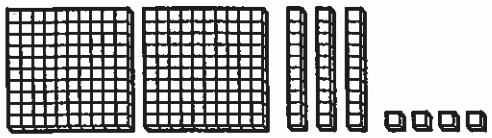
Name: _____ Date: _____

Chapter 2: Numeration

Representing Numbers

You can show and write numbers in different ways. For example, you can use base ten blocks, pictures, words, or numerals.

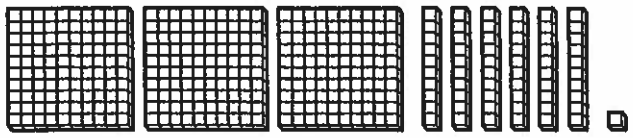


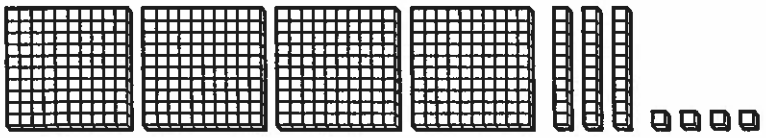
2 hundreds 3 tens 4 ones

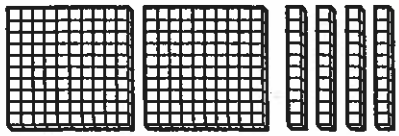
200 + 30 + 4

234

1. Write each number.

a)  _____

b)  _____

c)  _____

2. Sketch base ten blocks for each number.

a) 128

b) 307

Name: _____ Date: _____

3. Write each number.

a) 1 hundred 5 tens _____

b) 2 tens 4 ones _____

c) 7 hundreds 12 ones _____

d) 99 tens _____

4. I have 3 ones, 4 tens, and 2 hundreds. Who am I? Circle the number.

342 432 243 234

5. Write each number.

a) fifteen _____

b) fifty-four _____

c) eighty _____

d) one hundred twenty _____

e) one hundred two _____

f) six hundred twelve _____

6. Write each number in words.

a) 20 _____

b) 80 _____

c) 40 _____

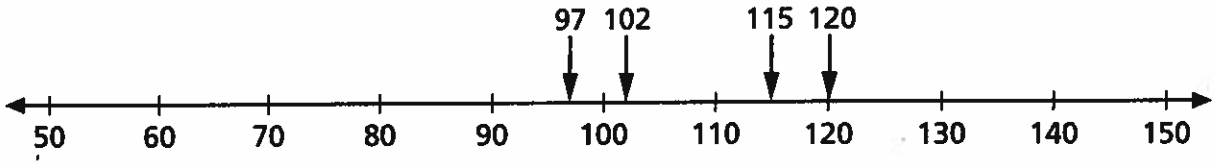
d) 900 _____

e) 300 _____

f) 700 _____

Comparing and Ordering Numbers

You can compare and order numbers using a number line. For example, you can tell from this number line that 120 is greater than 102, and the order of the numbers from least to greatest is 97, 102, 115, 120.



7. Circle the greater number in each pair.

a) 743 347

b) 892 982

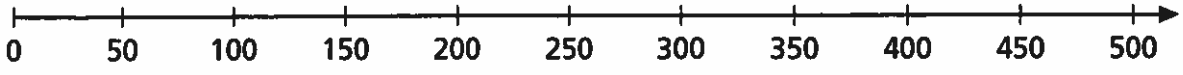
c) 304 403

d) 24 240

8. a) Order these numbers from least to greatest.

250, 104, 499, 320 _____

b) Place each number on the number line.



L Name: _____ Date: _____

2.1 Modelling Hundreds Page 1

Student Book pages 36–37

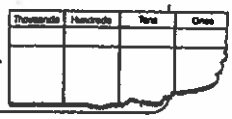
GOAL

Relate hundreds to tens.

You will need

- base ten blocks

- a place value chart



Problem

Cory's class read a book about paper cranes.

There are 35 students in Cory's class.

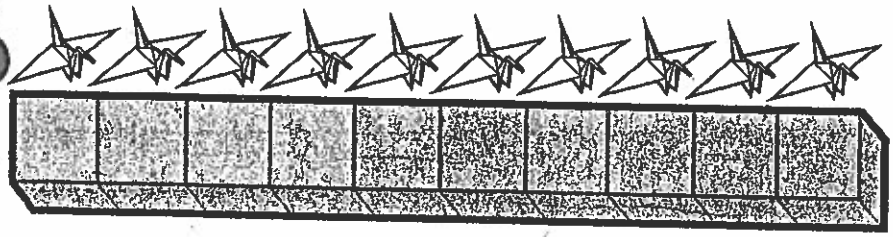
Each student made 10 paper cranes.

How many cranes did the 35 students make?

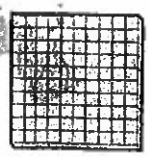
Step 1: Model the number of cranes made by 1 student.

Cory made 10 cranes.

His model looks like this:



Step 2: Circle the block that models the number of cranes made by 10 students.



Hundreds	Tens	Ones

35

365

903

Name: _____ Date: _____

2.1 Modelling Hundreds Page 2

Step 3: Model the number of cranes made by 30 students.

Hint: Count by 10s.

Draw your model.

Step 4: Model the number of cranes made by 5 students.

Hint: Look at Cory's model in Step 1.

Add these blocks to your drawing in Step 3.

REMINDER ▶ 4375

thousands hundreds tens ones

Reflecting

How does Step 2 show that 10 tens is 100?

You can also write numbers using a place value chart. Example:

This is the number 3264 in a place value chart:

Thousands	Hundreds	Tens	Ones
3	2	6	4

Write the number in the place value chart.

		Thousands	Hundreds	Tens	Ones
a)	5231	*5*	*2*	*3*	*1*
b)	8053				
c)	489				
d)	27				
e)	9104				
f)	4687				
g)	7060				

Name: _____ Date: _____

Chapter 2 Lesson 1

Modelling Thousands

GOAL

Relate thousands to hundreds and to tens.

1. How many hundreds blocks do you need to model each number?

a) 200 = _____ hundreds

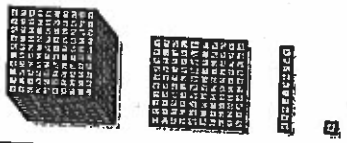
b) 1000 = _____ hundreds

c) 3000 = _____ hundreds

d) 4500 = _____ hundreds

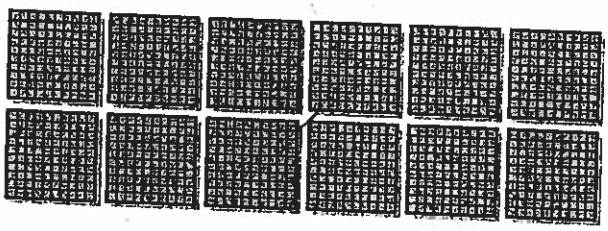
At-Home Help

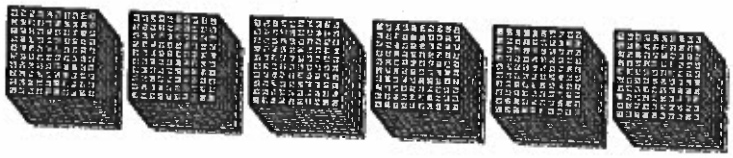
You can use base ten blocks to model thousands, hundreds, tens, and ones.



2. Write the number for each.

a)  _____

b)  _____

c)  _____

3. Elise has 32 necklaces. Each necklace has 100 beads. Represent the number of beads as thousands and hundreds.

_____ hundreds

OR

_____ thousands _____ hundreds

Place Value

Goal **Model numbers up to 10 000.**

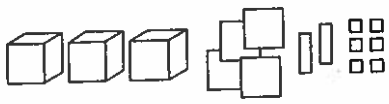
1. Suppose you used only 1 type of block to model each number. How many hundreds blocks would you need? How many thousands blocks would you need?

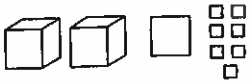
   a) 1000 _____ hundreds or _____ thousands

   b) 3000 _____ hundreds or _____ thousands

   c) 8000 _____ hundreds or _____ thousands

2. Write the number for each.

   a)  _____

   b)  _____

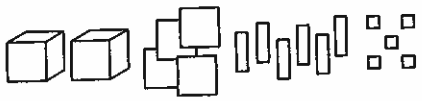
   c)  _____

At-Home Help

Base ten blocks are often used to **model** or represent place value concepts.

-  represents one.
-  represents ten.
-  represents one hundred.
-  represents one thousand.

For example, 2465 can be modelled as



3. A school collected 2724 cans for the canned food drive by the end of November.

   a) Which blocks would you use to model 2724 with the least number of blocks? _____

   _____

   b) Imagine that blocks are added to include 100 more cans collected each week for 4 weeks. Which blocks would be added?

   _____

   c) Imagine that blocks are traded so the model uses the least number of blocks. Which blocks would change? Why?

   _____

   _____

L Name: _____ Date: _____

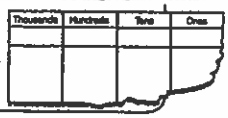
2.2 Place Value Page 1

Student Book pages 38–41

GOAL

Represent numbers to 1000 using numerals, number words, and sketches.

You will need

- base ten blocks 
- a place value chart 

Problem

Jade's school has 472 students.

How can you represent the number of students?

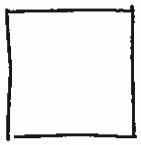
Make a sketch.

Step 1: Write the number of students in a place value chart.

Hundreds	Tens	Ones

Step 2: Model 472 using base ten blocks.

Draw your model.

Use  for hundreds.

Use  for tens.

Use ▫ for ones.

L Name: _____ Date: _____

2.2 Place Value Page 2

Step 3: Count the blocks in your model.

How many blocks did you use? _____

Reflecting

Could you have modelled 472 using more blocks? _____

Try it.

Draw your new model.

How can you figure out the least number of blocks you need to model a 3-digit number with no zeros?

_____

_____

_____

_____

Name: _____ Date: _____

Chapter 2 Lesson 2

Place Value

GOAL

Represent numbers to 10 000 using numerals, number words, and sketches.

1. Sketch a model for each number using the least number of blocks possible.

a) 1744

b) 4123

c) 2134

At-Home Help

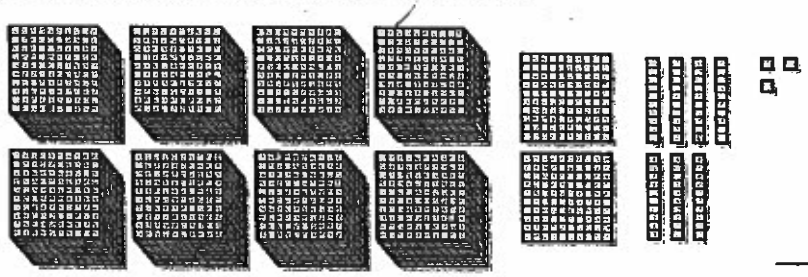
A **place value chart** can help you understand large numbers. This chart shows the number 3163.

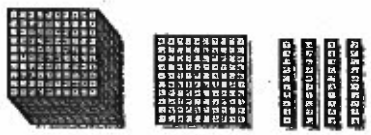
Thousands	Hundreds	Tens	Ones
3	1	6	3

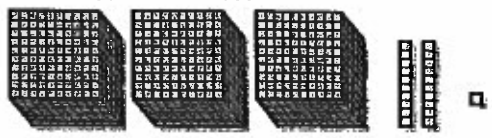
This number has 3 thousands, 1 hundred, 6 tens, and 3 ones.

You can **sketch** a model of this number.

2. Write the numeral for each number.

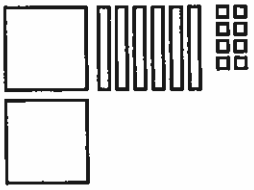
a)  _____

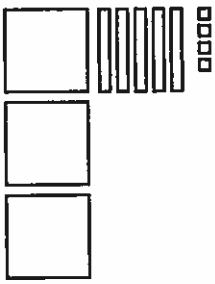
b)  _____

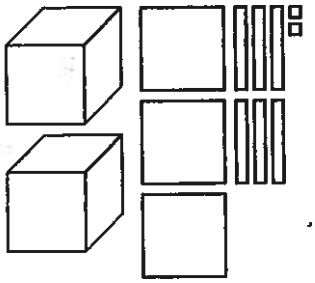
c)  _____

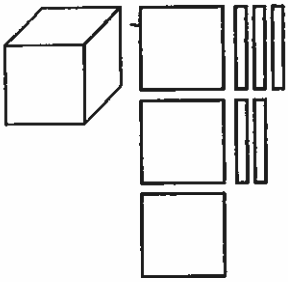
NS4-7 Comparing Numbers up to 10 000

1. Write the number using numerals (in the box) and words (on the line below). Then circle the greater number in the pair.

a) i)  268

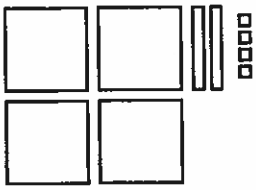
ii) 

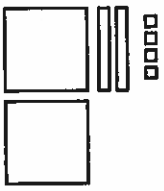
b) i) 

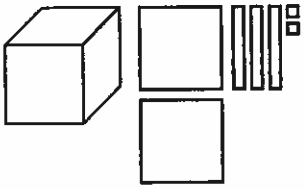
ii) 

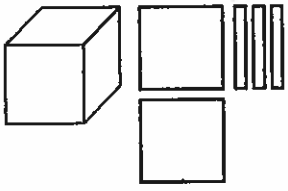
c) Explain how you knew which number in part b) was greater.

2. Write the number in the box. Then circle the larger number in the pair.

a) i) 

ii) 

b) i) 

ii) 

3. Draw base ten models for the pair of numbers. Circle the larger number.

a) four hundred sixteen 460

b) one thousand, three hundred 1007

L Name: _____ Date: _____

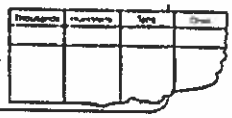
2.3 Expanded Form Page 1

Student Book pages 42–44

GOAL

Represent numbers to 1000 using **expanded form.**

You will need

- base ten blocks 
- a place value chart 

Problem

Nathan collects stickers.

He has 451 stickers in his collection.

You can say 451 as *four hundred fifty-one.*

When you write the number as 451, it is in **standard form.**

expanded form

A way to write numbers that shows the value of each digit

4000 500 60 2

standard form

The usual way we write numbers

4 5 6 2

How can you model 451?

Step 1: Write 451 in a place value chart.

Hundreds	Tens	Ones

Step 2: Model 451 using base ten blocks and a place value chart.

Draw your model.

Hundreds	Tens	Ones

L Name: _____ Date: _____

2.3 Expanded Form Page 2

Step 3: Write 451 in expanded form using words.

451 = _____ hundreds + _____ tens + _____ ones

Step 4: Write 451 in expanded form using numerals.

451 = 400 + _____ + _____

Reflecting

Why is 451 written as
400 + 50 + 1
instead of as
50 + 1 + 400?

_____

_____

_____

_____

4,771 = ___ + ___ + ___ + 1

___ = 2,000 + 100 + 90 + 8

2,298 = ___ + ___ + ___ + 8

3,000 = 3,000 + ___ + ___ + ___

4,987 = ___ + ___ + ___ + ___

___ = 4,000 + 900 + 80 + 7

8,444 = ___ + ___ + ___ + ___

___ = 8,000 + 800 + 80 + 8

3,985 = 3,000 + ___ + ___ + 5

3,911 = ___ + ___ + ___ + 1

___ = 1,000 + 700 + 50

3,929 = ___ + ___ + ___ + ___

Expanded Form

Goal **Write numbers up to 10 000 in expanded form.**

1.

Thousands	Hundreds	Tens	Ones
2	1	8	4
			

Write the modelled number

a) in standard form _____

b) in expanded form using numbers

_____

c) in expanded form using words _____

_____

d) as you would read it _____

_____

At-Home Help

When a number is written in the usual way, for example 4675, it is in **standard form**.
In **expanded form**, 4675 is written as
4000 + 600 + 70 + 5 or as
4 thousands + 6 hundreds + 7 tens + 5 ones.
We read 4675 as 4 thousand 6 hundred seventy-five.

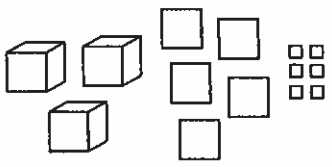
2. Write each number in expanded form using words.

a) 6734 _____

b) 3208 _____

c) 9777 _____

3. Write each number in standard form.

a) 

_____

b) 8000 + 800 + 80 + 8 _____

c) 7 thousands + 6 tens + 2 ones _____

Name: _____ Date: _____

Chapter 2 Lesson 3

Expanded Form

GOAL

Represent numbers to 10 000 using expanded form.

1. Model each number by drawing counters on the place value chart. Then write the number in standard form.

a) 5000 + 400 + 20 + 3

Thousands	Hundreds	Tens	Ones
● ● ●	● ● ●	● ●	● ●

Standard form: _____

b) 2 thousands + 7 hundreds + 3 tens + 2 ones

Thousands	Hundreds	Tens	Ones
● ●	● ● ● ● ●	● ● ●	● ●

Standard form: _____

At-Home Help

Numbers are usually written in **standard form**, for example, 4251.

You can also write 4251 in **expanded form** using words or numerals. For example:

4 thousands + 2 hundreds + 5 tens + 1 one

4000 + 200 + 50 + 1

2. Write each number in expanded form using numerals.

a) 1762 _____

b) 7315 _____

c) 1026 _____

3. Write each number in expanded form using words.

a) 5831 _____

b) 9912 _____

c) 8520 _____

C&P Name: _____ Date: _____

2.4 Describing 10 000

Student Book page 45

GOAL

Explore and describe things involving 10 000.

Ethan made a book about 10 000.

These are some of the ideas he used:

- A 10 000-word book is about 40 or 50 pages long.
- If you walk 10 000 steps, you can cross my bedroom 1000 times.
- 10 000 is the 10th number in the pattern 1000, 2000, 3000, ...

How can you use the number 10 000 to describe things you are interested in?

Model 10 000 with base ten blocks.

Draw your model in the place value chart.

Thousands	Hundreds	Tens	Ones

Have you eaten 10 000 meals? _____

How can you find out?

_____

_____

Write a pattern that includes 10 000.

_____

Use 10 000 to describe something you are interested in.

_____

_____

_____

_____

L Name: _____ Date: _____

2.4 Describing 1000

Student Book page 45

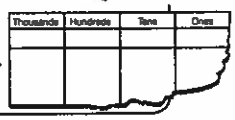
GOAL

Explore and describe things involving 1000.

You will need

- base ten blocks

- a place value chart



Problem

Kate is writing a book about 1000.

These are some of her ideas:

- A 1000-word book is about 4 or 5 pages long.
- If you walk 1000 steps, you can cross my bedroom 100 times.
- 1000 is the 10th number when you count by 100: 100, 200, 300, ...

How can you use the number 1000 to describe things you are interested in?

Step 1: List some things that come in groups of 1000.

Hint: Think about groups of people. Think about groups of things.

Step 2: List some ways to show the number 1000.

Hint: Think about using base ten blocks. Think about using pictures.

Exploring 10 000

Goal **Explore place value patterns to 10 000.**

1. Write the first 5 numbers in each pattern.

   a) The pattern starts with 6 thousands.
   The number of thousands increases by 1 for each number.

   _____

   _____

At-Home Help

These numbers show skip counting by 20s: 9900, 9920, 9940, 9960, 9980.
The pattern can be described as starting at 9 thousands + 9 hundreds with the tens digit increasing by 2 for each number.

   b) The pattern starts with 9 thousands + 9 hundreds + 8 tens.
   The number of ones increases by 5 for each number.

   _____

   c) The pattern starts with 9 thousands + 9 hundreds + 2 tens.
   The number of tens increases by 2 for each number.

   _____

   d) The pattern starts with 9 thousands + 2 hundreds.
   The number of hundreds increases by 2 for each number.

   _____

2. Complete each pattern by filling in the missing numbers.

   a) 5000, 6000, _____, 8000, 9000, _____

   b) 2000, 4000, _____, _____, 10 000

   c) 9960, _____, 9980, 9990, _____

   d) 9750, 9800, 9850, _____, 9950, _____

   e) 9995, 9996, _____, 9998, _____, _____

   f) 9990, 9992, 9994, 9996, _____, _____

Name: _____ Date: _____

Chapter 2 Lesson 4

Describing 10 000

GOAL

Explore and describe things involving 10 000.

1. Cory has 3 ideas about the number 10 000. One of his ideas is not true.

- 10 000 is the 5th number in the pattern 1, 10, 100, ...
- There are about 10 000 people in Canada.
- You can buy a used car for about $10 000.

Which of Cory's ideas is not true?
How do you know?

_____

_____

_____

_____

At-Home Help

Here are some ideas to help you think about the number 10 000.

- A 10 000-word book is probably about 40 or 50 pages long.
- 10 000 is the 10th number in the pattern 1000, 2000, 3000, ...
- There are about 10 000 people in the town of Truro, Nova Scotia.

2. Fill in the blanks using the numbers 10, 100, 1000, and 10 000.

- 10 people have _____ fingers.
- _____ is the 5th number in the pattern 2000, 4000, 6000, ...
- There are about _____ days in 3 years.
  (Hint: There are 365 days in 1 year.)
- Lunch in the school cafeteria costs about $ _____

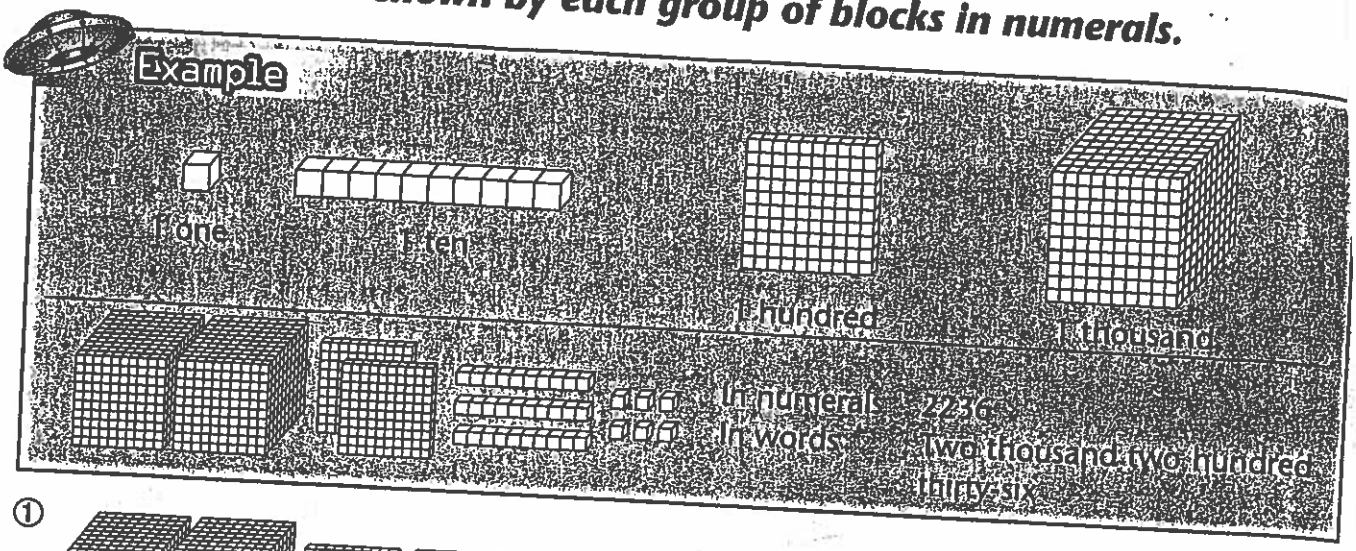
3. Write your own idea about 10 000.

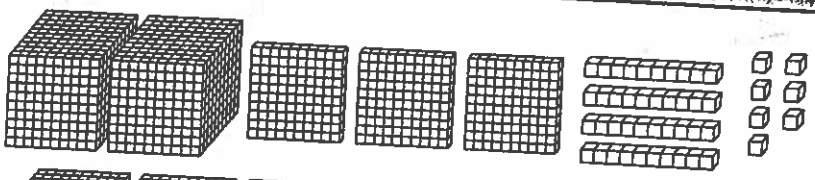
_____

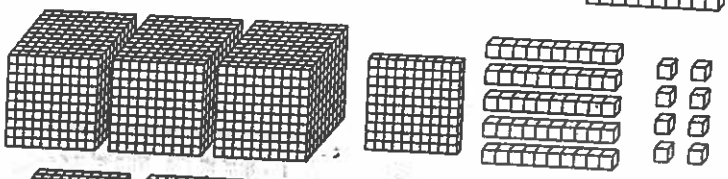
1 Numbers to 10 000

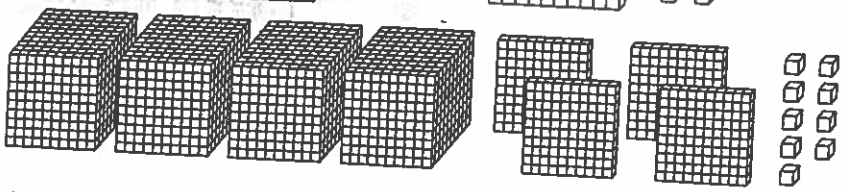
Write the number shown by each group of blocks in numerals.

Example



① 

②  _____

③  _____

_____

Write the numbers in words.

④ 5239 _____

⑤ 7108 _____

⑥ 4620 _____

⑦ 3057 _____

Write the numerals.

⑧ Six thousand four hundred fifty-three _____

⑨ Nine thousand eighty-one _____

⑩ Eight thousand five hundred six _____

⑪ Five thousand seven hundred forty _____

Write the numbers.

⑫ 5 thousands 7 hundreds 4 ones

_____

⑬ 1 thousand 8 hundreds 2 tens 9 ones

_____

⑭ 3 thousands 6 tens 5 ones _____

⑮ 9 thousands 4 hundreds 2 tens _____

Quick Tip

thousands hundreds tens ones

6 2 3 5

6235
= 6 thousands 2 hundreds 3 tens 5 ones

Fill in the correct digits.

⑯ 2680		thousands		hundreds		tens		ones
⑰ 7963		thousands		hundreds		tens		ones
⑱ 4226		thousands		hundreds		tens		ones

Write the expanded form or standard form of each number.

Example

Write 6534 in expanded form.

Standard form: 6534 = 6000 + 500 + 30 + 4 ← Expanded form

Quick Tip

Expanded form

It shows the value of each digit.

⑲ 9586 = 9000 + _____ + _____ + _____

⑳ 2955 = _____ + 900 + _____ + _____

㉑ 8473 = _____ + _____ + 70 + _____

㉒ _____ = 3000 + 200 + 60 + 7

㉓ _____ = 6000 + 30 + 8

㉔ _____ = 5000 + 700 + 40

Write the place value of each underlined digit.

㉕ 8<u>3</u>26 _____

㉖ 49<u>1</u>0 _____

㉗ <u>5</u>741 _____

㉘ 604<u>9</u> _____

L Name: _____ Date: _____

2.5 Writing Number Words Page 1

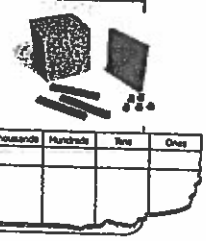
Student Book pages 48–49

GOAL

Write numbers to 1000 using words.

You will need

- base ten blocks
- a place value chart



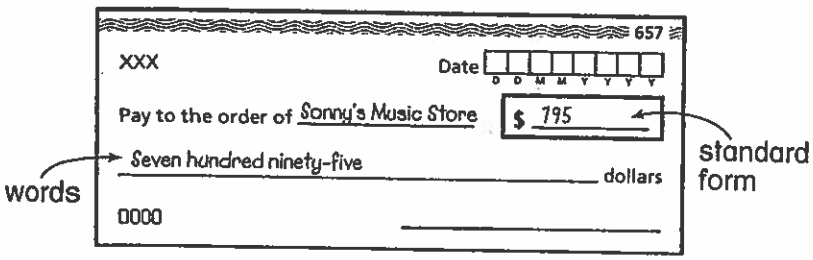
Problem

Cory's school bought a new sound system for the gym.

They wrote a cheque to pay for the sound system.

The sound system cost $795.

The cheque looked like this:



How can you write a cheque?

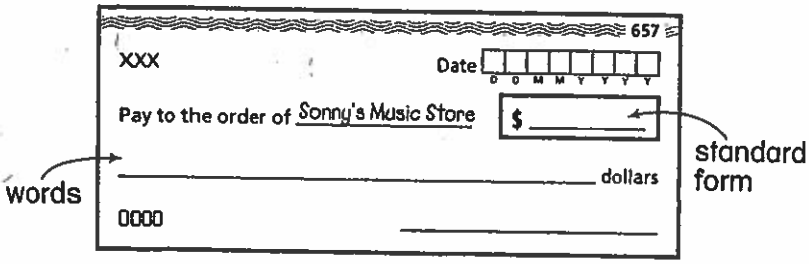
Write a cheque for $825 to Sonny's Music Store.

Step 1: Model 825 using base ten blocks.

Draw your model.

Hundreds	Tens	Ones

Step 2: Use the place value chart to help you write the cheque for $825.



L Name: _____ Date: _____

2.5 Writing Number Words Page 2

Reflecting

How can you use expanded form to help you write the words for a 3-digit number?

_____

_____

_____

_____

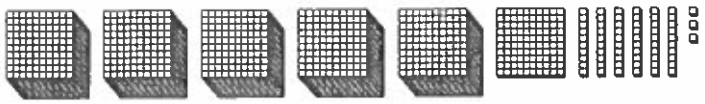
Whole numbers can be represented in a variety of ways.

For example, the number 5163 can be represented as follows:

Words: five thousand one hundred sixty-three

Expanded: 5000 + 100 + 60 + 3

5 thousands + 1 hundred + 6 tens + 3 ones

Base Ten Blocks: 

Write each number.

(standard) **a)** two thousand six hundred forty-one _____

(standard) **b)** one thousand nine hundred seventeen _____

Word form **c)** 3 thousands + 1 hundred + 8 tens + 4 ones _____

Word form **d)** 7000 + 300 + 4 _____

. What is the value of each shaded digit? (words)

a) 3491 _____ **c)** 1647 _____

b) 9250 _____ **d)** 4285 _____

1 a) Write number words for the numerals.

a) 118 _____

b) 320 _____

c) 835 _____

d) 385 _____

b) Finish writing the number word.

a) 7623 seven thousand, six hundred

b) 8432 eight thousand, four

c) 6127 six thousand, _____

d) 2417 _____ thousand, _____ hundred

e) 6501 _____ thousand, _____ hundred

f) 9840 _____ thousand, _____ hundred

g) 2054 _____ thousand, _____

BONUS ▶ 10 592 ten thousand, _____ hundred

2. Write the number word.

a) 6432 _____

b) 8854 _____

c) 787 _____

d) 3160 _____

e) 4900 _____

f) 5051 _____

g) 1060 _____

h) 601 _____

i) 1006 _____

3. Expand the number using numerals and words.

a) 2407 = _2_ thousands + _4_ hundreds + _0_ tens + _7_ ones

b) 4569 = ____ thousands + ____ hundreds + ____ tens + ____ ones

c) 3875 = _____

d) 7210 = _____

e) 623 = _____

4. Write the number in expanded form (using numerals).

a) 2613 = _2000 + 600 + 10 + 3_ b) 27 = _____

c) 48 = _____ d) 1232 = _____

e) 6103 = _____ f) 5098 = _____

g) 3570 = _____ h) 2009 = _____

i) 903 = _____ j) 1010 = _____

5. Write the number for the sum.

a) 30 + 6 = _____ b) 50 + 2 = _____ c) 60 + 5 = _____

d) 400 + 60 + 8 = _____ e) 500 + 20 + 3 = _____ f) 200 + 50 + 3 = _____

g) 5000 + 700 + 20 + 1 = _____

h) 9000 + 600 + 40 + 5 = _____

BONUS ▶

i) 600 + 7 = _____ j) 900 + 6 = _____ k) 800 + 70 = _____

l) 5000 + 100 = _____ m) 5000 + 10 = _____ n) 5000 + 1 = _____

o) 8000 + 100 + 3 = _____

p) 7000 + 900 + 4 = _____

q) 4000 + 5 = _____

r) 6000 + 300 + 20 = _____

s) 8000 + 20 = _____

t) 3000 + 10 = _____

Name: _____ Date: _____

Chapter 2 Lesson 5

Writing Number Words

GOAL

Write numbers to 10 000 using words.

1. Fill in the missing number words.

a) 1800 is _____ thousand _____ hundred

b) 458 is _____ hundred _____

c) 3011 is _____ thousand _____

2. Write each number in words.

a) 2744 _____

b) 4857 _____

c) 1263 _____

d) 8532 _____

e) 9175 _____

f) 5036 _____

3. Write each number in standard form.

a) one thousand five hundred twenty-three _____

b) seven thousand nine hundred fifty-one _____

c) three thousand six hundred eleven _____

d) eight thousand one hundred forty-two _____

e) five thousand two hundred _____

f) two thousand six hundred thirty _____

At-Home Help

Here are some examples of writing numbers in words.

- 7795: seven thousand seven hundred ninety-five
- 1158: one thousand one hundred fifty-eight
- 2043: two thousand forty-three

NS4-4 Writing Numbers

Number Words for the Ones Place					Number Words for the Tens Place				
zero	one	two	three	four	ten	twenty	thirty	forty	fifty
five	six	seven	eight	nine	sixty	seventy	eighty	ninety	

1. Write **numerals** for the number words.

a) seven _____

b) six _____

c) eight _____

d) twenty-three _____

e) thirty-two _____

f) ninety-five _____

g) two hundred seventy _____

h) four hundred seventy-nine _____

i) nine thousand, two hundred seventeen _____

j) five thousand, three hundred ninety-one _____

2. Write number words for the numerals.

a) 1 _____

b) 7 _____

c) 9 _____

d) 6 _____

e) 21 _____

f) 67 _____

g) 43 _____

h) 55 _____

i) 90 _____

j) 13 _____

To write a number in the hundreds:

Step 1: Cover the tens and ones digits, then write the value of the hundreds digit.
Example: 743 becomes 7 ■ and we write "seven hundred."

Step 2: Uncover the tens and ones digits, then write their value: "forty-three."
The number 743 is written "seven hundred forty-three."

3. Write the value of the hundreds digit.

a) 342 _____

b) 906 _____

c) 891 _____

d) 416 _____

4. Finish writing the number word.

a) 207 two hundred *seven*

b) 306 three hundred

c) 804 eight hundred

d) 590 five hundred

e) 612 six hundred

f) 872 eight hundred

L Name: _____ Date: _____

2.6 Locating Numbers on a Number Line Page 1

Student Book pages 50–52

GOAL

Place 3-digit numbers on a number line.

Problem

Jade's class sold raffle tickets for charity.

This is how many tickets each student sold:

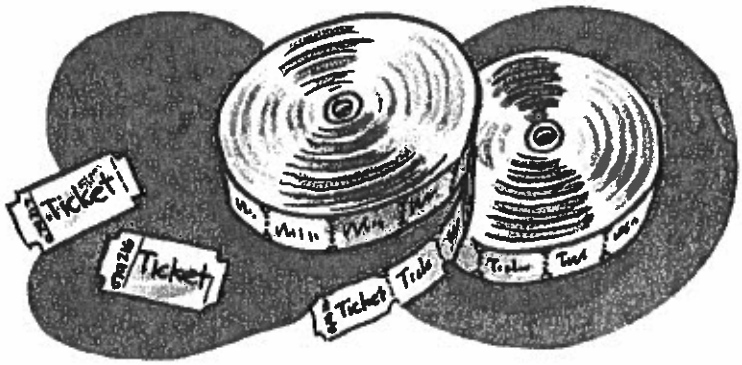
Jade: 320

Cory: 230

Aneela: 380

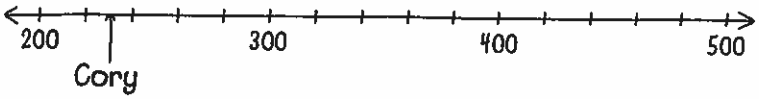
Lang: 390

Cole: 270



How can you place the number of tickets sold on a number line?

Step 1: Fill in the missing labels on the number line.



Hint: The number line counts by 20s.

Step 2: Place each number on the number line.

Use an arrow and a label.

Cory's number is done for you.

L Name: _____ Date: _____

2.6 Locating Numbers on a Number Line Page 2

Reflecting

How did you know where to place each number?

_____

_____

_____

_____

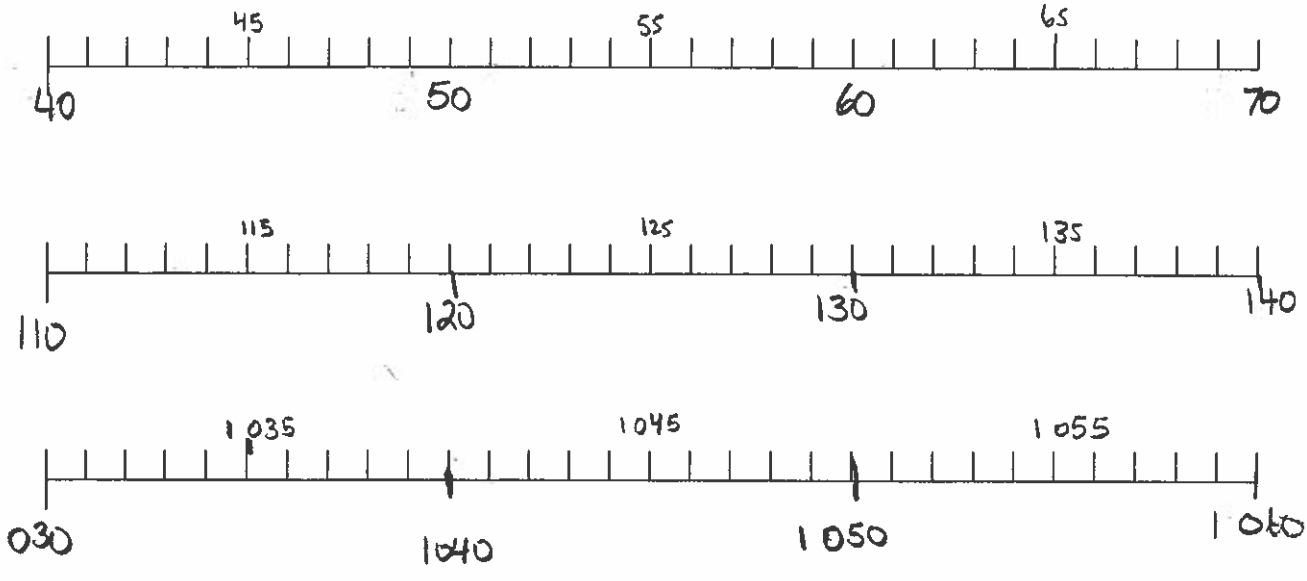
Why did Jade start the number line at 200?

_____

_____

_____

_____

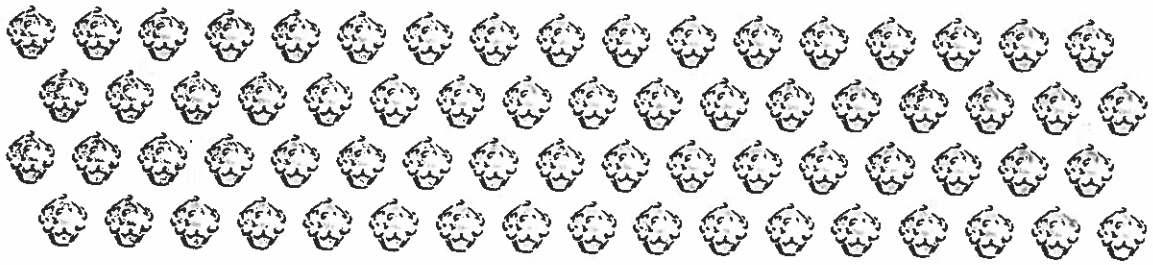


Round and estimate – estimating

Estimation is a very useful skill. It is used every day by all sorts of people.

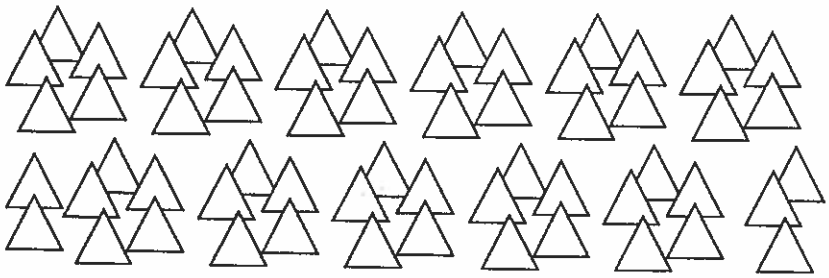
Estimation is not just guessing, it is a way of doing a sum in your head. A good estimate is a reasonable answer, not just a wild guess.

1 **Estimate the number of cupcakes below. Start by looking at a sample – the number in one group, then estimate. Try not to count.**



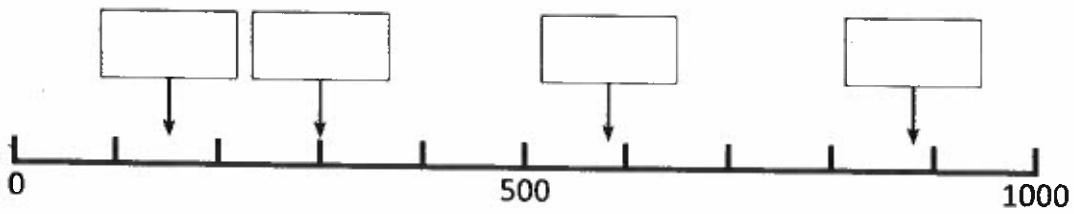
My estimate is close to ☐

2 **Estimate how many triangles are in this picture:**



My estimate is close to ☐

3 **Estimate the numbers that could be located at the marked points.**



Chapter 2 Lesson 6

Name: _____ Date: _____

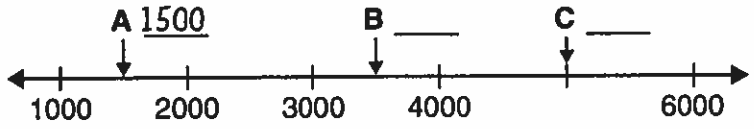
Locating Numbers on a Number Line

GOAL

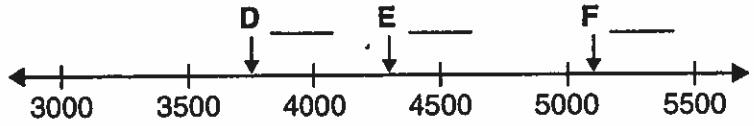
Place 4-digit numbers on a number line.

1. Estimate what number belongs at each letter. The first one is done for you.

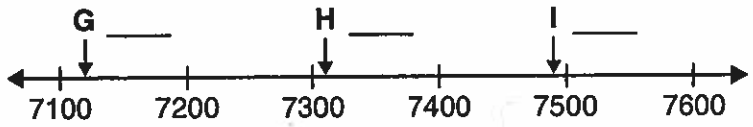
a)



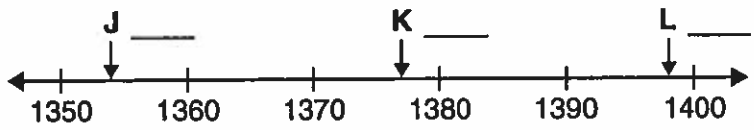
b)



c)



d)



At-Home Help

To estimate a number on a number line, follow these steps:

Step 1 Look at the numbers on the number line. What is the counting pattern?

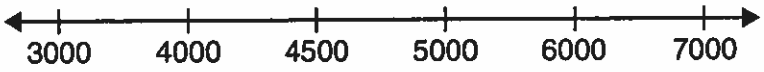
Step 2 Look at the numbers on both sides of your number. What are they?

Step 3 Your number is between those two numbers. What could it be?

For example, the pattern is 3800, 4000, 4200, 4400, 4600. My number is between 4000 and 4200. My number is in the middle, so I think it is 4100.

2. What is wrong with each number line below? How do you know?

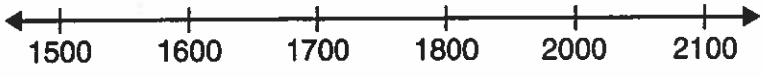
a)



_____

_____

b)



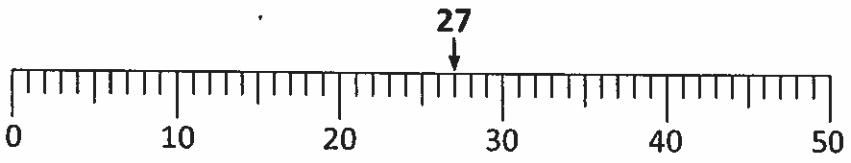
_____

_____

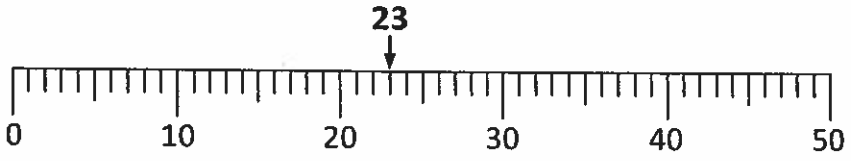
Round and estimate – rounding to 10, 100 and 1000

Rounding makes big numbers easier to work with. Look at these examples of rounding to the nearest 10.

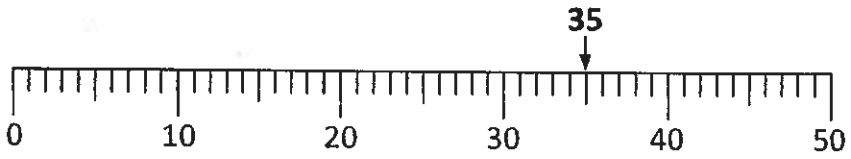
We round up if the number is over the halfway mark: 27 rounds up to 30.



We round down if the number is under the halfway mark: 23 rounds down to 20.

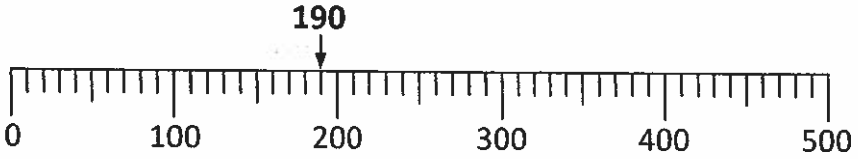


We round up if the number is exactly halfway:

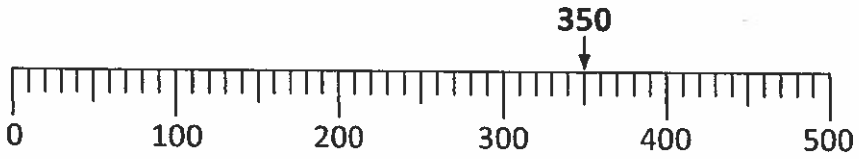


1 **Round these numbers to the nearest 100:**

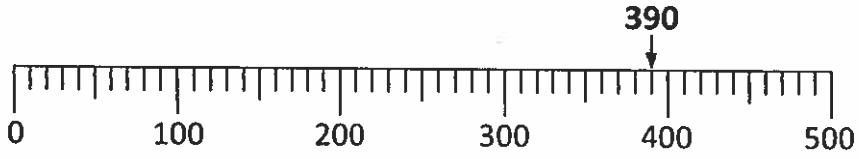
a



b



c

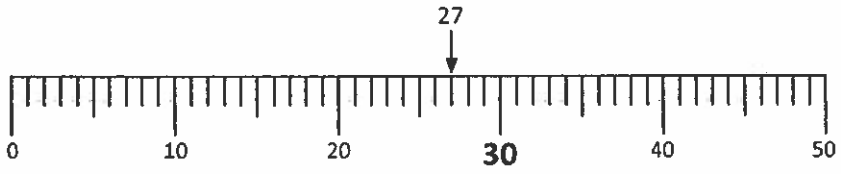


Round and estimate – round

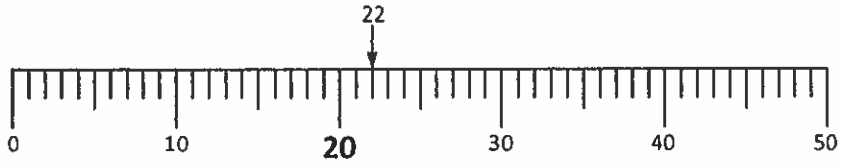
Rounding makes big numbers easier to work with. We round up if the number is exactly halfway between the 10s or over the halfway mark. We round down if the number is under the halfway mark.

Rounding to the nearest 10

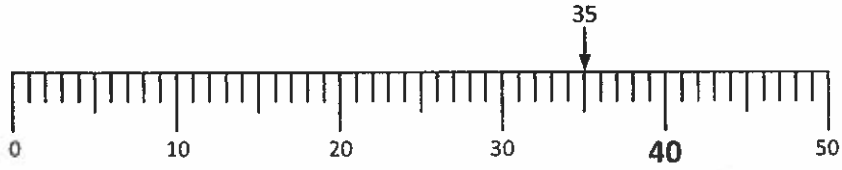
27 is over halfway between the 10s, so it rounds up to 30.



22 is under halfway between the 10s, so it rounds down to 20.

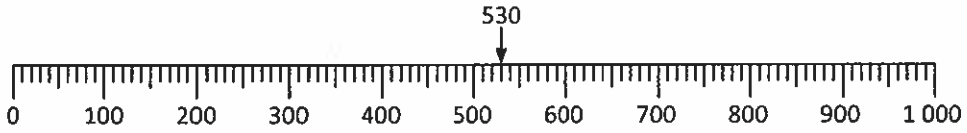


35 is exactly halfway between the 10s, so it rounds up to 40.

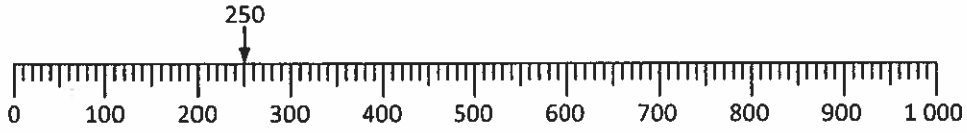


1 **Round the following numbers to the closest hundred. Find the halfway mark first.**

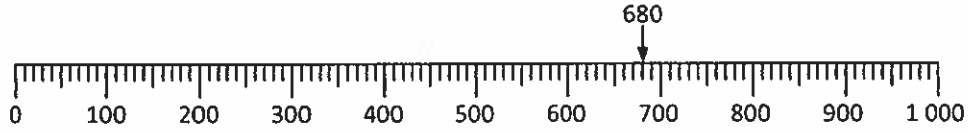
a



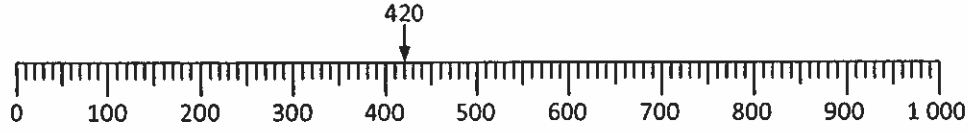
b



c



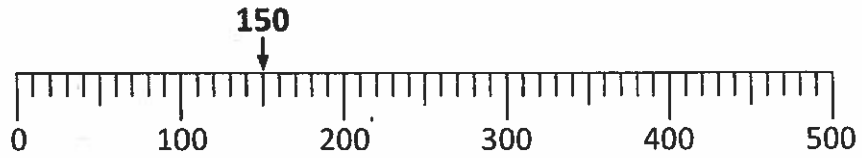
d



Round and estimate – rounding to 10, 100 and 1000

1 **Round these numbers to the nearest 100 (continued):**

d



2 **Round these according to the table directions. The first one has been done for you.**

Number	Nearest 10	Nearest 100	Nearest 1000
567	570	600	1000
673			
287			
527			
970			

3 **Find the number by rounding the numbers:**

The number of teeth that a shark has in its lifetime

70	80	100	7 000	300

7000	20	80	1000	400	500	200	40

U 999 rounded to the nearest 1000

S 356 rounded to the nearest 100

A 455 rounded to the nearest 100

N 176 rounded to the nearest 100

D 37 rounded to the nearest 10

R 99 rounded to the nearest 100

T 6 892 rounded to the nearest 1000

Y 265 rounded to the nearest 100

H 19 rounded to the nearest 10

O 84 rounded to the nearest 10

F 68 rounded to the nearest 10

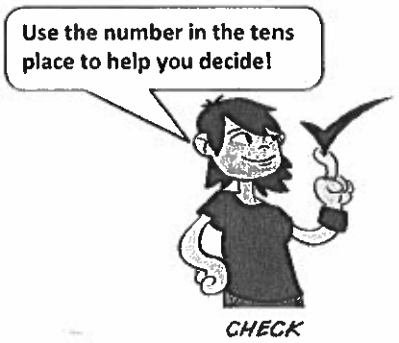
Round and estimate – round

2 **Round the following numbers to the closest hundred:**

a 235 ☐ b 680 ☐

c 513 ☐ d 450 ☐

e 5164 ☐ f 3748 ☐

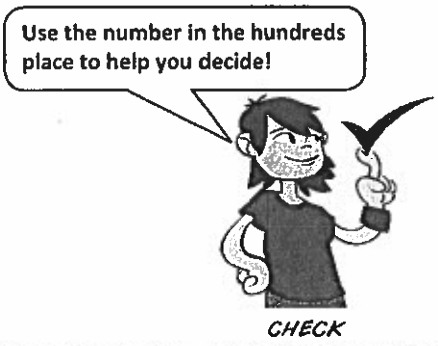


3 **Round the following numbers to the closest thousand:**

a 942 ☐ b 4964 ☐

c 2435 ☐ d 9350 ☐

e 5678 ☐ f 2845 ☐



4 **To find the hidden fact, round the numbers in the clues below and insert the matching letters above the answers. The first clue has been done for you.**

		S							S
30	10	400	40 000	20	40	1000	10	100	400

70	80	100	7000	100	80	

500	200	40	50	900	80	100	1100	1000	10

					S
30 000	900	20	50	1000	400

S	368	rounded to the nearest hundred	Q	43 230	rounded to the nearest ten thousand
T	1234	rounded to the nearest thousand	P	69	rounded to the nearest ten
M	27	rounded to the nearest ten	N	1146	rounded to the nearest hundred
C	483	rounded to the nearest hundred	R	83	rounded to the nearest ten
I	43	rounded to the nearest ten	F	6726	rounded to the nearest thousand
D	932	rounded to the nearest hundred	H	199	rounded to the nearest hundred
O	7	rounded to the nearest ten	L	46	rounded to the nearest ten
E	59	rounded to the nearest hundred	A	27 468	rounded to the nearest ten thousand
U	17	rounded to the nearest ten			

When to Estimate

Estimation is a great way to solve many problems.
But some problems need an exact answer. How can you decide?

Read each question below. Think about what kind of answer you need.
Then circle Estimate or Exact Answer.

1. How much sugar do you need to make cookies?	Estimate	Exact Answer
2. How much money could your school play earn?	Estimate	Exact Answer
3. How many plates will you need to serve dinner?	Estimate	Exact Answer
4. How much money will three new tapes cost?	Estimate	Exact Answer
5. How long will it take to get to the airport?	Estimate	Exact Answer
6. How much money is in a bank account?	Estimate	Exact Answer
7. How long would it take you to run a kilometre?	Estimate	Exact Answer
8. How many kids are in your class?	Estimate	Exact Answer

How Would You Estimate . . .

On a piece of paper, write about how you would estimate each of these.

...the height of a tree?

...how long it would take to walk from Moncton to Toronto?

...how much water you use in a year?

...the number of gumballs in a gumball machine?

...the number of students in your school?

...how much one million dimes would weigh?

Bee Riddle

Riddle: What did the farmer get when he tried to reach the beehive?

Round each number. Then use the Decoder to solve the riddle by filling in the spaces at the bottom of the page.

1. Round 7 to the nearest ten _____
2. Round 23 to the nearest ten _____
3. Round 46 to the nearest ten _____
4. Round 92 to the nearest ten _____
5. Round 203 to the nearest hundred _____
6. Round 420 to the nearest hundred _____
7. Round 588 to the nearest hundred _____
8. Round 312 to the nearest hundred _____
9. Round 549 to the nearest hundred _____
10. Round 710 to the nearest hundred _____

A	"	B				"					
	10	5	8	1		4	9	7	3	6	2

Decoder

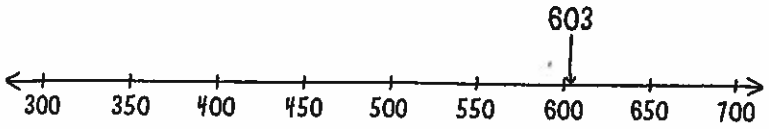
400	A
800	W
30	O
10	Y
25	E
500	I
210	J
20	L
40	C
700	U
90	S
100	T
600	G
95	F
50	N
550	V
300	Z
7	H
200	Z

L Name: _____ Date: _____

2.7 Comparing and Ordering Numbers Page 2

Step 2: Estimate to place 603, 473, and 356 on the number line.

603 has been placed for you.



Step 3: Circle the least number.

Use the number line to help you.

603 473 356

Step 4: Compare the numbers using <, =, or >.

The first one is done for you.

Hint: < means "less than."

= means "equal to."

> means "greater than."

603 > 356

473 _____ 603

356 _____ 473

Reflecting

Write a number between 356 and 603. _____

What number is in the hundreds place? _____

What number is in the tens place? _____

L Name: _____ Date: _____

2.7 Comparing and Ordering Numbers Page 1

Student Book pages 54–56

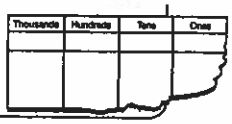
GOAL

Compare and order numbers to 1000.

You will need

- counters

- a place value chart



Problem

Some people tried to beat these world records:

- greatest number of people popping balloons at one time
- greatest number of people throwing snowballs at one time
- greatest number of people skipping rope at one time.

Were there more balloon poppers, snowball throwers, or rope skippers?

Step 1: Model each number using counters and a place value chart.

Draw your models. The first one has been done for you.

Balloon Poppers

Number	Hundreds	Tens	Ones
603			

Snowball Throwers

Number	Hundreds	Tens	Ones
473			

Rope Skippers

Number	Hundreds	Tens	Ones
356			

Chapter 2 Lesson 7

Name: _____ Date: _____

Comparing and Ordering Numbers

GOAL

Compare and order numbers to 10 000.

1. Compare the numbers using < or >.
The first one is done for you.

a) 3000 [>] 2000

b) 5000 [ ] 7000

c) 3900 [ ] 2900

d) 1500 [ ] 3500

e) 1300 [ ] 1350

f) 5860 [ ] 5870

2. Fill in each box using < or >.

a) 1867 [ ] 1868

b) 5591 [ ] 5590

c) 8473 [ ] 8394

d) 4892 [ ] 4792

e) 3333 [ ] 8482

f) 1661 [ ] 1664

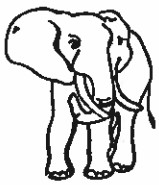
At-Home Help

The symbol < means that the 1st number is less than the 2nd number.

The symbol > means that the 1st number is greater than the 2nd number.

The symbols < and > always point to the number that is less. For example:
9600 > 8600
4126 < 4127

3. Here are the masses of some heavy animals.



elephant
6168 kg

hippopotamus
3207 kg

rhinoceros
2273 kg

baby whale
3636 kg

a) Which animal is the heaviest?
Explain how you know.

_____

_____

b) Order the animals from lightest to heaviest.

_____

CHAPTER 2
4

Name: _____ Date: _____

Comparing and Ordering Numbers

Goal **Compare and order numbers with up to five digits.**

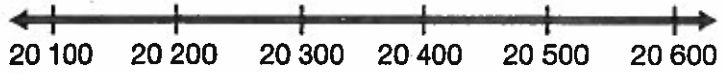
1.

Blue Jays' opponents	Average attendance in Toronto	Average attendance at opponent's stadium
Orioles	20 572	27 955
Devil Rays	20 459	9048
Expos	31 571	12 782
Yankees	27 205	33 916
Angels	20 106	41 088

a) Which teams had a greater attendance when in their home stadium?

_____

b) Show the attendance of three games on the number line.



At-Home Help

When comparing and ordering numbers up to five digits, compare the digits in this order:
- ten thousand
- thousand
- hundred
- ten
- one

You can also compare and order numbers by their positions on a number line.

Inequality signs are used to show that one number is greater than another.
For example, 8 > 3 is read "8 is greater than 3."
3 < 8 is read "3 is less than 8."

2. Complete each number sentence using < or >.

a) 20 899 ____ 20 100 **c)** 45 072 ____ 47 072 **e)** 90 000 ____ 89 999

b) 3687 ____ 3675 **d)** 24 531 ____ 23 154 **f)** 19 560 ____ 20 650

3. Order each group of numbers from greatest to least using inequality signs.

a) 14 532 8927 41 536 50 001

_____

b) 67 013 6713 67 130 67 103

_____

4. Adrian collected pennies for a penny drive. He wrote the total number of pennies on separate cards. Each card had a 1, 8, 3, 5, or 4. The cards got all mixed up. He knew that the number of pennies was between 20 000 and 45 000. List three possibilities for the number of pennies.

Name _____

7 Comparing Numbers

★ Use >, <, and = signs to compare whole numbers.

91 = 41 + 50	91 is equal to 41 + 50
72 > 68	72 is greater than 68
549 < 570	549 is less than 570

Complete the number sentence with the correct symbol: >, <, or =.

1. 20 + 5 ◯ 37
2. 58 ◯ 38 + 20
3. 348 ◯ 358
4. 87 ◯ 78
5. 1,254 ◯ 1,234

9 ◯ 0

17 ◯ 42

2,679 ◯ 3,104

620 ◯ 531

297 ◯ 277 + 30

Write the numbers in order from lowest to highest.

6. 51, 112, 3, 25 + 27 _____
7. 8, 2 + 3, 11, 1 _____
8. 94, 27, 72, 50 + 43 _____
9. 28 + 10, 28, 14, 55 _____
10. 49; 149; 3,490; 3,049 _____
11. 71, 701, 17, 170, 107 _____

Comparing Large Numbers

Name _____

Which is greater, 487 922 or 486 789?

4 8 7 9 2 2 Start at the left to compare.
Draw lines to match digits that are the same.
4 8 6 7 8 9 Find the first place where the digits are different.

Think: 7 is greater than 6, so
487 922 is greater than 486 789.
487 922 > 486 789

Write > (greater than) or < (less than).

Draw lines between like digits if you wish.

1. 7 3 5 4 2 9 Since I know 7 _____ 6,
   6 5 8 2 9 3 I also know 735 429 _____ 658 293.

2. 5 0 3 6 7 8 Since I know 0 _____ 2,
   5 2 8 6 1 1 I also know 503 678 _____ 528 611.

3. 9 8 6 5 2 3 Since I know 2 _____ 1,
   9 8 6 5 1 9 I also know 986 523 _____ 986 519.

---

4. 5 1 9 0
   5 6 8 2
   5190 _____ 5682

5. 2 9 9 9 9
   8 4 0 7 4
   29 999 _____ 84 074

6. 4 3 9 6 7 1
   4 3 6 9 8 2
   439 671 _____ 436 982

7. 6 0 5 8 2 3
   6 0 5 8 2 7
   605 823 _____ 605 827

---

8. 6083 _____ 6805

9. 59 633 _____ 59 511

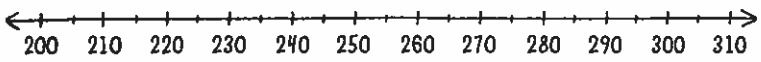
10. 452 580 _____ 327 800

11. 703 559 _____ 703 496

L Name: _____ Date: _____

2.8 Communicating about Ordering Numbers Page 2

Step 2: Estimate to mark the numbers on the number line.



Step 3: Order the numbers from least to greatest.
Use your models to help you.

_____, _____, _____

Explain the steps you used to order the numbers.

Step 4: List some ways you could improve your explanation.
Use the Communication Checklist.

_____

_____

_____

Communication Checklist

- ✔ Did you show all the steps?
- ✔ Did you explain your thinking?

Reflecting

How does the Communication Checklist help you write a good explanation?

_____

_____

_____

_____

L Name: _____ Date: _____

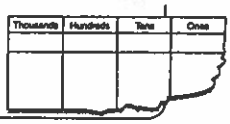
2.8 Communicating about Ordering Numbers Page 1

Student Book pages 58–59

GOAL

Explain how to order a set of numbers in a complete, clear, and organized way.

You will need

- counters 
- a place value chart 

Problem

Emily ordered the scores for her school's skipping contest.

Top Scores
302 jumps
222 jumps
203 jumps

How can Emily explain how she ordered the scores?

Step 1: Model the numbers using counters and a place value chart.

Draw your models. The first one has been done for you.

Number	Hundreds	Tens	Ones
302			

Number	Hundreds	Tens	Ones
222			

Number	Hundreds	Tens	Ones
203			

Communicate About Ordering Numbers

Goal **Explain how to order a set of numbers in a complete, clear, and organized way.**

1. Match the letters of the explanations in the boxes below to these number patterns. If you correctly match the patterns to their explanations, the letters going down will spell the number of patterns you matched.

   a) 8808, 8008, 888, 808 _____

   b) 180, 295, 592, 801 _____

   c) 1000, 5308, 5803, 8500 _____

   d) 8, 81, 808, 8808 _____

At-Home Help

The following terms help describe how a set of numbers is ordered.

digits: The digits in our number system are 0, 1, 2, 3, 4, 5, 6, 7, 8, and 9.

numbers: Combinations of the digits are numbers (e.g., 43, 895, and 2067).

place value: A digit takes on a value determined by the place it occupies in a number.

In the number **4**5, the digit 5 is in the ones place. Its value is 5.
In the number 2**5**1, the digit 5 is in the tens place. Its value is 50.
In 5**3**0, the 5 is in the hundreds place. Its value is 500. In **5**296, the 5 is in the thousands place. Its value is 5000.

R

I ordered the numbers from least to greatest with the 1-digit number first, then the 2-digit number, then the 3-digit number, and finally the 4-digit number.

F

I ordered the numbers from greatest to least. The first 2 numbers have 4 digits. I compared their hundreds digits to decide which number is greater. The last 2 numbers have 3 digits. I compared their tens digits to decide which number is greater.

U

I looked at the digit in the thousands place and wrote the numbers from least to greatest. For the 2 numbers that have the same thousands digit, I looked at the digit in the hundreds place to decide which is the least.

O

All of the numbers have 3 digits. I ordered the numbers from least to greatest by looking at the digit in the hundreds place.

Chapter 2
Lesson 8

Name: _____ Date: _____

Communicating about Ordering Numbers

GOAL

Explain how to order a set of numbers in a complete, clear, and organized way.

1. Order each set of numbers from greatest to least.

a) 1028, 599, 634, 4921

_____

b) 8032, 1045, 350, 1234

_____

c) 4602, 5602, 3602, 2602

_____

d) 6341, 6743, 6064, 6340

_____

e) 5900, 8300, 2000, 9200, 3800

_____

f) 7734, 55, 7783, 1092, 945

_____

At-Home Help

Communication Checklist

- ✔ Did you show all the steps?
- ✔ Did you explain your thinking?

2. Order each set of numbers from greatest to least. Explain your thinking.

a) 4099, 240, 3912, 5700, 98

_____

_____

b) 1085, 4093, 1377, 3451

_____

_____

_____

Name: _____ Date: _____

Chapter 2: Numeration

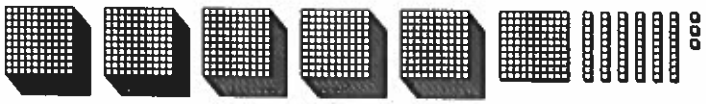
Whole numbers can be represented in a variety of ways.

For example, the number 5163 can be represented as follows:

Words: five thousand one hundred sixty-three

Expanded: 5000 + 100 + 60 + 3

5 thousands + 1 hundred + 6 tens + 3 ones

Base Ten Blocks: 

1. What is the value of each shaded digit?

   a) 34**3**1 _____ **c)** 164**7** _____

   b) 9**2**50 _____ **d)** **4**285 _____

2. In the number 8296, does the 2 or the 9 have a greater value? Explain your thinking.

   _____

   _____

3. Write each number.

   a) two thousand six hundred forty-one _____

   b) one thousand nine hundred seventeen _____

   c) 3 thousands + 1 hundred + 8 tens + 4 ones _____

   d) 7000 + 300 + 4 _____

Student Activity

Name: _____

Using the Place Value Chart

1. Show the given numerals on the following place value chart.
   Example: 37 014

   a. 27
   b. 273 014
   c. 6 513
   d. 256
   e. 63 145
   f. 2 500
   g. 632 165
   h. 5

	Thousands Period			Ones Period		
	Hundreds	Tens	Ones	Hundreds	Tens	Ones
		3	7	0	1	4
a						
b						
c						
d						
e						
f						
g						
h						

2. Order the numbers in question 1 from greatest to least.

   _____

   _____

3. Place the following numbers in order from least to greatest.

   300 2 700 1 800 11 900 11 899 11 999 12 001
   1 011 630

   _____

   _____

Name: _____ Date: _____

Chapter 2

Test Yourself

Circle the correct answer.

1. Jade made 25 necklaces. Each necklace has 100 beads.
Which model represents the number of beads as thousands and hundreds?

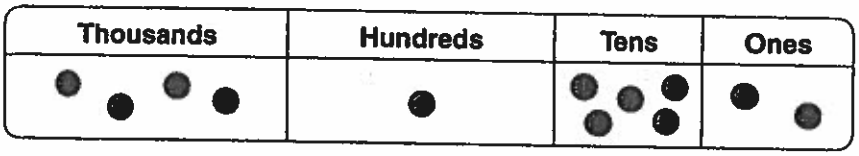
A. 

C. 

B. 

D. 

2. What number is modelled on the place value chart?



A. 4 thousands + 1 hundred + 5 tens + 2 ones

B. 2 thousands + 1 hundred + 4 tens + 5 ones

C. 5 thousands + 1 hundred + 2 tens + 4 ones

D. 1 thousand + 4 hundreds + 5 tens + 2 ones

3. Which number shows five thousand three hundred twenty-five in standard form?

A. 5235 **B.** 5325 **C.** 2355 **D.** 3525

4. What is the missing number on the number line?

A. 2660 **B.** 2675 **C.** 2700 **D.** 2725

5. Which set of numbers is in correct order from greatest to least?

A. 8721, 2934, 1184, 1023, 976

B. 7120, 4623, 4817, 3266, 70

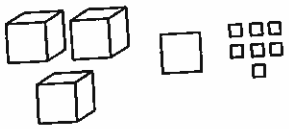
C. 8372, 5000, 3721, 9046, 2088

D. 83, 129, 5932, 7473, 9981

Test Yourself

Circle the correct answer.

1. Write the number for these base ten blocks.



A. 317 **C.** 3107

B. 3170 **D.** 3017

2. Write 8945 in expanded form.

E. 8000 + 900 + 40 + 5 **G.** 8 + 9 + 4 + 5

F. 8000 + 9000 + 400 + 5 **H.** 89 + 45

3. My thousands digit is 1 more than my hundreds digit.
The sum of my thousands digit and hundreds digit is 3.
My thousands digit is the same as my ones digit.
My hundreds digit is the same as my tens digit.
What number am I?

A. 3003 **B.** 3030 **C.** 2121 **D.** 2112

4. Complete by choosing the correct number: 2365 > ■

E. 2425 **F.** 6523 **G.** 1365 **H.** 2565

5. Multiply: 1000 × 10 = ■

A. 1000 **B.** 100 **C.** 10 000 **D.** 100 000

6. There are 365 days in 1 year. How many days are in 10 years?

E. 365 **F.** 3650 **G.** 10 000 **H.** 36 500

7. What number is 1928 rounded to the nearest hundred?

A. 100 **B.** 1930 **C.** 2000 **D.** 1900

8. Find the total amount for 1 twenty-dollar bill, 1 ten-dollar bill, 1 five-dollar bill, 3 quarters, 1 dime, and 1 nickel.

E. $36.15 **F.** $30.90 **G.** $35.95 **H.** $35.90