they write the count correctly on their Recording Strip?
- Do they talk about patterns that they see in the count?

Extensions

- q Use a 3-Place Counter for children who are ready to see the pattern continue into the hundreds. Modify the Pattern of the Count Recording Strip accordingly.
- q Start with 50 or so blocks on the Counter and have the children take the blocks off using the same instructions in terms of saying and writing the pattern of the count.
- q For children for whom writing the numbers is too difficult, dot the numbers before copying the strips. Those children can trace the numbers as they go.