

Table of contents

OVERVIEW

Program overview	6
Features of a <i>STAMS® Plus</i> lesson	14
The Australian Curriculum	26
Scope and sequence chart	27

LESSON PLANS

Place value

Lesson 1	Place value	31
	Learn about place value	
	Learn about writing numbers in different ways	

Addition and subtraction

Lesson 2	Add and subtract	39
	Learn about using place value to add	
	Learn about using place value to subtract	

Multiplication

Lesson 3	Multiplication concepts	47
	Learn about equal groups	
	Learn about arrays	

Lesson 4	Fact strategies	55
	Learn about skip counting and multiplication	
	Learn about doubling and multiplication	

Lesson 5	More fact strategies	63
	Learn about multiplication facts for 3 and 6	
	Learn about multiplication facts for 7 and 9	

Division

Lesson 6	Division concepts	71
	Learn about equal sharing and division	
	Learn about subtraction and division	

Lesson 7	Fact families	79
	Learn about multiplication and division fact families	
	Learn about missing numbers and fact families	

Fractions

Lesson 8	Fraction concepts	87
	Learn about fractions as parts of a whole	
	Learn about fractions on a number line	
Lesson 9	Model equivalent fractions	95
	Learn about modelling equivalent fractions	
	Learn more about modelling equivalent fractions	
Lesson 10	Benchmark fractions	103
	Learn about comparing fractions to $\frac{1}{2}$	
	Learn about comparing fractions to 0 and 1	
Lesson 11	Compare fractions	111
	Learn about comparing fractions	
	Learn more about comparing fractions	
Lesson 12	Fractions greater than 1	119
	Learn about fractions greater than 1	
	Learn more about fractions greater than 1	

Plane geometry

Lesson 13	Plane figures	127
	Learn about congruent figures	
	Learn about symmetry	

Linear measurement and area

Lesson 14	Length	135
	Learn about measuring to the nearest $\frac{1}{2}$ centimetre	
	Learn about measuring to the nearest millimetre	
Lesson 15	Perimeter	143
	Learn about using addition to find perimeter	
	Learn about using multiplication to find perimeter	

Graphs

Lesson 16	Picture graphs and column graphs	151
	Learn about picture graphs	
	Learn about column graphs	

SCHOOL-HOME CONNECTIONS (*Activity sheets*)

Lessons 1-16	159
---------------------------	-----

ADDITIONAL LESSON PLAN**Linear measurement and area** *(Can be used after Lesson 15)*

Lesson 17	Understand area	177
	Learn about area	
	Learn more about area	

ADDITIONAL SCHOOL-HOME CONNECTION *(Activity sheet)*

Lesson 17	185
------------------	-------	-----

© Hawker Brownlow Education

Lesson 1 PLACE VALUE

LESSON OBJECTIVES

Students will:

- Find the value of digits for numbers up to 10 000.
- Write whole numbers in different ways.

RELATED AUSTRALIAN CURRICULUM CONTENT DESCRIPTIONS

See page 26 to cross-reference this lesson with aligned Australian Curriculum content descriptions.

PREREQUISITES

Students should be able to:

- Identify a number given a base-ten block model.
- Read a 4-digit number.

VOCABULARY

PAGE 4

- **place value:** the value of the place of a digit in a number
- **digit:** any one of the ten symbols used to write numbers: 0, 1, 2, 3, 4, 5, 6, 7, 8 or 9
- **hundreds place:** the digit to the left of the tens place
- **tens place:** the digit to the left of the ones place
- **ones place:** the right-most digit in a whole number

PAGE 6

- **regroup:** to use place value to write a whole number in a different way

MATHS BACKGROUND

Place value is the value of the place a digit has in a number. These places include ones, tens, hundreds and thousands. In the number 1234, the value of the digit 1 is 1000, the value of the digit 2 is 200, the value of the digit 3 is 30 and the value of the digit 4 is 4.

It is important to help students distinguish between the position, or place, of a digit and its value in a given number. Models such as base-ten blocks and place-value charts can help students visualise the place values of a number's digits. In the number 1234, for example, these models help them see that the 2 has a greater value than the 3. Models can also help students with renaming. They can tell by looking at base-ten blocks that a ten block is 10 ones and a hundred block is 10 tens or 100 ones. This concept is important to understand because students must apply it when adding and subtracting numbers where regrouping is needed.



Interactive Whiteboard

Visualise place value of whole numbers up to 10 000

Go to the *IWB lessons* to bring parts one and two to life. Use features such as sliding screens with additional practice to deepen students' understanding of place value of whole numbers up to 10 000.



Download

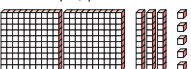
<http://iwb.camsandstams.com.au>

Modelled Instruction

Lesson 1 PLACE VALUE
PART ONE: Learn about place value

How can you find the value of each digit in a number?

Explore
You know how to read whole numbers.
For example, you read 235 as *two hundred and thirty-five*.



How can **place value** help you understand the value of each digit in 235?

Think
A place-value chart tells the value of each digit in a number.

Hundreds	Tens	Ones
2	3	5

Which digit is in the **hundreds place**? 2
Which digit is in the **tens place**? 3
Which digit is in the **ones place**? 5

Connect
The 2 has a value of 2 hundreds, or 200.
The 3 has a value of 3 tens, or 30.
The 5 has a value of 5 ones, or 5. $235 = 200 + 30 + 5$
235 has 2 hundreds, 3 tens, 5 ones.

Let's Talk
Think about showing the number 500 in a place-value chart.
What does each zero in the number mean?

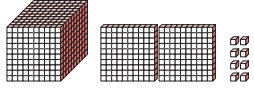
CA12631 • 9781760010201 • © 2013 Hawker Brownlow Education

Guided Instruction

Place value

Think It Through

Fill in the blanks. Solve the problem.
These blocks show the number 1208.



How can you write 1208 to show the value of each digit?

■ How many thousands are shown? 1
What is the value of the thousands digit? 1000

■ How many hundreds are shown? 2
What is the value of the hundreds digit? 200

■ How many tens are shown? 0
What is the value of the tens digit? 0

■ How many ones are shown? 8
What is the value of the ones digit? 8

Solution: $1208 = 1000 + 200 + 0 + 8$

Your Turn **Now, use what you know to solve this problem.**

1. What is the value of the 6 in 2460?

Thousands	Hundreds	Tens	Ones
2	4	6	0

Ⓐ 400 Ⓒ 6
Ⓑ 60 Ⓓ 0

- One thousand is the same as 10 hundreds.
- One hundred is the same as 10 tens.
- One ten is the same as 10 ones.

© 2013 Hawker Brownlow Education • 9781760010201 • CA12631

AT A GLANCE

Students activate their background knowledge about place value and then learn how to find the value of digits in whole numbers and to regroup whole numbers.

STEP BY STEP

PAGE 4

- Introduce the **Question** at the top of the page.
- Have students study the figure shown in **Explore** and ask which blocks represent ones, tens and hundreds.

Tip: Have students circle all the hundreds, then the tens and then the ones in the base-ten blocks diagram. Show them how the number of hundreds, tens and ones corresponds with the digits on the place-value chart.

- Read **Think** with students. Make sure the students understand how to identify each place in a 3-digit number.

- Discuss **Connect** with students. Make sure the students understand that in the term *place value*, *place* refers to the position of a digit in a number and *value* refers to the amount the digit stands for.
- Organise students in pairs or groups for **Let's Talk** and monitor their discussions.
- Be sure students understand that in the number 500, the zero in the tens place means there are no tens. The zero in the ones place means there are no ones.

PAGE 5

- Read the **Think It Through** problem with students.
- Guide students as they solve the problem. Use Calculator Man to explain that each place value is 10 times greater than the place value to its right.
- Monitor students as they complete **Your Turn**. Then discuss the correct answer.

Error Alert: Students who choose C may not realise that a 6 in the tens place has a value of 60.




ADDITIONAL ACTIVITY

See **Hands-on Activity** (page 38).

Modelled Instruction

PART TWO: Learn about writing numbers in different ways

 **How can you use place value to write numbers in different ways?**

Explore

You know how to find the values of the digits in a number.

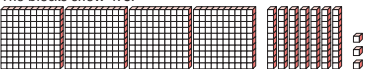
Hundreds	Tens	Ones
7	3	4

$734 = 7 \text{ hundreds} + 3 \text{ tens} + 4 \text{ ones}$
 $734 = 700 + 30 + 4$

How can you name the values in different ways?

Think

The blocks show 473.

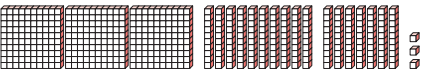


What is the value of the 4? 4 hundreds
 What is the value of the 7? 7 tens
 What is the value of the 3? 3 ones

$473 = 400 + 70 + 3$
 $473 = 4 \text{ hundreds} + 7 \text{ tens} + 3 \text{ ones}$

Connect

You can **regroup** 1 hundred as 10 tens.



4 hundreds = 3 hundreds and 10 tens
 10 tens + 7 tens = 17 tens

$473 = 300 + 170 + 3$
 $473 = 3 \text{ hundreds} + 17 \text{ tens} + 3 \text{ ones}$

Let's Talk


How can you write 473 using only tens and ones?
 Look at the base-ten blocks above to help you.

6

CA12631 • 9781760010201 • © 2013 Hawker Brownlow Education

Guided Instruction

Place value

 **Think It Through**


Fill in the blanks. Solve the problem.
 The place-value chart shows the number 3655.

Thousands	Hundreds	Tens	Ones
3	6	5	5

What is another way to write 3655 if you regroup 1 hundred as 10 tens?

- How many hundreds are there in 3655?
6 hundreds
- Regroup 1 hundred as 10 tens.
6 hundreds = 5 hundreds and 10 tens
- How many tens are there after you regroup 1 hundred?
10 tens + 5 tens = 15 tens

Solution: $3655 = 3 \text{ thousands} + 5 \text{ hundreds}$
 $+ 15 \text{ tens} + 5 \text{ ones}$

Your Turn  **Now, use what you know to solve this problem.**


2. The place-value chart shows 8024.
 Regroup 1 thousand as 10 hundreds.

Thousands	Hundreds	Tens	Ones
8	0	2	4

$8024 = 7 \text{ thousands} + 10 \text{ hundreds}$
 $+ 2 \text{ tens} + 4 \text{ ones}$

There are many ways to rewrite numbers. You can regroup:

- one or more thousands as hundreds
- one or more hundreds as tens
- one or more tens as ones.



7

© 2013 Hawker Brownlow Education • 9781760010201 • CA12631

AT A GLANCE

Students learn how to write whole numbers in different ways by regrouping thousands, hundreds or tens.

STEP BY STEP

PAGE 6

- Introduce the **Question** at the top of the page.
- Read **Explore** with students. Point out each digit in the place-value chart.
- Read **Think** with students. Have them explain how the model shows the value of each digit in 473.
- Tell students to read each statement in **Connect**. Make sure students understand that 4 hundreds is the same as 3 hundreds and 10 tens because 1 hundred = 10 tens and that 7 tens is the same as 6 tens and 10 ones because 1 ten = 10 ones.

Tip: Remind students that regrouping doesn't change the value of the number; it just shows another way to write the number.

EAL/D Support: Ask students what regrouping means in addition and subtraction. Explain to students that when they regroup a number to add or subtract, they are just writing the number in a different way.

- Organise students in pairs or groups for **Let's Talk** and monitor their discussions. Be sure students understand 473 can be written as 47 tens and 3 ones.

PAGE 7

- Read the **Think It Through** problem with students.
- Guide students as they solve the problem. Pause for students to fill in missing information. Then discuss each response.
- Monitor students as they complete **Your Turn**. Then discuss the correct answer.

Error Alert: Students who answer 8 thousands, 10 hundreds, 2 tens and 4 ones have forgotten to decrease the thousands digit by 1.



ADDITIONAL ACTIVITY

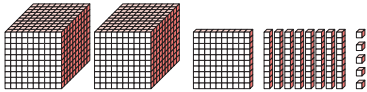
See **Reteaching Activity** (page 38).

Modelled Practice

PART THREE: Choose the right answer

Solve the problem. Then read why each answer choice is correct or not correct.

The blocks show 2185.



Solve

What is the value of the hundreds digit?

A 2000
 B 1000
 C 800
 D 100

Check to see if you chose the correct answer.

In the number 2185 the hundreds digit is the 1.
 The block shows 1 hundred. The value of 1 is 100.
 So, the correct answer is D.

Why are the other answer choices not correct?

<input type="radio"/> A 2000	This is the value of the thousands digit.
<input type="radio"/> B 1000	This is the value for 1 thousand, not 1 hundred.
<input type="radio"/> C 800	8 is the tens digit, not the hundreds digit.

8 CA12631 • 9781760010218 • © 2013 Hawker Brownlow Education

Guided Practice

Place value

Your Turn Solve each problem. Use the hints to avoid mistakes.

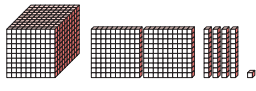
• Find the correct place of the digit. Then figure out the value of the digit.
 • Remember that there are 10 ones in 1 ten, 10 tens in 1 hundred and 10 hundreds in 1 thousand.

3. What is the value of the 9 in 2495?

Thousands	Hundreds	Tens	Ones
2	4	9	5

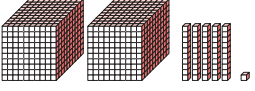
A 9000
 B 900
 C 90
 D 9

4. What is the value of the 2 in 1241?



A 2
 B 20
 C 200
 D 2000

5. What number do the blocks show?



A 2005
 B 2051
 C 2501
 D 2510

6. What is another way to write 348?

Hundreds	Tens	Ones
3	4	8

A 2 hundreds + 14 tens + 8 ones
 B 2 hundreds + 4 tens + 18 ones
 C 3 hundreds + 3 tens + 8 ones
 D 3 hundreds + 4 tens + 18 ones

9 CA12631 • 9781760010218 • © 2013 Hawker Brownlow Education

AT A GLANCE

Students reinforce their understanding of place value through solving a multiple-choice problem and analysing correct and incorrect answer choices.

STEP BY STEP

PAGE 8

- Tell students that this page models finding the correct answer to a multiple-choice problem.
- Have students read the problem in **Solve** and choose the best answer. Remind students to check their maths.
- Examine **Check** with students. Discuss the correct and incorrect choices.

PAGE 9

- Monitor students as they complete **Your Turn**.
- Organise students in pairs or small groups and have them discuss why each answer choice is correct or not and what errors may have been made.
- Review the answers with the class.



ADDITIONAL ACTIVITY

See **Vocabulary Activity** (page 38).

Answer Analysis

3. A Thought the 9 was in the thousands place.
 B Thought the 9 was in the hundreds place.
 C 9 is in the tens place and has a value of 90.
 D Thought the 9 was in the ones place.
4. A Thought the 2 was in the ones place.
 B Thought the 2 was in the tens place.
 C 2 is in the hundreds place and has a value of 200.
 D Thought the 2 was in the thousands place.
5. A Thought there were no hundreds and no tens.
 B There are 2 thousands blocks, 5 tens blocks and 1 ones block, so the number is 2051.
 C Thought the tens were hundreds.
 D Thought the tens were hundreds and the ones tens.
6. A This is the same as 348 after regrouping 1 hundred as 10 tens.
 B Added 10 to the ones digit, not the tens digit.
 C Regrouped 1 ten without adding 10 to the ones digit.
 D Added 10 to ones digit without regrouping from tens.

Modelled Practice

PART FOUR: Write the best answer

Study the model. It is a good example of a written answer.

Student model

The place-value chart shows 5417.
What is another way to write 5417 if you regroup 1 thousand as 10 hundreds?

Thousands	Hundreds	Tens	Ones
5	4	1	7

Use pictures, words or numbers to show your work.

5 thousands = 4 thousands + 10 hundreds
10 hundreds + 4 hundreds = 14 hundreds

Solution: 4 thousands + 14 hundreds
+ 1 ten + 7 ones

Explain how you got your answer.

I started with 5 thousands. I regrouped 1 thousand and then had 4 thousands and 10 hundreds. I added the 10 hundreds to the 4 hundreds I already had: 10 hundreds + 4 hundreds = 14 hundreds. The tens place and the ones place did not change.

Show

- The student shows each step.
- The student correctly answers the question asked.
- The student gives important details about how to write the number.
- The student uses the maths words *regroup*, *thousands*, *hundreds*, *tens* place and *ones* place.

Explain

10

CA12631 • 9781760010201 • © 2013 Hawker Brownlow Education

Guided Practice

Place value

Your Turn Solve the problem. Use what you learned from the model.

7. What is another way to write 2960 if you regroup 1 hundred as 10 tens?

Thousands	Hundreds	Tens	Ones
2	9	6	0

Use pictures, words or numbers to show your work.

9 hundreds = 8 hundreds and 10 tens
10 tens + 6 tens = 16 tens

Solution: 2 thousands + 8 hundreds + 16 tens
+ 0 ones

Explain how you got your answer.

I started with 9 hundreds. I regrouped 1 hundred and then had 8 hundreds and 10 tens. I added the 10 tens to the 6 tens I already had: 10 tens + 6 tens = 16 tens. The thousands place and the ones place did not change.

CHECKLIST

Did you ...

- show each step?
- answer the question asked?
- give important details?
- use maths words?

© 2013 Hawker Brownlow Education • 9781760010201 • CA12631

11

AT A GLANCE

Students study a model answer to an extended-response problem.

STEP BY STEP

PAGE 10

- Tell students that this page models building the solution to a problem one step at a time and writing to explain the solution.
- Have students read the problem in **Show**. Discuss how each mathematical step leads to the solution.

Tip: Have students use base-ten blocks to model the number and show the regrouping. This will help them visualise the result of regrouping 1 thousand as 10 hundreds.

- Read **Explain** with students. Have students circle the maths words in the explanation.
- Direct students' attention to the notes in the right margin. Tell students that this model would receive a high score for the reasons described in these notes.

PAGE 11

- Monitor students as they complete **Your Turn**.
- Encourage students to follow the **Checklist** to write the best answer.
- Have students discuss their work with a partner. Then discuss the correct answer as a class.

Answer Analysis

7. See the sample answer. The answer shows all of the steps taken to solve the problem, including regrouping 9 hundreds as 8 hundreds and 10 tens. The solution answers the question. The explanation provides important details about how the problem was solved and uses the maths words *regroup*, *hundreds*, *tens*, *thousands place* and *ones place*.



ADDITIONAL ACTIVITY

See **Real-World Connection** (page 38).



ADDITIONAL ACTIVITY

See **School-Home Connection** (page 38).

Independent Practice

PART FIVE: Prepare for a test

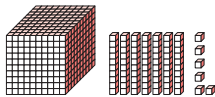


As you solve place-value problems, you may want to:

- think about the value of each digit.
- make a place-value chart to help you.

Solve each problem.

8. What is the value of the digit in the tens place in 1076?



- A 7
- B 70
- C 700
- D 7000

9. What is another way to write 3592?

- A 2 thousands + 5 hundreds + 19 tens + 2 ones
- B 2 thousands + 15 hundreds + 9 tens + 2 ones
- C 3 thousands + 5 hundreds + 19 tens + 2 ones
- D 3 thousands + 15 hundreds + 9 tens + 2 ones

10. Germaine has a roll of tape that is 14 hundred centimetres long. How long is the tape?

- A 14 centimetres
- B 140 centimetres
- C 1400 centimetres
- D 14000 centimetres

11. Which place-value chart shows 8 thousands + 4 hundreds + 7 tens + 9 ones?

A

Thousands	Hundreds	Tens	Ones
4	8	7	9

B

Thousands	Hundreds	Tens	Ones
8	4	9	7

C

Thousands	Hundreds	Tens	Ones
8	4	7	9

D

Thousands	Hundreds	Tens	Ones
7	4	8	9

Independent Practice

Place value

12. A school building has 18 hundred students. How many students are there?

- A 18
- B 180
- C 800
- D 1800

14. The place-value chart shows 7013. How can you write this number by regrouping 1 thousand?

Thousands	Hundreds	Tens	Ones
7	0	1	3

6 thousands + 10 hundreds
+ 1 ten + 3 ones

13. What is the value of the hundreds digit in 3084?

- A 0
- B 80
- C 84
- D 3000

15. What is another way to write 3681 if you regroup 1 thousand as 10 hundreds?

Thousands	Hundreds	Tens	Ones
3	6	8	1

Use pictures, words or numbers to show your work.

3 thousands = 2 thousands + 10 hundreds
10 hundreds + 6 hundreds = 16 hundreds

Solution: 2 thousands + 16 hundreds + 8 tens + 1 one

Explain how you found your answer.

I started with 3 thousands. I regrouped 1 thousand and then had 2 thousands and 10 hundreds. I added the 10 hundreds to the 6 hundreds I already had:
10 hundreds + 6 hundreds = 16 hundreds. The tens place and the ones place did not change.

AT A GLANCE

Students practise using place value to solve problems that might appear on a mathematics test.

STEP BY STEP

PAGES 12–13

- Tell students that they will practise solving problems using place value.
- Point out the tips at the top of page 12. Explain to students that these tips will help them answer the problems correctly.
- You may wish to have students review the hints for avoiding errors on page 9 as well.
- Tell students to complete problems 8–15 on pages 12 and 13. Encourage students to check their answers.
- Discuss the correct responses as a class.

Answers and Explanations

8. B The blocks show 7 tens, so the value of the tens digit is 70.
9. B Regrouping 1 thousand as 10 hundreds, 3592 can be written as 2 thousands + 15 hundreds + 9 tens + 2 ones.
10. C 14 hundreds is the same as 1 thousand and 4 hundreds or 1400.
11. C 8 thousands + 4 hundreds + 7 tens + 9 ones is 8479.
12. D 18 hundreds is the same as 1 thousand and 8 hundreds or 1800.
13. A The digit in the hundreds place is 0, so the value of the hundreds digit is 0.

(continued on page 37)

(continued from page 36)

14. Regroup 7 thousands as 6 thousands + 10 hundreds. Then add the 10 hundreds to 0 hundreds to get 10 hundreds. The 1 ten and 3 ones stay the same.

15. See the sample answer. This answer shows all of the steps the student took to solve the problem, including regrouping 1 thousand as 10 hundreds. The solution answers the question. The explanation provides important details about how the student solved the problem and uses the maths words *thousands*, *regroup*, *hundreds*, *tens place* and *ones place*.



ASSESSMENT AND REMEDIATION

- Ask students to write 4823 another way by regrouping 1 hundred as 10 tens. (*4 thousands + 7 hundreds + 12 tens + 3 ones*)
- For students who are still struggling, use the chart below to guide remediation.
- After providing remediation, check students' understanding. Ask students to explain their thinking while writing 3283 another way by regrouping 1 hundred as 10 tens. (*3 thousands + 1 hundred + 18 tens + 3 ones*)

If the error is . . .	Students may . . .	To remediate . . .
4 thousands + 8 hundreds + 2 tens + 3 ones	not realise that they have to regroup 1 hundred as 10 tens to solve the problem.	Have students write the problem on paper. Then have them circle “regrouping 1 hundred as 10 tens”. Point out that although their answer is a way to write 4823, it does not reflect the required regrouping.
4 thousands + 7 hundreds + 2 tens + 3 ones	not realise that when they regroup the 1 hundred as 10 tens they have to add it to the 2 tens.	Have students use base-ten blocks to model 4823. Have them trade 1 hundreds block for 10 tens blocks. Then have them write the number of thousands, hundreds, tens and ones their model shows. Point out that the 1 hundred did not disappear; it is now shown in the model as 10 tens. Have students count the tens to emphasise that there are now 12 tens.
4 thousands + 8 hundreds + 12 tens + 3 ones	not realise that when they regroup the 1 hundred as 10 tens they have to take away 1 hundred from the 8 hundreds.	Have students use base-ten blocks to model 4823. Have them trade 1 hundreds block for 10 tens blocks. Then have them write the number of thousands, hundreds, tens and ones their model shows. Point out that when they traded the 1 hundred, they had 1 fewer hundred than they had before. Have students count the hundreds to emphasise that there are now 7 hundreds.
3 thousands + 18 hundreds + 2 tens + 3 ones	not realise that they have to regroup 1 hundred as 10 tens to solve the problem.	Have students write the problem on paper. Then have them circle “regrouping 1 hundred as 10 tens”. Point out that their answer is a way to write 4823, but it reflects regrouping 1 thousand as 10 hundreds, not 1 hundred as 10 tens.



ADDITIONAL ACTIVITY

For students who have mastered the skills in this lesson, see **Challenge Activity** (page 38).

ADDITIONAL ACTIVITIES



Hands-on Activity

Use connecting cubes to build base-ten blocks.

Materials: connecting cubes

Distribute 11 connecting cubes to each student. Explain that each cube represents one unit. Have students show representations of three, six, eight and ten cubes one at a time. Have students place their ten rods together in groups of 10. Explain that a square with 10 ten rods represents one hundred. Next, have students use the hundreds and any leftover tens and ones to figure out how many cubes were distributed in all. Finally, have students find the value of each digit in that number.



Reteaching Activity

Draw base-ten blocks to show 1, 10 and 100.

Materials: grid paper with large squares; rulers or other straightedges

Distribute grid paper to each student. Have students use the ruler to outline a 1 block by 1 block square. This shows 1 one, or 1 unit. Then have students outline a rectangle 1 block wide and 10 blocks long. This shows 1 ten. Finally, have students outline a square 10 blocks wide and 10 blocks long. This shows 1 hundred. Next, have students outline and cut out 9 ones, 9 tens and 9 hundreds. Encourage partners to use the blocks to make numbers. One partner should model a number with the blocks. The other partner should write the number the model stands for and then name the value of each digit in the number.



Vocabulary Activity

Play “Bingo” to reinforce terms.

Materials: blank sheets of paper, counters

Have each student create a grid by folding a sheet of paper in thirds horizontally and then in thirds vertically. Display the vocabulary words along with the words *whole number* and *thousands place*. Then tell students to write

BINGO in the centre box and the vocabulary words in the other boxes. Read a definition and have students cover the corresponding word on their grid with a counter. The winner for each round is the first student to cover 3 spaces vertically, horizontally or diagonally.



Real-World Connection

Relate place values to money.

Materials: play money (\$1 coins, \$10 and \$100 notes) or small rectangular pieces of paper with those denominations (about 10 pieces per student)

Distribute money in different amounts to each student. Have the students find the total value of their money by adding their \$100 notes, \$10 notes and \$1 coins. List the total values on the board to see which student has the most “money”.



School-Home Connection

Inform families about place value.

Give each student a copy of the School-Home Connection activity sheet for Lesson 1 (page 159) to share with the family. The activity included in the letter has the family use page numbers of a book to play a place-value game.



Challenge Activity

Create 4-digit numbers.

Materials: playing cards (only ones with numbers)

Give each student (or group of students) four playing cards. Instruct them to make the greatest 4-digit number they can and then make the least 4-digit number they can. Have students read aloud the numbers they make to reinforce their understanding of place value. Ask students to regroup each number so that it has one less thousand. Next, ask students to regroup each number so that it has one less hundred. Collect and reshuffle the cards. Then repeat the activity.