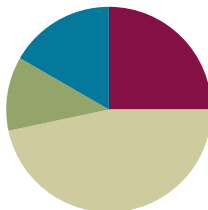


Lesson 4

Objective: Count up to 1,000 on the place value chart.

Suggested Lesson Structure

■ Fluency Practice	(15 minutes)
■ Application Problem	(7 minutes)
■ Concept Development	(28 minutes)
■ Student Debrief	(10 minutes)
Total Time	(60 minutes)



Fluency Practice (15 minutes)

- Sprint: Adding to the Teens **2.OA.2** (10 minutes)
- Exchange to Get to 50 **2.NBT.2** (5 minutes)

Sprint: Adding to the Teens (10 minutes)

Materials: (S) Adding to the Teens Sprint

Exchange to Get to 50 (5 minutes)

Materials: (S) Dienes blocks: 12 ones, 5 tens, and 1 hundred flat; 1 die per pair

Suggestions for modifying this game are presented in Lesson 5.

- T: Working with your partner, our goal is to make 50.
- T: Partner A, roll the die. Take that number of ones cubes from your pile, and line them up in a row on your hundred flat on the first row.
- T: Now Partner B takes a turn.
- T: It's Partner A's turn again. Start a new row if you need to.
- T: Some of you may now have 10, 11, or 12 ones on your hundred flats. If you completed a ten with your last roll, exchange the row of 10 ones for a ten-rod. Be sure to leave your extra ones on your hundred-flat.
- T: Now it's Partner B's turn. Keep taking turns until the first person reaches 50.



NOTES ON DIENES BLOCKS:

These are often called base ten blocks. Dienes blocks include hundreds flats, tens rods, and ones cubes. They have not been formally introduced in Grade 2, and many students find them difficult to use at first. It may be appropriate to briefly identify each type of block before starting the game.

However, avoid taking time to teach to the manipulative. The game itself will provide students with the opportunity to explore the blocks and their relationship to one another.

Application Problem (7 minutes)

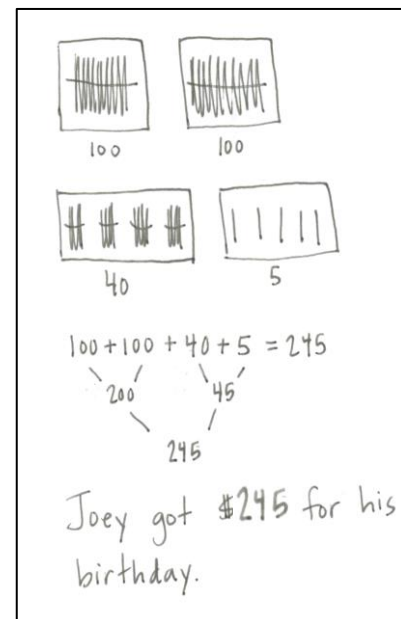
At his birthday party, Joey got \$100 from each of his two grandmothers, \$40 from his dad, and \$5 from his little sister. How much money did Joey get for his birthday?

- T: Read this problem with me.
- T: Take a minute to talk with your partner about what information this problem gives you and how you can draw it.
- T: (Circulate and listen for sound reasoning but also for common misperceptions.)
- S: I can show \$100 and \$40 and \$5.
- T: Does anyone disagree with what Susana said? If so, can you explain why?
- S: Each grandma gave Joey \$100 and Joey has 2 grandmas, so it's \$200, not \$100.
- T: Yes. It's very important to read carefully. Now draw your pictures and solve.
- T: (After a minute or two.) Let's use Elijah's drawing to count and find the answer.
- S: 100, 200, 210, 220, 230, 240, 241, 242, 243, 244, 245.
- T: 245 what?
- S: 245 dollars!
- T: Give me the statement.
- S: Joey got \$245 for his birthday.
- T: Talk with your partner. What does counting money remind you of? It's like counting...?
- S: Hundreds, tens, and ones!
- T: How many of each unit are in \$245?
- S: 2 hundreds, 4 tens, 5 ones.
- T: Very well done. Please write the answer 'Joey got \$245 for his birthday.' on your paper.



**NOTES ON
MAINTAINING
COHERENCE WITHIN
THE LESSON:**

This problem could be solved in multiple ways. Resist the temptation to use or show expanded form to solve this problem. Students may come up with it; however, our intent here is to stay focused on counting as an addition strategy as modeled in the vignette.



Concept Development (28 minutes)

Count Up to 10 by Ones, to 100 by Tens, and to 1,000 by Hundreds on the Place Value Chart (3 minutes)

Materials: (T) 3 shoebox lids joined to create a place value “box” labeled *hundreds*, *tens*, and *ones*; Hide Zero cards (Template 1), 10 straws, bundles of tens and hundreds from G2–M3–Lesson 1, rubber bands (S) About 150 straws, 16 rubber bands, hundreds place value chart (Template 2) per pair, personal white board per student



T: (Show 1 straw.) This is 1 one. (Put the Hide Zero card in front of the box.)

T: Let's count more ones into my place value box. Count the ones with me.

S: 1 one, 2 ones, 3 ones, 4 ones, 5 ones, 6 ones, 7 ones, 8 ones, 9 ones...

T: Wait! If I put another one I can make a larger unit! What will that new, larger unit be?

S: 1 ten.

T: Let's make 1 ten. (Complete the ten, bundle it and place it into the second box.) Now how many ones are in my ones box?

Count 10 ones	1	2	3	4	5	6	7	8	9	10
Count 10 tens	10	20	30	40	50	60	70	80	90	100
Count 10 hundreds	100	200	300	400	500	600	700	800	900	1000

S: 0 ones.

T: How many tens are in my tens box?

S: 1 ten.

T: (Show the corresponding Hide Zero card and point as you say...) 1 ten, 0 ones.

1 0

T: Let's count more tens into my place value box. Count the tens with me.

S: 1 ten, 2 tens, 3 tens, 4 tens, 5 tens, 6 tens, 7 tens, 8 tens, 9 tens...

T: Wait! If I put another unit of ten I can make a larger unit! What will that new larger unit be?

S: 1 hundred!

T: Let's make 1 hundred. (Complete the hundred, bundle it, and place it into the third box.) Now how many tens are there in my tens box?

S: 0 tens.

T: How many ones are in my ones box?

S: 0 ones!

T: (Show them the corresponding Hide Zero card and point.) 1 hundred, 0 tens, 0 ones.

1 0 0

(Repeat the process with hundreds.)



NOTES ON MULTIPLE MEANS OF ACTION AND EXPRESSION:

At first, it may be wise to post a chart such as that pictured above. Read each row from left to right so that students see the number form as you say the unit form of the count.

Students Count by Ones from 0 to 124 While Bundling Units on the Place Value Chart (8 minutes)

- T: Here is your **place value chart** and some straws. With your partner, I want you to count at least from 0 to 124 by ones. Whisper count while using your place value chart. Bundle a larger unit when you can.
- T: What number will you show and say after 10?
- S: 20.
- T: No, that is what we did together. You are counting by units of one. What number will you show and say after 10?
- S: 11!
- T: Good. Change who places the straws each time you make ten. You have 5 minutes. (Circulate and encourage them to count out loud as they bundle tens and place them in the correct place. Work until each pair has at least counted to 124. Encourage them at times to count in unit form, at times with numerals.) Early finishers go beyond 124.
- T: Now, count up to 124 on your place value chart using all three units: ones, tens, and hundreds.
- T: (Model.) 1 hundred, 1 hundred ten, 1 hundred twenty...
- T: That was a lot faster!
- T: Who remembers the word that means fast and accurate?
- S: Efficient!
- T: That's right!



NOTES ON WHY 124?

Even older students often count incorrectly 119, 120, 200. Also, Grade 1 standards count up to 120. Be aware that the count to 124 will be used in the Debrief. Later in the lesson, students count from 476 to 600 and discover in the Debrief that the missing part is 124. They then compare the way they counted from 0 to 124 to the way they counted from 476 to 600.



Counting Up with the Place Value Chart (7 minutes)

T: Now, let's count today from 476 to 600 using my place value box. (Model 476 using the shoe boxes and bundles as illustrated.)

T: Let's analyze 476. How many hundreds do you see?

S: 4!

T: Tell me the unit.

S: 4 hundreds.

T: How many tens do you see?

S: 7 tens.

T: How many ones do you see?

S: 6 ones.

T: We want to count from 476 to 600. Let's not count by ones. Instead let's wisely use ones, tens, and hundreds.

T: Talk to your partner about what benchmark numbers to get to, and what units to use to get there.

**MP.6**

S: Use ones to get to 480. Then use tens to get to 500. Then use a hundred to get to 600. → Count 1 hundred to get to 576. Then count ones to get to 580. Then count tens to reach 600. → Count tens to get to 496. Count ones to get to 500. Then count 1 hundred to get to 600.

(Circulate and support students in targeting each benchmark number and each unit.)

T: Let's try it. What unit will I count first?

S: Ones.

T: Up to what benchmark number?

S: 80.

T: Really? This number is much larger than 80!

S: 480.

T: Count for me (Place ones).

S: 477, 478, 479, 480.

T: What do I do now?

S: Bundle a ten.

T: Now, what unit will I count by?

S: Tens!

T: Up to what benchmark number?

S: 500!

T: Count for me (Place tens as students count).



NOTES ON MULTIPLE MEANS OF ENGAGEMENT:

For this activity and while completing the Problem Set, invite a small group of struggling students to work with you. The smaller group setting and the use of large manipulatives (i.e., teacher place value boxes) supports the students as they count up from one number to the next and as they move back and forth between unit form and numerals. Encourage them to use the stems, "I can change 10 ones for 1 ten," and "I can change 10 tens for 1 hundred."

MP.6

- S: 490, 500.
 T: What do I do now?
 S: Bundle 1 hundred made from your 10 tens.
 T: Now what unit will I count by?
 S: Hundreds.
 T: Count for me (Place 1 hundred.)
 S: 600!
 T: Discuss with your partner how we counted from 476 to 600 on the place value chart. Be sure to talk about the units you used, your benchmark numbers, and your bundling.
 S: (Share with partners.)
 T: Can you write the numbers that tell the way you counted? Let's start with 477.
 S: 477, 478, 479, 480, 490, 500, 600.
 T: Let's underline where we bundled a larger number and where we got to a benchmark number.

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 used for Application Problems.

Complete Problem 1 on the Problem Set as a guided practice with the class before allowing students to continue with Problems 2–4.

- Problem 1 476 to 600 (guided practice)
- Problem 2 47 to 200
- Problem 3 188 to 510
- Problem 4 389 to 801

NYS COMMON CORE MATHEMATICS CURRICULUM Lesson 4 Problem Set 2•3

Name Yael Date _____

Directions: Work with your partner to imagine your place value chart. Write down how you might count from the first number up to the second number. Underline the numbers where you bundled to make a larger unit.

1. 476 to 600
476 → 477 478 479 480 490 500 600

2. 47 to 200
47 → 48 49 50 60 70 80 90 100 200

3. 188 to 510
188 → 189 190 200 300 400 500 510

4. 389 to 801
389 → 390 400 500 600 700 800 801

COMMON CORE Lesson 4: Count up to 1,000 on the place value chart.
 Date: 5/12/14 engage^{ny} 3.C.13

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Student Debrief (10 minutes)

Lesson Objective: Count up to 1,000 on the place value chart.

Materials: (T) 3 shoebox lids joined to create a place value “box” labeled *hundreds*, *tens*, and *ones* (S)
Completed Problem Set

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 work to the carpet. Talk to your elbow partner. Where did you bundle a new unit in each count?
- S: (Share.)
- T: Let’s prove your thoughts by modeling each count quickly on the **place value chart**. Let’s start with Problem 2, 47 to 200.
- T: Count while I place the straws. Tell me what to bundle when necessary.
- S: 48, 49, 50. Bundle a ten! 60, 70, 80, 90, 100. Bundle a hundred. 200!
- T: Problem 3, 188 to 510. Count while I place the straws. Tell me what to bundle when necessary.
- S: 189, 190. Bundle a ten! 200. Bundle a hundred. 300, 400, 500, 510.
- T: Problem 4, 389 to 801. (Model as students count.)
- S: 390. Bundle a ten! 400. Bundle a hundred! 500, 600, 700, 800, 801.
- T: Good. Let’s take a look at something interesting.
- T: (Place 476 to the side of your place value box.) Let’s count from 476 to 600 again but this time let’s only show what we are counting in our place value box.
- T: What unit did we start our count with?
- S: Ones.
- T: Count for me. (Place straws in the appropriate box as students count.)
- S: 477, 478, 479, 480.
- T: Keep going.
- S: 490, 500.
- T: Keep going.
- S: 600.
- T: What is the value of what I counted on from 476 to get to 600?
- S: 124! That is the same number we counted before!
- T: Yes! We did count from 0 to 124 first. Next we counted from 476 to 600.
- T: Talk to your partner. How is counting from 0 to 124 different from this new 124 we found when we counted from 476 to 600?



- S: We got to a much bigger number! → Before we started at 0. This time we started at 476. → We counted the hundred first before, but this time we counted the ones first. → Going to 124, our first benchmark number was 100. This time it was 480. → And we didn't have to bundle counting to 124 but we did counting to 600. → It's because the first time we counted to 124, the ones came last. This time they came first. → It's like this was the part that was missing to get from 476 to 600. → Yes, this is the missing part. We filled in the 24 first to get to 500 and then added the hundred.
- T: I would like to hear some thoughts from the people I spoke to while you were partner sharing.
- T: Jessica and Orlando, would you share?
- S: We noticed that from 0 to 124 and from 476 to 600, there are 124 between both of them when you count up.
- T: Who can rephrase that in their own words?
- S: It takes as many straws to get from 0 to 124 as it takes to get from 476 to 600.
- T: Yes. Can someone use the words missing part to restate the same idea?
- S: It is the same missing part, 124, to count from 0 to 124 and from 476 to 600.
- T: Turn and talk to your partner about what your friends noticed.
- T: Do you think there are other pairs of numbers like 476 and 600 where the count is 124 between them?
- S: Yes!!
- T: Think about it during the week. On Friday, if anyone wants to share another pair of numbers, we would love to hear them. Talk to your family members about it, too.

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.

Add.

Correct ____

A 1	$5 + 5 + 5 =$		23	$1 + 9 + 5 =$	
2	$9 + 1 + 3 =$		24	$3 + 5 + 5 =$	
3	$2 + 8 + 4 =$		25	$8 + 4 + 6 =$	
4	$3 + 7 + 2 =$		26	$9 + 7 + 1 =$	
5	$4 + 6 + 9 =$		27	$2 + 6 + 8 =$	
6	$9 + 0 + 6 =$		28	$0 + 8 + 7 =$	
7	$3 + 0 + 8 =$		29	$8 + 4 + 3 =$	
8	$2 + 7 + 7 =$		30	$9 + 2 + 2 =$	
9	$6 + 6 + 6 =$		31	$4 + 4 + 4 =$	
10	$7 + 8 + 4 =$		32	$6 + 8 + 5 =$	
11	$3 + 5 + 9 =$		33	$4 + 5 + 7 =$	
12	$9 + 1 + 1 =$		34	$7 + 3 + 1 =$	
13	$5 + 5 + 6 =$		35	$6 + 4 + 3 =$	
14	$8 + 2 + 8 =$		36	$1 + 9 + 9 =$	
15	$3 + 4 + 7 =$		37	$5 + 8 + 5 =$	
16	$5 + 0 + 8 =$		38	$3 + 3 + 5 =$	
17	$6 + 2 + 6 =$		39	$7 + 0 + 6 =$	
18	$6 + 3 + 9 =$		40	$4 + 5 + 9 =$	
19	$2 + 4 + 7 =$		41	$4 + 8 + 4 =$	
20	$3 + 8 + 6 =$		42	$2 + 6 + 7 =$	
21	$5 + 7 + 6 =$		43	$3 + 5 + 6 =$	
22	$3 + 6 + 9 =$		44	$2 + 6 + 9 =$	

Add.

Improvement _____

Correct _____

B1	$5 + 5 + 4 =$		23	$8 + 2 + 5 =$	
2	$7 + 3 + 5 =$		24	$9 + 1 + 6 =$	
3	$1 + 9 + 8 =$		25	$3 + 6 + 4 =$	
4	$4 + 6 + 2 =$		26	$3 + 2 + 7 =$	
5	$2 + 8 + 9 =$		27	$4 + 8 + 6 =$	
6	$7 + 0 + 6 =$		28	$9 + 9 + 0 =$	
7	$4 + 0 + 9 =$		29	$0 + 7 + 5 =$	
8	$2 + 9 + 9 =$		30	$8 + 4 + 4 =$	
9	$4 + 5 + 4 =$		31	$3 + 8 + 8 =$	
10	$8 + 7 + 5 =$		32	$5 + 7 + 6 =$	
11	$2 + 7 + 9 =$		33	$3 + 4 + 9 =$	
12	$9 + 1 + 2 =$		34	$3 + 7 + 3 =$	
13	$6 + 4 + 5 =$		35	$6 + 4 + 5 =$	
14	$8 + 2 + 3 =$		36	$7 + 9 + 1 =$	
15	$1 + 4 + 9 =$		37	$2 + 6 + 8 =$	
16	$3 + 8 + 0 =$		38	$5 + 3 + 7 =$	
17	$7 + 4 + 7 =$		39	$6 + 0 + 9 =$	
18	$5 + 3 + 8 =$		40	$2 + 5 + 7 =$	
19	$7 + 3 + 4 =$		41	$3 + 6 + 3 =$	
20	$5 + 8 + 6 =$		42	$4 + 2 + 9 =$	
21	$7 + 6 + 4 =$		43	$6 + 3 + 5 =$	
22	$5 + 8 + 4 =$		44	$7 + 2 + 9 =$	

Name _____

Date _____

Work with your partner. Imagine your place value chart. Write down how you might count from the first number up to the second number. Underline the numbers where you bundled to make a larger unit.

1. 476 to 600

2. 47 to 200

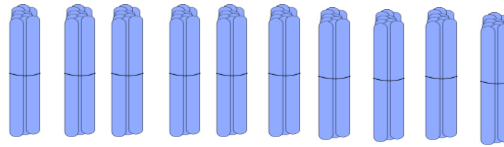
3. 188 to 510

4. 389 to 801

Name _____

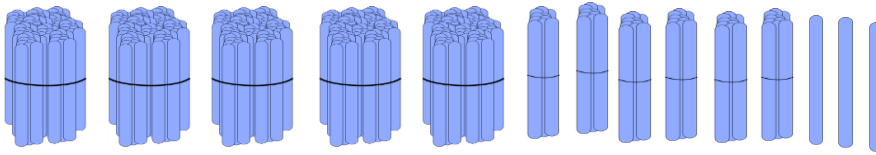
Date _____

1. These are bundles of 10. If you put them together, which unit will you make?



- a. one b. ten c. hundred d. thousand

2. These are bundles of hundreds, tens, and ones. How many sticks are there in all?

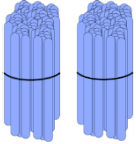
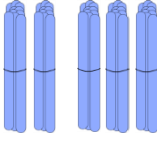
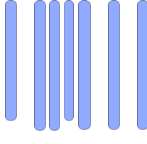


3. Imagine the place value chart. Write the numbers that show a way to count from 187 to 222.

Name _____

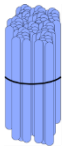
Date _____

1. Marcos used the place value chart to count bundles. How many sticks does Marcos have in all?

Hundreds	Tens	Ones
		

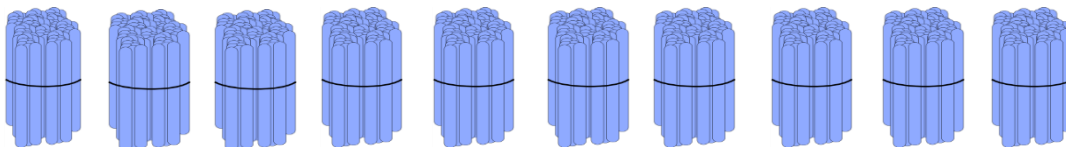
Marcos has _____ sticks.

2. Write the number:



Hundreds	Tens	Ones

3. These are hundreds. If you put them together, which unit will you make?



- a. one b. hundred c. thousand d. ten

4. Imagine 585 on the place value chart. How many ones, tens, and hundreds are in each place?

_____	_____	_____
ones	tens	hundreds

5. Fill in the blanks to make a true number sentence.

12 ones = _____ ten _____ ones

6. Show a way to count from 170 to 410 using tens and hundreds. Circle at least 1 benchmark number.

7. Mrs. Sullivan's students are collecting cans for recycling. Frederick collected 20 cans, Donielle collected 9 cans, and Mina and Charlie each collected 100 cans. How many cans did the students collect in all?

1	0	0	1	0	1
2	0	0	2	0	2
3	0	0	3	0	3
4	0	0	4	0	4
5	0	0	5	0	5
6	0	0	6	0	6

hide zero cards

7	0	0	7	0	7
8	0	0	8	0	8
9	0	0	9	0	9

hide zero cards

ones	
tens	
hundreds	

hundreds place value chart