



Maths — No Problem!

Singapore Maths
English National Curriculum 2014

Maths — No Problem! is a series of textbooks and workbooks written to meet the requirements of the 2014 English National Curriculum.

The focus of the series is on teaching to mastery. This research-based approach emphasises problem solving and utilises pupils' core competencies to develop a relational understanding of mathematical concepts.



Key Features

Problem Solving

Lessons and activities are designed to be taught using problem-solving approaches to encourage the development of higher-level thinking.

Mastery

Ample time is spent on topics in order to deepen understanding and master concepts. Ideas are revisited at higher levels as the curriculum spirals through the years.

C-P-A approach

Based on Jerome Bruner's representations, new concepts are learned initially using concrete examples. This leads on to pictorial representations before moving to the more abstract symbols.

Variations

Questions are varied carefully so that each example deepens the pupils' understanding as they progress through the lesson.

Core competencies

The focus is on working with pupils' core competencies and intelligences to develop their relational understanding.

Differentiated Instruction

Tasks and activities are designed to be easy to enter while still containing challenging components. This allows struggling learners to attain the desired outcome while advanced learners can be challenged.

Evidence base

This series is adapted from the New Syllabus Primary Mathematics series published by leading publisher Shinglee Pte Ltd which is approved for use in primary schools in Singapore. All school textbooks and workbooks in Singapore meet the guidelines set by the Singapore Ministry of Education.

Singapore has seen tremendous improvements in its education system since the implementation of this method of teaching in the 1990s and now places at the top of international rankings such as TIMMS and PISA.

"The Singapore approach to teaching and learning mathematics was the result of trying to find a way to help Singapore students who were mostly not performing well in the 1970's."

— Yeap 2012

Improving the Education for All:
Curriculum Development and
Implementation in Singapore
American Institutes for Research

Maths — No Problem! incorporates the use of concrete aids and manipulatives, problem solving and group work. These features are exemplified throughout the chapters:

Chapter Opener

Familiar events or occurrences that serve as an introduction for pupils.

Let's Learn

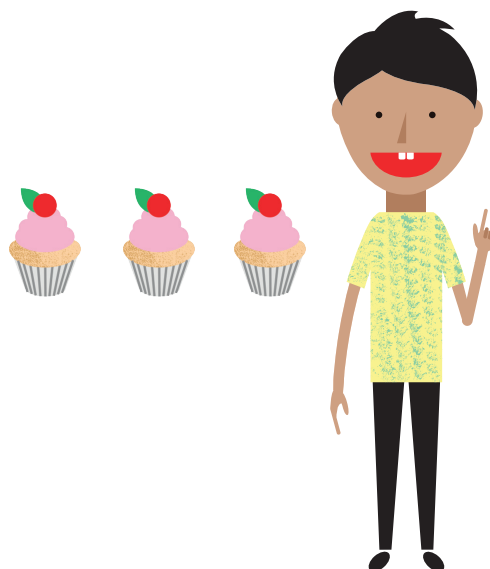
Introduces new concepts through a C-P-A approach with the use of engaging pictures and manipulatives. Guided examples are provided for reinforcement.

In Focus

Includes questions related to various lesson objectives as an introductory activity for pupils.



Count on from 1



Activity Time

Provides pupils with opportunities to work as individuals or in small groups to explore mathematical concepts or to play games.

Guided Practice

Comprises questions for further consolidation and for the immediate evaluation of pupils' learning.

Mind Workout

Challenging non-routine questions for pupils to apply relevant heuristics and to develop higher-order thinking skills.

Maths Journal

Provides pupils with opportunities to show their understanding of the mathematical concepts learnt.

Self Check

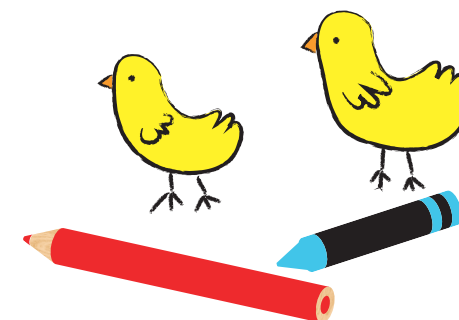
Allows pupils to assess their own learning after each chapter.



If 3 balloons fly off, how many balloons remain?



$$\begin{array}{ccccccc} + & 3 & 1 & + & = \\ 0 & 6 & = & 4 & 6 \end{array}$$



I know how to...

- ☐ Count to 10.
- ☐ Read and write numbers from 0 to 10.
- ☐ Compare and order numbers from 0 to 10.

Self Check

Available resources

A variety of material is available to support both pupils and teachers.

Textbooks and Workbooks

Years 1-3 are available as of October 2014. Each year is made up of an A and a B **textbook** and a corresponding **workbook**.

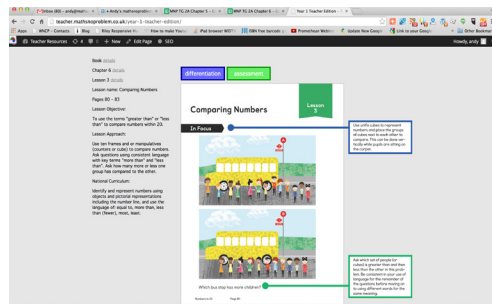
The A books are for the first half of the year and the B books are for the second half. The textbooks include anchor tasks and guided practice examples as well as a series of group activities. The workbooks consist of independent practice examples for pupils.



Teacher Editions

The Teachers' Guides are part of a friendly and easy-to-use online system where teachers can access the information they need to plan each lesson.

- Answers
- Interactive Whiteboard Components
- Suggested Differentiated Instruction
- Suggested Teaching Methods
- Tips for Assessing Pupil Progress
- Schemes of Work



Academy

This is an annual subscription to a complete 5-day intensive video training course for teachers.

Over 20 hours of high-definition video from Dr. Yeap Ban Har's 5-day course in London in 2014 can be viewed on demand. The subscription also includes extra sessions with Dr. Yeap teaching school children in the UK.



8 Short-Topic Videos

These are short videos that can be placed on the school website which have been specifically created for **parents** and **teaching assistants** to cover the basic principles of mastering mathematics. The videos cover the core concepts and methods used to teach children in the programme including whole numbers, the bar model, long division and fractions.



Professional development

Intensive courses, full-day seminars, half-day seminars and school inset training take place regularly across the UK.

One-day courses

Three 1-day courses run several times a month in different locations across the UK. Details of dates and venues can be found at www.mathsnoproblem.co.uk/events

1. Fundamentals of Singapore Maths

The essential ideas and principles for applying the methods that are found in the materials.

2. Bar Model Approach

Understanding the progression of modelling and its application in solving word problems.

3. Teaching to Mastery using Problem-solving Approaches

A more in-depth look at how the topics are taught to mastery within the spiral approach.

Cost per teacher for one-day course: £175

Intensive courses

All 3-day or 5-day intensive courses are run several times a year in different locations across the UK. Details of dates and venues can be found at www.mathsnoproblem.co.uk/events

These very popular events are typically run by Singapore consultants and cover the content as well as the principles used in the series.

Delegates look at how all the concepts are developed as well as participate in an interactive modelling of classrooms to illustrate the teaching methods implied in the materials.

The courses cover the underlying research and learning theories that underpin the teaching methods and the teaching materials. Although not compulsory, it is recommended that teachers first complete the 1-day Fundamentals of Singapore Maths course.

Cost for per teacher for 5-day course apx. £1000

School inset days

Half-day or full-day insets can be arranged at your school. In order to book an inset day, you should complete our form at www.mathsnoproblem.co.uk/singapore-maths-training

Inset days can be tailored to specific requirements. We normally cover the following topics:

- the fundamentals of mathematics as taught in Singapore
- the core competencies emphasised in the learning of mathematics
- the Concrete-Pictorial-Abstract approach
- lessons on patterns and making connections
- mental strategies
- the Bar Model Method

Full day insets start at £850 plus expenses



"It is an amazing eye opener."

"I left feeling inspired - thank you."

"Very good and informative - can't wait to start using ideas in the classroom."

"Very enjoyable and relevant. Will definitely impact on our delivery of maths across the school."

Thank You

This book is made using recycled paper.



“After an initial research phase we felt that aesthetic quality is often compromised in both digital and physical learning materials for children and this is something we wanted to challenge.”

— Kin design

Acknowledgements

The series is based on the native Singaporean series **New Syllabus Primary Mathematics** originally published by Shinglee Pte Ltd in Singapore. Consultant and Author Dr. Yeap Ban Har has customised the series for the 2014 English National Curriculum. Re-styled by Kin design in London, and culturally adapted, this edition uses a fresh and modern aesthetic with bold colours and clear typography as well

as a consistent, systematic layout with lots of white space for better comprehension. The books feature over 2500 individual illustrations, each created by hand specifically for the series.

The typeface used throughout the books is **Castledown** by Colophon foundry. The type foundry designed the typeface with Castledown Primary School in East Sussex

who wanted a change from Comic Sans. With the help of teachers and pupils at the school, the designers created a friendly, elegant typeface with high legibility. It has learner-friendly features like a single storey “a” and the base of each letterform is subtly weighted which may assist children with dyslexia or other reading issues. The typeface was shortlisted for the Design Museum’s Design of the Year Award 2014

and has been awarded a Premier Award by the International Society of Typographic Designers.

