

Kenmore-Town of Tonawanda UFSD

We educate, prepare, and inspire all students to achieve their highest potential



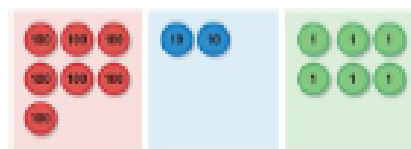
Grade 2 Module 3 Parent Handbook

The materials contained within this packet have been taken from the Great Minds curriculum Eureka Math.

Place Value, Counting, and Comparison of Numbers to 1,000

In this 25-day module, students expand their skill with and understanding of unit by bundling ones, tens, and hundreds (up to a thousand) with straws or sticks. They solve simple problems that require an understanding of place value as a system based on repeated groupings by 10.

We are working on many different ways to represent two- and three-digit numbers!



Unit form modeled with number disks:
7 hundreds 2 tens 6 ones = 72 tens 6 ones

Key Vocabulary:

Standard Form: e.g. 576

Expanded Form: e.g. $576 = 500 + 70 + 6$

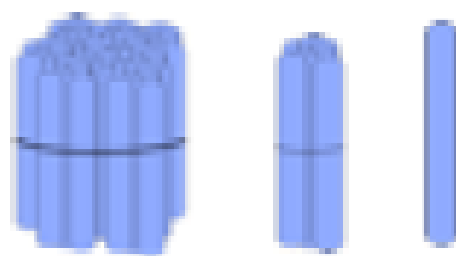
Word Form: e.g. Five hundred seventy-six

Unit Form: Stating the amount of hundreds, tens, and ones in each number, e.g., 11 is stated as 1 ten 1 one, 27 as 2 tens 7 ones, 100 as 1 hundred, and 576 as 5 hundreds, 7 tens, 6 ones

Base-Ten Numeral: The idea that 1000 equals 10 hundreds, 100 equals 10 tens, and so on

Bundling: Putting smaller units together to make a larger one, e.g. putting 10 tens together to make a hundred

Regrouping: Renaming, (instead of "carrying" or "borrowing,") e.g., a group of 10 ones is "renamed" a ten when the ones are bundled and moved from the ones to the tens place



Ten ones are bundled into a ten.

Ten bundles of ten are bundled into a hundred.

What Came Before this Module:

We worked on measurement with various tools, and related our work to addition and subtraction.

What Comes After this Module:

We will continue to work on adding and subtracting fluently within 100, and build conceptual understanding up through 200.

How you can help at home:

-Ask how many ones, tens, and hundreds are in numbers that you and your student come across

-Continue to review addition and subtraction skills

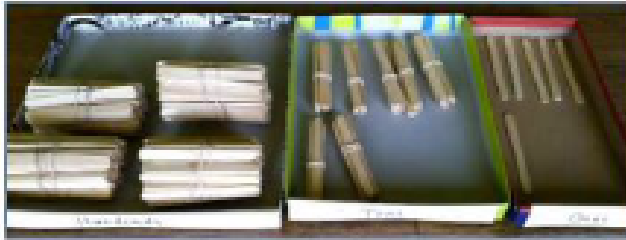
-Help your student begin to compare numbers by asking questions about "more than", "less than", and "equal"

Key Common Core Standards:

Understand Place Value

More specifically:

- Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones
- Count within 1000, skip-counting by 5s, 10s, and 100s
- Read and write numbers using base-ten numerals, number names, and expanded form
- Compare three-digit numbers using $>$, $<$, and $=$



A classroom model of bundles created to show the number 476...

Hundreds	Tens	Ones
4	7	6

...will build the foundation that enables students' transition to writing the numerals in the place value chart.

Spotlight on Math Models:

Bundling

You will often see this mathematical representation in the lower grades in *A Story of Units*.

A Story of Units has several key mathematical “models” that will be used throughout a student’s elementary years.

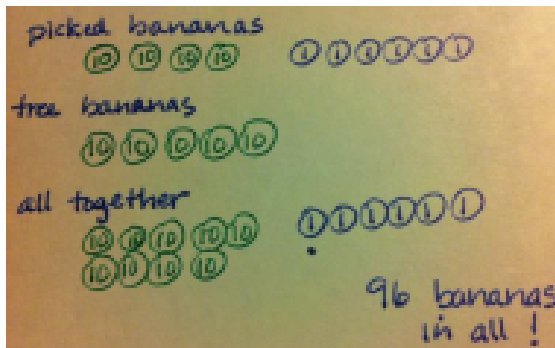
A model used primarily in grades K-2, bundles are discrete groupings of place value units (tens, hundreds, thousands). Students or teachers easily make them by placing a rubber band or twist tie around straws, popsicle sticks, or coffee stirrers. But these humble models are a key step in the transition that students must make from the very concrete (seeing the bundled popsicle sticks), to the more abstract place value chart, and finally to working with pure numbers in computation.

Bundled numbers can also be “unbundled”, e.g. a group of 10 can be broken apart into its component 10 ones when needed for subtraction. Students will use this same concept when they work with division in the upper grades. Bundling and unbundling are critical skills for students to have as a tool for our continued work with place value and operations.

Module 3 Sample Problem
(from Lesson 6)

Timmy the monkey picked 46 bananas from the tree. When he was done, there were 50 bananas left.

How many bananas were on the tree at first?



This problem was solved using place value disks, yet another way of representing base-ten numerals.

Place Value, Counting, and Comparison of Numbers to 1,000

OVERVIEW

In Module 2, students added and subtracted measurement units within 100 (**2.MD.5**, **2.MD.6**), a meaningful application of their work from Module 1 (**2.NBT.5**) and a powerful bridge to the base ten units of Grade 2.

In this 25-day Grade 2 module, students expand their skill with and understanding of units by bundling ones, tens, and hundreds up to a thousand with straws. Unlike the length of 10 centimeters in Module 2, these bundles are discrete sets. One unit can be grabbed and counted just like a banana—1 hundred, 2 hundred, 3 hundred, etc. (**2.NBT.1**). A number in Grade 1 generally consisted of two different units, tens and ones. Now, in Grade 2, a number generally consists of three units: hundreds, tens, and ones (**2.NBT.1**). The bundled units are organized by separating them largest to smallest, ordered from left to right. Over the course of the module, instruction moves from physical bundles that show the proportionality of the units to non-proportional place value disks and to numerals on the place value chart (**2.NBT.3**).

Furthermore, in this module instruction includes a great deal of counting: by ones, tens, and hundreds (**2.NBT.2**). Counting up using the centimeter tape or a classroom number line shows movement from left to right as the numbers increase. Counting up on the place value chart shows movement from right to left as the numbers increase. For example, as 10 ones are renamed as 1 ten, the larger unit is housed in the place directly to the left. The goal is for students to move back and forth fluidly between these two models, the number line and the place value chart, using either to rename units and compare numbers (**2.NBT.4**).

In this module, the place value story has advanced. Along with changing 10 ones for 1 ten, students now also change 10 tens for 1 hundred. This changing leads to the use of counting strategies to solve word problems (**2.OA.1**). In the next module, this change leads to mental math and the formal algorithms for addition and subtraction. Comparison extends into finding 100 more and 100 less, 10 more and 10 less, etc. Just as in Grade 1, *more* and *less* translate into formal addition and subtraction at the onset of Module 4 (**2.NBT.8**).

The module includes a sequence of engaging problems in which students are asked to change 1 hundred for 10 units of ten and to change 10 units of ten for 1 hundred. The assessment task following Topic G culminates this series with variations on the following problem: “Mrs. Ortiz has 21 students in her second- grade class. All of them have 10 fingers and 10 toes. Write the total number of toes of the students using hundreds, tens, and ones. Explain using words, pictures, or numbers.” In order to explain, students must recognize that each child in the problem represents a group of 10 toes. They then count by tens, changing units of ten for 1 hundred as appropriate to find the solution. This transitions into the coming module where students apply their skill of making larger units to work with addition and subtraction.

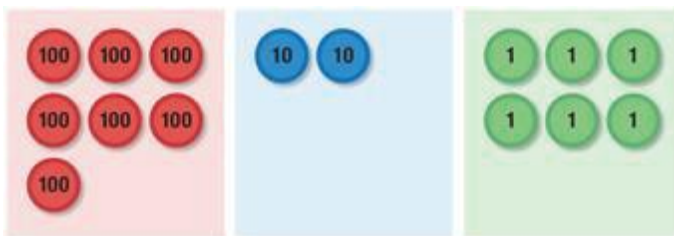
How is this module’s learning foundational to later grades? Understanding 3 tens or 3 units of 10 leads to an understanding of 3 fours or 3 units or groups of four (Grade 3 OA standards), 3 fourths or 3 units of one- fourth (Grade 3 NF standards). Learning that 12 tens = 120 leads to an understanding of 12 tenths = 1.2, 4 thirds = $4/3 = 1\frac{1}{3}$, or even 4 threes = 12. Counting up and down by ones, tens, and hundreds with both the number line and place value chart is

essential from Grade 3 forward for rounding and mental math (Grade 3 NBT standards) to meaningful understanding of all operations with base ten whole numbers (Grade 4 NBT standards) and to understanding place value's extension into decimal fractions and operations (Grade 5 NBT standards).

Terminology

New or Recently Introduced Terms

- Base ten numerals (e.g., a thousand is 10 hundreds, a hundred is 10 tens, starting in Grade 3 a one is 10 tenths, etc.)
- Expanded form (e.g., $500 + 70 + 6$)
- Hundreds place (e.g., the 5 in 576 is in the hundreds place)
- One thousand (1,000)
- Place value or number disk (pictured below)
- Standard form (e.g., 576)
- Unit form (e.g., 5 hundreds 7 tens 6 ones)
- Word form (e.g., five hundred seventy-six)



*Unit form modeled with place value disks:
7 hundreds 2 tens 6 ones = 72 tens 6 ones*

Familiar Terms and Symbols

- =, <, > (equal, less than, greater than)
- Altogether (e.g., 59 centimeters and 17 centimeters; altogether there are 76 centimeters)
- Bundling, grouping (putting smaller units together to make a larger one, e.g., putting 10 ones together to make a ten or 10 tens together to make a hundred)
- How many more/less (the difference between quantities)
- How much more/less (the difference between quantities)
- More than/less than (e.g., 576 is more than 76; 76 is less than 576)
- Number sentence (an equation or inequality that has a true or false value and contains no unknowns, e.g., $3 + 2 = 5$)
- Ones place (e.g., the 6 in 576 is in the ones place)
- Place value (the unitary values of the digits in numbers)
- Renaming, changing (instead of *carrying* or *borrowing*, e.g., a group of 10 ones is renamed a ten when the ones are bundled and moved from the ones to the tens place; if using \$1 bills, they may be changed for a \$10 bill when there are enough)
- Tens place (e.g., the 7 in 576 is in the tens place)
- Units of ones, tens, hundreds, one thousand (a single one and groups of 10s, 100s, and 1,000)

Suggested Tools and Representations

- 2 boxes of 1,000 straws per class of 25
- Clock number line (details in Lesson 1 Fluency Practice)
- Dice, 1 per pair
- Dienes blocks
- Hide Zero cards (also known as place value cards) showing numbers 1–5, 10–50, and 100–500 (1 small set per student) (Lesson 4 Template 1))
- Hundreds place value chart (Lesson 4 Template 2)

hundreds	tens	ones

- Meter strip (Lesson 1 Template)
- Number spelling activity sheet (Lesson 7 Activity Sheet)
- Personal white boards
- Place value box (details in Lesson 4 Concept Development)
- Place value cards to 1,000, 1 large teacher set
- Place value disks: suggested minimum of one set per pair (18 ones, 18 tens and 18 hundreds, and 1 one thousand)



Place Value Disks

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*Unlabeled Hundreds Place Value Chart
(use with number disks)*

- Play money: \$1, \$5, \$10, and \$100 bills (10 ones, 1 five, 12 tens, and 10 hundreds per pair), and a single set of 16 pennies, 13 dimes
- Rubber bands, 16 per pair
- Small plastic bags (baggies)

Grade 2 Module 3 Topic A

Forming Base Ten Units of Ten, a Hundred, and a Thousand

Focus Standard:

- 2.NBT.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. Understand the following as special cases:
- 100 can be thought of as a bundle of ten tens—called a “hundred.”
 - The numbers 100, 200, 300, 400, 500, 600, 700, 800, 900 refer to one, two, three, four, five, six, seven, eight, or nine hundred (and 0 tens and 0 ones).

Instructional Days Recommended: 1

When students gather on the carpet in a circle, the teacher pours out a box of 1,000 straws. “How can we count these easily?” Students are led to suggest that bundles of 10 would make it much easier to count and recount the giant pile of straws. Students skip-count and experience that 1 hundred is equal to both 100 ones and 10 tens (**2.NBT.1a**). Likewise, 1 thousand is equal to both 100 tens and 10 hundreds (**2.NBT.1b**). Just as students added and subtracted centimeter units in Module 2, in Module 3 they skip-count using bundles of straws as units. The efficiency of place value and base ten numbers comes to life as students repeatedly bundle 10 ones to make 1 ten and subsequently bundle 10 tens to make 1 hundred.

**The sample homework responses contained in this manual are intended to provide insight into the skills expected of students and instructional strategies used in Eureka Math.*

Lesson 1

Objective: Bundle and count ones, tens, and hundreds to 1,000.

Homework Key

- 8; 8
- 4; 40
- 3 hundreds
6 tens
8 ones
- 400; 60; 8
468
- Drawings will vary.
40

Homework Samples

1. 2 ones + 8 ones = 10
2 + 8 = 10

2. 6 tens + 4 tens = 1 hundred
60 + 40 = 100

Grade 2 Module 3 Topic B

Understanding Place Value Units of One, Ten, and a Hundred

Focus Standard:

2.NBT.2 Count within 1000; skip-count by 5s, 10s, and 100s.

Instructional Days Recommended: 2

In Topic B, students practice counting by ones and skip-counting by tens and hundreds. They start off with simple counting by ones and tens in Lesson 1, e.g., from 100 to 124 and 124 to 220. In Lesson 2, they count by ones, tens, and hundreds, e.g., from 200 to 432 and from 432 to 1,000 (**2.NBT.2**). They apply their new counting strategies to solve a *change unknown* word problem (**2.OA.1**); “Kinnear decided that he would bike 100 miles this year. If he has biked 64 miles so far, how much farther does he have to bike?”

In counting, students make use of the structure provided by multiples of 10 and 100. Students think in terms of getting to a ten or getting to a hundred. They also identify whether ones, tens, or hundreds are the appropriate unit to count efficiently and effectively. Making this determination requires knowing and understanding structures, similar to knowing the ground on which you are going to build a house and the materials with which you will build.

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Lesson 2

Objective: Count up and down between 100 and 220 using ones and tens.

Homework Key

1. 40, 4; 40
2. a. 14
b. 1
c. 140
3. Explanations will vary.
4. Counting from 68 to 130 using tens and ones appropriately shown; Explanations will vary.
5. 17 bundles of 10 straws are appropriately drawn; 170

Homework Samples

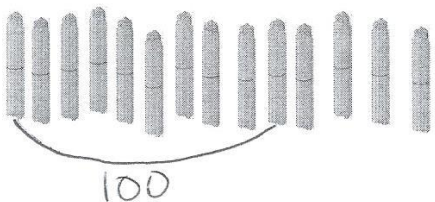
1. How many in all?

40 ones = 4 tens

40 stars in all.



2. These are bundles with 10 sticks in each.

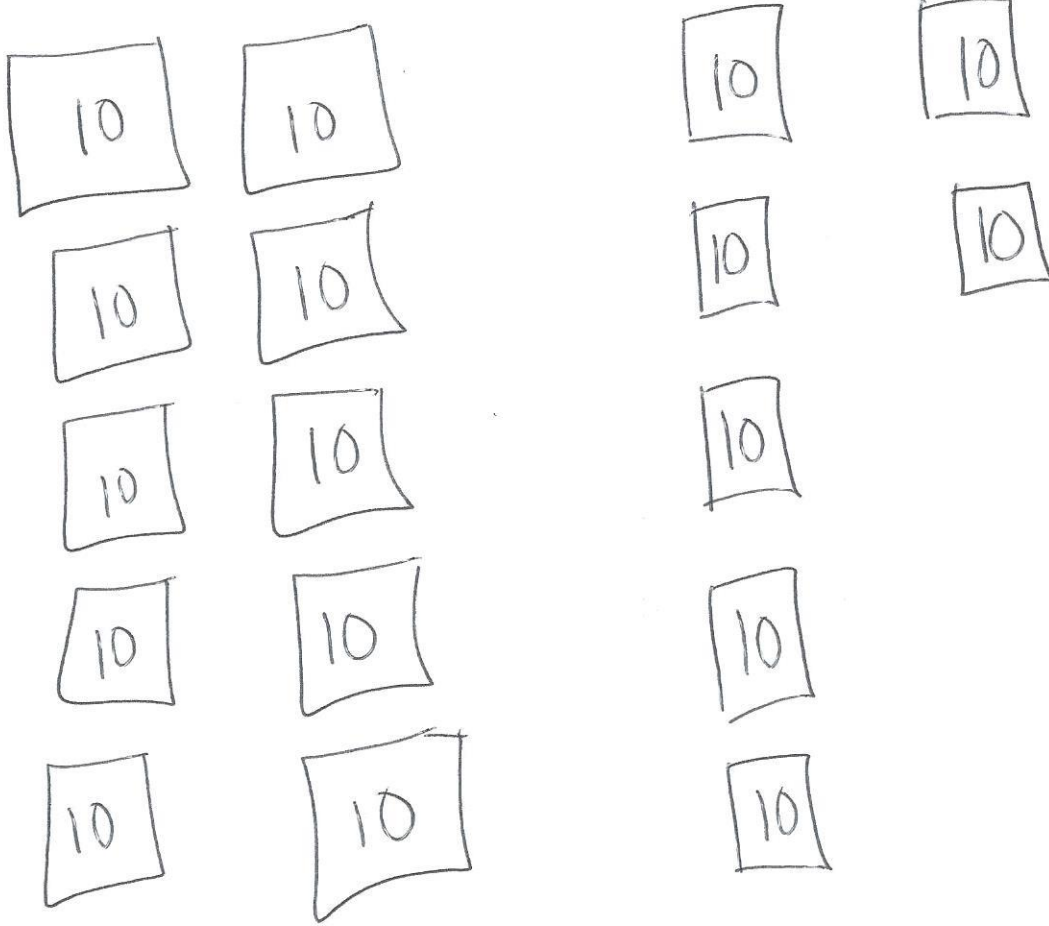


- a. How many tens are there? 14
- b. How many hundreds? 1
- c. How many sticks in all? 140

Lesson 2 (continued)

5. Draw and solve.

In her classroom, Sally made 17 bundles of 10 straws. How many straws did she bundle in all?



$$17 \text{ tens} = 170$$

Lesson 3

Objective: Count up and down between 90 and 1,000 using ones, tens, and hundreds.

Homework Key

- 15, 16, 17, 18, 19; 30, 40
 - 74, 75, 76, 77, 78, 79; 90; 200; 310
 - 66, 67, 68, 69; 80, 90
 - 40, 50, 60, 70, 80, 90; 200, 300
- 344
- Ones, tens, and hundreds appropriately drawn to show counting from 668 to 900
- 232 sticks
 - Hundreds and tens appropriately drawn; 562

Homework Sample

1. Fill in the blanks to reach the benchmark numbers.

a. 14, 15, 16, 17, 18, 19, 20, 30, 40, 50

b. 73, 74, 75, 76, 77, 78, 79, 80, 90, 100, 200, 300, 310, 320

c. 65, 66, 67, 68, 69, 70, 80, 90, 100

d. 30, 40, 50, 60, 70, 80, 90, 100, 200, 300, 400

Benchmark numbers are 10's, 100's or even 1,000.

Grade 2 Module 3 Topic C

Three-Digit Numbers in Unit, Standard, Expanded, and Word Forms

Focus Standard:

2.NBT.3 Read and write numbers to 1000 using base-ten numerals, number names, and expanded form.

Instructional Days Recommended: 2

In Topic C, the teaching sequence opens with students counting on the place value chart by ones from 0 to 124, bundling larger units as possible (**2.NBT.1a**). Next, they represent various counts in numerals, also known as standard form, designating and analyzing benchmark numbers (e.g., multiples of 10) and numbers they bundled to count by a larger unit (**2.NBT.2**).

Next, students work with base ten numerals representing modeled numbers with place value cards, also known as Hide Zero cards, that reveal or hide the value of each place. They represent three-digit numbers as number bonds and gain fluency in expressing numbers in unit form (3 hundreds 4 tens 3 ones), in word form, and on the place value chart. Students then count up by hundreds, tens, and ones, leading them to represent numbers in expanded form (**2.NBT.3**). The commutative property or “switch around rule” allows them to change the order of the units. They practice moving fluidly between word form, unit form, standard form, and expanded form (**2.NBT.3**).

Students are held accountable for naming the unit they are talking about, manipulating, or counting. Without this precision, they run the risk of thinking of

numbers as simply the compilation of numerals 0–9, keeping their number sense underdeveloped.

The final Application Problem involves a found briefcase full of money: 23 ten dollar bills, 2 hundred dollar bills, and 4 one dollar bills. Students use both counting strategies and place value knowledge to find the total value of the money.

**The sample homework responses contained in this manual are intended to provide insight into the skills expected of students and instructional strategies used in Eureka Math.*

Lesson 4

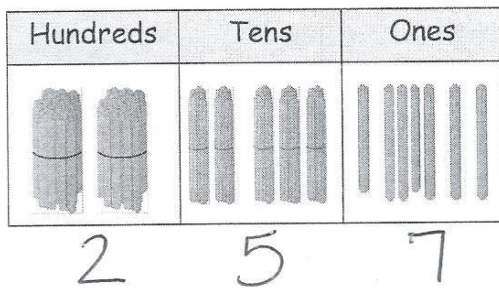
Objective: Count up to 1,000 on the place value chart.

Homework Key

1. 257
2. 1, 0, 0
3. c. thousand
4. 5, 8, 5
5. 1, 2
6. Counting from 170 to 410 using tens and hundreds, at least 1 benchmark number circled
7. 229

Homework Samples

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



Marcos has 257 sticks.

2. Write the number:



Hundreds	Tens	Ones
1	0	0

Lesson 5

Objective: Write base ten three-digit numbers in unit form; show the value of each digit.

Homework Key

- 700
- Whole: 333; parts: 300, 30, 3; unit form: 3 hundreds 3 tens 3 ones
 - Whole: 330; parts: 300, 30; unit form: 3 hundreds 3 tens
 - Whole: 303; parts: 300, 3; unit form: 3 hundreds 3 ones
- Lines are drawn to show the following:
 - 1 hundred 1 one = 101
 - 1 ten 1 one = 11
 - 7 tens 1 one = 71
 - 7 hundreds 1 one = 701
 - 1 hundred 1 ten = 110
 - 7 hundreds 1 ten = 710

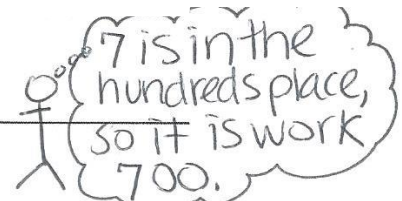
Homework Samples

1. What is the value of the 7 in

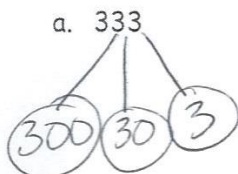
7	6	4
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 ?

700

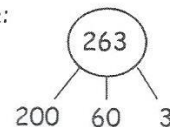


2. Make number bonds to show the hundreds, tens, and ones in each number. Then, write the number in unit form.



3 hundreds 3 tens 3 ones

Example:



2 hundreds 6 tens 3 ones

Lesson 6

Objective: Write base ten numbers in expanded form.

Homework Key

- | | | | |
|----|--------|----|-------------------|
| 1. | a. 230 | 2. | a. 244 |
| | b. 40 | | b. 399 |
| | c. 960 | | c. 125 |
| | d. 470 | | d. 650 |
| | e. 850 | | e. 403 |
| | f. 519 | | f. 976 |
| | g. 417 | 3. | a. $500 + 30 + 3$ |
| | h. 14 | | b. $300 + 50 + 5$ |
| | i. 913 | | c. $60 + 7$ |
| | j. 815 | | d. $400 + 60$ |
| | k. 590 | | e. $800 + 1$ |
| | l. 213 | | |
| | m. 916 | | |

Homework Samples

1. Match the numerals with the number names.

- | | |
|---------------------------|-----|
| a. Two hundred thirty | 14 |
| b. Forty | 913 |
| c. Nine hundred sixty | 470 |
| d. Four hundred seventy | 916 |
| e. Eight hundred fifty | 519 |
| f. Five hundred nineteen | 815 |
| g. Four hundred seventeen | 213 |
| h. Fourteen | 40 |
| i. Nine hundred thirteen | 230 |
| j. Eight hundred fifteen | 960 |
| k. Five hundred ninety | 417 |
| l. Two hundred thirteen | 850 |
| m. Nine hundred sixteen | 590 |
-

Lesson 6 (continued)

2. Write the answer in number form.

a. $1 + 1 + 1 + 1 + 10 + 10 + 10 + 10 + 100 + 100 = \underline{244}$

b. $300 + 90 + 9 = \underline{399}$

c. $\underline{125} = 5 + 100 + 20$

Lesson 7

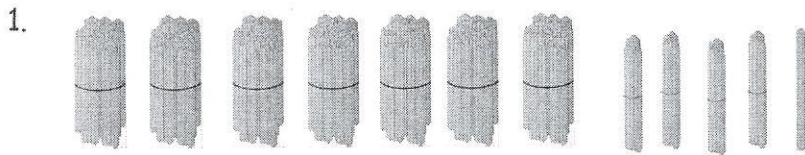
Objective: Write, read, and relate base ten numbers in all forms.

Homework Key

- | | | | | |
|----|----|-------------------------|----|---------------|
| 1. | a. | 741 | 3. | 30 |
| | b. | $700 + 40 + 1$ | 4. | 6 |
| | c. | Seven hundred forty-one | 5. | 221, 212, 122 |
| 2. | a. | 560 | | |
| | b. | $500 + 60$ | | |
| | c. | Five hundred sixty | | |

Homework Sample

These are bundles of hundreds, tens, and ones. Write the standard form, expanded form, and word form for each number shown.



a. Standard Form 741

b. Expanded Form $700 + 40 + 1$

c. Word Form Seven hundred forty one

Grade 2 Module 3 Topic D

Modeling Base Ten Numbers Within 1,000 with Money

Focus Standard:

2.NBT.2 Count within 1000; skip-count by 5s, 10s, and 100s.

Instructional Days Recommended: 3

Further building their place value understanding, students count by one dollar bills up to \$124, repeating the process done in Lesson 4 with bundles. Using bills, however, presents a new option. A set of 10 ten dollar bills can be traded or changed for a 1 hundred dollar bill, driving home the equivalence of the two amounts, an absolutely essential Grade 2 place value understanding (**2.NBT.1a**).

Next, students see that 10 bills can have a value of \$10 or \$1,000 but appear identical aside from their printed labels (**2.NBT.1**, **2.NBT.3**). A bill's value is determined by what it represents. Students count by ones, tens, and hundreds (**2.NBT.2**) to figure out the values of different sets of bills.

As students move back and forth from money to numerals, they make connections to place value that help them see the correlations between base ten numerals and corresponding equivalent denominations of one, ten, and hundred dollar bills.

Word problems can be solved using both counting and place value strategies. For example, "Stacey has \$154. She has 14 one dollar bills. The rest is in \$10 bills. How many \$10 bills does Stacey have?" (**2.NBT.2**). Lesson 10 is an exploration to uncover the number of \$10 bills in a \$1,000 bill discovered in grandfather's trunk in the attic. (Note that the 1,000 dollar bill is no longer in circulation.)

**The sample homework responses contained in this manual are intended to provide insight into the skills expected of students and instructional strategies used in Eureka Math.*

Lesson 8

Objective: Count the total value of \$1, \$10, and \$100 bills up to \$1,000.

Homework Key

1. \$91; \$217
2. \$100, \$10, \$10, \$10, \$10, \$10, \$10, \$10, \$10, \$1, \$1; \$100, \$100, \$10, \$10, \$1, \$1, \$1, \$1, \$1, \$1
3. Bills appropriately drawn; \$44

Homework Samples

1. Write the total value of the money.

\$10	\$10	\$10	\$10	\$10
\$10	\$10	\$10	\$10	\$1

\$91

\$100	\$100	\$10	\$1	\$1
\$1	\$1	\$1	\$1	\$1

\$217

2. Fill in the bills with \$100, \$10, or \$1 to show the amount.

\$100	\$10	\$10	\$10	\$10
\$10	\$10	\$10	\$1	\$1

\$172

Lesson 9

Objective: Count from \$10 to \$1,000 on the place value chart and the empty number line.

Homework Key

- \$1000
 - \$100
 - \$10
 - \$532
- Answers will vary. Count shows \$430.
- Recordings will vary. Count shows \$414.
- \$50

Homework Samples

- Write the total amount of money shown in each group.

a.

\$100	\$100
\$100	\$100
\$100	\$100
\$100	\$100
\$100	\$100

 b.

\$10	\$10
\$10	\$10
\$10	\$10
\$10	\$10
\$10	\$10
\$10	\$10

 c.

\$1	\$1
\$1	\$1
\$1	\$1
\$1	\$1
\$1	\$1

 d.

\$10	\$100
\$10	\$100
\$10	\$100
\$100	\$1
\$100	\$1

\$1,000 \$100 \$10 \$532

- Show one way to count from \$82 to \$512.

82, 92, 102, 112, 212, 312, 412, 512

↑ +10 ↑ +10 ↑ +10 ↑ +100 ↑ +100 ↑ +100 ↑ +100

Lesson 10

Objective: Explore \$1,000. How many \$10 bills can we change for a thousand dollar bill?

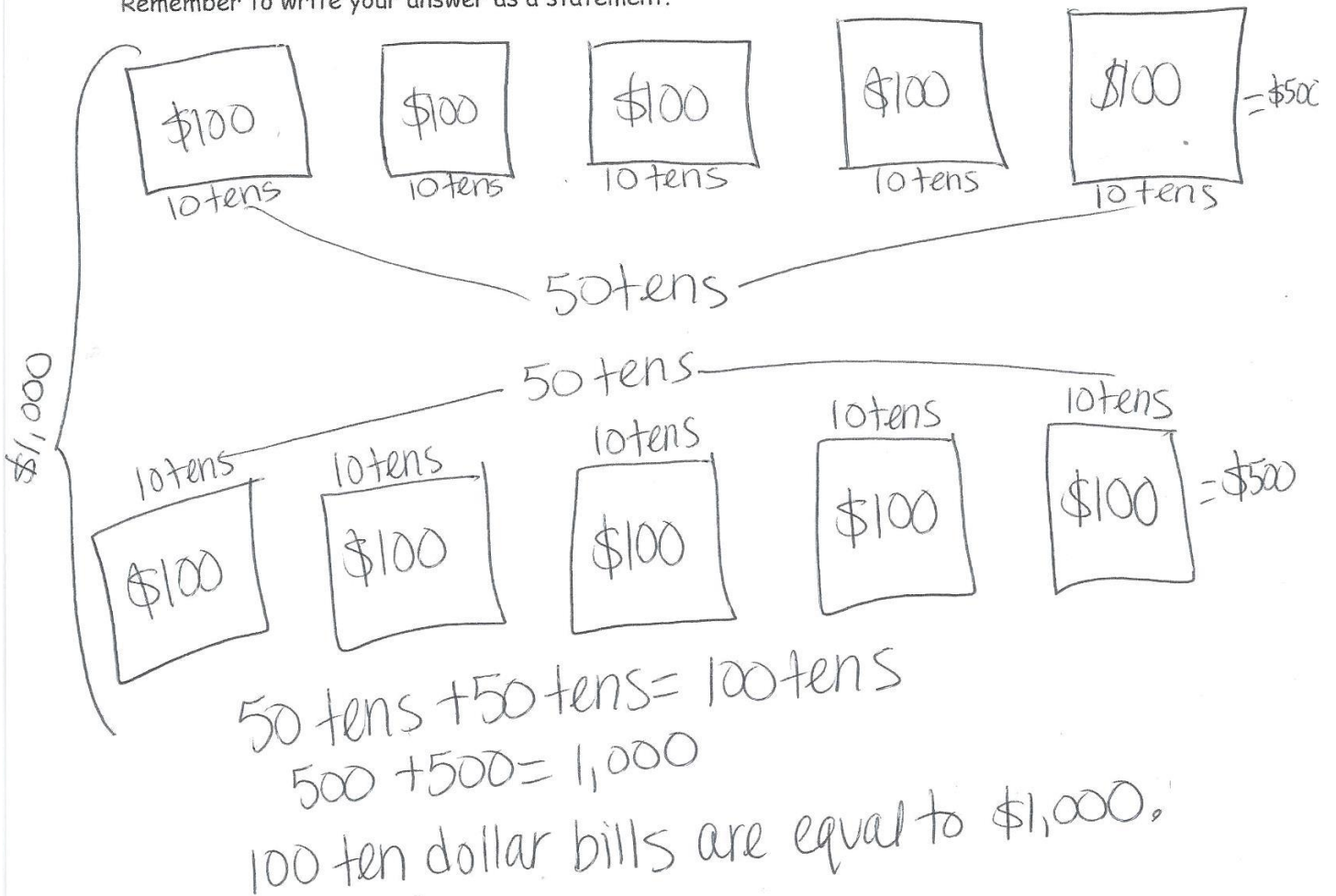
Homework Key

Drawings and explanations will vary. There are 100 \$10 bills in a \$1000.

Homework Sample

Jerry wonders, "How many \$10 bills are equal to a \$1,000 bill?"

Think about the strategies your friends used to answer Jerry's question. Answer the problem again using a different strategy than the one you used with your partner and for the Exit Ticket. Explain your solution using words, pictures, or numbers. Remember to write your answer as a statement.



Grade 2 Module 3 Topic E

Modeling Base Ten Numbers Within 1,000 with Place Value Disks

Focus Standard:

2.NBT.A Understand place value.

Instructional Days Recommended: 5

In Topic E, students transition to the more abstract place value disks that will be used through Grade 5 for modeling very large and very small numbers. The foundation has been carefully laid for this moment since Kindergarten, when students first learned how much a number less than 10 needs to make ten. Students repeat the counting lessons of the bundles and money, but with place value disks (**2.NBT.2**).

The three representations: bundles, money, and disks, each play an important role in the students' deep internalization of the meaning of each unit on the place value chart (**2.NBT.1**). Like bills, disks are “traded,” “renamed,” or “changed for” a unit of greater value (**2.NBT.2**).

Finally, students evaluate numbers in unit form with more than 9 ones or tens, for example, 3 hundreds 4 tens 15 ones and 2 hundreds 15 tens 5 ones. Topic E also culminates with a problem-solving exploration in which students use counting strategies to solve problems involving pencils that come in boxes of 10 (**2.NBT.2**).

**The sample homework responses contained in this manual are intended to provide insight into the skills expected of students and instructional strategies used in Eureka Math.*

Lesson 11

Objective: Count the total value of ones, tens, and hundreds with place value disks.

Homework Key

- | | | | |
|----|---|----|---|
| 1. | a. Fifteen
1 ten 5 ones | 2. | a. Forty-two
4 tens 2 ones |
| | b. One hundred fifty-two
1 hundred 5 tens 2 ones | | b. Four hundred twenty
4 hundreds 2 tens |
| | c. One hundred two
1 hundred 2 ones | | c. Three hundred twenty
3 hundreds 2 tens |
| | d. Two hundred ninety
2 hundreds 9 tens | | d. Four hundred two
4 hundreds 2 ones |
| | e. Three hundred
3 hundreds | | e. Four hundred forty-two
4 hundreds 4 tens 2 ones |
| | | | f. Fifty-three
5 tens 3 ones |
| | | | g. Five hundred thirty
5 hundreds 3 tens |
| | | | h. Five hundred twenty
5 hundreds 2 tens |
| | | | i. Five hundred three
5 hundreds 3 ones |
| | | | j. Fifty-five
5 tens 5 ones |

Homework Sample

Note: Distribute the place value disk template. Students may cut it apart and store the place value disks in a baggie for use at home.

1. Model the following numbers for your parent using the fewest disks possible.
Whisper the numbers in standard form and unit form (1 hundred 3 tens 4 ones).

- a. 15 ——— (10) (1) (1) (1) (1) (1)
- b. 152 ——— (100) (10) (10) (10) (10) (10) (1) (1)
- c. 102 ——— (100) (1) (1)
- d. 290 ——— (100) (100) (10) (10) (10) (10) (10) (10) (10) (10)
- e. 300 ——— (100) (100) (100)

Lesson 12

Objective: Change 10 ones for 1 ten, 10 tens for 1 hundred, and 10 hundreds for 1 thousand.

Homework Key

1. No; 3 ones
2. No; 8 ones
3. Yes; 1 hundred
4. No; 2 ones
5. No; 7 ones
6. Yes; 1 ten

Homework Samples

Count by ones from 368 to 500. Change for a larger unit when necessary.

When you counted from 368 to 500:

Did you make a larger unit at...	Yes, I changed to make:	No, I need _____
1. 377?	1 ten 1 hundred	3 ones. — tens. <i>I need 3 more ones which would make 38</i>
2. 392?	1 ten 1 hundred	8 ones. — tens.
3. 400?	1 ten 1 hundred	— ones. — tens.
4. 418?	1 ten 1 hundred	2 ones. — tens.
5. 463?	1 ten 1 hundred	7 ones. — tens.
6. 470?	1 ten 1 hundred	— ones. — tens.

Lesson 13

Objective: Read and write numbers within 1,000 after modeling with place value disks.

Homework Key

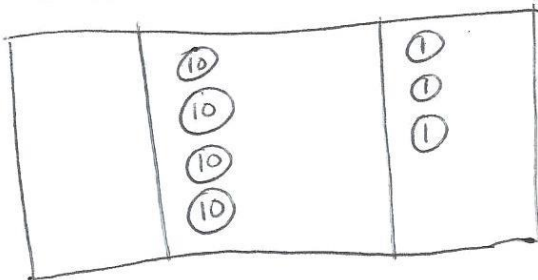
1. Draws 4 ten-disks, 3 one-disks
2. Draws 4 hundred-disks, 3 ten-disks
3. Draws 2 hundred-disks, 7 ten-disks
4. Draws 7 hundred-disks, 2 ten-disks
5. Draws 7 hundred-disks, 2 one-disks
6. Draws 9 hundred-disks, 3 ten-disks, 6 one-disks

*Answers are not included for the questions at the bottom of the homework page.

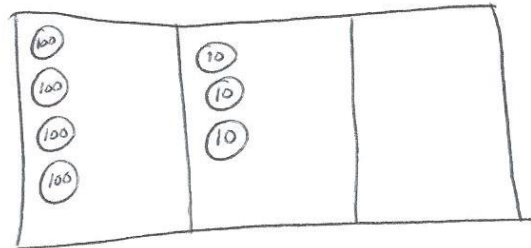
Homework Samples

Draw place value disks to show the numbers.

1. 43



2. 430



Lesson 14

Objective: Model numbers with more than 9 ones or 9 tens; write in expanded unit standard, and word forms.

Homework Key

1.
 - a. 1, 6
16
 - b. 2, 1, 7
2, 17
 - c. 3, 2, 0
32, 0
 - d. 1, 3, 9
13, 9
 - e. 4, 7, 3
47, 3
 - f. 6, 8
68
 - g. 8, 17
81, 7
 - h. 9, 21
92, 1
2. Answers will vary.

Homework Sample

1. Whisper-talk the numbers and words as you fill in the blanks.

a. $16 = \underline{1}$ tens $\underline{6}$ ones

$16 = \underline{16}$ ones

b. $217 = \underline{2}$ hundreds $\underline{1}$ tens $\underline{7}$ ones

$217 = \underline{2}$ hundreds $\underline{17}$ ones

c. $320 = \underline{3}$ hundreds $\underline{2}$ tens $\underline{0}$ ones

$320 = \underline{32}$ tens $\underline{0}$ ones

Lesson 14 (continued)

d. 139 = 1 hundreds 3 tens 9 ones

139 = 13 tens 9 ones

e. 473 = 4 hundreds 7 tens 3 ones

473 = 47 tens 3 ones

f. 680 = 6 hundreds 8 tens

680 = 68 tens

g. 817 = 8 hundreds 17 ones

817 = 81 tens 7 ones

h. 921 = 9 hundreds 21 ones

921 = 92 tens 1 ones

Lesson 15

Objective: Explore a situation with more than 9 groups of ten.

Homework Key

1. 13

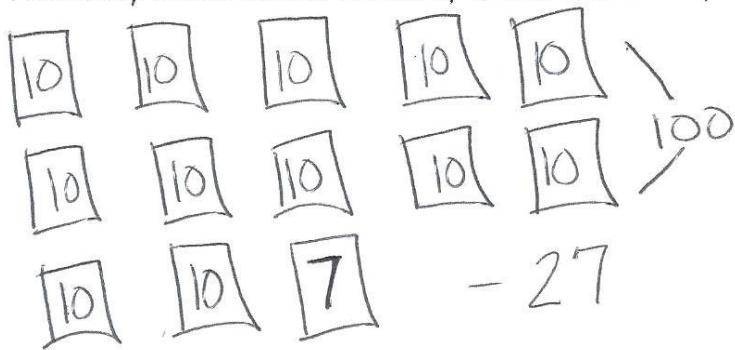
2. 3

3. 70

Homework Sample

Pencils come in boxes of 10.

1. How many boxes should Erika buy if she needs 127 pencils?



Erika would need to buy 13 boxes to have enough pencils.

Grade 2 Module 3 Topic F

Comparing Two Three-Digit Numbers

Focus Standard:

2.NBT.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.

Instructional Days Recommended: 3

Place value disks make comparison of numbers very easy. *More than* and *less than* lead to addition and subtraction in the next module. In Lesson 16, students compare numbers using the symbols $<$, $>$, and $=$ on the place value chart. Next, students advance to comparing different forms (**2.NBT.4**), and finally, in Lesson 18, they apply their comparison and place value skills to order more than two numbers in different forms.

**The sample homework responses contained in this manual are intended to provide insight into the skills expected of students and instructional strategies used in Eureka Math.*

Lesson 16

Objective: Compare two three-digit numbers using $<$, $>$, and $=$.

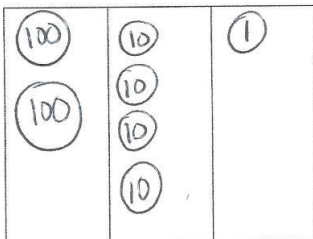
Homework Key

1.
 - a. Draws 2 hundreds, 4 tens, 1 one
 - b. Draws 4 hundreds, 1 ten, 2 ones
 - c. Draws 1 hundred, 2 tens, 4 ones
 - d. 124, 241, 412
2.
 - a. Less than
 - b. Less than
 - c. Greater than
 - d. Greater than
 - e. Less than
 - f. Greater than
3.
 - a. $>$
 - b. $<$
 - c. $<$
 - d. $=$
 - e. $>$
 - f. $>$
 - g. $=$
 - h. $<$

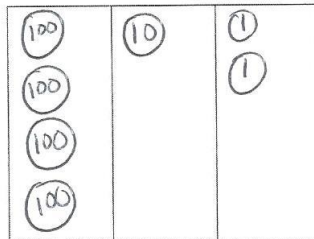
Homework Sample

1. Draw the following numbers using place value disks on the place value charts.
Answer the questions below.

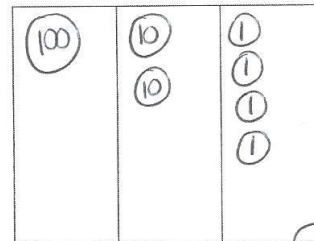
a. 241



b. 412



c. 124



- d. Order the numbers from least to greatest: 124, 241, 412

I looked in the hundreds place to help determine least to greatest.

Lesson 17

Objective: Compare two three-digit numbers using $<$, $>$, and $=$ when there are more than 9 ones or 9 tens.

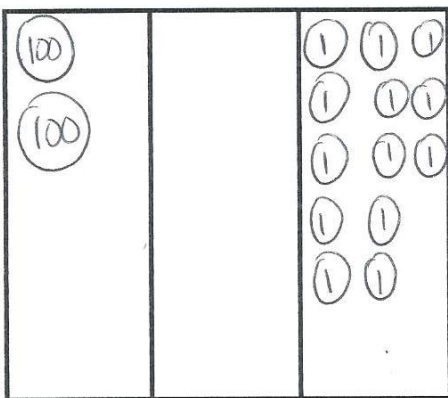
Homework Key

1. a. Draws 2 hundreds, 13 ones
b. Draws 12 tens, 8 ones
Circles $>$
2. a. $>$
b. $>$
c. $<$
d. $=$
e. $>$
f. $<$
g. $<$
h. $=$
i. $>$
j. $>$
k. $>$
l. $>$

Homework Sample

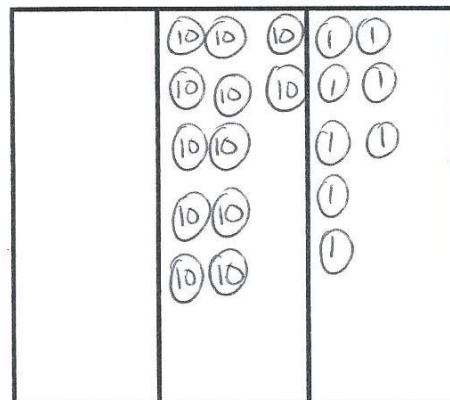
Whisper count as you show the numbers with place value disks. Circle $>$, $<$, or $=$.

a. Draw 13 ones and 2 hundreds.



$<$
 $=$
 $>$

b. Draw 12 tens and 8 ones.



Lesson 18

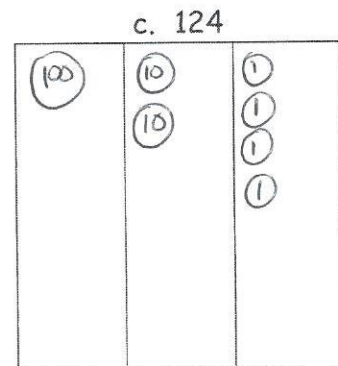
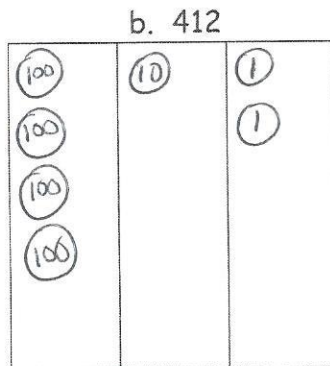
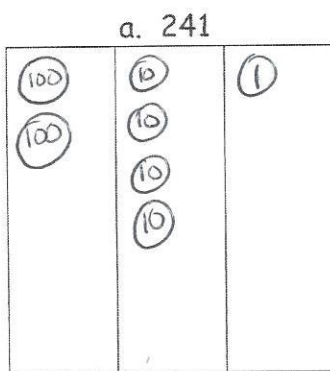
Objective: Order numbers in different forms.

Homework Key

- Draws place value disks to show 241
 - Draws place value disks to show 412
 - Draws place value disks to show 124
 - 124, 241, 412
- 263, 537, 912
 - 203, 213, 230
 - 485, 845, 854
- 311, 311, 311
 - 970, 907, 890
 - 451, 415, 154

Homework Sample

- Draw the following values on the place value charts as you think best.



- d. Order the numbers from least to greatest: 124, 241, 412

Grade 2 Module 3 Topic G

Finding 1, 10, and 100 More or Less Than a Number

Focus Standard:

2.NBT.2 Count within 1000; skip-count by 5s, 10s, and 100s

Instructional Days Recommended: 3

The module closes with questions such as, “What number is 10 less than 402?” and “What number is 100 more than 98?” As students have been counting up and down throughout the module, these three lessons should flow nicely out of their work thus far (**2.NBT.2**). They provide a valuable transition to the addition and subtraction of the coming module where *more* and *less* will be re-interpreted as addition and subtraction of one, ten, and a hundred (**2.NBT.8**). The language component of this segment is essential, too. Students need to be encouraged to use their words to make statements such as, “452 is 10 less than 462 and 100 less than 562.” This allows for greater understanding of comparison word problems (**2.OA.1**) wherein the language of *more* and *less* is a constant presence.

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Lesson 19

Objective: Model and use language to tell about 1 more and 1 less, 10 more and 10 less, and 100 more and 100 less.

Homework Key

1. 246; 335; 457; 581; 772; 914
46; 135; 257; 381; 572; 714
156; 245; 367; 491; 682; 824
136; 225; 347; 471; 662; 804
147; 236; 358; 482; 673; 815
145; 234; 356; 480; 671; 813

2. a. 104
b. 388
c. 445
d. 100
e. 10
f. 1
g. 618
h. 556
i. 918
j. 964

Homework Sample

1. Fill in the chart. Whisper the complete sentence: "___ more/less than ___ is ___."

	146	235	357	481	672	814
100 more	246	335	457	581	772	914
100 less	46	135	257	381	572	714
10 more	156	245	367	491	682	824
10 less	136	225	347	471	662	804
1 more	147	236	358	482	673	815
1 less	145	234	356	480	671	813

Lesson 20

Objective: Model 1 more and 1 less, 10 more and 10 less, and 100 more and 100 less when changing the hundreds place.

Homework Key

1. a. 159
- b. 402
- c. 325
- d. 1
- e. 10
- f. 694
- g. 1,086
- h. 825

Homework Sample

1. Fill in the blanks. Whisper the complete sentence.

- | | |
|--------------------------------------|---------------------------------------|
| a. 1 less than 160 is <u>159</u> . | e. <u>10</u> more than 691 is 701. |
| b. 10 more than 392 is <u>402</u> . | f. 10 more than <u>694</u> is 704. |
| c. 100 less than 425 is <u>325</u> . | g. 100 less than <u>1,086</u> is 986. |
| d. <u>1</u> more than 549 is 550. | h. 10 less than <u>825</u> is 815. |

Lesson 21

Objective: Complete a pattern counting up and down.

Homework Key

1. a. 398, 399, 400, 401
- b. 451, 551, 651, 751
- c. 496, 506, 516, 526
- d. 610, 600, 590, 580
- e. 210, 211, 212
- f. 416, 516; 816
- g. 537; 517; 497
- h. 682; 702, 712

Homework Sample

1. Find the pattern. Fill in the blanks.

a. 396, 397, 398, 399, 400, 401

b. 251, 351, 451, 551, 651, 751

c. 476, 486, 496, 506, 516, 526

d. 630, 620, 610, 600, 590, 580

e. 208, 209, 210, 211, 212, 213

f. 316, 416, 516, 616, 716, 816

g. 547, 537, 527, 517, 507, 497

h. 672, 682, 692, 702, 712



