## CHAPTER RESOURCES • Chapter 2 <br> Numbers to I,000

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## INCLUDES

- School-Home Letter
- Vocabulary Game Directions
- Daily Enrichment Activities
- Reteach Intervention for every lesson
- Chapter 2 Test
- Chapter 2 Performance Task
- Critical Area I Performance Task
- Answer Keys and Individual Record Forms

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# Dear Family, 

My class started Chapter 2 this week. I will learn about place value of numbers to 1,000 . I will also learn about comparing these numbers.

Love,

## Vocabulary

compare To describe whether numbers are equal to, less than, or greater than one another hundred $A$ group of 10 tens is equal to 145 is equal to 145 $=145=145$
is greater than 131 is greater than $12 \mid$ $>|3|>|2|$
is less than 125 is less than 185
< $125<185$
thousand A group of 10 hundreds

## Home Activity

Have your child look through magazines for 3-digit numbers and cut them out.
Work together to write a word problem using two of these numbers, gluing the cut-out numbers in place. Have your child solve the problem.

Charles collected 127 leaves. Ann collected 240 leaves. Who collected the greater number of leaves?

## Literature

Reading math stories reinforces learning. Look for these books in the library.

A Place for Zero by Angeline Sparagna LoPresti and Phyllis Hornung.
Charlesbridge Publishing, 2003.

More or Less
by Stuart J. Murphy. HarperCollins, 2005.

## Querida familia: <br> Mi clase comenzó el Capítulo 2 esta semana. Aprenderé sobre el valor posicional de los números hasta 1,000. También aprenderé a comparar estos números.

## Con cariño,

## Vocabulario

comparar Describir si los números son iguales a, menores que o mayores que otro número
centena Un grupo de 10 decenas es igual a 145 es igual a 145
$=145=145$
es mayor que 131 es mayor que $12 \mid$ > $|3|>|2|$
es menor que 125 es menor que 185 < $125<185$
millar Un grupo de 10 centenas

Literatura

- Leer cuentos de matemáticas refuerza por Angeline Sparagna el aprendizaje. Busque estos libros en la biblioteca.


## Actividad para la casa

Pídale a su hijo que busque números de 3 dígitos en revistas y que los recorte. Luego, trabajen juntos para escribir un problema usando dos de estos números y péguenlos en algún lugar. Pídale a su hijo que resuelva el problema.

Carlos juntó 127 hojas. Ana juntó 240 hojas. ¿Quién juntó el mayor número de hojas?

## A Place for Zero

LoPresti and Phyllis Hornung.
Charlesbridge Publishing, 2003.

## More or Less

por Stuart J. Murphy HarperCollins, 2005.

## Going Places with GOMATH! Words



For 3 to 4 players

## Materials

- timer


## How to Play

I. Take turns to play.
2. Choose a math word, but do not say it aloud.
3. Set the timer for I minute.
4. Give a one-word clue about your word. Give each player one chance to guess your word.
5. If nobody guesses correctly, repeat Step 4 with a different clue. Repeat until a player guesses the word or time runs out.
6. The first player to guess the word gets I point. If the player can use the word in a sentence, he or she gets I more point. Then that player gets a turn.
7. The first player to score 5 points wins.


## Group Tens as Hundreds



## Write how many tens. Circle groups of 10 tens. Write how many hundreds. Write the number.

1. 


$\qquad$ tens
$\qquad$ hundreds
$\qquad$ blocks
2.

$\qquad$
$\qquad$ hundreds
解

$\qquad$ blocks

## Tens and Hundreds Mystery

Read each problem.
Draw a quick picture to solve.
I. Each box holds 10 cartons of milk.

There are 300 cartons of milk.
How many boxes are there?
$\qquad$ boxes
2. There are 10 stripes on each button.

There are 50 buttons.
How many stripes are on 50 buttons?
stripes
3. Fish are swimming in groups of I 0 .

There are 200 fish.
How many groups are there?
groups

Writing and Reasoning Tim wants to collect 400 stickers. If he makes pages of 10 , how will he know when he has 400 stickers?

## Explore 3-Digit Numbers



Circle tens to make I hundred. Write the number in different ways.
I.

___ tens
$\qquad$ hundred $\qquad$ tens
2.

$\qquad$ tens
$\qquad$ hundred $\qquad$ tens

## Which One Does Not Belong?

Cross out the one that does not have the same value.
I. I hundred

| 10 tens |  | 10 ones |
| :---: | :---: | :---: |

2. I hundred 3 tens

| 13 tens | 13 hundreds |  |
| :---: | :---: | :---: |

3. I hundred 4 tens

|  | 14 tens | B | 0 0 0 0 |
| :---: | :---: | :---: | :---: |

4. I hundred 2 tens

|  | 21 tens | 12 tens |
| :---: | :---: | :---: |

Writing and Reasoning Explain why 17 tens and I hundred 7 tens have the same value.

## Model 3-Digit Numbers



Write how many hundreds, tens, and ones.
Show with ${ }^{[1]}$.
I. 138

| Hundreds | Tens | Ones |
| :--- | :--- | :--- |
|  |  |  |
|  |  |  |

3. 352

| Hundreds | Tens | Ones |
| :--- | :--- | :--- |
|  |  |  |
|  |  |  |

2. 217

| Hundreds | Tens | Ones |
| :--- | :--- | :--- |
|  |  |  |
|  |  |  |

4. 174

| Hundreds | Tens | Ones |
| :--- | :--- | :--- |
|  |  |  |
|  |  |  |

## Missing Pictures

Each quick picture needs to be finished.
Draw the missing hundreds, tens, and ones.


Writing and Reasoning How did you decide what to draw for Exercise 6?

## Hundreds, Tens, and Ones

How many are there in all?

hundreds tens ones

Write how many in the chart.

| Hundreds | Tens | Ones |
| :---: | :---: | :---: |
| 3 |  |  |

Write the number as hundreds plus tens plus ones. $300+20+5$ 3 hundreds 2 tens 5 ones is the same as

Write how many hundreds, tens, and ones are in the model. Write the number in two ways.
1.

| Hundreds | Tens | Ones |
| :--- | :--- | :--- |
|  |  |  |


2.


| Hundreds | Tens | Ones |
| :--- | :--- | :--- |
|  |  |  |

$\qquad$

## Find the Number

## Read the clue. Find the number.

I. A number is 4 hundreds more than 142 . What is the number?
3. A number is 3 tens more than 249. What is the number?
5. A number is 8 ones more than 331 . What is the number?
7. A number is 2 tens more than 923. What is the number?
2. A number is 2 hundreds more than 355. What is the number?
4. A number is 7 tens more than 624. What is the number?
6. A number is 4 hundreds more than 399. What is the number?
8. A number is 6 ones more than 772 . What is the number?

Writing and Reasoning How did you find the answer to Exercise 8?

## Place Value to I,000

The value of each digit in 426
is shown by its place in the number.


Circle the value or the meaning of the underlined digit.

| 1. $7 \underline{8} 2$ | 800 | 80 | 8 |
| :--- | :--- | :--- | :--- |
| 2. 352 | 3 hundreds | 3 tens | 3 ones |
| 3. $7 \underline{4} 2$ | 4 | 40 | 400 |
| 4. $41 \underline{9}$ | 9 hundreds | 9 tens | 9 ones |
| 5. 584 | 500 | 50 | 5 |

## Value Clues

Use the digits 8, 7, and 3 to make
a 3-digit number. Use all three digits.
Read the clues and write the number.

| Clues: |
| :--- |
| The value of the digit 8 |
| in this number is 80. |
| The value of the digit 7 |
| in this number is not 7. |

The number is $\qquad$ .
3.

| Clues: |
| :--- |
| The value of the digit 8 |
| in this number is 8. |
| The value of the digit 7 |
| in this number is not 700. |

The number is $\qquad$ .
2.

## Clues:

The value of the digit 8 in this number is 800 .
The value of the digit 7 in this number is not 70 .

The number is $\qquad$ .
4.

## Clues:

The value of the digit 7 in this number is 70 .
The value of the digit 3 in this number is not 300 .

The number is $\qquad$ . .

Writing and Reasoning Write a different 3-digit number. Then write clues for your number.

## Number Names

You can write a number using words.


What is shown with the What is shown with the hundreds blocks? tens and ones blocks?



Write the number using words.
I. 163

2. 427


## Write the number.

3. two hundred nine
4. five hundred seventy-nine

## Another Way to Write It

Write each number two different ways.
I. 5 hundreds 6 tens 3 ones
$\qquad$
$\qquad$
2. 109
$\qquad$
$\qquad$
3. $900+20+3$
4. 3 hundreds 7 tens
$\qquad$
$\qquad$

Writing and Reasoning Write a 3-digit number.
Then write the number two different ways.

## Different Forms of Numbers

There is more than one way to show and write a number.
three hundred sixty-two






$$
\frac{3}{300}+\frac{60}{362}+\underline{2} \text { tens } \frac{2}{2} \text { ones }
$$

Read the number and draw a quick picture. Then write the number in different ways.
I. four hundred thirty-two

2. two hundred seventy-five
$\qquad$ hundreds $\qquad$ tens $\qquad$ ones
$\qquad$

## Say It Another Way

Write the number in two different ways.


Writing and Reasoning Look at Exercise 2.
What is a third way to write the number 684?

## Algebra • Different Ways to Show Numbers

These two models can both be used to show the number 124 .


Write how many hundreds, tens, and ones are in the model.
I. 132


| Hundreds | Tens | Ones |
| :--- | :--- | :--- |
|  |  |  |

2. 246


| Hundreds | Tens | Ones |
| :--- | :--- | :--- |
|  |  |  |



| Hundreds | Tens | Ones |
| :--- | :--- | :--- |
|  |  |  |

## Cross-Number Puzzle

## Use each clue to write a 3 -digit number.

Put one digit in each square to complete the puzzle.

| 1 |  | 2 |  | 3 |  | 4 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
|  |  |  |  |  |  |  |
| 5 |  |  |  |  |  |  |
|  |  |  | 6 |  | 8 |  |
|  |  |  |  |  |  |  |
|  | 7 |  |  |  |  |  |

## Across

I. 3 hundreds 6 tens 19 ones
3. I hundred 25 tens I one
5. 2 hundreds 4 tens 13 ones
7. 6 hundreds 7 tens 20 ones

Down
2. 8 hundreds 12 tens 3 ones
4. I7 tens 6 ones
6. 4 hundreds 2 tens 10 ones
8. 3 hundreds 12 tens 3 ones

Writing and Reasoning Choose one of the puzzle clues. Write two other ways to show this number using hundreds, tens, and ones.

## Count On and Count Back by 10 and 100

## 10 less than 234



2 hundreds 2 tens 4 ones

$$
224
$$

## 100 less than 234


$\square$
$\square$
$\square$
$\square$
I hundred 3 tens 4 ones


134 changes.

10 more than 234


2 hundreds 4 tens 4 ones


100 more than 234


3 hundreds 3 tens 4 ones

$$
334
$$

Write the number.
I. 10 more than 719
-
3. 100 more than 29 ।
$\qquad$
5. 10 less than 568
4. 100 less than 687
6. 100 more than 649

## Missing Numbers

Write the missing number to make the sentence true.
I. $\qquad$ is 10 less than 214.
2. $\qquad$ is 100 less than 900 .
3. 603 is 10 more than $\qquad$ .
4. 888 is $\qquad$ more than 788.
5. 870 is $\qquad$ more than 860.
6. $\qquad$ is 100 less than 882.
7. 129 is $\qquad$ more than 29.
8. 333 is $\qquad$ less than 433.
Writing and Reasoning Explain how you found the missing number in Exercise I.

## Algebra • Number Patterns

Find a counting pattern.
42I, 43I, 44I, 45I, $\square$,
Which digit changes from number to number?

The
How does it change?
by
Look at the chart. Find
the next two numbers in the pattern.

| 401 | 402 | 403 | 404 | 405 | 406 | 407 | 408 | 409 | 410 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 411 | 412 | 413 | 414 | 415 | 416 | 417 | 418 | 419 | 420 |
| 421 | 422 | 423 | 424 | 425 | 426 | 427 | 428 | 429 | 430 |
| 431 | 432 | 433 | 434 | 435 | 436 | 437 | 438 | 439 | 440 |
| 441 | 442 | 443 | 444 | 445 | 446 | 447 | 448 | 449 | 450 |
| 451 | 452 | 453 | 454 | 455 | 456 | 457 | 458 | 459 | 460 |
| 461 | 462 | 463 | 464 | 465 | 466 | 467 | 468 | 469 | 470 |
| 471 | 472 | 473 | 474 | 475 | 476 | 477 | 478 | 479 | 480 |
| 481 | 482 | 483 | 484 | 485 | 486 | 487 | 488 | 489 | 490 |
| 491 | 492 | 493 | 494 | 495 | 496 | 497 | 498 | 499 | 500 |

The next two numbers are $\qquad$ and $\qquad$ .

## Look at the digits to find <br> the next two numbers.

ı. 937, 947, 957, 967, $\square$,

The next two numbers are $\qquad$ and $\qquad$ .

## 2. $135,235,335,435, \square$,

The next two numbers are $\qquad$ and $\qquad$ .

## Find the Number Pattern

Help the squirrel find a path to the tree. Connect acorns that show a pattern of counting on by IOs.

$$
\begin{aligned}
& \text { 䠦 } \\
& 3214 \\
& \text { B222 } \\
& 322 \\
& \text { B157 } \\
& 622 \\
& \text { G224 G153 G101 } \\
& 43 \\
& 143 \\
& \text { B183 } \\
& 3244 \\
& \text { G222 } \\
& \text { G199 } \\
& \theta 133 \\
& 254 \\
& \text { \&220 } 275 \\
& \text { B28 } \\
& \text { B } 31 \\
& \text { 6453 }
\end{aligned}
$$

Writing and Reasoning Describe how you found the first few numbers in the pattern.

## Problem Solving•Compare Numbers

At the zoo, there are 137 birds and 142 reptiles.
Are there more birds or more reptiles at the zoo?

## Unlock the Problem

What do I need to find?
I need to find if there are
more or
What information do I need to use?

There are |  |  |
| :--- | :--- |
| There are |  |
|  |  |

Show how to solve the problem.

Birds


Reptiles
$\qquad$

The number of hundreds is the same.
There are more tens in the number of reptiles.
There are more $\qquad$ reptles at the zoo.

## Draw quick pictures to model the numbers.

I. There are 153 birds and $I 49$ fish at the nature center.

Are there more birds or more fish?
$\qquad$ .

## Find the Greater Number

I. Use the digits $4,2,7,3,0$, and 5 to write two 3-digit numbers.
2. Write a word problem in which you compare these numbers.
$\qquad$
$\qquad$
$\qquad$
$\qquad$
3. Draw quick pictures to show the solution.
$\square$

Writing and Reasoning Explain how you used the quick pictures to solve your problem.

## Algebra•Compare Numbers

## To compare 3-digit numbers, first compare hundreds.



212 has more hundreds than 112 .

$212>112$

If hundreds are equal, then compare tens.


212 has fewer tens than 22 I.

$212<221$

If hundreds and tens are equal, then compare ones.

$21 \underline{2} \because 21 \underline{2}$

Compare the numbers. Write $>,<$, or $=$.
I. 317


326

2.


## True Comparing

Write two 3-digit numbers to compare. Use the digits $0,1,2,3,4$, and 5 only once in each case. One true comparison is done for you.

1. $240>136$
2. $\qquad$ $>$ $\qquad$
$\qquad$ $<$ $\qquad$ 6. $\qquad$ $<$ $\qquad$
3. $\qquad$ 8. $\qquad$ $<$

Writing and Reasoning Suppose you can only use the digits 6 and 7 to make 3 -digit numbers. You can repeat the digits. Can you make true comparisons using $=,<$, and $>$ ? Explain.

## I. <br> 

Do the choices show a way to represent the blocks? Choose Yes or No.

| 50 hundreds | $\bigcirc$ Yes | $\bigcirc$ No |
| :--- | :--- | :--- |
| 50 tens | $\bigcirc$ Yes | $\bigcirc$ No |
| 5 hundreds | $\bigcirc$ Yes | $\bigcirc$ No |
| 5 tens | $\bigcirc$ Yes | $\bigcirc$ No |

2. Sonya has 140 beads. How many bags of 10 beads does she need so that she will have 200 beads in all?
bags of beads
3. A store has 263 board games. It has 100 fewer puzzles than board games. The store has I 0 more action figures than puzzles. Write the number of each.
4. Write the next number in each counting pattern.
$338,348,358,368$, $\qquad$
$472,572,672,772$, $\qquad$
5. Is the comparison true? Choose Yes or No.

| $343<328$ | ○ Yes | ○ No |
| :--- | :--- | :--- |
| $705>699$ | ○ Yes | ○ No |
| $691>706$ | ○ Yes | ○ No |
| $115<120$ | ○ Yes | O No |

6. It's 154 days until Jeff's birthday. Write the number of days in words.
$\qquad$
Show the number in two other ways.

| Hundreds | Tens | Ones |
| :--- | :--- | :--- |
|  |  |  |

$\qquad$ $+$ $\qquad$ $+$ $\qquad$
7. Sally needs 300 stickers. Vince gives her 12 packs with 10 stickers in each pack. How many stickers does Sally need now? Draw a picture to explain your answer.
stickers $\square$
8. A store sells 2 boxes of 100 pencils and some single pencils. Choose all the numbers that show how many pencils the store could sell.

- 219
- 206
- 120
- 182

9. Straws are sold in boxes, in bags, or as single straws. Each box has 10 bags in it. Each bag has 10 straws in it. Mr. Tan needs 355 straws.
Draw a picture to show a way to buy 355 straws.
$\square$
How many boxes, bags, and single straws did you show?
$\qquad$
$\qquad$
GO ON
10. Jill and Ed collect postcards. Jill has I24 postcards.

Ed has I3I postcards. Who has more postcards?
Jill gets IO more postcards. Ed gets 5 more postcards. Who has more postcards now?
Draw quick pictures to show how many postcards Jill and Ed have now.

| Jill's postcards | Ed's postcards |
| :--- | :--- |
|  |  |

I I. Choose all the numbers that have the digit 8 in the tens place.

- 148

○ 387

- 836
- 88।

12. Terry has 164 marbles.

Write the number in words.
$\qquad$
$\qquad$

## The Apartment Building

There is a big apartment building near the park. Each apartment has a 3-digit number. Jose's apartment number has the digit 9 in the ones place and the digit I in the hundreds place.
I. Write a number that could be Jose's apartment number.
2. Erik lives in another apartment in the same building. The number of his apartment is 100 more than the number of Jose's apartment. What could Erik's apartment number be?
3. Marta lives in apartment 450. Write a number sentence that uses the symbols $>,<$, or $=$ to compare Marta's apartment number and Erik's apartment number.

4. Kim lives in apartment number 513 . She uses blocks to show her apartment number. Draw a quick picture to show Kim's apartment number.
5. Chang's apartment number is 10 more than Kim's apartment number. What is Chang's apartment number? What are two other ways to write this number?
6. Anya uses groups of 10 buttons to show her apartment number. She uses 17 groups of buttons with 2 buttons left over. What is her apartment number?

## Chapter 2

## Numbers to $\mathbf{1 , 0 0 0}$

## The Apartment Building

## COMMON CORE STANDARDS

2.NBT.A. 1 Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones.
2.NBT.A. 1 a. Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones. Understand the following as special cases: 100 can be thought of as a bundle of ten tens-called a "hundred."
2.NBT.A. 1 b. Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones. Understand the following as special cases: The numbers 100, 200, 300, 400, 500, 600, 700, 800, 900 refer to one, two, three, four, five, six, seven, eight, or nine hundreds.

## Also 2.NBT.A.3, 2.NBT.A.4, 2.NBT.B.8

## PURPOSE

To assess the ability to use place value to model, write, and compare 3-digit numbers

## TIME

25-30 minutes

## GROUPING

Individuals

## MATERIALS

- Performance Task, paper, pencil


## PREPARATION HINTS

- Review understanding of place value of 2-digit and 3-digit numbers before assigning the task.
- Review comparing and ordering 2-digit numbers using "greater than" and "less than" before assigning the task.


## IMPLEMENTATION NOTES

- Read the task aloud to children and make sure that all children have a clear understanding of the task.
- Children may use manipulatives to complete the task.
- Allow children as much paper as they need to complete the task.
- Allow as much time as children need to complete the task.
- Children must complete the task individually, without collaboration.
- Collect all work when the task is complete.


## TASK SUMMARY

Children derive 3 -digit numbers based on place-value clues. They count on and count back by 10 s and 100 s to derive new numbers. They use place value to compare 3 -digit numbers. They model and write 3 -digit numbers in different ways.

## REPRESENTATION

In this task, teachers can...

- Provide options for language, mathematical expressions, and symbols by giving children multiple ways to represent numerical values.
- Provide options for comprehension by guiding the ways in which children break down and represent numbers.


## ACTION and EXPRESSION

In this task, teachers can...

- Provide options for expression by varying methods of representing numerical values.
- Provide options for physical action by providing base-ten blocks for children to use in understanding place value.


## ENGAGEMENT

In this task, teachers can...

- Provide options for engagement by giving children individual choice and autonomy in representing numbers in multiple ways.


## EXPECTED STUDENT OUTCOMES

- Complete the task within the time allowed
- Reflect engagement in a productive struggle
- Understand place value to the hundreds place
- Compare numbers using place-value concepts


## SCORING

Use the associated Rubric to evaluate each child's work.

## Performance Task Rubric

## THE APARTMENT BUILDING

A level 3 response

A level 2 response

A level I response

A level 0
response

- Indicates that the child has made sense of the task and persevered
- Demonstrates an understanding of place value as numbers that can be represented as hundreds, tens, and ones
- Shows the ability to accurately apply place-value concepts when comparing numbers
- Indicates an understanding of how to count on or count back by 10 s and 100 s
- Indicates that the child has made sense of the task and persevered
- Demonstrates an understanding of place value as numbers that can be represented as hundreds, tens, and ones
- Shows the ability to accurately apply place-value concepts when comparing numbers
- Indicates an understanding of how to count on or count back by IOs and I00s
- Addresses most or all aspects of the task, but there may be errors of omission
- Shows that the child has made sense of at least some elements of the task
- Shows evidence of understanding that numbers can be represented as hundreds, tens, and ones
- Demonstrates some understanding of place-value concepts when comparing numbers
- May not indicate an understanding of how to count on or count back byIOs or I00s
- Shows little evidence that the child has made sense of the problems of the task
- Reflects a lack of understanding of place-value concepts in representing or comparing numbers
- Reflects a lack of understanding of counting on or counting back by IOs and I00s
- Shows little evidence of addressing the elements of the task
$\qquad$


## Two Schools

Jefferson School has students in ${ }^{\text {st }}$ grade up to $5^{\text {th }}$ grade.
I. The number of children in ${ }^{\text {st }}$ grade has 3 digits.

The digits in the number are 2,3 , and 8.
The digit 8 means 80 in this number.
Write a number that could be the number of children in $I^{\text {st }}$ grade.
2. Write a number that is 10 less than the number of children you chose for $I^{\text {st }}$ grade.
3. Write a number sentence that uses $>,<$, or $=$ to compare your answers from questions I and 2.

4. Donell uses these blocks to show the number of students in $3^{\text {rd }}$ grade.


How many students are in $3^{\text {rd }}$ grade?
$\qquad$ students
5. There are 100 more students in $4^{\text {th }}$ grade than in $5^{\text {th }}$ grade. Grade 5 has 176 students. Draw a quick picture to show how many students are in $4^{\text {th }}$ grade.
6. Write a number sentence that uses $>,<$, or $=$ to compare the number of students in $4^{\text {th }}$ grade with the number of students in $3^{\text {rd }}$ grade.

$\qquad$
Yasmeen goes to Lincoln School. She counts the number of $2^{\text {nd }}$ grade students who go there. The number in the circle is the total number of $2^{\text {nd }}$ grade students at Lincoln School.
7. Fill in the missing numbers. Count by tens.
220, 230,
$\qquad$ , $\qquad$ , $\qquad$ ,$\square$
8. Yasmeen uses tens blocks to show the number of $2^{\text {nd }}$ grade students. How many tens blocks will she need?

She will need $\qquad$ blocks.
9. Suppose Yasmeen's school has 210 students in $3^{\text {rd }}$ grade. How would you figure out a number that is 10 more than that? Write your answer. Explain how you know.

# The number of students at Jefferson School is even. <br> The number has three digits. <br> The digit in the tens place is 4 . 

10. Write three numbers that could be how many students there are at Jefferson School.

Explain how you know your answers are correct.
$\qquad$
$\qquad$
$\qquad$
II. Choose one of the numbers that you just wrote. Write it three different ways.
12. Write a 3-digit number that could NOT be the number of students at Jefferson School.

There could NOT be $\qquad$ students.

## Number Sense and Place Value

## Two Schools

## COMMON CORE STANDARDS

2.NBT.A. 1 Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones.
2.NBT.A. 2 Count within 1000 ; skip-count by $5 \mathrm{~s}, 10$ s, and 100 s.
2.NBT.A. 3 Read and write numbers to 1000 using base-ten numerals, number names, and expanded form.
2.NBT.A. 4 Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using $>,=$, and $<$ symbols to record the results of comparisons.
Also 2.NBT.B.8, 2.0A.C. 3

## PURPOSE

To assess the ability to use place value concepts to model and represent numbers to the hundreds place, to compare 2 -digit and 3 -digit numbers, and to recognize and create number patterns by counting on or counting back by 10 s and 100 s

## TIME

40-45 minutes

## GROUPING

## Individuals

## MATERIALS

- Performance Task, paper, pencil


## PREPARATION HINTS

- Review arranging in pairs with children before assigning the task.
- Review building 2 -digit numbers as tens and ones with children before assigning the task.
- Review vocabulary, including odd, even, and digits.
- Review understanding of place value of 2 -digit and 3 -digit numbers before assigning the task.
- Review comparing and ordering 2-digit numbers using "greater than" and "less than" before assigning the task.


## IMPLEMENTATION NOTES

- Read the task aloud to children and make sure that all children have a clear understanding of the task.
- Children may use manipulatives to complete the task.
- Allow children as much paper as they need to complete the task.
- Allow as much time as children need to complete the task.
- Children must complete the task individually, without collaboration.
- Collect all work when the task is complete.


## TASK SUMMARY

Children derive 3 -digit numbers based on place-value clues. They count on and count back by 10 s and 100 s to derive new numbers. They use place value to compare 3 -digit numbers. They model and write 3 -digit numbers in different ways. They recognize and create patterns of numbers by counting on or counting back by $1 \mathrm{~s}, 10 \mathrm{~s}$, and 100 s . They recognize numbers as odd or even.

## REPRESENTATION

In this task, teachers can...

- Provide options for language, mathematical expressions, and symbols by giving children multiple ways to represent numerical values.
- Provide options for comprehension by guiding the ways in which children break down and represent numbers.


## ACTION and EXPRESSION

In this task, teachers can...

- Provide options for expression by varying methods of representing numerical values.
- Provide options for physical action by providing base-ten blocks for understanding place value and counters for comparing numbers.


## ENGAGEMENT

In this task, teachers can...

- Provide options for engagement by giving children individual choice and autonomy in representing numbers in multiple ways.


## EXPECTED STUDENT OUTCOMES

- Complete the task within the time allowed
- Reflect engagement in a productive struggle
- Determine whether numbers are odd or even
- Understand place value to the hundreds place
- Count patterns by $5 \mathrm{~s}, 10 \mathrm{~s}$, and 100 s , to 1,000
- Compare numbers using place-value concepts


## SCORING

Use the associated Rubric to evaluate each child's work.

## Performance Task Rubric

|  | TWO SCHOOLS |
| :---: | :---: |
| A level 3 response | - Indicates that the child has made sense of the task and persevered <br> - Demonstrates an understanding of place value as numbers that can be represented as hundreds, tens, and ones <br> - Shows the ability to accurately apply place-value concepts when comparing numbers <br> - Indicates an understanding of how to count on or count back by 10 s and 100 s |
| A level 2 response | - Indicates that the child has made sense of the task and persevered <br> - Demonstrates an understanding of place value as numbers that can be represented as hundreds, tens, and ones <br> - Shows the ability to accurately apply place-value concepts when comparing numbers <br> - Shows the ability to accurately apply place-value concepts to count on or count back by IOs and IOOs <br> - Addresses most or all aspects of the task, but there may be errors of omission |
| A level I response | - Shows that the child has made sense of at least some elements of the task <br> - Shows evidence of understanding that numbers can be represented as hundreds, tens, and ones <br> - Demonstrates some understanding of place-value concepts when comparing numbers <br> - May not indicate an understanding of how to count on or count back by 10s or 100s |
| A level 0 response | - Shows little evidence that the child has made sense of the problems of the task <br> - Reflects a lack of understanding of place-value concepts in representing or comparing numbers <br> - Reflects a lack of understanding of counting on or counting back by IOs and I00s <br> - Shows little evidence of addressing the elements of the task |






Sample Level 2 Response


## Sample Level 1 Response







| The number of students at Jefferson School is even. The number has three digits. <br> The digit in the tens place is 4 . |  |
| :---: | :---: |
| 10. Write three numbers that could be how many students there are at Jefferson School. |  |
|  | $340 \quad 246 \quad 148$ |
| Explain how you know your answers are correct. |  |
| and a threedigit with a 4 in the |  |
| tens place. |  |
| II. Choose one of the numbers that you just wrote. Write it three different ways.$246 \quad 200+40+6$ |  |
| $\square \square\\|\\|$ |  |
| 2 hundreds 4 tens 6 ones |  |
|  | Write a 3-digit number that could NOT be the number of students at Jefferson School. <br> There could NOT be $\qquad$ 553 students. |








| Name $\qquad$ Two Schools CRITICAL Number Senseond Poce <br> AREA Volue |  |
| :---: | :---: |
|  |  |
| Jefferson School has students in $\mathbf{I s t}^{\text {st }}$ grade up to $5^{\text {th }}$ grade. |  |
| I. The number of children in $1^{\text {st }}$ grade has 3 digits. The digits in the number are 2,3 , and 8. The digit 8 means 80 in this number. Write a number that could be the number of children in $I^{\text {st }}$ grade. |  |
| $238$ |  |
| 2. Write a number that is 10 less than the number of children you chose for $1^{\text {st }}$ grade. |  |
| $220$ |  |
| 3. Write a number sentence that uses $>,<$, or $=$ to compare your answers from questions I and 2. |  |
| $\text { (3) } 23$ | $\frac{20}{7}$ |

## Sample Level 1 Response




|  |  |  |
| :---: | :---: | :---: |
|  |  |  |
| Jefferson School has students in ${ }^{\text {st }}$ grade up to $5^{\text {th }}$ grade. |  |  |
| I. The number of children in $1^{\text {st }}$ grade has 3 digits. The digits in the number are 2,3 , and 8. The digit 8 means 80 in this number. Write a number that could be the number of children in $I^{\text {st }}$ grade. |  |  |
| $100$ |  |  |
| 2. Write a number that is 10 less than the number of children you chose for $1^{\text {st }}$ grade. |  |  |
| 90 |  |  |
| 3. Write a number sentence that uses $>$, $<$, or $=$ to compare your answers from questions I and 2. |  |  |
| $100$ | $90$ |  |

## Sample Level 0 Response


Name
Yasmeen goes to Lincoln School. She counts the
number of $2^{\text {nd }}$ grade students who go there. The number
in the circle is the total number of $2^{\text {nd }}$ grade students at
Lincoln School.
7. Fill in the missing numbers. Count by tens.
220, 230, 240,250 , 260, 270,280
8. Yasmeen uses tens blocks to show the number of $2^{\text {nd }}$ grade
students. How many tens blocks will she need?
She will need 102 blocks.
9. Suppose Yasmeen's school has 210 students in $3^{\text {rd }}$ grade.
How would you figure out a number that is 10 more than
that? Write your answer. Explain how youknow.
2 20

Child's Name $\qquad$ Date $\qquad$

## Chapter 2 Test

| Item | Lesson | Standard | Content Focus | Intervene With | Personal <br> Math Trainer |
| :---: | :---: | :---: | :--- | :---: | :---: |
| 1 | 2.1 | 2.NBT.A.1a <br> 2.NBT.A.1b | Identify 10 tens as equivalent to 100. | R-2.1 | 2.NBT.1.a, <br> 2.NBT.1.b |
| 2 | 2.2 | 2.NBT.A.1 | Apply place value concepts to solve <br> problems. | R-2.2 | 2.NBT.1 |
| 3 | 2.9 | 2.NBT.B.8 | Identify 10 more, 100 less. | R-2.9 | 2.NBT.8 |
| 4 | 2.10 | 2.NBT.B.8 | Use place value to identify and extend <br> counting patterns. | R-2.10 | 2.NBT.8 |
| 5 | 2.12 | 2.NBT.A.4 | Compare 3-digit numbers using >, $=$, <br> and <. | R-2.12 | 2.NBT.4 |
| 6 | 2.4 | 2.NBT.A.3 | Write 3-digit numbers in word form and <br> expanded form. | R-2.4 | 2.NBT.3 |
| 7 | 2.7 | 2.NBT.A.3 | Use a model to represent 3-digit numbers. | R-2.7 | 2.NBT.3 |
| 8 | 2.3 | 2.NBT.A.1 | Use place value to identify the values of <br> digits. | R-2.3 | 2.NBT.1 |
| 9 | 2.8 | 2.NBT.A.3 | Use a model to represent 3-digit numbers. | R-2.8 | 2.NBT.3 |
| 10 | 2.11 | 2.NBT.A.4 | Use a model to solve problems using <br> number comparisons. | R-2.11 | 2.NBT.4 |
| 11 | 2.5 | 2.NBT.A.1 | Use place to identify the values of digits. | R-2.5 | 2.NBT.1 |
| 12 | 2.6 | 2.NBT.A.3 | Write a 3-digit number in word form. | R-2.6 | 2.NBT.3 |

Key: R—Reteach

