Program Overview

Every Child Counts.

BLENDED. PRINT. DIGITAL.

Based on the world’s best practice
Scholastic PRIME Mathematics K is the foundation level of PRIME Mathematics, an innovative world-class mathematics program based on the effective teaching and learning practices of global top performers in Mathematics. The program focuses on the development of early numeracy and problem-solving skills to build a strong foundation for meaningful learning and to develop a problem-solving mindset.

Scholastic PRIME Mathematics K follows a consistent and structured implementation model which embeds Singapore’s mathematics pedagogy in its instructional design. These effective pedagogical practices are:

- **Learning Mathematics via Problem Solving**
- **Opportunity for Development & Communication of Mathematical Thinking**
- **Readiness-Engagement-Mastery Model in Instructional Design**
- **Formative and Summative Assessment Integrated with Instruction**
- **Learning Mathematics by Doing Mathematics**
- **Mathematical Problem Solving**
- **Process Skills**
- **Concepts**
- **Attitudes**
- **Metacognition**

Based on the world’s best practice

- Based on top-performing Singapore, Republic of Korea and Hong Kong
- **Lays a strong foundation** for numeracy for all students
- **Clear lesson routines** to make lesson delivery easy, effective and enjoyable
- **Teacher resources at point of use** to provide full support to deliver a well-organized and rigorous program
Each chapter ends with a problem solving lesson using the Problem Solving Kit.

Each problem solving lesson is built around a story. As students engage with the story and encounter mathematical problems, learning is consolidated in a meaningful context and conceptual understanding is deepened. The problem solving tasks provide opportunities for students to apply learning and to communicate their thinking.

Three problems with their accompanying solutions are woven into each story as students solve problems together with the amicable cat family.

At the end of each chapter, the teacher guides a class discussion around the picture in the Chapter Workout. Students apply the concepts and skills they have learned to solve problems in real-world contexts.
Opportunities for development and communication of mathematical thinking

Students are encouraged to communicate their ideas, clarify their thoughts and share their thinking to develop mathematical thinking skills throughout the program.

Activity 1
Think, turn and talk.

The yellow teddy bear is first.

3rd

The red teddy bear is first.

Who is right?
Why?

As they solve non-routine and open-ended problems, students explain and reflect on their answers. They are encouraged to discuss their solutions, think aloud and reflect on what they are doing.

Learning mathematics by doing mathematics

The activity-based Concrete-Pictorial-Abstract approach is a key instructional strategy advocated in the Singapore approach to mathematics learning. All learning starts with a concrete experience. Opportunities to manipulate concrete materials help students relate mathematics to the real world and understand relationships between numbers and their representations. Authentic mathematical experiences in Scholastic PRIME Mathematics K enable a seamless transfer of knowledge from concrete to pictorial to abstract stages.

Lesson 1
Put Together

Let’s Learn
Add and write.

3 ducks stand.
2 ducks sit.
There are _______ ducks altogether.

Concrete
Hands-on tasks suggested in the Teacher’s Guide allow students to explore, investigate and participate in concrete mathematical experiences.

(a)

Pictorial
A crucial link to build a solid conceptual understanding, students are guided to understand mathematical ideas presented visually.

(b)

Abstract
Finally, students learn to represent concepts or skills in numbers and mathematical symbols.

(c)

Count all
1, 2, 3, 4, 5.

2 balls are red.
2 balls are blue.
There are _______ balls altogether.

1 umbrella is open.
1 umbrella is closed.
There are _______ umbrellas in all.
Incorporates the Readiness-Engagement-Mastery model in instructional design

The instructional design of the program incorporates the Readiness-Engagement-Mastery process of learning mathematics, making lesson delivery easy and effective.

Mastery

Each chapter ends with a one-hour lesson where non-routine problems are presented to consolidate and assess learning for the chapter. Purposeful play via the form of games and individual activities motivates students to practice what they have learned and offers an opportunity for formative assessment.

Readiness

A 5-minute warm-up at the start of each lesson prepares the class for mathematics and builds mathematical fluency.

Each chapter opens with recalling prior knowledge in Let’s Remember. Recalling concepts from previous lessons acts as a bridge and links to new learning.

Engagement

Students are deeply involved in constructing their own learning with ample opportunities to know, use and apply numeracy concepts and skills meaningfully in their daily lessons via Let’s Learn and Let’s Do.

Lessons follow the Gradual Release of Responsibility Model to encourage students to take responsibility for their own learning.

In I Do, the teacher models the activity. In We Do, students work collaboratively. In You Do, students are given opportunities to explore the activity on their own.

The stories in the big books and readers allow students to make meaningful connections to age-appropriate, real-life scenarios, and encourage students to practice math skills in innovative ways. Students can also evaluate their own learning as answers to each problem are provided within the story before readers move on to the next problem.
Tick (✔) the pictures that break apart each story.

The stories in the Big Books and Readers revisit all learning objectives covered in the chapter and can be used for a Summative Assessment of each child. Students are able to practice and demonstrate what they have learned as they work through each story.
**Lesson 1: Height, Length, Size and Weight**

**Exploring Attributes**
- Describe the height of objects.
- Compare and order up to 3 objects according to size and describe their relationship.

**Lesson 2: Comparing Size**
- Smaller than a Pencil
- Bigger than and Smaller than

**Lesson 3: Comparing Length and Height**
- Compare up to 3 objects and order them by length or height, and describe their relationship.
- Compare 2 objects using measurement and comparison language.
- Compare the length of 2 objects by placing them side by side.
- Compare 2 objects using 'bigger than' and 'smaller than'.

**Lesson 4: Measuring Length and Height**
- Explore how to measure.
- Measure the length and height of objects using 10 or less common nonstandard units of measurement.

**Lesson 5: Comparing Volume**
- Compare the volume of a liquid in 2 identical containers and describe them.

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**Materials Resources**
- 3 objects than can be ordered by length (e.g. pencil, crayons, erasers)
- Connecting cubes
- Pipe cleaners (or other objects that are about 30 cm long)
- Ruler
- Eraser
- 3 erasers of different sizes
- 3 labels: big, bigger, biggest
- 3 large boxes of different sizes
- Small cups, 1 per pair

**Vocabulary**
- Height
- Length
- Size
- Weight
- Bigger
- Smaller
- Longest
- Shortest
- More than
- Less than
- Big
- Small
- Tall
- Short
- Heavy
- Light
- Full

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**Lesson 2: Comparing Size**

**Teacher Resources**
- Teacher resources are available in both printed and digital versions.

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**Scheme of Work**

**Measurement**

<table>
<thead>
<tr>
<th>Scheme of Work</th>
<th>Team of 1 Teacher</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit 1: Height</td>
<td>Unit 2: Length</td>
</tr>
<tr>
<td>Lesson 1</td>
<td>Lesson 2</td>
</tr>
<tr>
<td>Exploring Attributes</td>
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</tr>
</tbody>
</table>
| • Describe the height of objects. | • Compare and order up to 3 objects according to size.
| • Compare up to 3 objects and order them by length or height. | • Compare their relationship.

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**Reteach**

- Explain to students the meaning of 'big' and 'small'.
- Ensure students understand the meaning of 'big' and 'small'.

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**Daily Wrap-Up**

- Have a student volunteer arrange the boxes in order of big to biggest.
- Ask: Where do you go on your holiday?
- Ask: How do you travel to your holiday destination?
- Ask: Where is the nearest beach?

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**Instructional Software**

- Teachers can opt to teach using the instructional software or the print coursebook with guiding points and questions from the Teacher’s Guide.
**Instructional Software**
A teacher resource for front-of-class teaching, practice and assessment which enables teachers to use technology to teach and engage the whole class.

**Problem Solving Kit**
20 stories - each story is available in Big Book format and in Reader format (6 copies of each reader)
Comprises twenty stories aimed at consolidating students’ understanding of core mathematical concepts through solving problems and developing a problem-solving mindset using age-appropriate contexts.

**Problem Solving Teacher’s Guide**
Provides lesson plans that encourage mathematically-rich discussion and communication of mathematical ideas and thinking.

**Student Book A & B**
Contains activities and practices for students to reinforce learning.

**Teacher’s Guide A & B**
Provides comprehensive lesson plans to support each lesson.

**Comprehensive suite of teaching and learning resources**

**PRIME Mathematics K** is your complete suite of easy to use teaching and learning resources to make mathematics fun for your students.