

# UNIT

# 1B

Full Digi-Block  
Activity

## Pattern of the Count

### OBJECTIVES:

- To use blocks to model, write, and read the numbers from 0 to 1000 in sequence
- To identify patterns in the numbers from 0 to 1000 and to describe why they occur and how they relate to what is happening with the blocks

#### summary

#### materials



### Digi-Block Overview

- Students work in small groups to model counting by ones with Digi-Blocks. They organize their blocks on a place value mat, and they create a number scroll as they record the process.

*Each small group (3 - 4 students) needs:*

- about 170 single blocks and holders
- 1 place value mat with digit cards
- 3 copies of the *Number Scrolls* activity sheet
- tape
- scissors

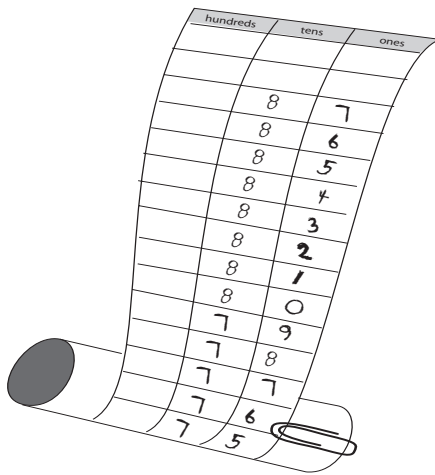
*For the center activity:*

- 3-place Counter
- blocks and holders



### Everyday Math Connection

- In Unit 1, the class is getting accustomed to routines in mathematics. With this lesson, students gain experience working in small groups with place value mats and the Digi-Block Counter.
- As students explore patterns in the sequence of the count, this activity uses a concrete representation of quantity organized into ones, tens, and hundreds.



- Pass out three activity sheets, tape, and scissors to small groups of students. Tell students they will be working together in groups. Their task is to make a long number scroll as they record counting by ones with the Digi-Blocks.
  - Model and direct students to:
    - Cut out three sections with three columns each for hundreds, tens, and ones.
    - Tape the top of each strip to the bottom of another. They can cover up the heading so that the columns line up. If this is done properly, each student will have one long strip with 3 columns and 60 rows. The group should tape together the 3 sets of 60 rows to make one longer strip with 180 rows.
    - Students can attach their number scroll paper to a cardboard tube. They can secure it with a paper clip as they roll along!
    - Write a “0” in the ones column in the very bottom row of their number strip.
  - Pass out the materials.
  - Assign roles for students.
    - The Blocker places one block in the correct place (ones) on the mat.
    - The Digitizer sets the digit card to show “1.”
    - The Recorder records, the digit “1” on the row above the 0 on the activity sheet.
    - Groups continue placing blocks 2 through 9 one at a time on the mat and recording the digits from the bottom to the top of the counting scroll.
    - Have groups pause when they have 10 blocks on their mats.
- Ask,
- Can you show this number using only one digit card?** (*No, the digits on the cards only go up to 9.*)
- What should we do with these blocks?** (*Pack them.*)
- Have students:
    - Pack the single blocks and move the block-of-10 to the tens place.
    - Set the digit cards.
    - Write a “1” in the tens column and a “0” in the ones column on their scrolls.

- Continue as a class for a few more blocks and then have groups work at their own pace.
- If groups finish early, they can continue by adding more sections to the top of their scrolls.



### Center Activity 15 min Intervals

- Set up a center with a 3-place Counter, 1000 single blocks, holders, pencil, tape, and scissors. Create a class number scroll from 0 to 1000 by having teams of students work at the center for 15-minute intervals. Each team continues the number scroll from where the previous team left off.



### Closure 10 min

- Have students identify and describe patterns in their number scrolls.
- Use crayons or markers to highlight patterns. Share patterns and discuss why they occur.
- Relate the patterns to what was happening with the blocks. (See figure.) For example:
  - The 0-9 pattern in the ones place shows that one block is added at a time.
  - The change from 9 to 10 represents the packing and moving of the single blocks, leaving 0 ones in the ones place, and making a block-of-10.
  - The string of 1s in the tens place represents the block of ten in the numbers 10 through 19.
  - Continue describing the pattern: we count 10 blocks before each change in the second column (the tens column). We count 100 blocks before each change in the third column (hundreds column.)

hundreds	tens	ones
	3	9
	3	8
	3	7
	3	6
	3	5
	3	4
	3	3
	3	2
	3	1
	3	0
	2	9
	2	8
	2	7
	2	6
	2	5
	2	4
	2	3
	2	2
	2	1
	2	0
	1	9

Highlight the patterns.

### Assessment

As students work, observe and note, do they:

- ✓ Work collaboratively and successfully in a group?
- ✓ Accurately record the digits?
- ✓ Confidently pack and move a block when needed?
- ✓ Identify patterns? Do they see how the digits cycle from 0-9 quickly through the ones, slower through the tens and even more slowly through the hundreds?

Name \_\_\_\_\_

## Number Scrolls

hundreds	tens	ones

hundreds	tens	ones

hundreds	tens	ones