Standards for Both Lessons: 4.NBT.A.1: Recognize that in a multi-digit whole number less than 1,000,000, a digit in one place represents ten times what it represents in the place to its right. Rigor – C-U

4.NBT.A.2: Read and write multi-digit whole numbers less than or equal to 1,000,000 using base ten numerals, number names and expanded form. Rigor: CU, PS&F.

NYS COMMON CORE MATHEMATICS CURRICULUM Lesson 3 4•1

Lesson 3

Objective: Name numbers within 1 million by building understanding of the place value chart and placement of commas for naming base thousand units.

Suggested Lesson Structure

■ Fluency Practice	(15 minutes)
■ Application Problem	(6 minutes)
■ Concept Development	(32 minutes)
■ Student Debrief	(7 minutes)
Total Time	**(60 minutes)**
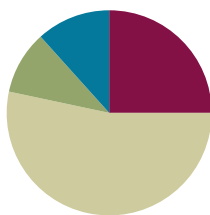
Fluency Practice (15 minutes)

- Sprint: Multiply by 3 **3.OA.7**   (10 minutes)
- Place Value and Value **4.NBT.2**   (3 minutes)
- Base Ten Units **4.NBT.1**   (2 minutes)

Sprint: Multiply by 3 ~~(10 minutes)~~   Omit Sprint — Students have shown fluency with multiplying by 3

Materials: (S) Multiply by 3 Sprint

Note: This fluency activity reviews a foundational Grade 3 standard that helps students learn standard **4.NBT.5**.

Place Value and Value (3 minutes)   → Directly Supports 4.NBT.A.2

Materials: (T) Unlabeled millions place value chart (Lesson 2 Template)

> **A NOTE ON STANDARDS ALIGNMENT:**
>
> In this lesson, students extend past 1 million (4.NBT standards limit to whole numbers less than or equal to 1 million) to establish a pattern of ones, tens, and hundreds within each base ten unit (thousands, millions, billions, trillions).
>
> Calculations in following lessons are limited to less than or equal to 1 million. If students are not ready for this step, omit establishing the pattern and internalize the units of the thousands period.

Note: Reviewing and practicing place value skills in isolation prepares students for success in multiplying different place value units during the lesson.

T: (Project the number 1,468,357 on a place value chart. Underline the 5.) Say the digit.

S: 5.

T: Say the place value of the 5.

S: Tens.

Lesson 3:   Name numbers within 1 million by building understanding of the place value chart and placement of commas for naming base thousand units.

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T: Say the value of 5 tens.

S: 50.

Repeat the process, underlining 8, 4, 1, and 6.

[handwritten: Omit this fluency. Students demonstrated fluency during Lesson 1 & 2.]

Base Ten Units (2 minutes)

Note: This fluency activity bolsters students' place value proficiency while reviewing multiplication concepts learned in Lessons 1 and 2.

T: (Project 2 tens =_____.) Say the number in standard form.

S: 2 tens = 20.

Repeat for the following possible sequence: 3 tens, 9 tens, 10 tens, 11 tens, 12 tens, 19 tens, 20 tens, 30 tens, 40 tens, 80 tens, 84 tens, and 65 tens.

Application Problem (6 minutes)

The school library has 10,600 books.
The town library has 10 times as many books.
How many books does the town library have?

Note: This Application Problem builds on the concept from the previous lesson of determining 10 times as much as a number.

[handwritten chart and notes:]

hundred thousands	ten thousands	thousands	hundreds	tens	ones
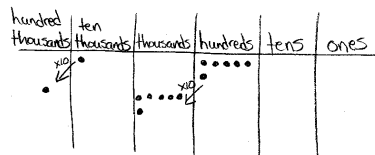
[handwritten: The town library has 106,000 books.]
[handwritten: (1 ten thousand 6 hundreds) × 10 = 1 hundred thousand 6 thousands = 106,000]

[handwritten: Stick to time: 3 minutes individual work, 2 minutes - partner, 1 minute - Class discussion]

Concept Development (32 minutes)

[handwritten: — Complete all of the discussion 22 min, see Problem Set notes.]

Materials: (S) Personal white board, unlabeled millions place value chart (Lesson 2 Template)

Note: Students will go beyond the **4.NBT** standard of using numbers less than or equal to 1 million to establish a pattern within the base ten units.

[handwritten: • focus on building understanding]

Introduction: Patterns of the base ten system.

T: In the last lesson, we extended the place value chart to 1 million. Take a minute to label the place value headings on your place value chart. (Circulate and check all headings.)

T: Excellent. Now, talk with your partner about similarities and differences you see in those heading names.

S: I notice some words repeat, like *ten, hundred,* and *thousand,* but *ones* appears once. → I notice the thousand unit repeats 3 times—thousands, ten thousands, hundred thousands.

[handwritten: Listen. Address misconceptions]

> **NOTES ON MULTIPLE MEANS OF ACTION AND EXPRESSION:**
>
> Scaffold partner talk with sentence frames such as:
>
> - "I notice _____."
> - "The place value headings are alike because _____."
> - "The place value headings are not alike because _____."
> - "The pattern I notice is _____."
> - "I notice the units _____."

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Lesson 3:   Name numbers within 1 million by building understanding of the place value chart and placement of commas for naming base thousand units.

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Discussion here is o.k., but beyond millions is above grade level. Be mindful of time spent here.

T: That's right! Beginning with thousands, we start naming new place value units by how many one thousands, ten thousands, and hundred thousands we have. What do you think the next unit might be called after 1 million?

S: **Ten millions**.

T: (Extend chart to the ten millions.) And the next?

S: **Hundred millions**.

T: (Extend chart again.) That's right! Just like with thousands, we name new units here in terms of how many one millions, ten millions, and hundred millions we have. 10 hundred millions gets renamed as 1 billion. Talk with your partner about what the next two place value units should be.

S: Ten billions and hundred billions. → It works just like it does for thousands and millions.

Problem 1: Placing commas in and naming numbers. *(Key: Commas help us name numbers and understand value)*

T: You've noticed a pattern: ones, tens, and hundreds; one thousands, ten thousands, and hundred thousands; one millions, ten millions, and hundred millions; and so on. We use commas to indicate this grouping of units, taken 3 at a time. For example, ten billion would be written: 10,000,000,000.

T: (Write 608430325.) Record this number, and place the commas to show our groupings of units.

S: (Record the number and place the commas.)

T: (Show 430,325 on a place value chart.) How many thousands are in this number?

S: 430.

T: 430 what?

S: 430 thousands.

T: Correct. We read this number as "four hundred thirty thousand, three hundred twenty-five."

T: (Extend chart, and show 608,430,325.) How many millions are there in this number?

S: 608 millions.

T: Using what you know about our pattern in naming units, talk with your partner about how to name this number.

S: Six hundred eight million, four hundred thirty thousand, three hundred twenty-five.

> **NOTES ON MULTIPLE MEANS OF ACTION AND EXPRESSION:**
>
> Scaffold reading numbers into the hundred thousands with questioning such as:
>
> T: What's the value of the 3?
>
> S: 30 thousand.
>
> T: How many thousands altogether?
>
> S: 36 thousands.
>
> T: What's the value of the 8?
>
> S: 80.
>
> T: Add the remaining ones.
>
> S: 89.
>
> T: Read the whole number.
>
> S: Thirty-six thousand, eighty-nine.
>
> Continue with similar numbers until students reach fluency. Alternate the student recording numbers, modeling, and reading.

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Lesson 3: Name numbers within 1 million by building understanding of the place value chart and placement of commas for naming base thousand units.

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Key: Bundles of ten represent one of the place value to the left. (4.NBT.A.1)

Problem 2: Add to make 10 of a unit and bundling up to 1 million.

T: What would happen if we combined 2 groups of 5 hundreds? With your partner, draw place value disks to solve. Use the largest unit possible to express your answer.

S: 2 groups of 5 hundreds equals 10 hundreds.
→ It would make 10 hundreds, which can be bundled to make 1 thousand.

MP.2

T: Now, solve for 5 thousands plus 5 thousands. Bundle in order to express your answer using the largest unit possible.

S: 5 thousands plus 5 thousands equals 10 thousands. We can bundle 10 thousands to make 1 ten thousand.

T: Solve for 4 ten thousands plus 6 ten thousands. Express your answer using the largest unit possible.

S: 4 ten thousands plus 6 ten thousands equals 10 ten thousands. We can bundle 10 ten thousands to make 1 hundred thousand.

Continue renaming problems, showing regrouping as necessary.

- 3 hundred thousands + 7 hundred thousands
- 23 thousands + 4 ten thousands
- 43 ten thousands + 11 thousands

Problem 3: 10 times as many with multiple units. *(4.NBT.A.1)*

T: On your place value chart, model 5 hundreds and 3 tens with place value disks. What is 10 times 5 hundreds 3 tens?

S: (Show charts.) 5 thousands 3 hundreds.

T: Model 10 times 5 hundreds 3 tens with digits on the place value chart. Record your answer in standard form.

S: (Show 10 times 5 hundreds is 5 thousands and 10 times 3 tens is 3 hundreds as digits.) 5,300.

T: Check your partner's work, and remind him of the comma's role in this number.

T: (Write 10 × 1 ten thousand 5 thousands 3 hundreds 9 ones = _____.) With your partner, solve this problem, and write your answer in standard form.

S: 10 × 15,309 = 153,090.

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Lesson 3:   Name numbers within 1 million by building understanding of the place value chart and placement of commas for naming base thousand units.

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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.

Student Debrief (7 minutes)

Lesson Objective: Name numbers within 1 million by building understanding of the place value chart and placement of commas for naming base thousand units.

Invite students to review their solutions for the Problem Set and the totality of the lesson experience. 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 Student Debrief. Guide students in a conversation to debrief the Problem Set.

Any combination of the questions below may be used to lead the discussion.

- In Problem 1, how did you know where to place commas within a number?
- Read aloud the numbers in Problem 1 (d) and (e) with your partner. What role do the commas have as you read the numbers?
- How does place value understanding and the role of commas help you to read the value in the millions period that is represented by the number of millions, **ten millions**, and **hundred millions**?
- What did you discover as you solved Problem 3? How did 3(a) help you to solve 3(b)?
- How did you use the place value chart to help you compare unlike units in Problem 5?
- When might it be useful to omit commas? (Please refer to the UDL box for commas to guide your discussion.)

Ask if students struggle on 1-2

Watch S's work
Plan = who will share. (select & sequence)

NOTES ON COMMAS:

Commas are optional for 4-digit numbers, as omitting them supports visualization of the total amount of each unit. For example, in the number *3247*, 32 hundreds or 324 tens is easier to visualize when 3247 is written without a comma. In Grade 3, students understand 324 as 324 ones, 32 tens 4 ones, or 3 hundreds 2 tens 4 ones. This flexible thinking allows for seeing simplifying strategies (e.g., to solve 3247 – 623, rather than decompose 3 thousands, students might subtract 6 hundreds from 32 hundreds: 32 hundreds – 6 hundreds + 47 ones – 23 ones is 26 hundreds and 24 ones or 2624).

relates to debrief.

Lesson 3: Name numbers within 1 million by building understanding of the place value chart and placement of commas for naming base thousand units.

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Exit Ticket (3 minutes)

After the Student Debrief, instruct students to complete the Exit Ticket. A review of their work will help with assessing students' understanding of the concepts that were presented in today's lesson and planning more effectively for future lessons. The questions may be read aloud to the students.

Lesson 3: Name numbers within 1 million by building understanding of the place value chart and placement of commas for naming base thousand units.

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A

Multiply by 3

Omit Today

Number Correct: _____

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

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Lesson 3: Name numbers within 1 million by building understanding of the place value chart and placement of commas for naming base thousand units.

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B

Number Correct: _____

Improvement: _____

Multiply by 3

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

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Lesson 3: Name numbers within 1 million by building understanding of the place value chart and placement of commas for naming base thousand units.

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Mustdo - M.D. , Cando c.d.

Name _____ Date _____

1. Rewrite the following numbers including commas where appropriate:

MD

a. 1234 ___1,234___   b. 12345 ___12,345___   c. 123456 ___123,456___

d. 1234567 ___1,234,567___   e. 12,345,678,901 ___12,345,678,901___

2. Solve each expression. Record your answer in standard form.
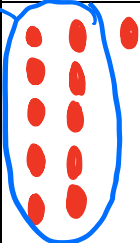
MD

Expression	Standard Form
5 tens + 5 tens	10 tens 100
3 hundreds + 7 hundreds	10 hundreds 1000
400 thousands + 600 thousands	1000 thousands 1,000,000
8 thousands + 4 thousands	12 thousands 12,000

3. Represent each addend with place value disks in the place value chart. Show the composition of larger units from 10 smaller units. Write the sum in standard form.

MD

a. 4 thousands + 11 hundreds = _____5,100_____

millions	hundred thousands	ten thousands	thousands	hundreds	tens	ones
			••• / •••	••• / •••		
			5	1	0	0

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Lesson 3: Name numbers within 1 million by building understanding of the place value chart and placement of commas for naming base thousand units.

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b. 24 ten thousands + 11 thousands = _____ 251,000 _____
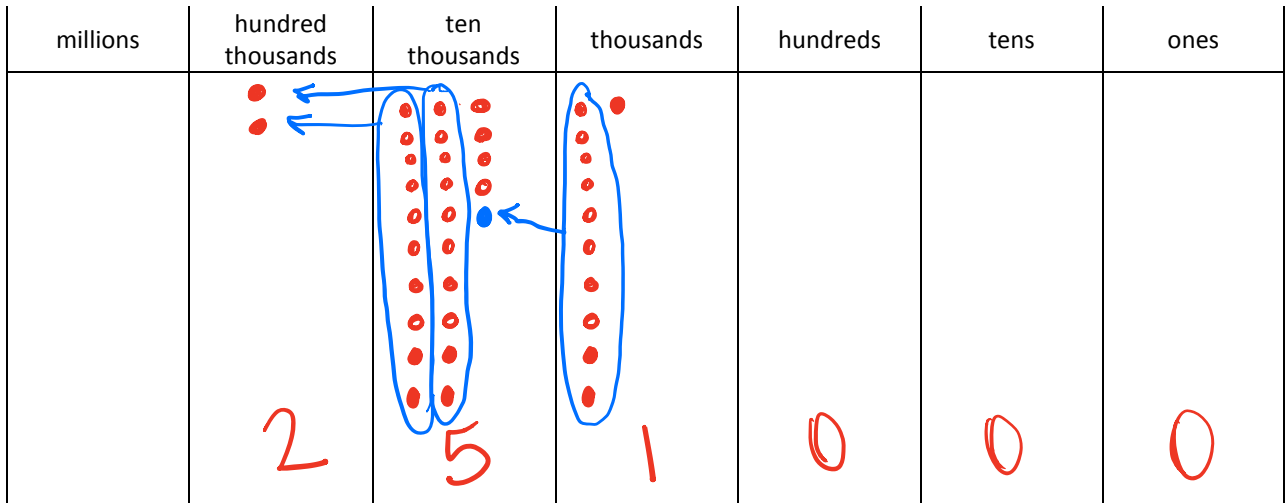
millions	hundred thousands	ten thousands	thousands	hundreds	tens	ones
	2	5	1	0	0	0

4. Use digits or disks on the place value chart to represent the following equations. Write the product in standard form.

a. 10 × 3 thousands = _____

How many thousands are in the answer? _____

millions	hundred thousands	ten thousands	thousands	hundreds	tens	ones
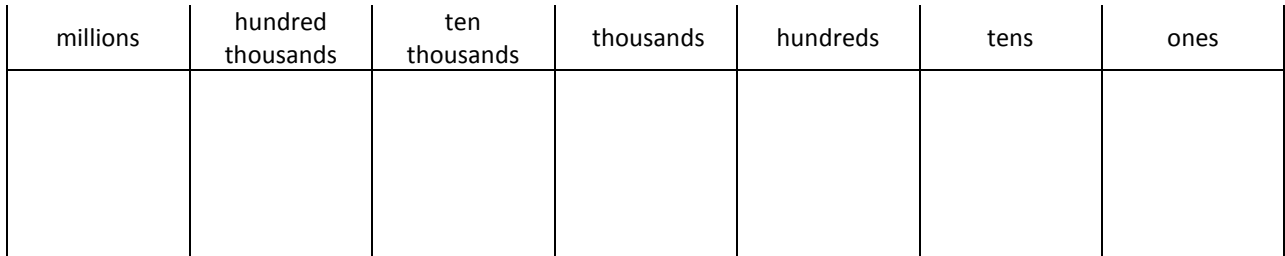
b. (3 ten thousands 2 thousands) × 10 = _____

How many thousands are in the answer? _____

millions	hundred thousands	ten thousands	thousands	hundreds	tens	ones

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Lesson 3: Name numbers within 1 million by building understanding of the place value chart and placement of commas for naming base thousand units.

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c.   (32 thousands 1 hundred 4 ones) × 10 = _____

How many thousands are in your answer? _____

millions	hundred thousands	ten thousands	thousands	hundreds	tens	ones

5. Lee and Gary visited South Korea. They exchanged their dollars for South Korean bills. Lee received 15 ten thousand South Korean bills. Gary received 150 thousand bills. Use disks or numbers on a place value chart to compare Lee's and Gary's money.

Can Do

Lee

hundred thousands | ten thousands | thousands | hundreds | tens | ones

1 5 0 , 0 0 0

Gary

Millions | hundred thousands | ten thousands | thousands | hundreds | tens | ones

1 5 0 , 0 0 0
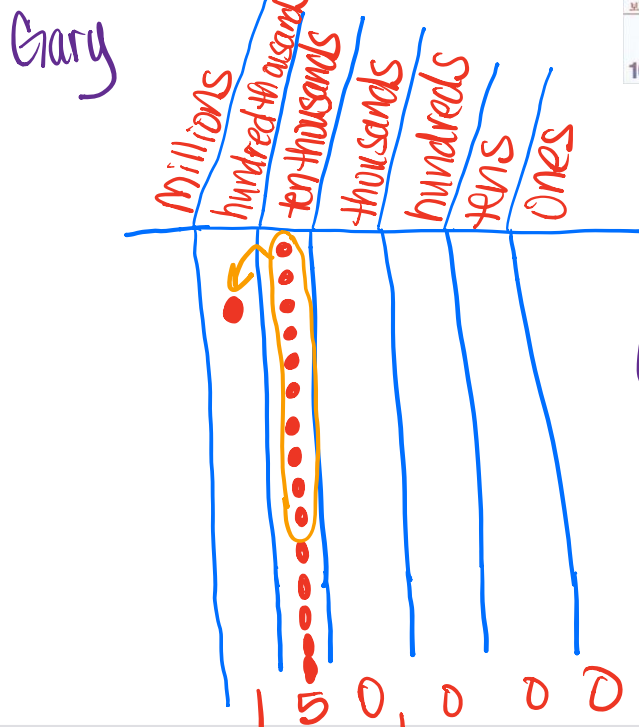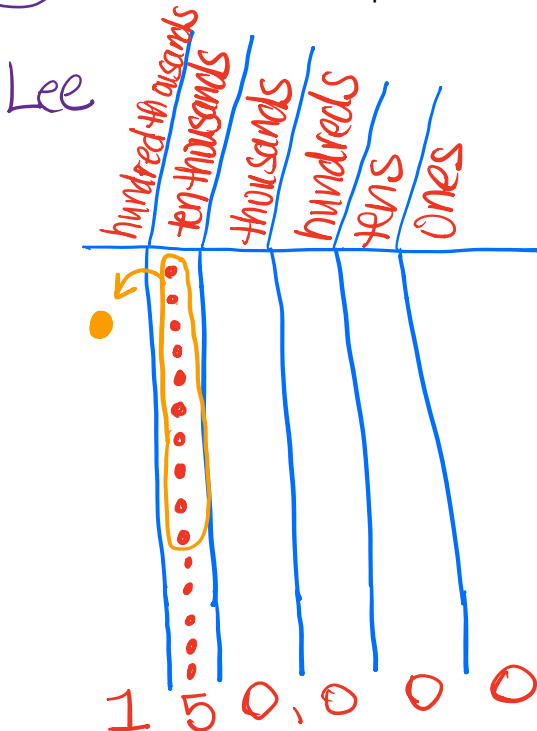
150 thousands is 15 ten thousands

Gary and Lee have the same amount of money

Name _____   Date _____

1. In the spaces provided, write the following units in standard form. Be sure to place commas where appropriate.

   a. 9 thousands 3 hundreds 4 ones _____ **9,304** _____

   b. 6 ten thousands 2 thousands 7 hundreds 8 tens 9 ones ____ **62,789** ____

   c. 1 hundred thousand 8 thousands 9 hundreds 5 tens 3 ones ____ **108,953** ____

2. Use digits or disks on the place value chart to write 26 thousands 13 hundreds.

millions	hundred thousands	ten thousands	thousands	hundreds	tens	ones
		26	**6+1**	**13**		
		2 ← 2	**7**	**3** ← 3	**0**	**0**

Note the type of mistakes here. Misunderstanding can be addressed during concept development of lesson 4.

How many thousands are in the number you have written? ____ **27** ____

also O.K. with 7 if chart is correct.

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Lesson 3: Name numbers within 1 million by building understanding of the place value chart and placement of commas for naming base thousand units.

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no required homework
problems 1-3 and 5 mirror classwork.

Name _____   Date _____

1. Rewrite the following numbers including commas where appropriate:

    a. 4321   _____   b. 54321   _____

    c. 224466 _____   d. 2224466   _____

    e. 10010011001   _____

2. Solve each expression. Record your answer in standard form.

Expression	Standard Form
4 tens + 6 tens	
8 hundreds + 2 hundreds	
5 thousands + 7 thousands	

3. Represent each addend with place value disks in the place value chart. Show the composition of larger units from 10 smaller units. Write the sum in standard form.

    a.   2 thousands + 12 hundreds = _____

millions	hundred thousands	ten thousands	thousands	hundreds	tens	ones

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b. 14 ten thousands + 12 thousands = _____

millions	hundred thousands	ten thousands	thousands	hundreds	tens	ones

4. Use digits or disks on the place value chart to represent the following equations. Write the product in standard form.

a. 10 × 5 thousands = _____

How many thousands are in the answer? _____

millions	hundred thousands	ten thousands	thousands	hundreds	tens	ones

b. (4 ten thousands 4 thousands) × 10 = _____

How many thousands are in the answer? _____

millions	hundred thousands	ten thousands	thousands	hundreds	tens	ones

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c.   (27 thousands 3 hundreds 5 ones) × 10 = _____

How many thousands are in your answer? _____

millions	hundred thousands	ten thousands	thousands	hundreds	tens	ones

5.   A large grocery store received an order of 2 thousand apples. A neighboring school received an order of 20 boxes of apples with 100 apples in each. Use disks or disks on a place value chart to compare the number of apples received by the school and the number of apples received by the grocery store.

Lesson 3:   Name numbers within 1 million by building understanding of the place value chart and placement of commas for naming base thousand units.

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[Handwritten annotations at top:]
Standards for Both Lessons:
4.NBT.A.1: Recognize that in a multi-digit whole number less than 1,000,000, a digit in one place represents ten times what it represents in the place to its right. Rigor – C-U
*4.NBT.A.2: Read and write multi-digit whole numbers less than or equal to 1,000,000 using base ten numerals, number names and expanded form. Rigor: CU, PS&F.*

Lesson 4

Objective: Read and write multi-digit numbers using base ten numerals, number names, and expanded form.

Suggested Lesson Structure

■ Fluency Practice	(13 minutes)	
■ Application Problem	(6 minutes)	
■ Concept Development	(26 minutes)	
■ Student Debrief	(15 minutes)	
Total Time	**(60 minutes)**	
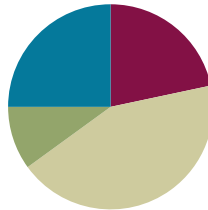
Fluency Practice (13 minutes)

- Skip-Counting **3.OA.4–7**   (3 minutes)
- Place Value **4.NBT.2**   (2 minutes)
- Numbers Expressed in Different Base Units **4.NBT.1**   (8 minutes)

Skip-Counting (3 minutes) *→ Use with punch counting to allow students some movement.*

Note: Practicing skip-counting on the number line builds a foundation for accessing higher-order concepts throughout the year.

Direct students to skip-count by fours forward and backward to 48 focusing on transitions crossing the ten.

Place Value (2 minutes) *SKIP* *→ lesson 3 supported this understanding today.*

Materials: (S) Personal white board, unlabeled millions place value chart (Lesson 2 Template) *→ provide the place value template.*

Note: Reviewing and practicing place value skills in isolation prepares students for success in writing multi-digit numbers in expanded form.

- T: Show 5 hundred thousands as place value disks, and write the number below it on the place value chart.
- S: (Draw 5 hundred thousands disks and write 500,000 below the chart.)
- T: Say the number in unit form.
- S: 5 hundred thousands.

> **NOTES ON MULTIPLE MEANS OF REPRESENTATION:**
>
> Place value fluency supports language acquisition as it couples meaningful visuals with valuable practice speaking the standard and unit form of numbers to 1 million.

T: Say it in standard form.

S: 500,000.

Continue for the following possible sequence: 5 hundred thousands 3 ten thousands, 5 hundred thousands 3 hundreds, 5 ten thousands 3 hundreds, 1 hundred thousand 3 hundreds 5 tens, and 4 hundred thousands 2 ten thousands 5 tens 3 ones.

Numbers Expressed in Different Base Units (8 minutes)

→ Include: essential for today's learning.

Materials: (S) Personal white board

Note: This fluency activity prepares students for success in writing multi-digit numbers in expanded form.

Base Hundred Units

T: (Project 3 hundreds = _____.) Say the number in standard form.

S: 300.

Continue with a suggested sequence of 9 hundreds, 10 hundreds, 19 hundreds, 21 hundreds, 33 hundreds, 30 hundreds, 100 hundreds, 200 hundreds, 500 hundreds, 530 hundreds, 537 hundreds, and 864 hundreds.

Base Thousand Units

T: (Project 5 thousands = _____.) Say the number in standard form.

S: 5,000.

Continue with a suggested sequence of 9 thousands, 10 thousands, 20 thousands, 100 thousands, 220 thousands, and 347 thousands.

Base Ten Thousand Units

T: (Project 7 ten thousands = _____.) Say the number in standard form.

S: 70,000.

Continue with a suggested sequence of 9 ten thousands, 10 ten thousands, 12 ten thousands, 19 ten thousands, 20 ten thousands, 30 ten thousands, 80 ten thousands, 81 ten thousands, 87 ten thousands, and 99 ten thousands.

Base Hundred Thousand Units

T: (Project 3 hundred thousands = _____.) Say the number in standard form.

S: 300,000.

Continue with a suggested sequence of 2 hundred thousands, 4 hundred thousands, 5 hundred thousands, 7 hundred thousands, 8 hundred thousands, and 10 hundred thousands.

Lesson 4: Read and write multi-digit numbers using base ten numerals, number names, and expanded form.

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Make decision depending on time limits or use as an extension at the end of class.

Application Problem (6 minutes)

There are about forty-one thousand Asian elephants and about four hundred seventy thousand African elephants left in the world. About how many Asian and African elephants are left in total?

Note: This Application Problem builds on the content of the previous lesson, requiring students to name base thousand units. It also builds from **3.NBT.2** (fluently add and subtract within 1000). Assist students by asking them to add using unit names (similar to the example), not the entire numbers as digits.
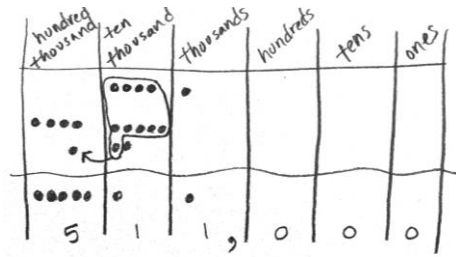
41 thousand Asian
+ 470 thousand African
511 thousand elephants

About 511,000 elephants are left.

Concept Development (26 minutes)

(16 minutes discussion
10 minutes problem set)

★ look for evidence of students moving toward fluency.
– encourage more use of numerals and less drawing of disks for students.

Materials: (S) Personal white board, unlabeled millions place value chart (Lesson 2 Template)

Problem 1: Write a four-digit number in expanded form.

- T: On your place value chart, write 1,708.
- T: What is the value of the 1?
- S: 1 thousand.
- T: (Record 1,000 under the thousands column.) What is the value of the 7?
- S: 7 hundred.
- T: (Record 700 under the hundreds column.) What value does the zero have?
- S: Zero. → Zero tens.
- T: What is the value of the 8?
- S: 8 ones.
- T: (Record 8 under the ones column.) What is the value of 1,000 and 700 and 8?
- S: 1,708.
- T: So, 1,708 is the same as 1,000 plus 700 plus 8.
- T: Record that as a number sentence.
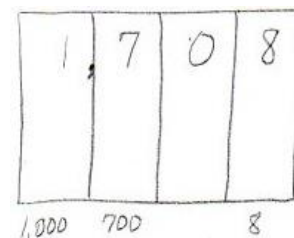- S: (Write 1,000 + 700 + 8 = 1,708.)

NOTES ON MULTIPLE MEANS OF ACTION AND EXPRESSION:

Scaffold student composition of number words with the following options:

- Provide individual cards with number words that can be easily copied.
- Allow students to abbreviate number words.
- Set individual goals for writing number words.
- Allow English language learners their language of choice for expressing number words.

Lesson 4: Read and write multi-digit numbers using base ten numerals, number names, and expanded form.

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Emphasize the function of the zero placeholder to connect to PS#1 & debrief questions.

Problem 2: Write a five-digit number in word form and expanded form.

T: Now, erase your values, and write this number: 27,085.

T: Show the value of each digit at the bottom of your place value chart.

S: (Write 20,000, 7,000, 80, and 5.)

T: Why is there no term representing the hundreds?

S: Zero stands for nothing. → Zero added to a number doesn't change the value.

T: With your partner, write an addition sentence to represent 27,085.

S: 20,000 + 7,000 + 80 + 5 = 27,085.

T: Now, read the number sentence with me.

S: Twenty thousand plus seven thousand plus eighty plus five equals twenty-seven thousand, eighty-five.

T: (Write the number as you speak.) You said "twenty-seven thousand, eighty-five."

T: What do you notice about where I placed a comma in both the standard form and word form?

S: It is placed after 27 to separate the thousands in both the standard form and word form.
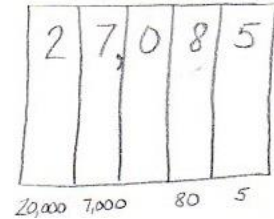
Problem 3: Transcribe a number in word form to standard and expanded form. *Connect the "0" discussion from P.2.*

Display two hundred seventy thousand, eight hundred fifty.

T: Read this number. (Students read.) Tell your partner how you can match the word form to the standard form.

S: Everything you say, you should write in words.
   → The comma helps to separate the numbers in the thousands from the numbers in the hundreds, tens, and ones.

T: Write this number in your place value chart. Now, write this number in expanded form. Tell your partner the number sentence.

S: 200,000 plus 70,000 plus 800 plus 50 equals 270,850.
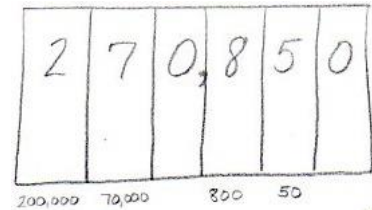
Repeat with sixty-four thousand, three.

Problem 4: Convert a number in expanded form to word and standard form.

Display 700,000 + 8,000 + 500 + 70 + 3.

T: Read this expression. (Students read.) Use digits to write this number in your place value chart.

T: My sum is 78,573. Compare your sum with mine.

S: Your 7 is in the wrong place. → The value of the 7 is 700,000. Your 7 has a value of 70,000.

MP.3

T: Read this number in standard form with me.

S: Seven hundred eight thousand, five hundred seventy-three.

T: Write this number in words. Remember to check for correct use of commas and hyphens.
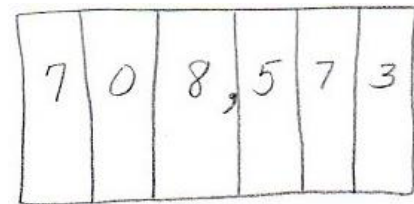
Repeat with 500,000 + 30,000 + 10 + 3.

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Lesson 4: Read and write multi-digit numbers using base ten numerals, number names, and expanded form.

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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.

Student Debrief (15 minutes)

Lesson Objective: Read and write multi-digit numbers using base ten numerals, number names, and expanded form.

Invite students to review their solutions for the Problem Set and the totality of the lesson experience. 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 Student Debrief. Guide students in a conversation to debrief the Problem Set.

Any combination of the questions below may be used to lead the discussion.

- Compare the numbers in Problems 1 and 2. What do you notice?
- As you completed the chart on Page 2, what number words were tricky to write? Which number words can be confused with other number words? Why? What strategies did you use to spell number words?
- In Problem 4, Timothy and his dad read a number word in two ways. What other numbers can be read more than one way? Which way of reading a number best helps you solve? When?
- Two students discussed the importance of zero. Nate said that zero is not important while Jill said that zero is extremely important. Who is right? Why do you think so?
- What role can zero play in a number?
- How is the expanded form related to the standard form of a number?
- When might you use expanded form to solve a calculation?

(Handwritten margin notes:) If the group did then** / Connect to Prob 1

(Right side — image of completed student Problem Set:)

NYS COMMON CORE MATHEMATICS CURRICULUM — Lesson 4 Problem Set 4•1

Name _____Jack_____ Date _____

1a. On the place value chart below, label the units and represent the number 90,523.

Millions	hundred thousands	ten thousands	thousands	hundreds	tens	ones
		9	0	5	2	3

b. Write the number in word form.

Ninety thousand, five hundred twenty-three

c. Write the number in expanded form.

90,000 + 500 + 20 + 3

2a. On the place value chart below, label the units and represent the number 905,203.

Millions	hundred thousands	ten thousands	thousands	hundreds	tens	ones
	9	0	5	2	0	3

b. Write the number in word form.

Nine hundred five thousand, two hundred three

c. Write the number in expanded form.

900,000 + 5,000 + 200 + 3

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Lesson 4: Read and write multi-digit numbers using base ten numerals, number names, and expanded form.

Exit Ticket (3 minutes)

After the Student Debrief, instruct students to complete the Exit Ticket. A review of their work will help with assessing students' understanding of the concepts that were presented in today's lesson and planning more effectively for future lessons. The questions may be read aloud to the students.

3. Complete the following chart:

Number	Word Form	Expanded Form
2,480	two thousand, four hundred eighty	2,000 + 400 + 80
20,482	twenty thousand, four hundred eighty-two	20,000 + 400 + 80 + 2
64,106	sixty-four thousand, one hundred six	60,000 + 4,000 + 100 + 6
604,016	Six hundred four thousand, sixteen	600,000 + 4,000 + 10 + 6
960,060	nine hundred sixty thousand sixty	900,000 + 60,000 + 60

4. Black Rhinos are endangered, with only 4,400 left in the world. Timothy read that number as "four thousand, four hundred." His father read the number as "44 hundred." Who read the number correctly? Use pictures, numbers or words to explain your answer.

Both Timothy and his father read the number correctly. 4,400 is "four thousand, four hundred". It can also be read as "forty-four hundred" since the 4 thousands can be regrouped as 40 hundreds. 40 hundreds plus 4 hundreds is forty-four hundreds.

Lesson 4: Read and write multi-digit numbers using base ten numerals, number names, and expanded form.

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Will be discussed during debrief. Select & Sequence Responses

Name _____   Date _____

M.D.

1. a. On the place value chart below, label the units, and represent the number 90,523.

millions	hundred thousands	ten thousands	thousands	hundreds	tens	ones
		9	0	5	2	3

   b. Write the number in word form.

   ninety thousand five hundred twenty three

   c. Write the number in expanded form.

   $90,000 + 500 + 20 + 3$

2. a. On the place value chart below, label the units, and represent the number 905,203.

millions	hundred thousands	ten thousands	thousands	hundreds	tens	ones
	9	0	5	2	0	3

   b. Write the number in word form.

   nine hundred five thousand two hundred three

   c. Write the number in expanded form.

   $900,000 + 5000 + 200 + three$

3. Complete the following chart:

Standard Form	Word Form	Expanded Form
2480	two thousand, four hundred eighty	2000 + 400 + 80
20,482	twenty thousand four hundred eighty-two	20,000 + 400 + 80 + 2
64,106	sixty-four thousand, one hundred six	60,000 + 4000 + 100 + 6
604,016	Six hundred four thousand sixteen	600000 + 4000 + 10 + 6
960,060	nine hundred sixty thousand sixty	900,000 + 60,000 + 60

4. Black rhinos are endangered, with only 4,400 left in the world. Timothy read that number as "four thousand, four hundred." His father read the number as "44 hundred." Who read the number correctly? Use pictures, numbers, or words to explain your answer.

	thousands	hundreds	tens	ones
Timothy	4	4	0	0
Dad	4	44	0	0

Both Timothy and his father read the number correctly.

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Lesson 4:   Read and write multi-digit numbers using base ten numerals, number names, and expanded form.

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Name _____   Date _____

1. Use the place value chart below to complete the following:

Note: ten millions is beyond the grade 4 standard

ten millions	Millions	hundred thousands	ten thousands	thousands	hundreds	tens	ones
		8	0	6	3	0	2

a. Label the units on the chart.

b. Write the number 800,000 + 6,000 + 300 + 2 in the place value chart.

c. Write the number in word form.

Eight hundred six thousand three hundred two

2. Write one hundred sixty thousand, five hundred eighty-two in expanded form.

$$100,000 + 60,000 + 500 + 80 + 2$$

✱ look for students who need the place value chart on this problem.

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Lesson 4: Read and write multi-digit numbers using base ten numerals, number names, and expanded form.

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*no homework required, but all problems are reflective of class practice. → Can use with a small group if needed.

Name _____   Date _____

1. a.   On the place value chart below, label the units, and represent the number 50,679.

   b.   Write the number in word form.

   c.   Write the number in expanded form.

2. a.   On the place value chart below, label the units, and represent the number 506,709.

   b.   Write the number in word form.

   c.   Write the number in expanded form.

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3. Complete the following chart:

Standard Form	Word Form	Expanded Form
	five thousand, three hundred seventy	
		50,000 + 300 + 70 + 2
	thirty-nine thousand, seven hundred one	
309,017		
770,070		

4. Use pictures, numbers, and words to explain another way to say sixty-five hundred.

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Lesson 4:   Read and write multi-digit numbers using base ten numerals, number names, and expanded form.

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