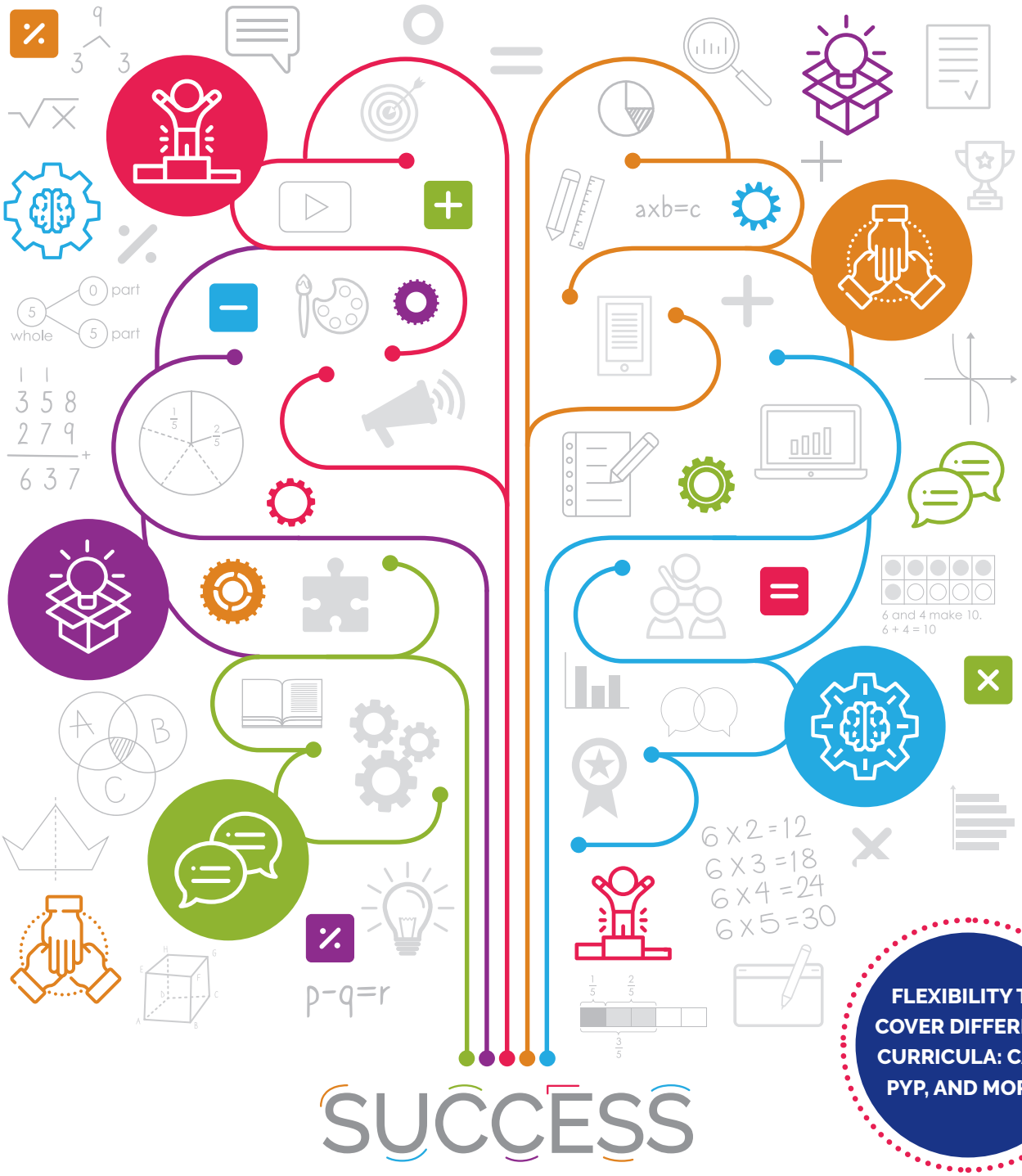
SCHOLASTIC

PRIME

Mathematics New Edition

A COMPLETE MATH CURRICULUM FOR GRADES K–6



FLEXIBILITY TO COVER DIFFERENT CURRICULA: CAIE, PYP, AND MORE!

Teach Mathematics via 21st Century Skills

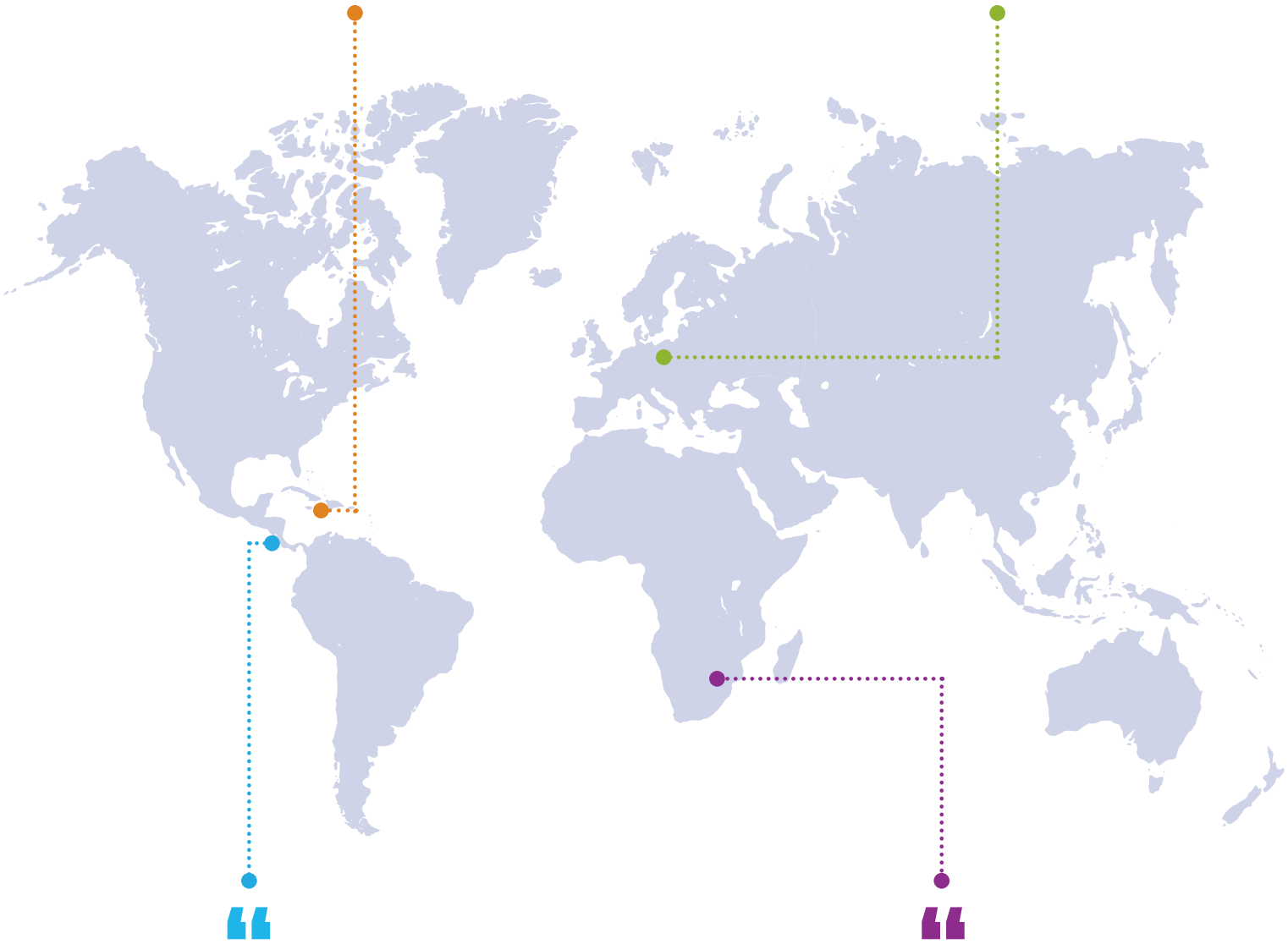
What people are saying about PR1ME

PR1ME Mathematics has allowed me to approach problem solving in a different way and in a more practical sense. **My students have embraced it!**

Myrtle Clarke, Principal,
Ardenne Preparatory School, Jamaica

PR1ME Mathematics books are colorful and inviting. The instructions are clean and easy to follow. **The children enjoy math!**

Lana Gergisak, Director, Central Point International Elementary School, Czech Republic



PR1ME Mathematics has a unique framework with a focus on **building skills and in-depth understanding** of essential math skills.

Martha Murillo, 4th Grade Teacher,
Saint Paul Primary School, Costa Rica

PR1ME Mathematics has given teachers and students a different perspective on the **meaning of and enjoyment** surrounding the world **of mathematics.**

Elaine von Hoesslin, Head of Mathematics,
Kingsmead College, South Africa

What is PR1ME Mathematics?

PR1ME™ Mathematics New Edition is an innovative, robust, and comprehensive mathematics curriculum that teaches essential concepts while developing skills important for success in the global workforce: **CRITICAL THINKING**, **COLLABORATION**, **COMMUNICATION**, and **CREATIVITY**.

PR1ME incorporates these four "Cs" to build a deep conceptual understanding of mathematics. Its unique lesson structure introduces a fifth C: **CONFIDENCE**. Confidence keeps students and teachers motivated to learn and teach and to continue challenging themselves to grow.

Developed with user feedback from the first edition, **PR1ME Mathematics** New Edition combines research based methodology with 21st century skill development, provides users a sense of flexibility, and connects mathematical concepts to the real world.

PR1ME is easy to teach, fun to use, and fosters a lifelong love of math!

CRITICAL THINKING

Develop Critical Thinking & Flexibility via the Problem Solving Process

PR1ME New Edition teaches via problem solving. Students learn how to *understand* a problem, *plan* what to do, *answer* the question, *check* their work, and find alternate ways to solve the problem. Through this approach, students are able to solve increasingly complex problems.

Let's Learn

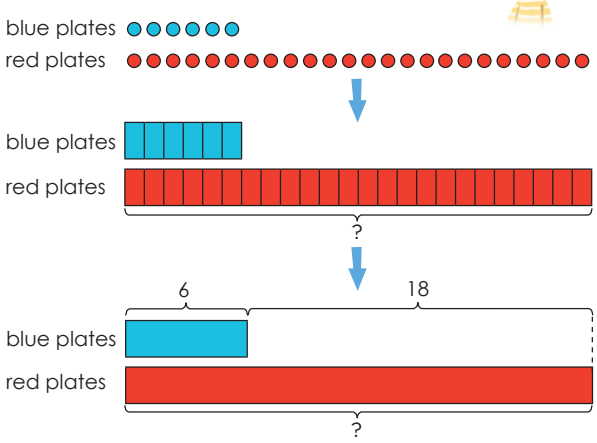
There are 6 blue plates on a shelf.
There are 18 more red plates than blue plates.
How many red plates are there?

1 Understand the problem.

How many blue plates are there?
Are there more or fewer red plates than blue plates?
How many more or fewer?
What do I have to find?

2 Plan what to do.

I can **draw a bar model**.



3 Work out the Answer.

6 + 18 = 24

There are 24 red plates.

$$\begin{array}{r} {\scriptstyle 1} \\ 1\,8 \\ +\;\;6 \\ \hline 2\,4 \end{array}$$

4 Check
Did you answer the question?
Is your answer correct?

If 6 + 18 = 24,
then 24 – 18 should equal 6.

$$\begin{array}{r} {\scriptstyle 1}\,{\scriptstyle 1} \\ \not{2}\,\not{1}4 \\ -\;1\,8 \\ \hline 6 \end{array}$$

My answer is correct.

- ☑ 1. Understand
- ☑ 2. Plan
- ☑ 3. Answer
- ☑ 4. Check

Students **apply mathematical concepts to real world situations** and learn to find solutions for themselves.

The four-step **Understand-Plan-Answer-Check (UPAC)** process builds good habits for approaching mathematical problems at all levels of difficulty.

See UPAC+ under Creativity

Coursebook 2A, PR1ME Mathematics

CRITICAL THINKING

The **Concrete-Pictorial-Abstract** method is a systematic approach requiring students to think critically about the best representation to use when solving a new problem.

Coursebook 3B, PR1ME Mathematics

Concrete: Hands-on activities with everyday materials build conceptual understanding.

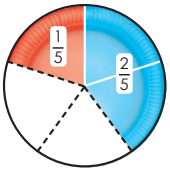
Pictorial: Pictures representing physical objects previously used in a problem help students construct mental representations of a problem.

Abstract: Concepts are modeled using numbers and symbols so students can relate physical and pictorial representations to this final stage.

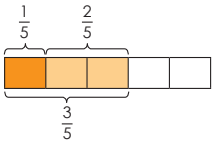
Adding fractions with the same denominator

Let's Learn

a) Pedro colors $\frac{1}{5}$ of a paper plate red.
Then, he colors $\frac{2}{5}$ of it blue.
What fraction of the paper plate does he color?



$\frac{1}{5}$ and $\frac{2}{5}$ are **like fractions**.
The denominators are the same.

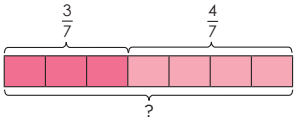


2+2

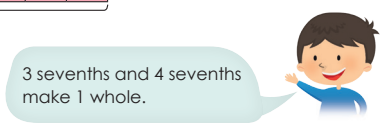
$\frac{1}{5} + \frac{2}{5} = \frac{3}{5}$

He colors $\frac{3}{5}$ of the paper plate.

b) Add $\frac{3}{7}$ and $\frac{4}{7}$.



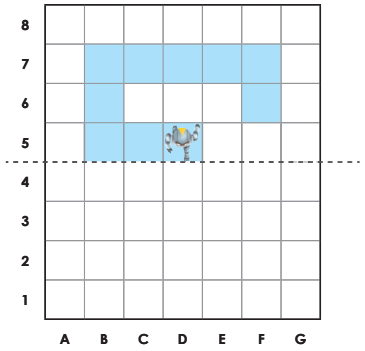
$\frac{3}{7} + \frac{4}{7} = \square$
$= \square$



Students develop the **ability to be flexible** by exploring and practicing additional ways and representations to solve problems.

MISSION POSSIBLE

Tucker has half of a symmetric figure drawn on a grid as shown below.
He wants to program a bot to help him complete the figure.
The bot will color the squares that it lands on.



Help Tucker complete the instructions for the bot.
The bot should not return to a colored grid square.
Use grid references and words such as **turn right** and **turn left**.

Start at (D, 5).
Move forward _____ unit(s) to (_____, _____).

End at _____.

NEW! **Mission Possible** activities provide **practice with the 4 pillars of computational thinking**—Decomposition, Pattern Recognition, Abstraction, and Algorithms—taking students through the thinking process.

Coursebook 3, PR1ME Mathematics New Edition

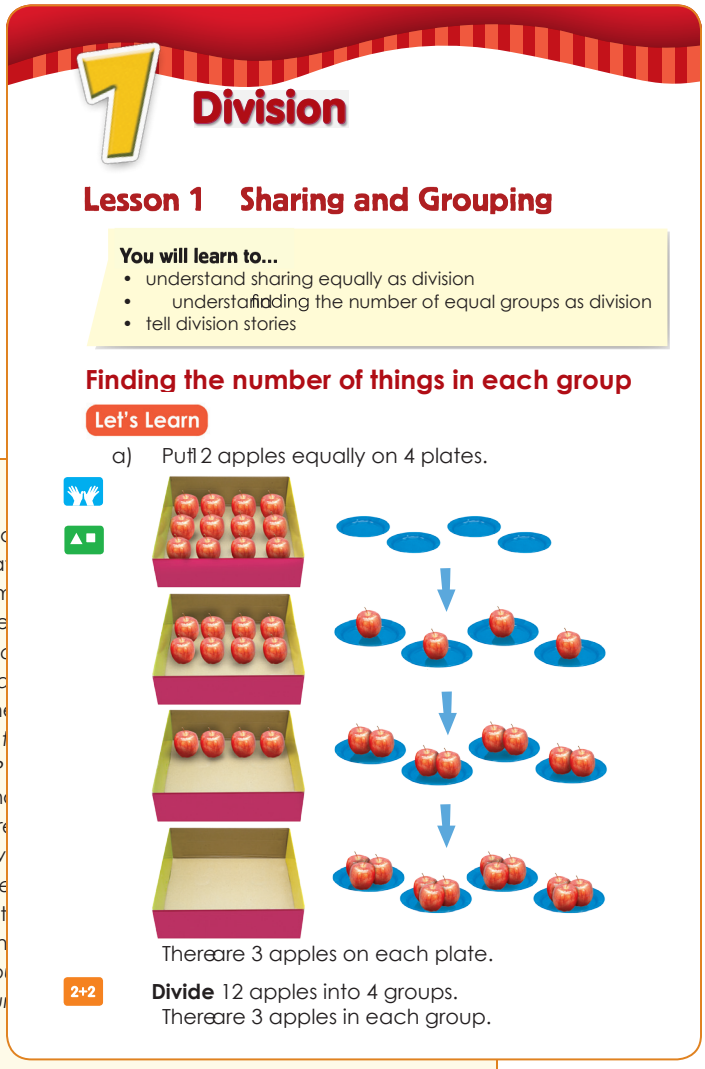
COLLABORATION

Build Understanding & Comprehension through Teamwork

PR1ME New Edition's unique structure inspires students to work with one another through collaborative discussions to solve problems. Collaboration requires students to be flexible and open to new ideas, exposing them to various problem solving strategies.

Coursebook 2A, PR1ME Mathematics

Let's Learn and **Let's Do** activities present guided practice, encouraging collaboration and enhancing understanding of concepts.



7 Division

Lesson 1 Sharing and Grouping

You will learn to...
- understand sharing equally as division
- understand finding the number of equal groups as division
- tell division stories

Finding the number of things in each group

Let's Learn

a) Put 12 apples equally on 4 plates.

There are 3 apples on each plate.

2+2

Divide 12 apples into 4 groups.
There are 3 apples in each group.

Duration: 2 h 40 min

Let's Learn **Finding the number of things in each group**

Objective:
- To use objects and manipulatives to illustrate the sharing concept of division

Materials:
- 4 paper plates per group
- Counters
- Magnetic counters

Resources:
- CB: pp. 131–134
- PB: pp. 103–106

Vocabulary:
- divide

(a)

Have students get into groups of four. Distribute a set of counters and 4 paper plates to each group.

Have stu
participa
Stick 12 m
circles be
Say: *We*
Let us sho
Place on
Ask: *Are t*
4 plates?
Place an
Say: *There*
Ask: *How*
are place
Have a st
circles on
Say: *By pu*
be 3 cou

2+2

Say: *Each plate represents a group. When we divide 12 counters into 4 groups, there are 3 counters in each group. We use the word 'divide' when we share objects into equal groups.*

Teacher's Guide 2A, PR1ME Mathematics

Teacher's Guides provide collaborative activities for better understanding of math concepts.

COLLABORATION

Coursebook 3, PR1ME Mathematics New Edition

EXPLORE

A teenager spends $\frac{1}{6}$ of her time each day working and $\frac{2}{6}$ of the time studying in school. What fraction of her time each day does the teenager spend on both activities?

How can we solve this problem?

Discuss in your group and fill in Columns 1 and 2.

1. What I already know that will help me solve the problem	2. What I need to find out and learn	3. What I have learned

NEW! **Explore** section allows students the opportunity to **work together to complete exercises** and find solutions to new problems in familiar contexts.

Think About It presents opportunities to **work together to discuss common misconceptions** and errors.

Students learn how to identify mistakes and **relate mathematical situations** to every day life.

THINK ABOUT IT

Sarah and David solve this problem in different ways.

$$\frac{5}{8} + \frac{1}{8} = ?$$

Sarah: 5 + 1 = 6, 8 + 8 = 16, My answer is $\frac{6}{16}$.

David: 5 + 1 = 6, My answer is $\frac{6}{8}$.

Who is correct? Why do you say so?

Who is wrong? Why do you say so?

What did you learn about adding fractions?

Think of a time in your daily life when you need to add fractions.

Coursebook 3, PR1ME Mathematics New Edition

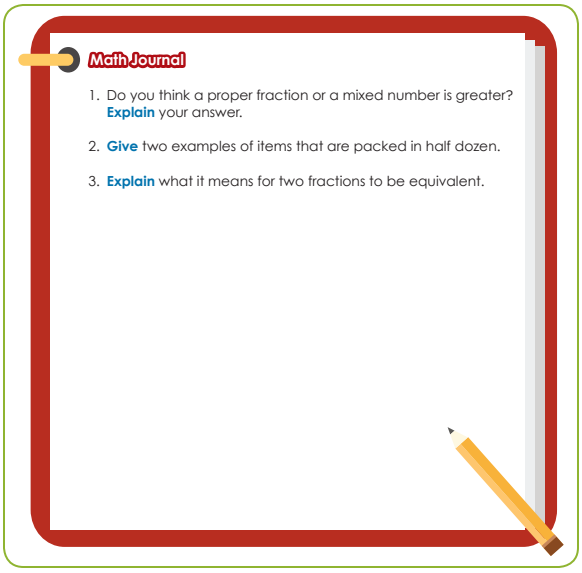
COMMUNICATION

Develop Metacognition & Effective Expression of Ideas

PR1ME New Edition encourages students to describe and reflect upon their problem solving approaches, which develops an awareness of their own thought processes. This **metacognition** enables them to monitor, direct and communicate their mathematical thinking and, in doing so, become proficient problem solvers.

Mind Stretcher develops higher-order thinking skills and metacognitive ability.

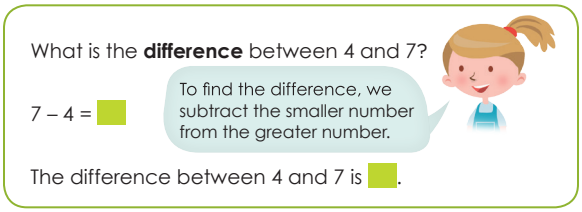
Thought Bubbles model the thinking process and train students to communicate their mathematical thinking so they become proficient problem solvers.

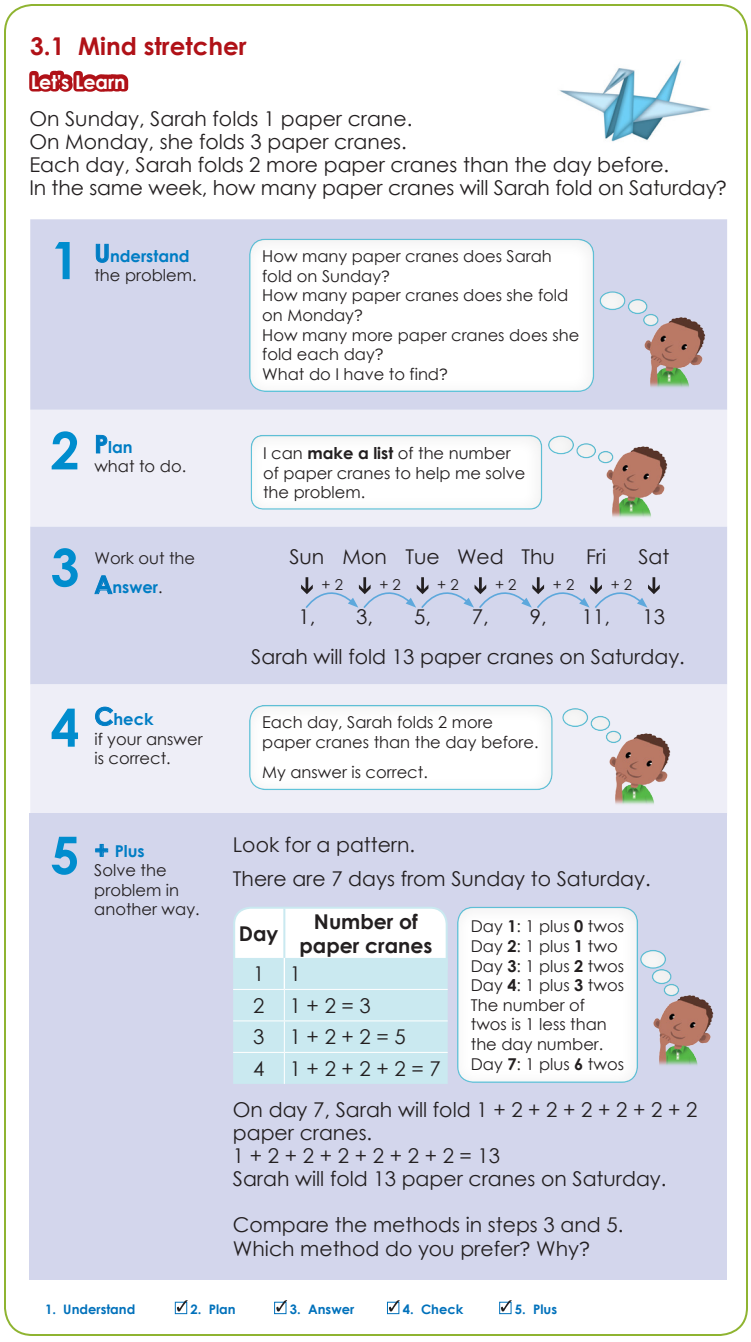


Math Journal

NEW! The Math Journal feature provides students a place to **reflect on their own thinking to enhance and extend the learning process**, and further develop communication and metacognition skills.

Coursebook 3A, PR1ME Mathematics





Coursebook 1, PR1ME Mathematics New Edition

Speech Bubbles introduce mathematical language.

CREATIVITY

Improve Understanding & Mastery through Creative Thinking

PR1ME New Edition cultivates student creativity with opportunities to create their own mathematical problems, brainstorm solutions, and think outside of the box. Students practice using different problem solving techniques, evaluate and apply new ideas, while developing a deeper understanding of the concepts.

Create Your Own activities develop deep conceptual understanding by challenging students to create their own word problems that are realistic and solvable.

CREATE YOUR OWN

Tank A can hold 34 liters of water.
Tank B can hold 12 liters of water less than tank A.
What is the capacity of tank B?

Read the word problem.
Change the word problem so that the answer is 14 liters.
How did you decide what to change in the word problem?

Next, solve the word problem. Show your work clearly.
What did you learn?

Coursebook 2, PR1ME Mathematics New Edition

UPAC+ provides students with the opportunity to think **outside of the box prescribed by the UPAC** problem solving process and **explore new and creative ways to find solutions** to the same problem.

6.1 Word problems

Let's Learn

Nathan had $\frac{9}{10}$ of a pie at first. He ate $\frac{6}{10}$ of the pie.
What fraction of the pie did he have left?

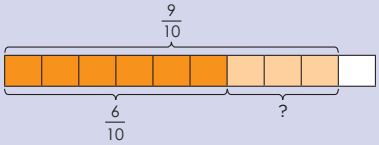
1 Understand the problem.

What fraction of the pie did Nathan have at first?
What fraction of the pie did he eat?
What do I have to find?

2 Plan what to do.

I can **draw a fraction bar model** to help me solve the problem.

3 Work out the **Answer**.



$\frac{9}{10} - \frac{6}{10} = \frac{3}{10}$

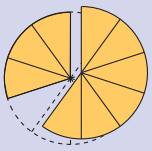
Nathan had $\frac{3}{10}$ of the pie left.

4 Check if your answer is correct.

$\frac{3}{10} + \frac{6}{10} = \frac{9}{10}$
My answer is correct.

5 + Plus Solve the problem in another way.

Draw a circle on a piece of paper and cut it out.
Divide it into 10 equal parts to represent the pie.
Color 9 parts to represent Nathan's share.
Cut out and remove 6 of the colored parts to represent the fraction of the pie that Nathan ate.



There are 3 out of 10 equal parts left.
So, Nathan had $\frac{3}{10}$ of the pie left.

Compare the methods in Steps 3 and 5.
Which is better? Why do you think so?

☑1. Understand ☑2. Plan ☑3. Answer ☑4. Check ☑5. Plus

Coursebook 3, PR1ME Mathematics New Edition

CONFIDENCE

Increase Student Confidence with Powerful Instructional Design

PR1ME New Edition's scaffolded curriculum provides learners with all the tools necessary to create confident problem solvers; the **Understand-Plan-Answer-Check+** (UPAC+) method for problem solving, the **Concrete-Pictorial-Abstract** (CPA) representations, and the **ALL-NEW Digital Practice & Assessment Hub**. These systematic, guided approaches develop a deep understanding of problem solving, while online components provide additional practice and opportunities for student mastery.

Let's Learn

A shop has 253 neckties.
It has 67 fewer belts.
How many neckties and belts are there altogether?

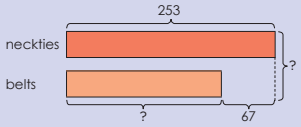
1 Understand the problem.

How many neckties are there?
Are there more neckties or more belts?
How many fewer belts are there?
What do I have to find?

2 Plan what to do.

I can **draw a bar model** to compare the number of neckties and belts.

3 Work out the **Answer**.



253 – 67 = 186

There are 186 belts.

253 + 186 = 439

There are 439 neckties and belts altogether.

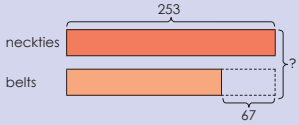
4 Check if your answer is correct.

186 + 67 = 253
There are 253 neckties.

439 – 186 = 253
There are 253 neckties.

My answer is correct.

5 + Plus Solve the problem in another way.



The number of belts is 67 less than 253.
We can first add 253 and 253.
Then, we subtract 67.

253 + 253 = 506

506 – 67 = 439

There are 439 neckties and belts altogether.

Compare the methods in steps 3 and 5.
Which method do you prefer? Why?

☑1. Understand ☑2. Plan ☑3. Answer ☑4. Check ☑5. Plus

Coursebook 3, PR1ME Mathematics New Edition

The five-step **Understand-Plan-Answer-Check+** (UPAC+) method is a scaffolded problem solving process that provides the basis for and builds good habits for approaching mathematical problems at all levels of difficulty.

See UPAC+ under Creativity

Coursebook 3, PR1ME Mathematics New Edition

Let's Remember

1. The circle is divided into 2 equal parts.
Each part is a half $(\frac{1}{2})$ of the circle.
____ halves make a whole.

2. Each circle is divided into equal parts.

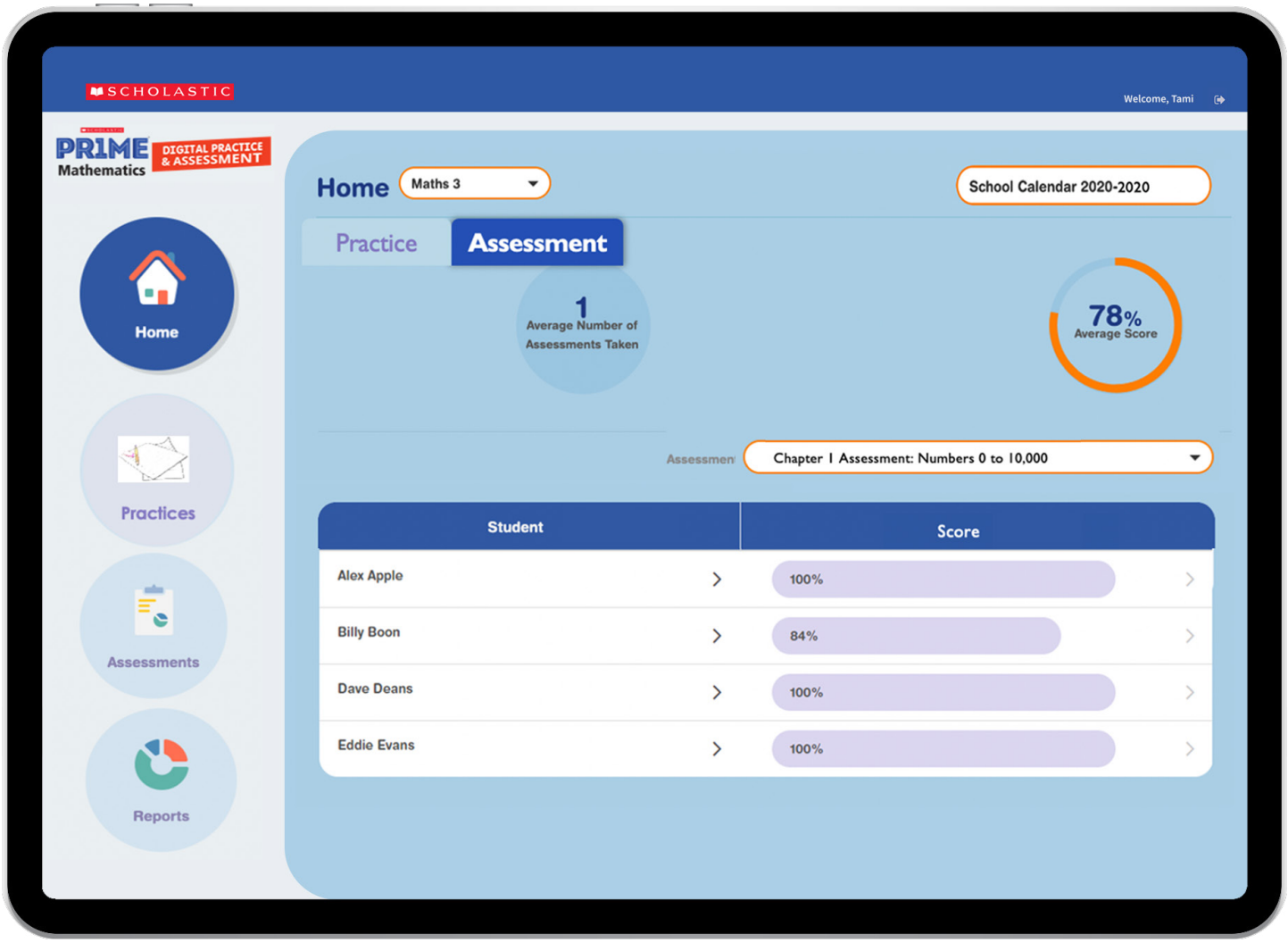
Fraction	Read as
$\frac{1}{2}$	one-half
$\frac{1}{3}$	one-third
$\frac{1}{4}$	one-quarter or one-fourth
$\frac{2}{5}$	two-fifths
$\frac{5}{6}$	five-sixths
$\frac{4}{7}$	four-sevenths

Fraction	Read as
____	three-eighths
____	two-ninths
____	seven-tenths
____	five-elevenths
____	one-twelfth

Let's Remember and **Recap** sections require students to **recall previously learned information, creating a robust knowledge** when approaching increasingly difficult problems.

CONFIDENCE

Ongoing formative and summative assessment throughout **PR1ME** offers opportunities to check understanding and practice previously learned skills to build expertise.



PR1ME Digital Practice & Assessment Hub

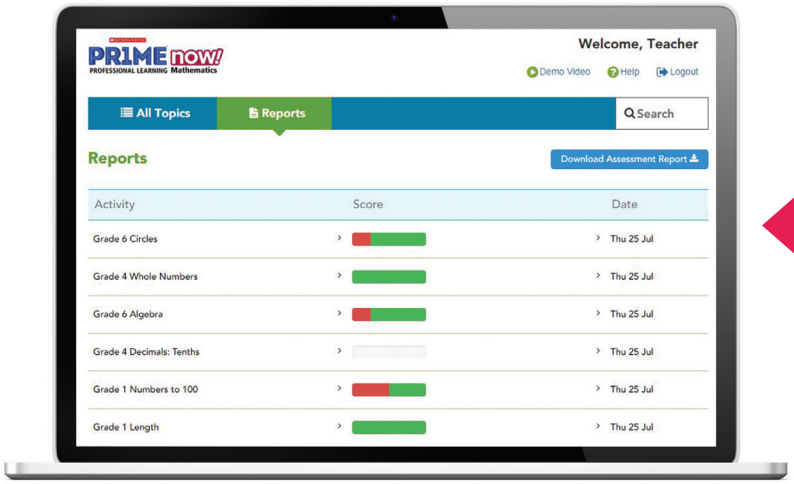
NEW! The **Digital Practice & Assessment Hub** is an innovative online portal that includes **additional learning opportunities and continued practice** that students can use to **self-assess and reaffirm learned skills**.

CONFIDENCE

Increase Teacher Confidence with Premier Support

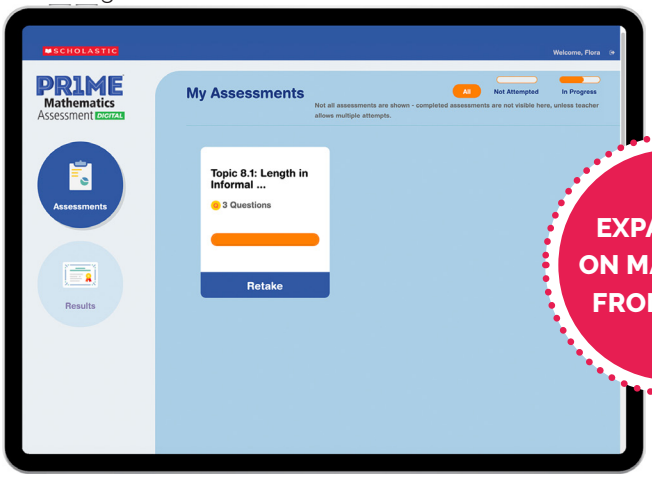
Detailed teaching materials and professional development resources make it easy for all educators to deliver effective instruction with confidence.

PR1ME Professional Learning Now!

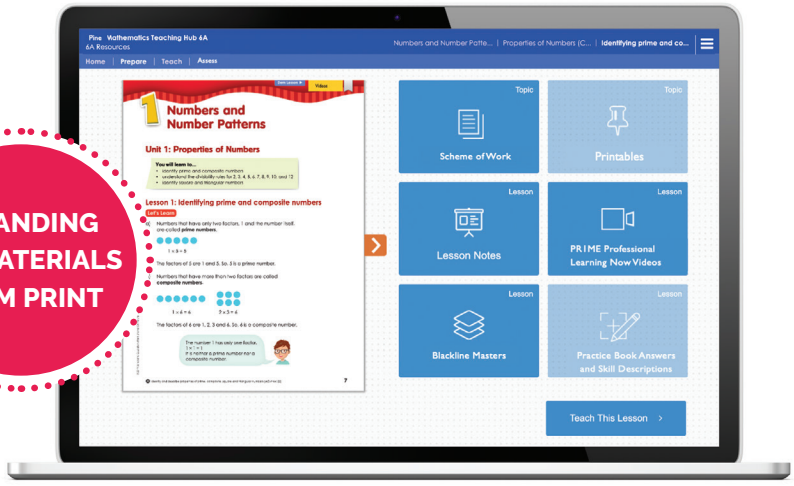


PR1ME Professional Learning Now! includes 50 videos and assessments covering the concepts of **PR1ME Mathematics**, providing teachers with **24/7, on-demand professional learning resources** to ensure pedagogical mastery.

PR1ME Digital Practice & Assessment Hub



PR1ME Teaching Hub



EXPANDING ON MATERIALS FROM PRINT

NEW! The **Digital Practice & Assessment Hub** for teachers provides a view of students' results from assigned materials giving additional insight into class and individual progress.

NEW! The **Teaching Hub** consists of 3 modes: Prepare, Teach, Follow-Up, and **includes all of the print resources from PR1ME plus additional materials** like links to extra lessons and activities, and downloadables.

Find a complete list of Teacher Support on the last page.

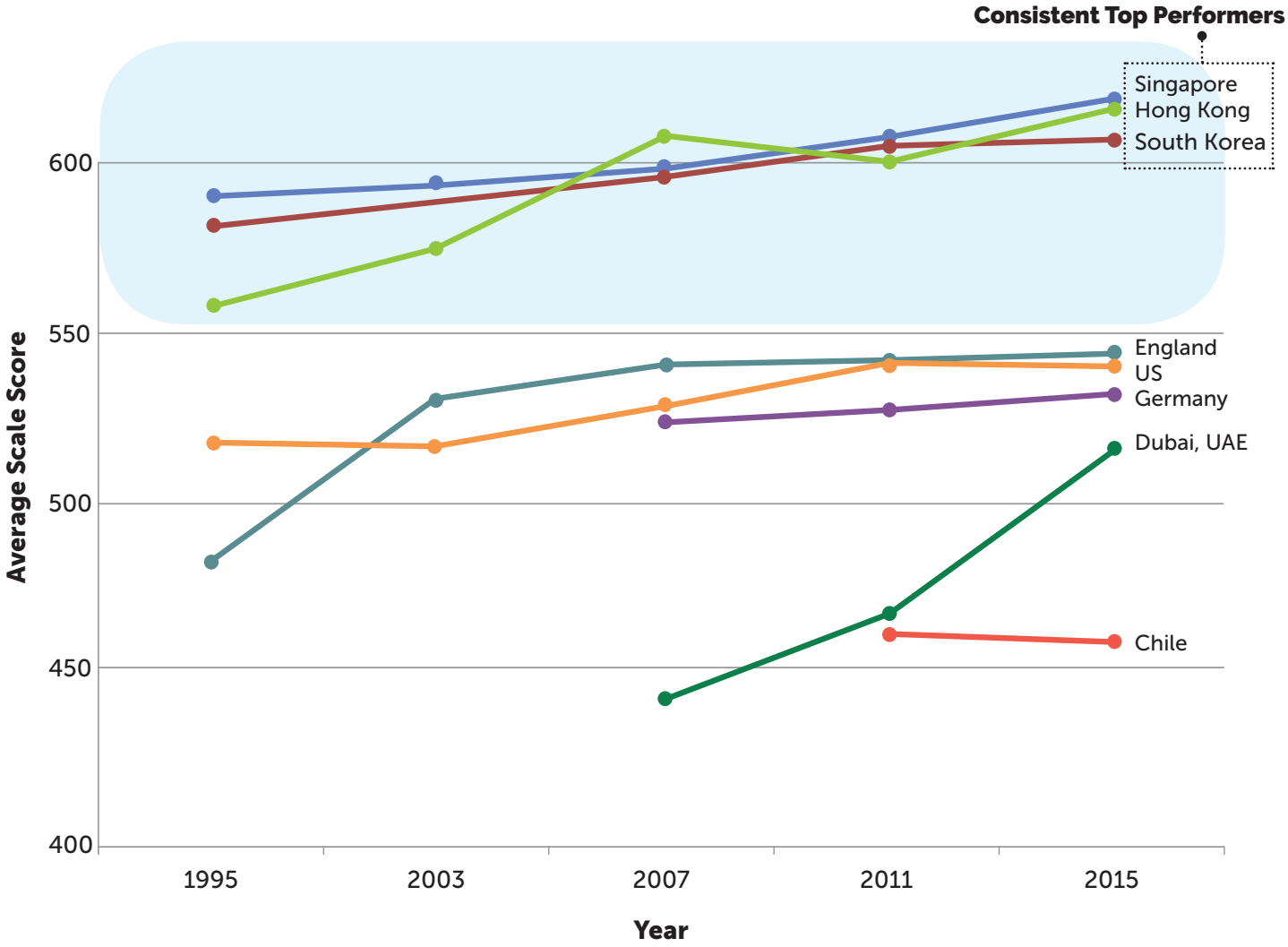
The World's Best Practice

PR1ME Mathematics incorporates the best teaching and learning practices from the three global top performers, Singapore, Hong Kong, and South Korea.

- Proven Approach
- Consistent Lesson Design
- Teacher's Guides with pedagogical instruction
- Online Professional Development

PR1ME creates a powerful environment for premier instruction and performance leading to mathematical success.

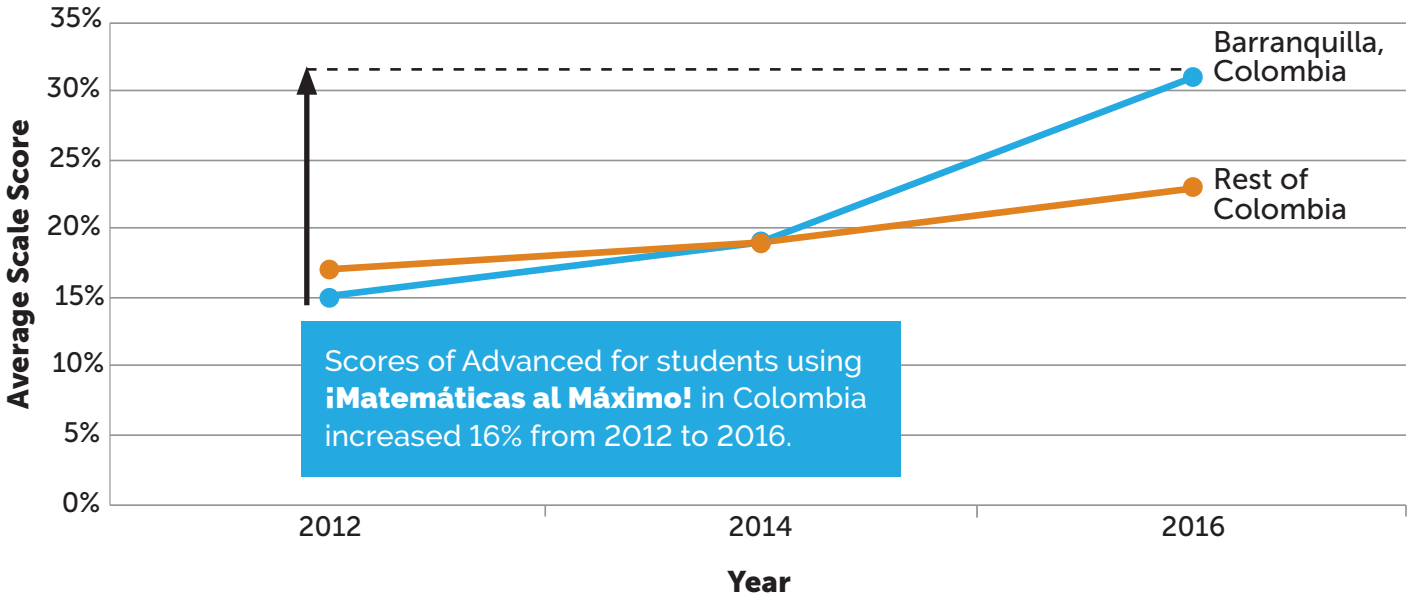
TIMSS GRADE 4 TRENDS IN MATHEMATICS ACHIEVEMENT



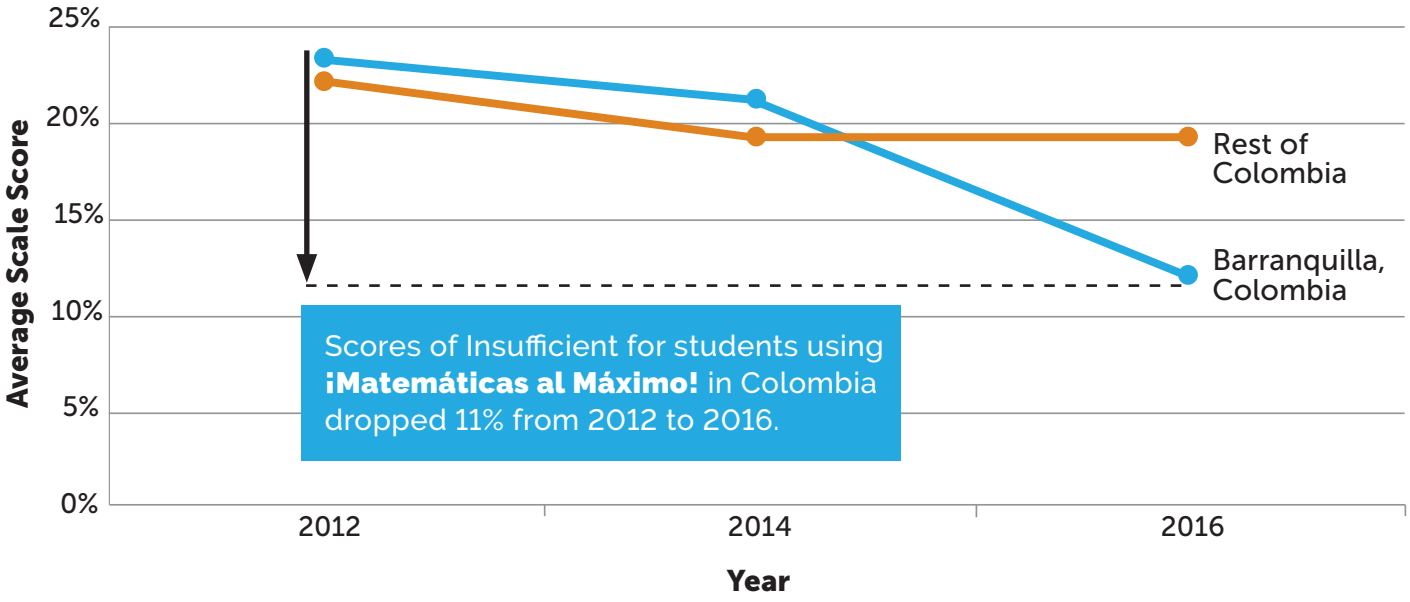
Outstanding Results

¡Matemáticas al Máximo!, the Spanish version of **PR1ME Mathematics**, was adopted in Colombia by *Barranquilla Secretaría de Educación* in 2012 for its 74,000 K–5 students in the district. **Students in Barranquilla using this program have shown significant improvement in their mathematical comprehension and test results** on *Prueba Saber*, the annual countrywide mathematics test, as compared to other cities in Colombia.

INCREASE IN ADVANCED SCORES



DECREASE IN INSUFFICIENT SCORES



PR1ME Offers You a Complete Mathematics Solution with Customized Professional Development

STUDENT MATERIALS

Coursebooks

Practice Books

NEW! Digital Coursebooks

NEW! Digital Practice Books

NEW! Digital Practice & Assessment Hub

COMPREHENSIVE TEACHER SUPPORT

Teacher's Guides

Step-by-step teacher support, teaching plans, lesson notes, answers/solutions to exercises, photocopiables, and more.

PR1ME Professional Learning Now!

Online videos model teaching techniques and develop a deep knowledge of the curriculum.

NEW! Digital Teaching Hub

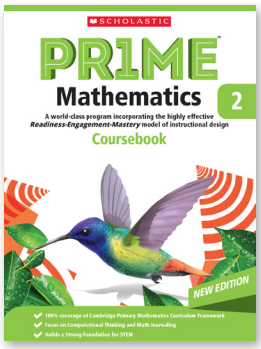
Online resource that contains all of the print resources from PR1ME plus links to PR1ME Professional Learning Now!, and extra lessons and activities to match local curriculum needs.

NEW! Digital Practice & Assessment Hub

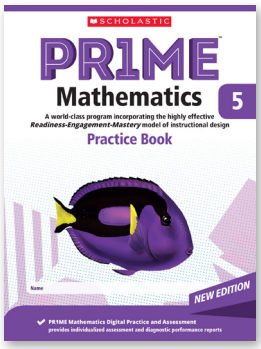
Online platform that allows teachers to view students' results from assigned materials and practice.

COMPLETELY ALIGNED TO THE CAMBRIDGE CURRICULUM.

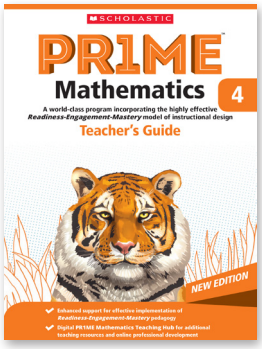
Program flexibility and additional resources allow for adaptability to align to other curriculums; IB PYP, MYP, CC, and more!



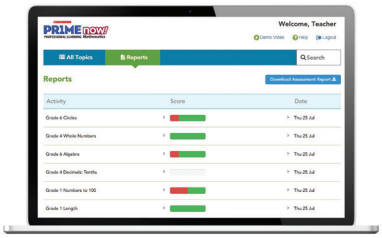
Coursebook



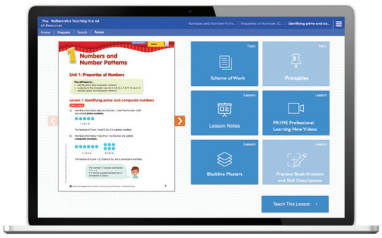
Practice Book



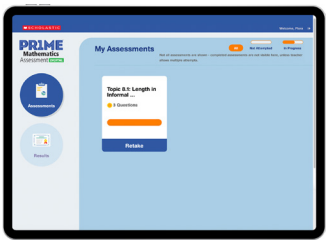
Teacher's Guide



PR1ME Professional Learning Now!



Digital Teaching Hub



Digital Practice & Assessment

Contact us to learn more:

intlschool@scholastic.com • www.scholasticprimemathematics.com