1.1 Number: Writing three-digit numerals and number names

In this lesson, students practice writing three-digit numbers with the support of base-10 blocks and numeral expanders.

Step 1 Preparing the lesson

You will need:

- base-10 blocks (hundreds, tens, and ones)
- 1 set of base-10 picture cards from *The Number Case*

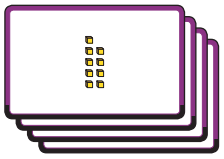
Each group of (three) students will need:

- 1 set of base-10 picture cards from *The Number Case*
- access to base-10 blocks (hundreds, tens, and ones)
- three-digit numeral expander from *The Number Case*
- non-permanent marker
- 1 copy of Blackline Master 1.10
  (*Note:* Print on card stock and cut out ahead of time.)
- scissors

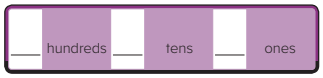
Each student will need:

- Student Journal 1.1

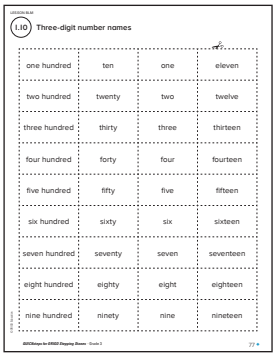
Base-10 picture cards



Three-digit expander



Blackline Master 1.10



Step 2 Starting the lesson

Organize students into groups of three, and distribute the resources. Write 423, 234, and 342 on numeral expanders and show the class (or use the *Flare Place Value* online tool). Ask groups of three students to show each amount with base-10 blocks (either cards or blocks, **SMP5**). Discuss what is the same and what is different about each number. Ask questions such as, *Where is the 2 in each number? Are they worth the same? Why or why not?* Bring out the fact that the different positions of the 2 mean that the values will be different. Repeat with other three-digit numbers.

Step 3 Teaching the lesson

Place the base-10 picture cards facedown in three piles according to place value (hundreds, tens, and ones) at the front of the room. Ask three volunteers to come to the front and have the first student select one card from each pile and show the cards to the whole class. The second student then writes the number represented in the pictures on the expander and the third student then writes the numeral on the board and says the number aloud. Repeat the same process with different students and numbers. Be sure to include teen numbers such as 412, or numbers with internal zeros, such as 705, in the example. Discuss the points below:

How do we say this number?

How many hundreds are in this number? How many tens?

How many ones are in the number?

How else could you represent this number? (**SMP4**)

Have the students repeat this activity in their groups, taking turns to select the base-10 picture cards, writing the number on the expander, and forming the three-digit number name, using the number name cards from the blackline master (**SMP4**).

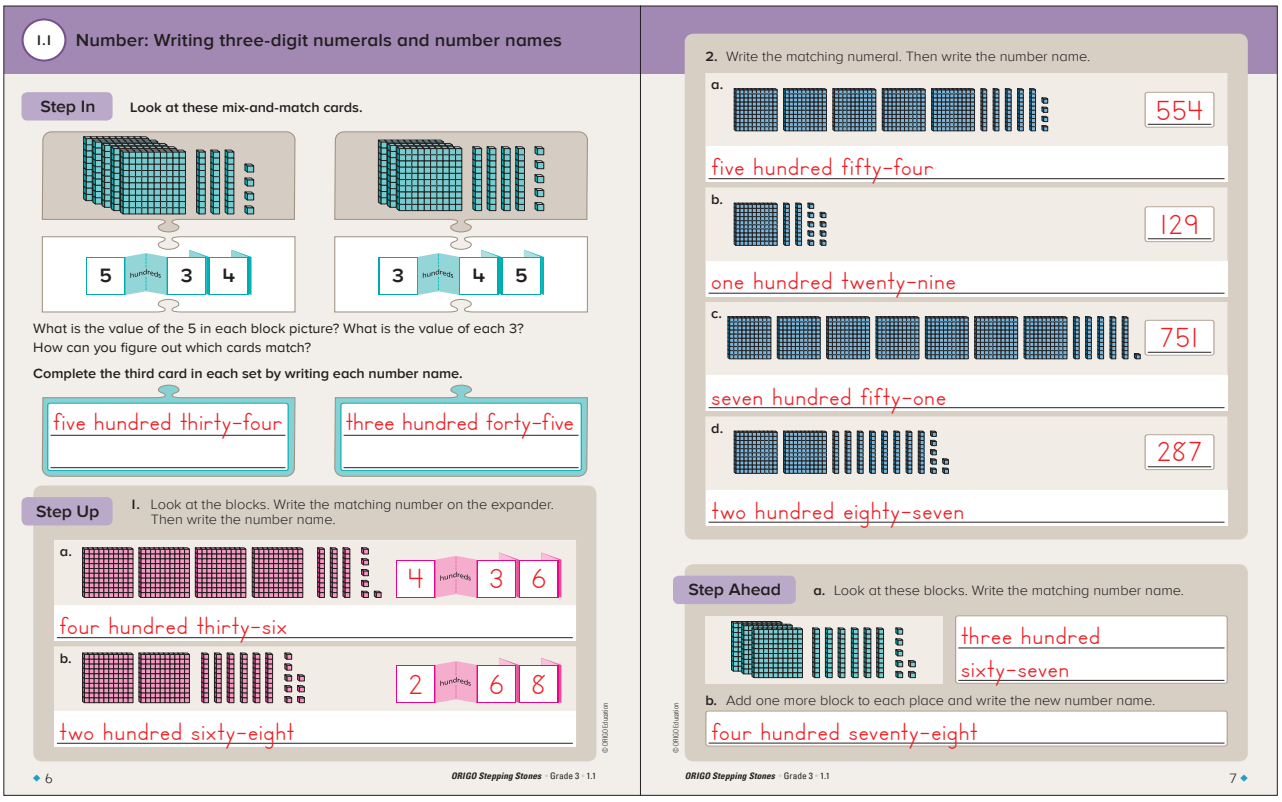
ELL

Invite the students to repeat to another student the number name for each number created. Provide the students with base-10 blocks to scaffold language being heard in the lesson, if necessary.

Developmental activity

Developing place-value understanding supports the additional cluster, 3.NBT.A (Use place value understanding and properties of operations to perform multi-digit arithmetic), which in turn supports the major cluster, 3.OA.D (Solve problems involving the four operations, and identify and explain patterns in arithmetic).

Student Journal 1.1, pp. 6–7



1.1 Number: Writing three-digit numerals and number names

Step In Look at these mix-and-match cards.

5 hundreds 3 4

3 hundreds 4 5

What is the value of the 5 in each block picture? What is the value of each 3?
How can you figure out which cards match?

Complete the third card in each set by writing each number name.

five hundred thirty-four

three hundred forty-five

Step Up 1. Look at the blocks. Write the matching number on the expander. Then write the number name.

a. 4 hundreds 3 6

four hundred thirty-six

b. 2 hundreds 6 8

two hundred sixty-eight

6

ORIGO Stepping Stones · Grade 3 · 1.1

2. Write the matching numeral. Then write the number name.

a. 554

five hundred fifty-four

b. 129

one hundred twenty-nine

c. 751

seven hundred fifty-one

d. 287

two hundred eighty-seven

Step Ahead a. Look at these blocks. Write the matching number name.

three hundred sixty-seven

b. Add one more block to each place and write the new number name.

four hundred seventy-eight

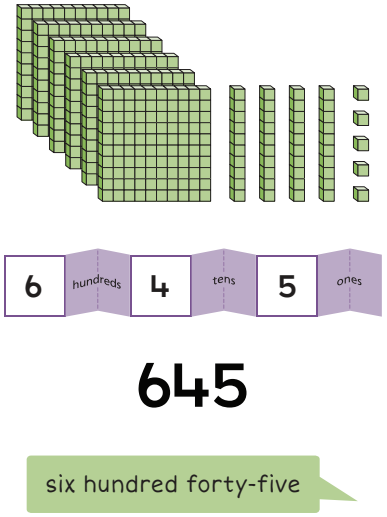
ORIGO Stepping Stones · Grade 3 · 1.1

7

Work through the Step In discussion (Student Journal 1.1) with the whole class. Focus students' attention on how the pictures are parts of a puzzle that go together. Read the Step Up and Step Ahead instructions with the students. Make sure they know what to do and then have them work independently to complete the tasks.

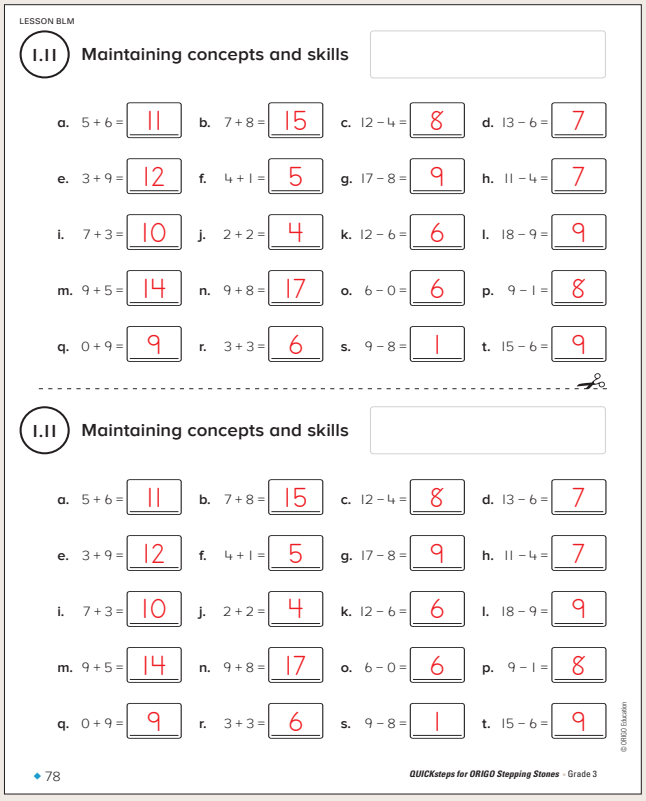
Step 4 Reflecting on the work

Discuss the students' answers to Student Journal 1.1. Discuss how there are special words in the English language that describe the amount of both tens and ones. Write the teen number names on the board and ask, *How many tens and ones are represented with these words? What amount is the same for each word?* (A group of ten.) *What amount is different for each word?* (The amount of ones.) *Are there any clues that help us know how many ones there are?* Bring out that for some of the words the amount is contained in the word (for example, fourteen) but for others we have to just remember (for example, eleven). Remind students that when there are at least two groups of ten we put two words together, separated by a hyphen (for example, twenty-six).



Maintaining concepts and skills

Make copies of Blackline Master 1.11. Cut the page in half and give each student one strip to complete. Alternatively, write the equations on the board and have the students copy and complete them, or just write the answers.



LESSON BLM

1.11 Maintaining concepts and skills

a. 5 + 6 = 11	b. 7 + 8 = 15	c. 12 − 4 = 8	d. 13 − 6 = 7
e. 3 + 9 = 12	f. 4 + 1 = 5	g. 17 − 8 = 9	h. 11 − 4 = 7
i. 7 + 3 = 10	j. 2 + 2 = 4	k. 12 − 6 = 6	l. 18 − 9 = 9
m. 9 + 5 = 14	n. 9 + 8 = 17	o. 6 − 0 = 6	p. 9 − 1 = 8
q. 0 + 9 = 9	r. 3 + 3 = 6	s. 9 − 8 = 1	t. 15 − 6 = 9

1.11 Maintaining concepts and skills

a. 5 + 6 = 11	b. 7 + 8 = 15	c. 12 − 4 = 8	d. 13 − 6 = 7
e. 3 + 9 = 12	f. 4 + 1 = 5	g. 17 − 8 = 9	h. 11 − 4 = 7
i. 7 + 3 = 10	j. 2 + 2 = 4	k. 12 − 6 = 6	l. 18 − 9 = 9
m. 9 + 5 = 14	n. 9 + 8 = 17	o. 6 − 0 = 6	p. 9 − 1 = 8
q. 0 + 9 = 9	r. 3 + 3 = 6	s. 9 − 8 = 1	t. 15 − 6 = 9

Small group differentiation

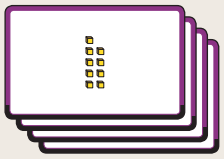
Extra help

Each pair of students will need:

- base-10 picture cards from *The Number Case*
- three-digit numeral expander from *The Number Case*
- non-permanent marker

Organize students into pairs and distribute the resources. Have one student in each pair write a three-digit number on the expander and the other student use the cards to make a picture of the same number. The students then practice saying the number and writing the number in words. Students then alternate roles.

Base-10 picture cards



Three-digit expander

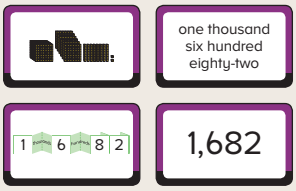
Extra practice

You will need:

- three-digit mix-and-match cards showing numeral expanders and number names from *The Number Case*

Have students compare their cards to find the student with the matching card. Collect the cards and repeat the activity several times.

Three-digit mix-and-match cards



Extra challenge

Each group of students will need:

- 1 copy of Blackline Master 1.12
- scissors

Organize students into groups and distribute the resources. Have the students cut out and sort the cards into three mixed, facedown piles: hundreds, tens, and ones. Students then take turns to select one card from each pile. They then write the number name represented by their cards. Repeat as time allows.

Blackline Master 1.12


1.12 Hundreds, tens, and ones cards

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

1.2 Number: Identifying three-digit numbers on a number line

In this lesson, students use number lines to explore the relative position of three-digit numbers. They work with number lines that are broken into intervals of 1, 10, and 100.

Step 1 Preparing the lesson

Each student will need:

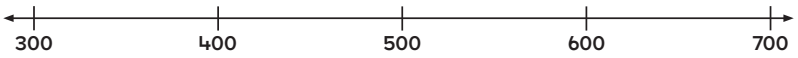
- Student Journal 1.2

Step 2 Starting the lesson

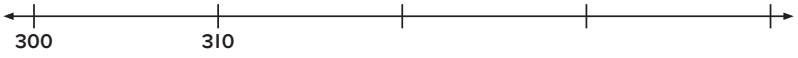
Say, *Today, we are going to count around the room by ones from a three-digit number. I will say the first number, then (Caleb) will say the next number and the count will move from desk to desk.* Ensure students know the order of the count and then say, *Ready? Four hundred sixty-seven.* Have the students continue the count, stopping when all students have had a turn, then repeat for a different starting number.

Step 3 Teaching the lesson

Draw the number line (shown below) on the board and ask, *Where is 450 on this number line? How do you know?* Encourage students to explain that it is halfway between 400 and 500. Draw a mark on the number line to show this point. Students can then come to the front and draw more lines to break the whole number line into smaller but equal intervals of 50. Bring out the fact that number lines are always broken into intervals of equal length.



Draw the next number line (shown below) and ask, *What numbers could we write at the marks? How do you know?* Have the students count in steps of 10 to identify the missing numbers. Invite students to write the number at each mark. Then ask, *Where is 335 on this number line? How do you know?* Encourage students to explain that it is halfway between 330 and 340. Draw a mark on the number line to show this point. Students can then come to the front and draw more lines to break the whole number line into smaller but equal intervals of 5. The position of other numbers between 300 and 340 can then be identified.



Draw an empty number line on the board. Write 505, 650, and 580 below the number line and say, *This number line is empty. There are no numbers marked.* Point to the numbers that are written below the number line as you discuss the points below:

How could you locate the position of each of these numbers?

Do you have to mark 0 on the number line? (No.)

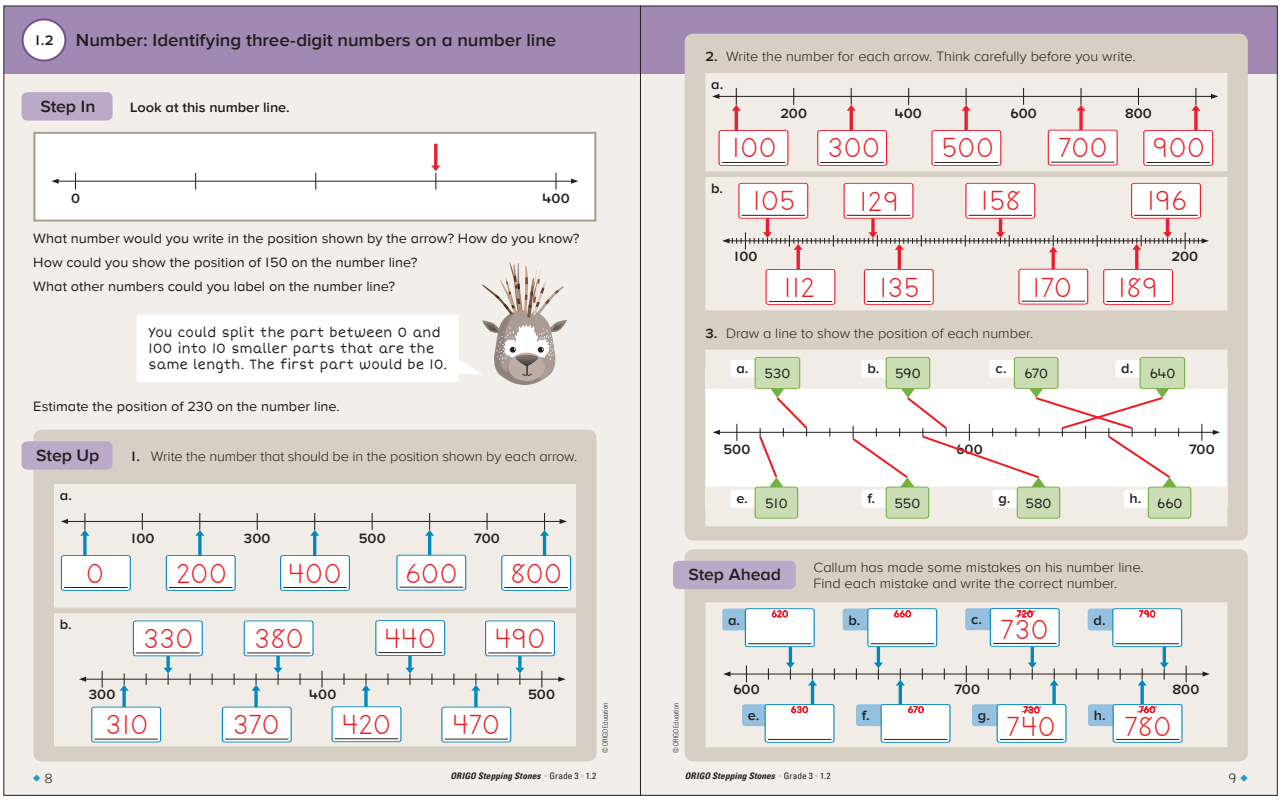
How did you decide what numbers to mark at the start and end of the number line?

ELL

Allow students to discuss the number line model before continuing on with the activity.

Developmental activity
Working with position on a number line reinforces rounding and so supports the major cluster, 3.OA.D (Solve problems involving the four operations, and identify and explain patterns in arithmetic).

Student Journal 1.2, pp. 8–9



Invite students to share their ideas. They should talk about the relative position of each number. For example, "650 is on the far right-hand side," or "580 is in the middle" (**SMP3**). If necessary, suggest that the number line starts at 500 and ends at 700. Intervals of 100 or 50 can then be marked. Students can then justify the position of each number (**SMP2**).

Work through the Step In discussion (Student Journal 1.2) with the whole class. Read the Step Up and Step Ahead instructions with the students. Make sure they know what to do, then have them work independently to complete the tasks.

Step 4 Reflecting on the work

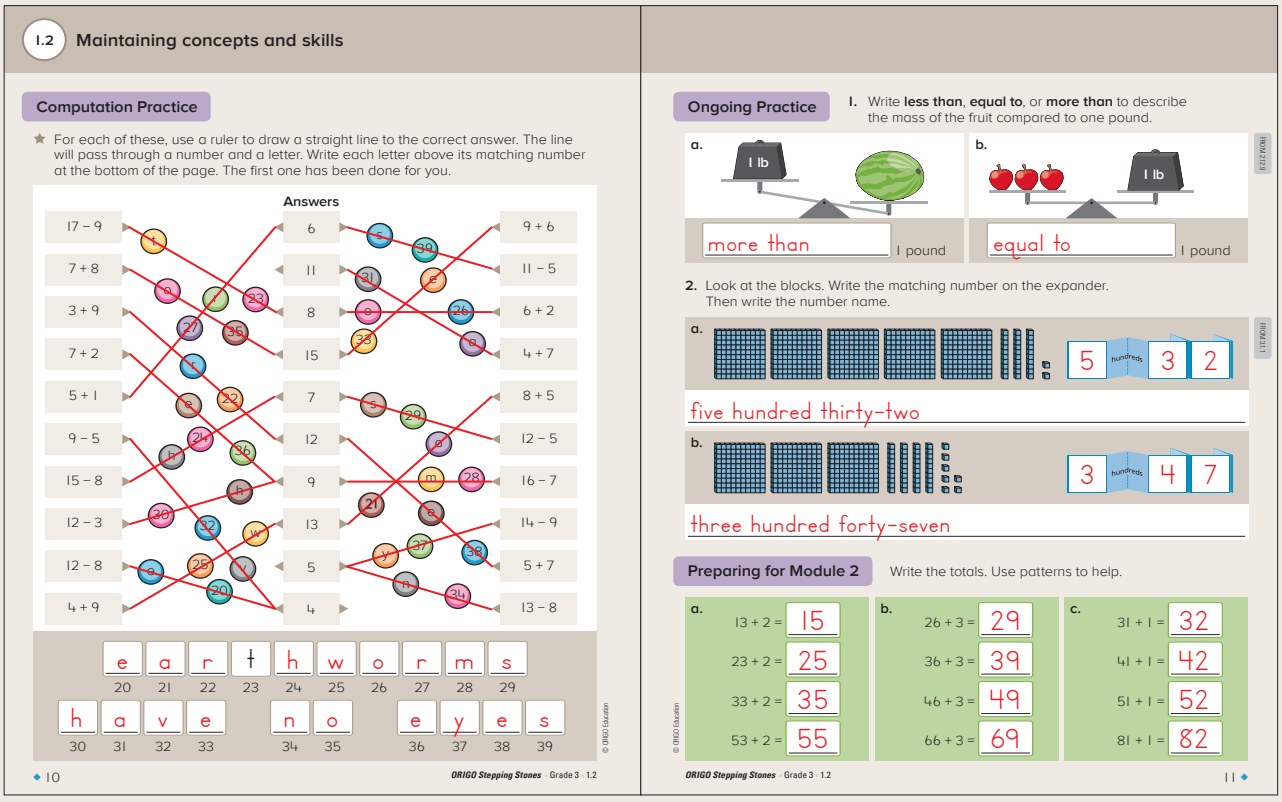
Discuss the students' answers to Student Journal 1.2. Ask students to share the errors they found in Step Ahead. Ask them to justify why they think the numbers were misplaced.

Draw an empty number line on the board. Write 450, 401, and 801 below the number line. Talk about the different ways to identify each of the numbers. Ask, *Do you think it is better to start the number line at 0 or 400?* Make sure the students justify their decisions (**SMP3**).

Maintaining concepts and skills

This lesson provides one page of written practice for mental computation strategies. It also provides ongoing practice that revisits content from any previous module and earlier in this module, and a prerequisite skill for Module 2.

Student Journal 1.2, pp. 10–11



1.2 Maintaining concepts and skills

Computation Practice

★ For each of these, use a ruler to draw a straight line to the correct answer. The line will pass through a number and a letter. Write each letter above its matching number at the bottom of the page. The first one has been done for you.

Answers

17 – 9	6	9 + 6
7 + 8	11	11 – 5
3 + 9	8	6 + 2
7 + 2	15	4 + 7
5 + 1	7	8 + 5
9 – 5	12	12 – 5
15 – 8	9	16 – 7
12 – 3	13	14 – 9
12 – 8	5	5 + 7
4 + 9	4	13 – 8

e	a	r	t	h	w	o	r	m	s
20	21	22	23	24	25	26	27	28	29

h	a	v	e		n	o		e	y	e	s
30	31	32	33		34	35		36	37	38	39

Ongoing Practice

1. Write **less than**, **equal to**, or **more than** to describe the mass of the fruit compared to one pound.

a. 1 lb — more than 1 pound

b. 1 lb — equal to 1 pound

2. Look at the blocks. Write the matching number on the expander. Then write the number name.

a. 5 hundreds 3 2 — five hundred thirty-two

b. 3 hundreds 4 7 — three hundred forty-seven

Preparing for Module 2 Write the totals. Use patterns to help.

a.	b.	c.
13 + 2 = 15	26 + 3 = 29	31 + 1 = 32
23 + 2 = 25	36 + 3 = 39	41 + 1 = 42
33 + 2 = 35	46 + 3 = 49	51 + 1 = 52
53 + 2 = 55	66 + 3 = 69	81 + 1 = 82

Small group differentiation

Extra help

Draw an empty number line on the board (or use the *Flare Number Line* online tool). Invite students to come to the front and estimate the position of other numbers that they know between 200 and 300. Encourage students to justify their reasoning, for example, 250 is halfway between 200 and 300, 290 is close to 300. If using the *Flare Number Line* online tool, confirm the accuracy of students' predictions by adjusting the setup to mark and label intervals of ten.

Extra practice

You will need:

- two- and three-digit place-value cards from *The Number Case*

Draw a number line from 0 to 1,000 on the board. Mark and label the increments of 100. Place the cards facedown on a table in two separate piles. Invite students to select two cards to make a three-digit number that is a multiple of ten. The student then writes their initials below their estimate of the position of their number on the number line. The student whose number is closest to 500 wins.

Place-value cards

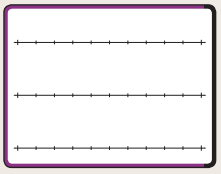
Extra challenge

Each student will need:

- number line card from *The Number Case*
- non-permanent marker

Have each student write five different three-digit numbers, divisible by 100, at the left-hand mark of each number line (on the side of the card showing 5 number lines). Students then exchange cards and fill in the missing numbers at the top (green markings) and bottom (red markings) of each number line, using numbers that make sense, relative to the starting number and each other. Students then discuss their answers and critique their thinking in pairs. This can be repeated as time allows.

Number line



1.3 Number: Representing four-digit numbers

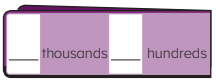
In this lesson, students are introduced to four-digit numbers and interpret the number of thousands, hundreds, tens, and ones shown with base-10 blocks, recording the value on expanders. Students describe the amounts and use the expanders to informally begin reading what has been written. The examples avoid internal zeros and teen numbers.

Step 1 Preparing the lesson

You will need:

- base-10 blocks (thousands, hundreds, tens, and ones)
- four-digit numeral expander from *The Number Case*
- non-permanent marker

Four-digit expander



Each group of students will need:

- 100 base-10 tens blocks

Each student will need:

- Student Journal 1.3

Step 2 Starting the lesson

Show a base-10 tens block and a base-10 ones block (or use the *Flare Place-Value* online tool). Refer to the tens block and ask, *How many ones would we need to show the same number?* (Ten.) *Why do we need exactly ten ones?* Bring out that the total amount is the same (**SMP7**). Say, *One ten is the same amount as ten ones.* Repeat the discussion for a tens block and a hundreds block. To ensure that students are thinking about number relationships and not rules, include the question, *How many ones do we need to show the same number as the hundreds block?* (**SMP8**).

Show a thousands block and a ones block and ask, *How many ones would you estimate are in the big block?* (*Note:* Researchers have noted that many students, even many in Grade 6, will estimate that there are around six hundred ones represented in a thousands block. Many students see the thousands block as composed of six hundreds blocks, one for each face.) Demonstrate with blocks how a thousands block represents 10 hundreds blocks stacked on top of each other. Have students count by hundreds for each layer that is stacked. Say, *Ten hundreds is the same amount as one thousand.* Encourage students to think about a thousands block as having ten layers of the hundreds blocks (**SMP7**). Ask, *How many tens blocks are in a thousands block?* Allow time for students to figure out the amount then say, *One hundred tens is the same amount as one thousand.* Have students work in groups to build a thousands block with tens blocks to demonstrate the relationship (**SMP7**). Encourage student discussion throughout this process.

Step 3 Teaching the lesson

Show the number 1,365 with base-10 blocks. Place a four-digit expander with the blocks (or use the *Flare Place Value* online tool). Discuss the points below:

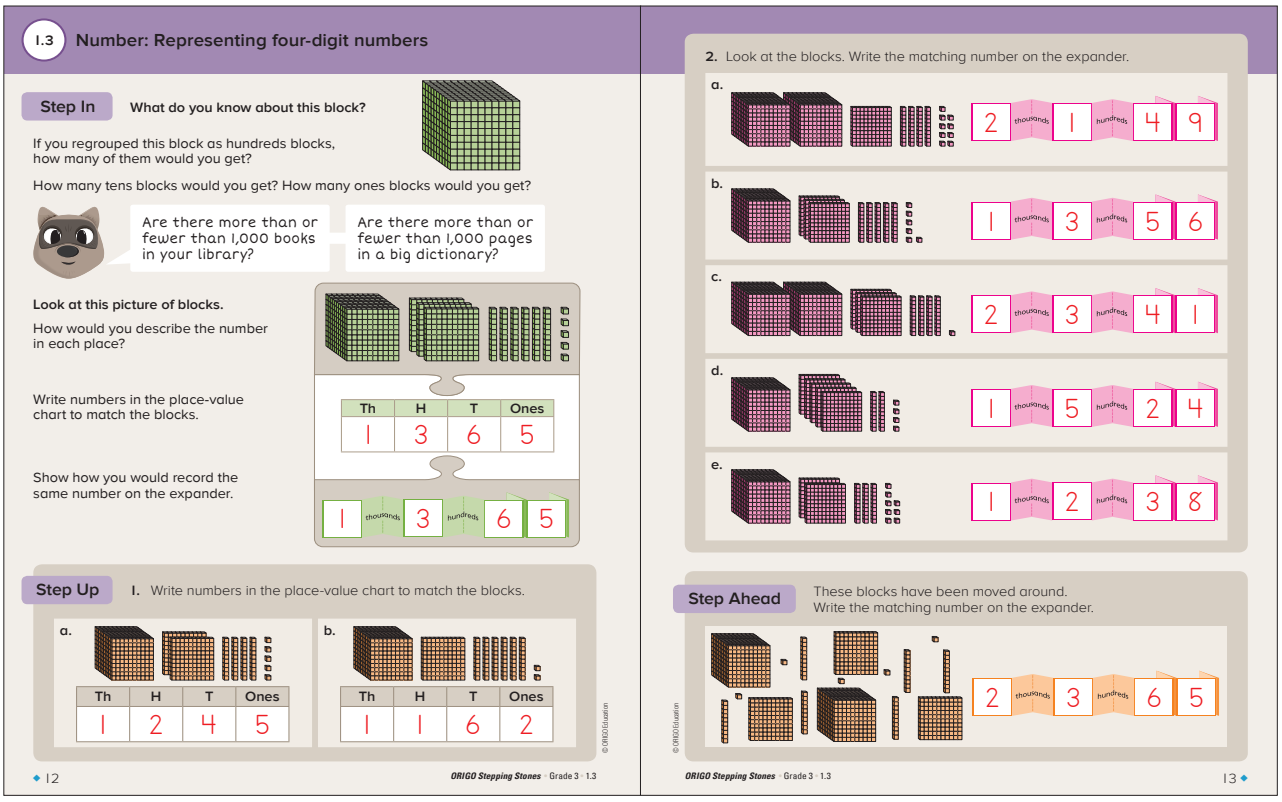
What amount do we have in each place?

What will we write in each place so we know the amount when we do not have the blocks?

Developmental activity

Developing place-value understanding supports the additional cluster, 3.NBT.A (Use place value understanding and properties of operations to perform multi-digit arithmetic), which in turn supports the major cluster, 3.OA.D (Solve problems involving the four operations, and identify and explain patterns in arithmetic).

Student Journal 1.3, pp. 12–13



How would we read this number?

How many thousands are in this number?

Bring out that each digit in a number gives two pieces of information about the number. The digit tells the count or the number of groups while the position of the digit tells the amount in the group, for example, a 3 in the hundreds place means that there are 3 groups with a 100 in each group for a total of 300. Repeat the demonstration and questions for two other examples (not using numbers with internal zeros or numbers that involve teens).

Show 2 thousands, 7 hundreds, 4 tens, and 6 ones with base-10 blocks. Ask students to come to the board and represent the number on the expander. Repeat for two other examples (not using numbers with internal zeros or numbers that involve teens).

Work through the Step In discussion (Student Journal 1.3) with the whole class. Read the Step Up and Step Ahead instructions with the students. Make sure they know what to do, then have them work independently to complete the tasks.

Step 4 Reflecting on the work

Discuss the students' answers to Student Journal 1.3. Focus students' attention on Question 1a and ask, *How do the digits tell us the number of groups and the size of the groups that are part of the number?* Bring out that the number 1,245 is made up of 1 group of a thousand, 2 groups of a hundred, 4 groups of ten, and 5 groups of one.

Applications

If time allows, have the students complete this Investigation and/or Problem solving activity.

Investigation: Working with four-digit numbers

Write the investigation question on the board. Discuss the context and make sure the students understand the question. Organize the students into pairs and have them work together to find all the possible four-digit numbers. Afterward, invite pairs to present their answer to the investigation question and explain how they figured it out. Discuss their different methods and any variations in answers. Create a class list of the different possible numbers on the board, as shown below.

1,077	1,770	1,707
1,177	1,771	1,717
1,277	1,772	1,727
1,377	1,773	1,737
1,477	1,774	1,747
1,577	1,775	1,757
1,677	1,776	1,767
1,877	1,778	1,787
1,977	1,779	1,797

Investigation question

How many different four-digit numbers between 1,000 and 2,000 have only two sevens?

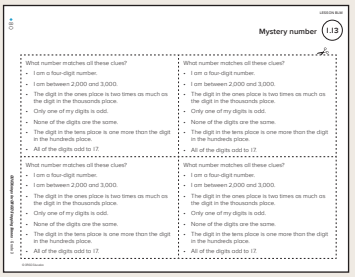
Problem solving: Mystery number

Each pair of students will need:

- 1 copy of Blackline Master 1.13

Organize students into pairs. Distribute the blackline master and read the clues with the students. Allow time for pairs to determine the mystery number (2,564). Then have students share how they used the clues to solve the problem. Ask, *How did each clue help you eliminate possible answers?*

Blackline Master 1.13



Enrichment

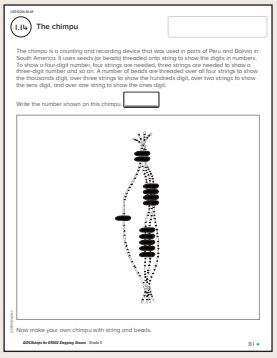
The chimpu

Each pair of students will need:

- 1 copy of Blackline Master 1.14
- lengths of string or yarn
- beads
- scissors

Organize the students into pairs and distribute the resources. Read the instructions with the students to ensure their understanding. Then allow time for them to create a chimpu. Afterward, invite them to show the device to the class and explain how it represents numbers.

Blackline Master 1.14



Small group differentiation

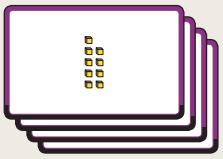
Extra help

Each pair of students will need:

- base-10 picture cards from *The Number Case*
- four-digit numeral expander from *The Number Case*
- non-permanent marker

Organize students into pairs and distribute the resources. Place the picture cards facedown in separate piles for each place value. In turn, students then flip one card from each pile and write the number to match on the expander. Repeat as time allows. Ensure the expander is left open for the initial attempts. Close the expander as students gain confidence.

Base-10 picture cards



Four-digit expander

Extra practice

You will need:

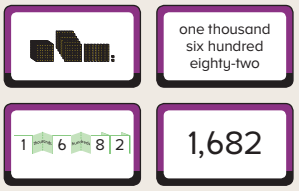
- four-digit mix-and-match cards showing base-10 pictures and numeral expanders from *The Number Case* (remove any cards with external zeros)

Each student will need:

- four-digit numeral expander from *The Number Case*
- non-permanent marker

Mix the cards and place them facedown in a single pile. Have each student select a card and write their number on the expander, saying the number of thousands, hundreds, tens, and ones aloud. The student with the greatest number who correctly records and reads their number keeps their card (with other students returning their cards to the bottom of the pile) and the process is repeated. The student with the most cards at the end of the session is the winner.

Four-digit mix-and-match cards



Extra challenge

You will need:

- four-digit mix-and-match cards showing base-10 pictures and numeral expanders from *The Number Case* (remove any cards with external zeros)

Give each student one card. Students compare their cards to find the student with the matching card. Collect the cards and repeat as time allows. Alternatively, students can play mix-and-match games with the cards. If students find this too challenging at this stage, have the students only use the base-10 blocks and expander cards.

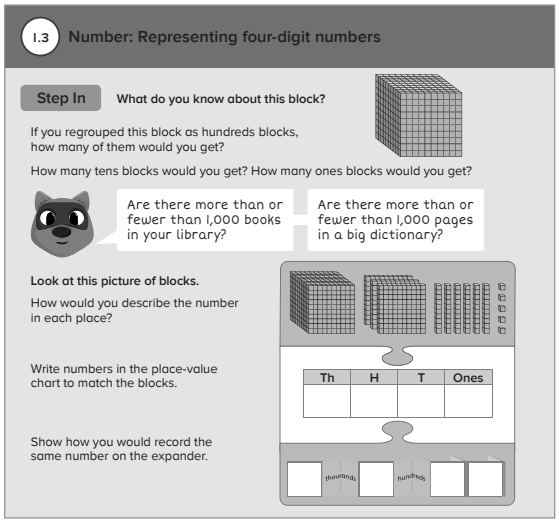
Module 1

Core Focus

- Number: Writing four-digit numerals and number names
- Number: Locating three- and four-digit numbers on a number line
- Multiplication: Introducing the multiplication symbol and fives and tens facts

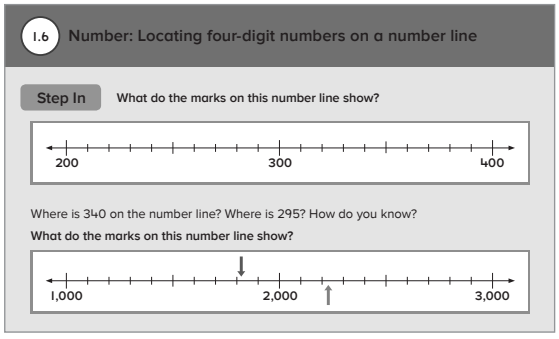
Number

- Once base-10 place value is understood for numbers in the hundreds, students know just about everything necessary to work with three- and four-digit numbers.
- In this module, students extend their understanding of one-, two-, and three-digit numbers to four-digit numbers using tools like **place-value charts**.



In this lesson, students use base-10 blocks and numeral expanders to write four-digit numbers.

- Essential base-10 concepts are practiced by locating numbers on a number line; comparing and ordering numbers; and working with place value using mathematical language including *thousands*, *hundreds*, *tens*, and *ones*.



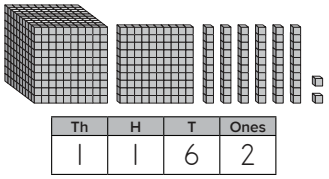
In this lesson, students use a number line to compare and order four-digit numbers.

Ideas for Home

- Read house numbers, video game scores, or highway signs to practice saying three- and four-digit numbers.
- Reinforce place-value language by asking, "How many thousands, hundreds, tens, and ones?"

Glossary

- A **place-value chart** is used to record large quantities into their place values.



Th	H	T	Ones
1	1	6	2

Helpful videos

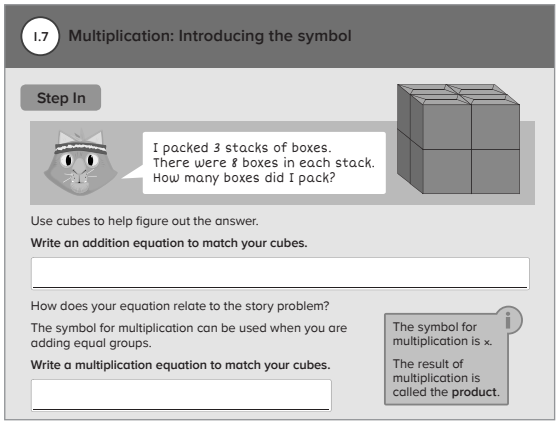
View these short one-minute videos to see these ideas in action.

www.bit.ly/O1_33
www.bit.ly/O1_3
www.bit.ly/O1_24

Module 1

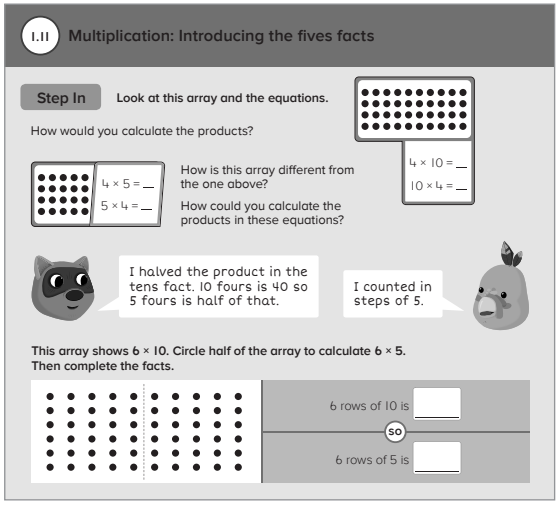
Multiplication

- Multiplication is a significant focus in Grade 3. In Grade 2, multiplication was introduced by arranging objects in an array. Now students learn to visualize a collection of equal-sized groups.
- Though multiplication concepts were presented in Grade 2, the actual symbol for multiplication is introduced in this module, as well as formal **multiplication equations**.



In this lesson, students are introduced to the symbol × for multiplication equations.

- Understanding the **commutative property** for multiplication can make some calculations easier to do, especially when students visualize multiplication as arrays.



In this lesson, an array is used to show how a known tens fact can help figure out a fives fact.

Ideas for Home

- Look for groups of five and ten in your home, at the store, and around your neighborhood.
- Ask your child to solve real-world problems, such as, "If there are 4 people in our family, and each person eats 5 apples a week, then how many apples do we need to buy at the grocery store?" Remember to ask them to explain how they know.

Glossary

- This is a **multiplication equation**. Any equation must include the equal symbol (=).

$$4 \times 5 = 20$$

factors product

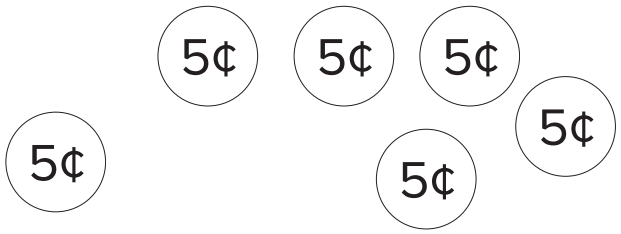
- The **commutative property** describes how the order of the factors can be changed without affecting the product.

$$4 \times 5 = 20 = 5 \times 4$$

1.1 Pre-test

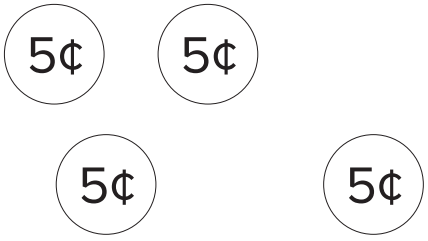
1. Calculate the total and write the matching equation.

a.



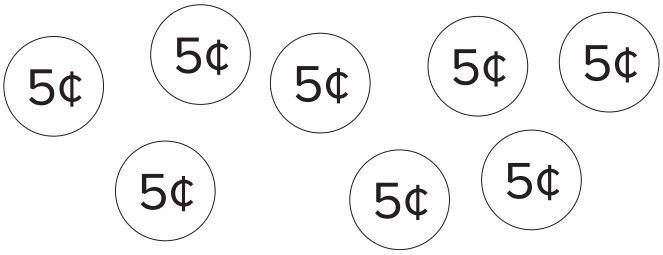
____ × ____ = ____

b.



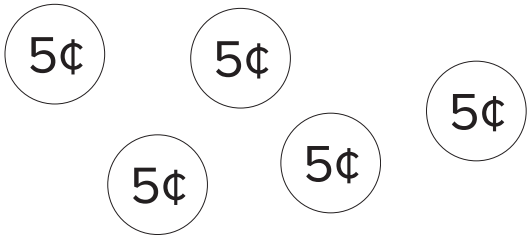
____ × ____ = ____

c.



____ × ____ = ____

d.



____ × ____ = ____

2. Solve each problem. Write an equation to show your thinking.

a. Ricardo has a sheet of stickers that has 6 rows of 10 stickers. How many stickers does he have in total?

____ × ____ = ____

b. Mom cut 8 lengths of ribbon. Each piece was 5 inches long. What was the total length of the ribbon?

____ × ____ = ____

c. Dad bought 10 balloons. They cost 5 cents each. How much did Dad pay for the balloons?

____ × ____ = ____

1.2 Pre-test

3. Use the tens fact to help you complete each equation.

a.

$10 \times 8 = 80$ so $5 \times 8 =$ ____

b.

$10 \times 2 = 20$ so $5 \times 2 =$ ____

c.

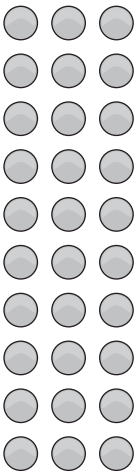
$10 \times 4 = 40$ so $5 \times 4 =$ ____

d.

$10 \times 6 = 60$ so $5 \times 6 =$ ____

4. Write two facts to match each array.

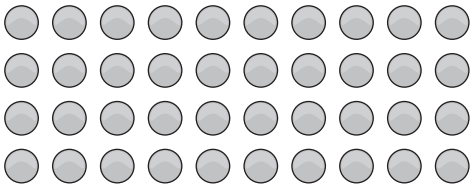
a.



____ × ____ = ____

____ × ____ = ____

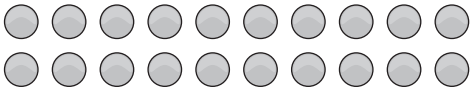
b.



____ × ____ = ____

____ × ____ = ____

c.



____ × ____ = ____

____ × ____ = ____

1.3 Pre-test interview I

Resources

- 20 counters, all one color

Steps

- Ask the student to arrange the counters to match the following situations and figure out the products: *There are six groups of counters, with three in each group. How many counters are there in total? There are two rows of counters, with four in each row. How many counters are there in total?*
- If successful, ask the student to write an equation to match each situation after they have represented it using the counters.
- Write 4 × 3 on the sheet of paper and ask the student to represent it using the counters and describe their arrangement in words.
- Draw a ✔ beside the learning the student has successfully demonstrated.

PRE-TEST INTERVIEW

I

Set model:

- ☐ Represented with counters.
- ☐ Wrote a matching equation.

Array model:

- ☐ Represented with counters.
- ☐ Wrote a matching equation.

☐ Represented a multiplication expression using a set or array model.

PRE-TEST INTERVIEW

I

Set model:

- ☐ Represented with counters.
- ☐ Wrote a matching equation.

Array model:

- ☐ Represented with counters.
- ☐ Wrote a matching equation.

☐ Represented a multiplication expression using a set or array model.

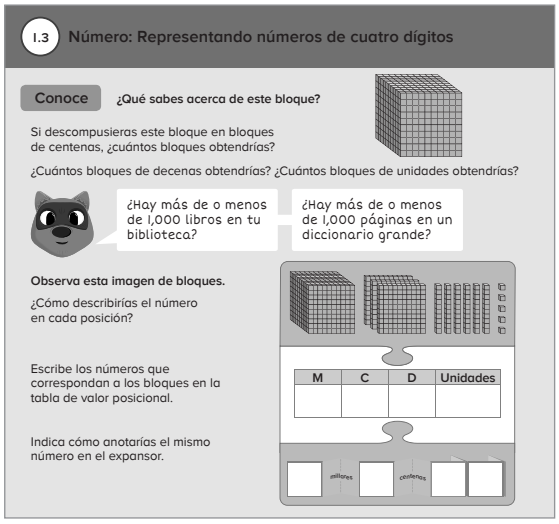
Módulo 1

Enfoque básico

- Número: Escribiendo numerales de cuatro dígitos y nombres de números
- Número: Localizando números de cuatro dígitos en una recta numérica
- Multiplicación: Introduciendo el símbolo y las operaciones básicas del cinco y del diez

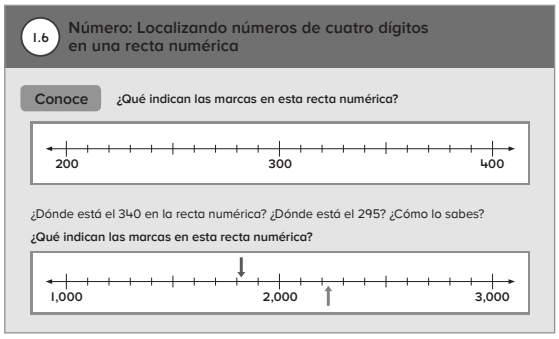
Número

- Una vez que los estudiantes entienden el valor posicional base 10 para los números en las centenas, saben casi todo lo necesario para trabajar con números de tres y cuatro dígitos.
- En este módulo, los estudiantes amplían su comprensión de números de uno, dos y tres dígitos a números de cuatro dígitos utilizando herramientas como las **tablas de valor posicional**.



En esta lección, los estudiantes usan bloques base 10 y expansores numerales para escribir números de cuatro dígitos.

- Los conceptos esenciales de base 10 se practican localizando números en una recta numérica, comparando y ordenando números, y trabajando con valor posicional usando lenguaje matemático que incluye *millares*, *centenas*, *decenas* y *unidades*.



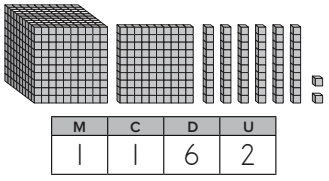
En esta lección, los estudiantes utilizan una recta numérica para comparar y ordenar números de cuatro dígitos.

Ideas para el hogar

- Lean los números de las casas, puntajes de juegos o letreros en la carretera para practicar a decir números de tres y cuatro dígitos.
- Refuerce el lenguaje de valor posicional al preguntar: "¿Cuántos millares, centenas, decenas y unidades?"

Glosario

- Se utiliza una **tabla de valor posicional** para registrar cantidades grandes en sus valores posicionales.



M	C	D	U
1	1	6	2

Videos útiles

Vea estos videos cortos para observar estas ideas en acción.

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www.bit.ly/O1_3
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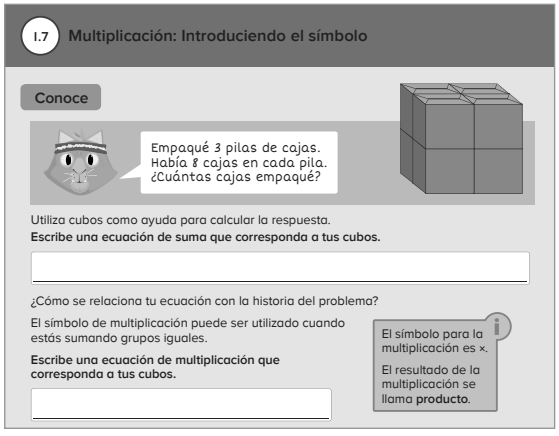
Módulo 1

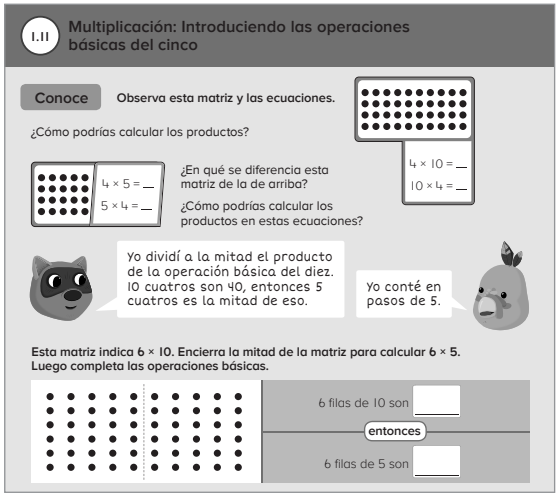
Multiplicación

- La multiplicación tiene un enfoque muy importante en 3.er grado. En 2.º grado la multiplicación se introdujo ordenando objetos en una matriz. Ahora los estudiantes aprenden a visualizar una colección de grupos de igual tamaño.
- A pesar de que los conceptos de multiplicación se introdujeron en 2.º grado, el símbolo para la multiplicación se introduce en este módulo, junto con **ecuaciones de multiplicación** formales.



En esta lección, los estudiantes utilizan bloques base 10 y expansores numerales para escribir números de cuatro dígitos.

- Comprender la **propiedad conmutativa** para la multiplicación puede hacer que algunos cálculos sean más fáciles de ejecutar, especialmente cuando los estudiantes visualizan la multiplicación como matrices.



En esta lección se utiliza una matriz para indicar cómo una operación básica del diez puede ayudar a calcular una operación básica del cinco.

Ideas para el hogar

- Busquen grupos de cinco y de diez en su casa, en la tienda y en el vecindario.
- Pida a su niño que resuelva problemas cotidianos como: "Si hay 4 personas en nuestra familia y cada persona se come 5 manzanas a la semana, ¿cuántas manzanas debemos comprar en el supermercado?" Recuerde preguntar cómo lo sabe.

Glosario

- Esta es una **ecuación de multiplicación**. Una ecuación debe incluir el símbolo igual (=).

$$4 \times 5 = 20$$

factores producto

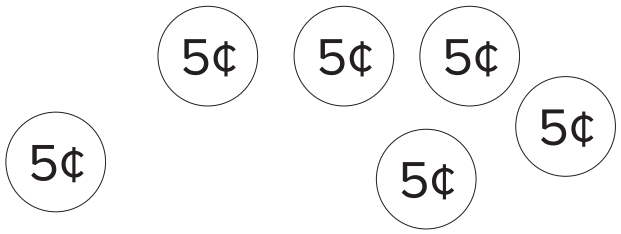
- La **propiedad conmutativa** describe cómo el orden de los factores puede cambiar sin afectar el producto.

$$4 \times 5 = 20 = 5 \times 4$$

1.1 Prueba de diagnóstico

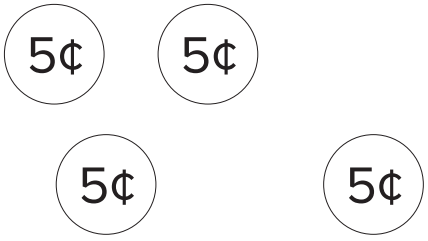
1. Calcula el total y escribe la ecuación correspondiente.

a.



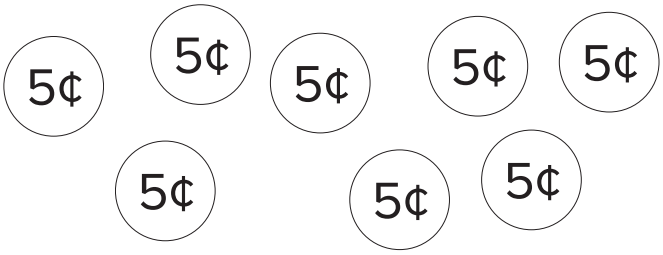
____ × ____ = ____

b.



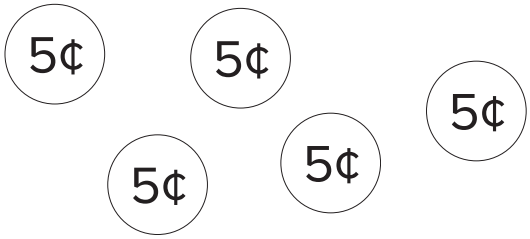
____ × ____ = ____

c.



____ × ____ = ____

d.



____ × ____ = ____

2. Resuelve cada problema. Escribe una ecuación para indicar tu razonamiento.

a. Ricardo tiene una hoja de adhesivos con 6 filas de 10 adhesivos. ¿Cuántos adhesivos tiene en total?

____ × ____ = ____

b. Mi mamá corta 8 trozos de cinta. Cada trozo mide 5 pulgadas de largo. ¿Cuál era la longitud total de la cinta?

____ × ____ = ____

c. Mi papá compró 10 globos. Los globos cuestan 5 centavos cada uno. ¿Cuánto pagó mi papá por los globos?

____ × ____ = ____

1.2 Prueba de diagnóstico

3. Utiliza las operaciones básicas del diez como ayuda para completar cada ecuación.

a.

10 × 8 = 80 **entonces** 5 × 8 = ____

b.

10 × 2 = 20 **entonces** 5 × 2 = ____

c.

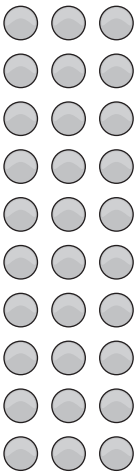
10 × 4 = 40 **entonces** 5 × 4 = ____

d.

10 × 6 = 60 **entonces** 5 × 6 = ____

4. Escribe dos operaciones básicas que correspondan a cada matriz.

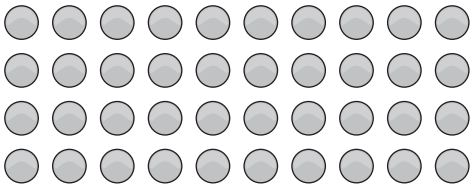
a.



____ × ____ = ____

____ × ____ = ____

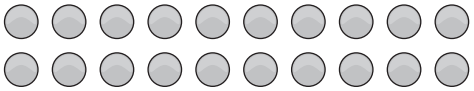
b.



____ × ____ = ____

____ × ____ = ____

c.



____ × ____ = ____

____ × ____ = ____