

# NUMBERS TO 1,000

## Across-Grades Progression

Looking Back	Looking Here	Looking Ahead
<p><b>Grade 1 Chapter 8</b></p> <p><b>Section 8A Count to 120</b></p> <ul style="list-style-type: none"> <li>Count to 40</li> <li>Count to 120</li> <li>Tens and Ones</li> </ul> <p><b>Section 8B Compare and Order Numbers</b></p> <ul style="list-style-type: none"> <li>Compare and Order Numbers Within 100</li> <li>1 More, 1 Less, 10 More, 10 Less, and Number Patterns</li> </ul> <p><b>Section 8C Count Money</b></p> <ul style="list-style-type: none"> <li>Penny, Nickel, and Dime</li> <li>Quarter</li> <li>Count Coins</li> </ul>	<p><b>Grade 2 Chapter 1</b></p> <p><b>Section 1A Count to 1,000</b></p> <ul style="list-style-type: none"> <li>Count to 1,000</li> <li>Hundreds, Tens, and Ones</li> </ul> <p><b>Section 1B Number Patterns</b></p> <ul style="list-style-type: none"> <li>1 More, 1 Less, 10 More, 10 Less, 100 More, or 100 Less</li> <li>Count On and Count Back by 1s, 10s, and 100s</li> <li>Number Patterns</li> </ul> <p><b>Section 1C Compare and Order Numbers</b></p> <p><b>Section 1D Number Lines</b></p> <p><b>Section 1E Count Money</b></p> <ul style="list-style-type: none"> <li>Bills</li> <li>Count and Exchange Money</li> <li>Compare Amounts of Money</li> </ul>	<p><b>Grade 3 Chapter 1</b></p> <p><b>Section 1A Place Value</b></p> <p><b>Section 1B Compare and Order Numbers</b></p> <p><b>Section 1C Number Patterns</b></p> <p><b>Section 1D Rounding Numbers</b></p>

## Across- Chapters

### STEAM Project Work

This project spans **Chapter 1**. Students are given an opportunity to make connections between art and mathematics as they plan and make a piece of pixel art. This task requires students to apply their knowledge of numbers to 1,000 to count and compare the number of different colored pieces of paper needed for their pixel art. Students will work in pairs or small groups to create the pixel art. Invite each group to share their plan and pixel art with the class at the end of **Chapter 1**.

# Chapter at a Glance

Total Number of Lessons:

17\*

	Lesson 1	Lesson 2	Lesson 3
	<b>Chapter Opener / Recall</b> Pages 1–4	<b>1A</b> <b>Count to 1,000</b> Pages 5–10	<b>Hundreds, Tens, and Ones</b> Pages 11–16
<b>Learning Outcome(s)</b>		<ul style="list-style-type: none"> <li>Read and write numbers up to 1,000.</li> </ul>	<ul style="list-style-type: none"> <li>Relate the value of each digit in a 3-digit number to its place.</li> </ul>
<b>Focus Question</b>		<ul style="list-style-type: none"> <li>What are some ways to count?</li> </ul>	<ul style="list-style-type: none"> <li>How does the place of a digit in a number determine its value?</li> </ul>
<b>I CAN Statement(s)</b>		<ul style="list-style-type: none"> <li>I can read and write numbers up to 1,000.</li> <li>I can find the number of objects in a set within 1,000 by counting on by 100s, 10s, and 1s.</li> <li>I can write a 3-digit number in standard form, expanded form, and word form.</li> </ul>	<ul style="list-style-type: none"> <li>I can state the place value of a digit in a 3-digit number.</li> </ul>
<b>Vocabulary</b>		<ul style="list-style-type: none"> <li>thousand</li> <li>standard form</li> <li>expanded form</li> <li>word form</li> </ul>	<ul style="list-style-type: none"> <li>place value</li> </ul>
<b>Material(s)</b>	<ul style="list-style-type: none"> <li>1 base-ten set per pair or small group</li> <li>1 set of place-value strips per pair or small group</li> <li>1 copy of Place-Value Chart 1 (TR01) per student</li> </ul>	<ul style="list-style-type: none"> <li>1 base-ten set per pair or small group</li> </ul>	<ul style="list-style-type: none"> <li>1 base-ten set per pair or small group</li> <li>1 set of place-value strips per pair or small group</li> <li>1 copy of Place-Value Chart 2 (TR02) per pair or small group</li> </ul>
<b>Instructional Resource(s)</b>	<ul style="list-style-type: none"> <li><b>Student Book</b>, pp. 1–4</li> </ul>	<ul style="list-style-type: none"> <li><b>Student Book</b>, pp. 5–10</li> <li><b>Additional Practice 2A</b>, Exercise IA (1)</li> <li><b>Reteach 2</b>, Exercise IA (1)</li> <li><b>Extension 2</b>, Exercise IA (1)</li> </ul>	<ul style="list-style-type: none"> <li><b>Student Book</b>, pp. 11–16</li> <li><b>Additional Practice 2A</b>, Exercise IA (2)</li> <li><b>Reteach 2</b>, Exercise IA (2)</li> <li><b>Extension 2</b>, Exercise IA (2)</li> <li><b>Mastery and Beyond 2A</b>, Chapter 1, Practices 1 and 2</li> </ul>
<b>Mathematical Practice(s)</b>	<ul style="list-style-type: none"> <li>4 Model</li> <li>5 Use Tools</li> </ul>	<ul style="list-style-type: none"> <li>4 Model</li> <li>5 Use Tools</li> </ul>	<ul style="list-style-type: none"> <li>4 Model</li> <li>5 Use Tools</li> <li>6 Use Math Language</li> </ul>

\*Each lesson spans a day and is planned around 50 to 60 minutes.

Lesson 1

Chapter Opener (page 1)

20 minutes

The picture provides a familiar context for students to review numbers to 100 and an opportunity to discuss how math is a part of everyday experiences.

- You may use the Interactive Class Presentation to facilitate discussions and promote interactions.
- Display the picture. Invite students to share what they see. **a mother and daughter shopping; a phone store; different phone models; phones that cost different amounts**
- Encourage students to talk about their experiences of comparing the prices of items they wanted to buy.
- Group students in pairs or small groups.
- You may facilitate discussions with these questions. Observe student discussions and pay attention to the language they use.

**Which phone is the least expensive? How do you know?**  
 PH2 is the cheapest. There are only 2 digits in its price while the other phones have 3 digits in their prices. It is the only phone that costs less than \$100. The adult in the picture says that PH3 is the most expensive. Do you agree? Why or why not? Yes. Out of the prices above \$100, the digit 9 in the hundreds place has the greatest value compared to the digits 3 and 6. Why compare prices? It helps me to save money; It helps me to buy the same item at a lower price.

- Extend the task by having students arrange the prices of the phones in order from least to greatest or greatest to least.

Extension

Challenge students to find a rule to follow when comparing numbers. Tell them that they will check their rule when they compare numbers in this chapter.

English Language Support

Encourage students to use these sentence frames to describe numbers in different ways. Some examples are shown below:

- \_\_\_\_\_ = \_\_\_\_\_ hundreds \_\_\_\_\_ tens \_\_\_\_\_ ones
- \_\_\_\_\_ = \_\_\_\_\_ + \_\_\_\_\_ + \_\_\_\_\_
- \_\_\_\_\_ is 1/10/100 more than \_\_\_\_\_.
- \_\_\_\_\_ is 1/10/100 less than \_\_\_\_\_.
- \_\_\_\_\_ > (is greater than) \_\_\_\_\_.
- \_\_\_\_\_ < (is less than) \_\_\_\_\_.



Student Book Page 1

Promoting Growth

Counting, reading, and writing numbers are foundational skills. Understanding the place-value concept is critical in our base-ten number system. Do not rush through this chapter. Encourage students to use concrete materials to connect what they already know about numbers to 120 to numbers to 1,000. Students may also sketch place-value charts, place-value strips, or base-ten representations to explain their thinking. Comparing whole numbers will help them to understand related concepts such as comparing measurements. Allow students time to share their thinking and explore how they might describe numbers in different ways.

## Recall (pages 2 to 4)

30 minutes

Have students complete the **Recall** questions to check their readiness for the chapter. After students have answered all the questions, go through each of them by facilitating the following class activities and/or discussions. You may refer to the **Transition Guide** for additional resources. As an option, you may refer students to the online **Recall** questions. These online questions will be auto-graded. For questions that require students to show their work, have them do so in the Student Book.

### Material(s)

- 1 base-ten set per pair or small group (optional)
- 1 set of place-value strips per pair or small group
- 1 copy of Place-Value Chart I (TRO1) per student

**QUESTION 1** assesses students' ability to count the base-ten materials representing a 2-digit number, write the number in tens and ones, and in standard form.

**What do you notice about the base-ten materials? There are tens and ones. How can you count them to find the number? I can count the tens and the ones. How many tens are there in 97? 9 How many ones? 7**

**QUESTION 2** assesses students' ability to write 2-digit numbers in their standard form or expanded form based on their understanding of place value.

- For 2(a), provide students with place-value strips. Have them make 72 using 70 and 2.
- **How many tens are there? 7 How many ones are there? 2 What do you get when you put them together? 7 tens 2 ones or 72**
- Write on the board:  
70 and 2 make 72.  
 $70 + 2 = 72$
- **How might you use what you know from (a) to help you answer (b) and (c)? I can break apart the tens and ones to find the missing numbers.**
- You may draw a number bond for each number on the board to help students visualize the breaking apart of the number into tens and ones.


**QUESTION 3** assesses students' ability to relate the word form of numbers to 120 to their standard form.

**Why is writing one hundred four different from writing the two other numbers? There is an extra digit for the hundreds place. I need to write a zero in the tens place.**

Name: \_\_\_\_\_ Date: \_\_\_\_\_

## Recall


1. Fill in the blanks.



Tens	Ones
9	7

\_\_\_\_\_ 9 \_\_\_\_\_ tens \_\_\_\_\_ 7 \_\_\_\_\_ ones  
= \_\_\_\_\_ 97 \_\_\_\_\_

2. Write the missing numbers.

(a)  70 and 2 make \_\_\_\_\_ 72 \_\_\_\_\_.  
 $70 + 2 =$  \_\_\_\_\_ 72 \_\_\_\_\_

(b) 64 is \_\_\_\_\_ 60 \_\_\_\_\_ and 4.

(c) \_\_\_\_\_ 40 \_\_\_\_\_ + 6 = 46

3. Write the numbers.

(a) twenty-eight \_\_\_\_\_ 28 \_\_\_\_\_

(b) thirty-five \_\_\_\_\_ 35 \_\_\_\_\_

(c) one hundred four \_\_\_\_\_ 104 \_\_\_\_\_

2 Chapter 1 Numbers to 1,000

© 2022 Marshall Cavendish Education Pte Ltd

Student Book Page 2

### Additional Support

Students may have difficulty with **Question 3(c)**. Highlight that although there are no tens in one hundred four, students should write a zero in the tens place so that it acts as a placeholder. Show them that without the zero, the number becomes 14 instead of 104.



## Learn Together (page 32)

15 minutes

- Group students in pairs or small groups to answer Questions 1 and 2.
- **QUESTION 1** builds students' understanding of finding missing numbers on the number lines.
- Encourage students to begin counting from the first number on each number line.

### What strategy could help you find the rule for the pattern?

**I could count on from the first number. How are the number lines in (a) and (b) different from the number line on the previous page? They do not start at 0.**

- Encourage students to count on and see that the numbers increase by 1 from one tick mark to the next.
- **QUESTION 2** builds students' understanding of using number lines and benchmark numbers to identify the position of a number.

### How is this number line different from those in Question 1?

**Not every mark has a number written below it. Each mark represents a number. How could you find what each mark represents? I could count on from 10 to 15 to see how many numbers there are. Each space is + 1, so the next mark after 10 is 11. How could you find where to draw the arrow for 18? I could count on by 1s from 15 until I reach 18.**

- Invite volunteers to talk about how numbers are arranged along a number line.

### What do you notice about the numbers as you move to the right? The numbers increase. What about to the left? The numbers decrease.

- Encourage students to provide an example of a number line in real life.

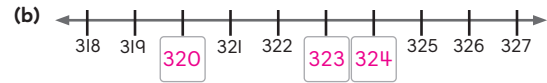
## Learn Together

1. Write the missing numbers.



+1 +1 +1

What is the rule for the pattern?



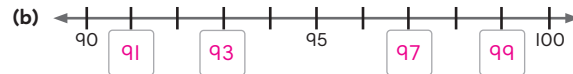
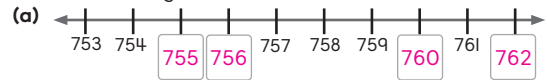
2. Draw an arrow to show the position of 18 on the number line.



What do you notice about the way numbers on the number lines are arranged?

## Practice On Your Own

1. Write the missing numbers.



32 Chapter 1 Numbers to 1,000

© 2022 Marshall Cavendish Education Pte Ltd

Student Book Page 32

## Readiness Engagement Mastery

### Lesson Debrief

- Conclude the lesson and facilitate students' reflection by asking students to answer the **Focus Question** and share their thinking.

#### Focus Question

How can you find missing numbers on a number line?

- Extend the discussion by posing the following questions.
  - **How are numbers arranged on a number line? From left to right, they are written from least to greatest. How could you use that to find missing numbers on the number line? I could count on and find a pattern.**

## Promoting Growth

To encourage and support students to persevere in problem solving and maintain a learning mindset:

- Allow students time to reflect on what they have learned and ask questions about what they may be unsure of.
  - Encourage students to share how they overcome a difficulty in the process of learning.
  - Provide students with this prompt: Give an example of a number line in real life. What is it used for?
  - Have students write a journal entry.
- 
- Display this lesson's **I CAN** statement(s) for students to reflect on their learning.
    - I can find a missing number within 1,000 on a number line given its position.
    - I can find the position of a number within 1,000 on a number line.

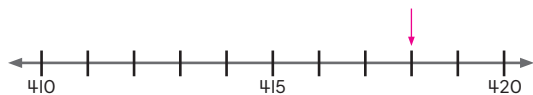
Name: \_\_\_\_\_ Date: \_\_\_\_\_

2. Draw arrows to show the position of the numbers on the number lines.

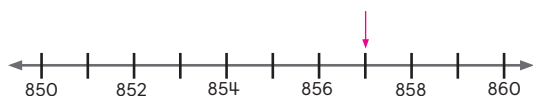
(a) 62



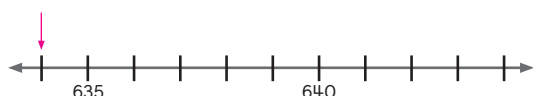
(b) 418



(c) 857



(d) 634



(e) 779



© 2022 Marshall Cavendish Education Pte Ltd

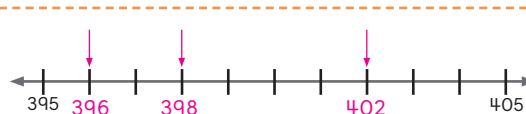
ID Number Lines 33

Student Book Page 33

## Think!

3. **MODEL AND REASON** Show the numbers 402, 396, and 398 on the number line.

How would you use the number line to order the numbers? Explain your answer.



Explanations vary. Example:  
 396 is to the left of 398 and 402.  
 396 is the least number.  
 402 is to the right of 396 and 398.  
 402 is the greatest number.  
 $396 < 398 < 402$   
 least                      greatest

402, 396, 398?



© 2022 Marshall Cavendish Education Pte Ltd

34 Chapter 1 Numbers to 1,000

Student Book Page 34

continued

## Practice On Your Own (pages 32 to 34) 15 minutes

If you would like the questions to be auto-graded, refer students to online **Practice On Your Own** as a lesson check. If you want students to show their work, have them do so in the Student Book.

- **QUESTION 1** assesses students' ability to find missing numbers on the number lines.
- **QUESTION 2** assesses students' ability to locate the position of numbers on the number lines given some benchmark numbers.

### Additional Support

Encourage students to write the number below each unlabeled mark as they count on or count back.

## Think!

- **QUESTION 3** assesses students' ability to use a number line to compare and order numbers and explain their thinking.
- **How do the positions of numbers on a number line tell you about their order?** Numbers that are farther to the right are greater. How do 395 and 405 help you decide which number is the greatest? The number closest to 405 is the greatest.

### Best Practice

You may provide students with Number Line Template (TR05) to use as additional practice in finding missing numbers and the position of numbers on a number line.

### Extension

Challenge students to count on by 1s, 2s, 5s, 10s, or 100s, then design a number line with 10 intervals that uses their chosen pattern.

Refer to **Differentiated Instruction** on page 34A to provide students with additional support, on-level practice, or extension.

You may assign **Mastery and Beyond 2A, Chapter 1, Practices 5 and 6** to provide further support and development to sustain learning.

Lesson 1

Chapter Opener (page 167)

20 minutes

The picture provides a familiar context for students to review addition and subtraction problems and an opportunity to discuss how math is a part of everyday experiences.

- You may use the Interactive Class Presentation to facilitate discussions and promote interactions.
- Display the picture. Invite students to share what they see. **A swimming pool with many children and one adult. Some children are wearing goggles and some are not.**
- Invite students to talk about situations that require them to add to find the number of items in all, or subtract to compare the number of items.
- Group students in pairs or small groups. Direct students' attention to the picture. You may facilitate discussions with these questions. Observe student discussions and pay attention to the language they use.


**How many children do you see? 19 How many adults are there? 1 What number story could you make? 19 children visited the pool on Sunday. 1 adult visited the pool on the same day. How many visitors are there in all? How could you find how many visitors there are in all? I could add the number of children and adults. I could find  $19 + 1$ ; I could count them all. What other number stories could you make? There are 10 children standing at the edge of the pool. There are 9 children swimming in the pool. How many children are there in all? How could you model your number story using connecting cubes? I could build a number train to represent 10 using connecting cubes in one color, and 9 using cubes of the other color. What equation could you write for your story?  $10 + 9 = 19$**

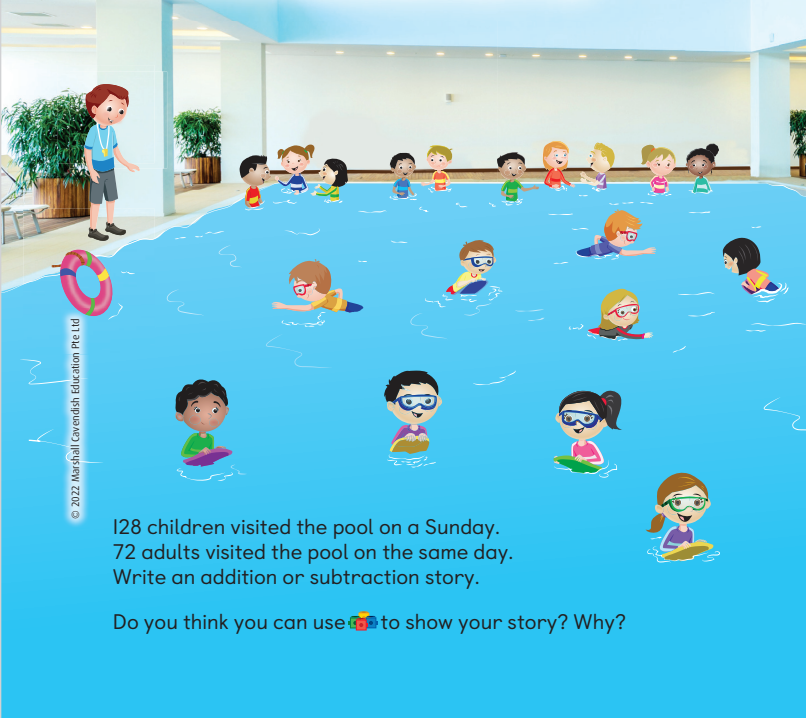
- Encourage students to use connecting cubes to model part-whole and comparison models and view each model as a visual representation of the number story that they have made. Encourage them to draw pictures or number bonds for their equations. Invite volunteers to share their number stories about the picture and explain their equations to the class.
- A separate number story with greater numbers (128 children and 72 adults) is given below the picture. Using the given information, lead students to see that it is not practical to use connecting cubes to model greater numbers.

Extension

Challenge students to tell a two-part or two-step story for the picture. Then encourage them to share how they can find the answers.


Chapter **4** **ADDITION AND SUBTRACTION USING BAR MODELS**

Write an addition or a subtraction story about the picture. Use  to make number trains to show your story.



© 2022 Marshall Cavendish Education Pte Ltd

128 children visited the pool on a Sunday. 72 adults visited the pool on the same day. Write an addition or subtraction story.

Do you think you can use  to show your story? Why?

Student Book Page 167

English Language Support

Review the vocabulary for addition and subtraction:

I put together to \_\_\_\_\_. **add**

I take from, take away, or take apart to \_\_\_\_\_. **subtract**

When I \_\_\_\_\_, I find out how much greater or less a number is than another number. **subtract**

Additional Support

Provide students with base-ten sets to practice adding or subtracting the numbers in the story.

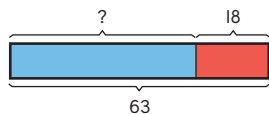
Promoting Growth

Students may not remember the correct abstract notation for adding or subtracting numbers using the vertical algorithm. Have them share other strategies they might use. Encourage students to use concrete materials to connect the various situations to addition and/or subtraction. Have them draw number bonds to visualize the problems. Allow students time to explore different strategies to solve the number stories they made.



## Learn Together

1. Bruno has some baseball cards. His mother gives him 18 football cards. In the end, he has 63 cards in all. How many baseball cards does he have?



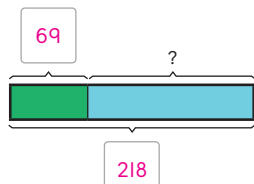
$$? + 18 = 63$$



$$63 - 18 = 45$$

He has 45 baseball cards.

2. There were 218 people in the library. Some people left the library and 69 people remained. How many people left the library?



$$218 - 69 = 149$$

149 people left the library.

© 2022 Marshall Cavendish Education Pte Ltd

continued

### Best Practice

Encourage students to use Paper Strips (TRI6) to build their part-whole models for the subtraction stories in this lesson and explain their thinking.

## Learn Together

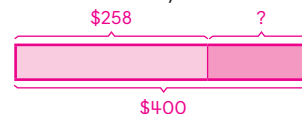
(pages 178 and 179)

15 minutes

- Group students in pairs or small groups to answer Questions 1 to 3. Provide students with Paper Strips (TRI6) to build their bar models.
- QUESTIONS 1 and 2** build students' understanding of using part-whole models to solve one-step subtraction problems.
- What do you know about the problem?** Bruno has some baseball cards and 18 football cards. He has 63 cards in all. **How can you show that using a bar model?** I can draw a bar to show the baseball cards and 18 football cards. I can label the whole bar as 63 cards. **What does the question mark in the bar model represent?** number of baseball cards Bruno has
- Highlight that the baseball cards and football cards represent the parts. Point out that the two parts add up to a whole, and the unknown part can be found by subtracting the other part from the whole.

Name: \_\_\_\_\_ Date: \_\_\_\_\_

3. Ms. Taylor has \$400 to buy furniture for her office. She spends \$258. How much money does she have left?



$$400 - 258 = 142$$

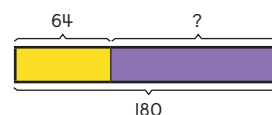
She has \$ 142 left.

## Practice On Your Own

Solve.

Draw bar models to help you.

1. At the start of a week, a chef had 180 onions. He used 64 onions during the week. How many onions did he have left?



$$180 - 64 = 116$$




He had 116 onions left.

© 2022 Marshall Cavendish Education Pte Ltd

- Use similar question prompts as Question 1 for Question 2.
- Encourage students to identify the parts and whole in the questions and highlight that they should subtract to find the unknown part given the whole and the other part.
- QUESTION 3** builds students' understanding of drawing a part-whole model to solve a one-step subtraction problem.
- Guide students to build and draw each part of the bar model.
- What do you know about the problem?** Ms. Taylor has \$400 at first. She spends \$258. **What do you need to find?** amount of money she has left **How would paper strips help you to show the problem?** I would use a strip to show \$258 and another strip to represent the amount of money she has left. **How would you label your bar model?** I would label one part \$258 and the whole bar \$400. Then I would put a question mark on the remaining part. **Should you add or subtract to find the answer? Why?** Subtract, because I need to find one part given the whole and the other part.
- Guide students to label their bar model and write the subtraction equation to solve the problem.
- How could you check your answer?** I could add 258 and 142 to see if I get 400.

# Chapter Self-Reflection

Check (✓) to show what I can do.

I Can	 <b>Yes</b>	 <b>Not Sure</b>	 <b>No</b>
find the sum of two numbers by adding parts to make a whole.			
find the difference between two numbers by comparing or subtracting two numbers.			
solve one-step word problems involving addition by drawing part-whole models.			
solve one-step word problems involving subtraction by drawing part-whole models.			
solve one-step word problems involving situations of putting together or taking apart by drawing part-whole bar models.			
solve one-step word problems involving comparison by drawing comparison bar models.			
solve two-part word problems involving addition and subtraction by drawing bar models.			
use the three-step problem-solving model to solve two-part word problems involving addition and subtraction.			
solve two-step word problems involving addition and subtraction by drawing bar models.			
use the three-step problem-solving model to solve two-step word problems involving addition and subtraction.			

<b>I can show...</b>	<b>MY JOURNAL</b>	<b>I still wonder...</b>