

## What Is the Purpose of the Workbook?

### For students

The Workbook supports students in their learning journey with independent or small-group practice opportunities for

- building on their understanding through a variety of questions, tasks, games, and challenges connecting foundational concepts;
- organizing and representing their thinking and understanding; and
- connecting math concepts to their lived experiences.

### For teachers

The Workbook helps you support students by

- offering intentional independent and small-group practice ideas, aligned with your curriculum;
- providing additional assessment opportunities and ways to support learning; and
- allowing parents and caregivers an opportunity to see what their child is learning.

Go to [Mathology.ca](https://mathology.ca) for comprehensive lesson notes supporting a deep understanding of student thinking and assessment opportunities that help determine the best next steps for your learners.

## How To Use the Workbook

After working through lessons with students

- Identify the practice units that correlate with the lessons you've taught.
- Use the Workbook flexibly, as in-class practice (small-group, collaborative, or independent work).
- Discuss the practice tasks and ensure clarity.
- Identify the open-ended tasks and discuss ways for students to represent their understanding.
- Debrief the tasks and ask students to share their strategies.
- Observe students' level of understanding and build on it through additional tasks.

## Reaching All Learners (Differentiated Instruction)

Consider the variety of learners in your classroom and how the Workbook can best support them.

Key questions to reflect on include:

- Are there certain questions that I want all students to complete?
- Do some students need accommodations?
- Which students might benefit from small-group conversations before starting tasks?
- How can I encourage the use of manipulatives and models (e.g., Math Mats, Base Ten Blocks)?
- How can students use the Workbook to recognize their strengths and build a math identity (e.g., self-reflection)?

## Curriculum Support

Go to [www.pearson.com/ca/en/k-12-education/mathology.html](https://www.pearson.com/ca/en/k-12-education/mathology.html) for a detailed alignment of this resource with your curriculum.

# How Is the Workbook Organized?

Each unit connects the learning across several lessons.

**Unit 3 Fluency with Addition and Subtraction**

**What I Know**

The sum of two numbers is about 700. What could the numbers be? Show your thinking.

For example: I know  $300 + 400 = 700$ , so I chose numbers that were close to those:  $298 + 404$ .

The difference between two numbers is about 700. What could the numbers be? Show your thinking.

For example: I know  $900 - 200 = 700$ , so I chose numbers that were close to those:  $894 - 198$ .

**Checking In**

**Estimating Sums and Differences to 10 000**

1 Estimate. Show your strategy each time. Do not calculate the exact answer.

a)  $384 + 223$

For example: About 600; I rounded to the nearest 10:  $380 + 220 = 600$

b)  $2567 + 1329$

For example: About 3900; I rounded to the nearest 100:  $2600 + 1300 = 3900$

c)  $488 - 243$

For example: About 249; I rounded one number to the nearest 10:  $488 - 240 = 248$

d)  $2929 - 1522$

For example: About 1410; I rounded to the nearest 10:  $2930 - 1520 = 1410$

**CONNECTIONS**

In question 5, how do you use place value to help you estimate?

For example: To estimate  $2567 + 1329$ , I round 2567 to the nearest hundred, 1. Look at the digit in the tens place, 6. Since 6 is greater than 5, I increase the hundreds digit by 1, then make the rest of the digits zero: 2600.

## What I Know

- activates prior knowledge of major concepts
- provides pre-assessment of students' understanding and knowledge
- helps you identify students who may need additional support

**Bringing It Together**

**10 GAME: Roll to Win!**

Take turns to roll a number cube to move around the game board. Answer the question you land on. Cover the answer. If the answer has already been covered, your partner takes a turn. Three in a row wins the game!

START	345 + 250	556 - 428	81 + 190	6840 - 2115	552 + 114
102 - 301	150	2200	132	600	1001 - 111
74 + 39	600	4530	888	500	87 - 239
105 + 175	260	180	100	784	102 + 48
654 - 204	100	260	275	332	211 - 99
354 - 274	602 + 102	187 + 145	798 - 218	260 - 58	75 + 71

**Try a different game!** This time, take turns to choose a number on the game board. Write an addition or subtraction sentence that contains your number. If your number sentence is correct, cover the number.

**What I Learned**

Give an example of when you would estimate a sum or difference. Then give an example of when you would need an exact answer.

For example: When going to the store to buy some groceries, I would estimate the cost of the items to make sure I have enough money to pay for them. When I go to the check out, the cashier determines the exact amount that I must pay and the exact amount of change that I get back.

## Checking In

- provides opportunities for students to apply their knowledge and understanding of concepts, make connections to math in the real world, reflect and discuss their thinking and strategies, and show what they know

## Connections prompts

- enable students to create their own notes on connections made visible in the moment

## Bringing It Together

- allows students to work together to discuss thinking and strategies
- helps students show what they know
- presents many open-ended tasks or games

## What I Learned

- allows students to reflect on what they have learned and record their understanding
- prompts students to focus on the major understandings and concepts
- provides a snapshot of students' learning

**Connecting and Reflecting: Patterns and Relations**

Choose an item that you have a lot of (for example, building blocks). Stack as many items as you can. Use what you know about patterns, number relationships, place value, and operations to describe your stack.

For example:

I stacked linking cubes.

I made the base using 100 cubes (10 rows of 10 cubes).  
 The next layer had 8 rows of 8 cubes, or 64 cubes.  
 The next layer had 5 rows of 6 cubes, or 36 cubes.  
 The next layer had 4 rows of 4 cubes, or 16 cubes.  
 The next layer had 2 rows of 2 cubes, or 4 cubes.

The total number of cubes used is  $100 + 64 + 36 + 16 + 4 = 220$ .  
 The pattern is 100, 64, 36, 16, 4.  
 The pattern rule is: Start at 100 and take away 36. Decrease the number taken away by 8 each time.

I still had lots of cubes left over so I added layers to the bottom: 144 and 196 cubes.

## Connecting and Reflecting

- connects the learning across a practice cluster with students' lived experiences

Sample student answers are included throughout the resource.

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## Bringing It Together

### 10 GAME: Roll to Win!

Take turns to roll a number cube to move around the game board. Answer the question you land on. Cover the answer. If the answer has already been covered, your partner takes a turn. Three in a row wins the game!

**For example:**

If the question was  $250 - 100$ , I would calculate the answer to be 150, then cover 150 on the game board.

<b>START</b> →	$345 + 255$	$1593 - 829$	$80 + 195$	$6840 - 2310$	$1052 + 1148$
$632 - 300$	150	2200	132	600	$1001 - 741$
$74 + 26$	600	4530	588	500	$827 - 239$
$325 + 175$	260	180	100	764	$132 + 48$
$824 - 224$	100	260	275	332	$221 - 89$
$3024 - 2749$	$632 + 132$	$187 + 145$	$798 - 210$	$260 - 128$	$75 + 75$

**Try a different game!** This time, take turns to choose a number on the game board. Write an addition or subtraction sentence that contains your number. If your number sentence is correct, cover the number.

## What I Learned

Give an example of when you would estimate a sum or difference. Then give an example of when you would need an exact answer.

## Bringing It Together

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