# P5 SUBJECT BRIEFING FOUNDATION MATHEMATICS


A COMMUNITY OF COMPASSIONATE LEADERS AND INNOVATORS

# Importance of Learning Mathematics

- Mathematics contributes to the development and understanding in many disciplines and provides the foundation for many of today's innovations and tomorrow's solutions.

- It also underpins many aspects of our everyday activities, from making sense of information around us to making informed decisions about personal finances.

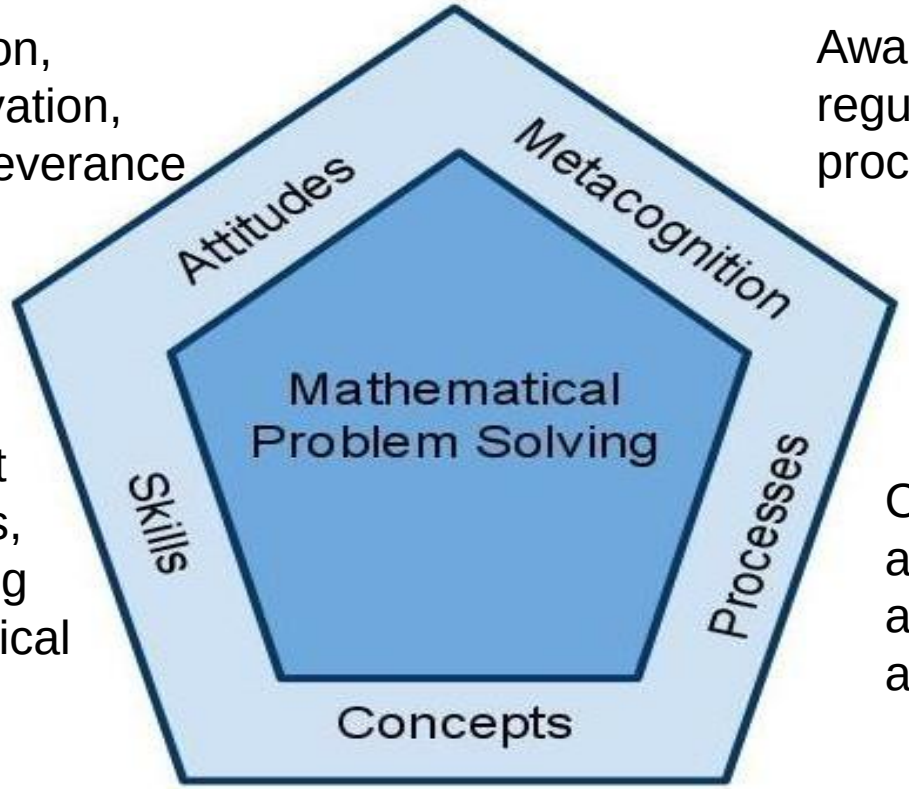
# Objectives of Primary Mathematics Syllabus

- Acquire mathematical **concepts and skills** for everyday use and for continuous learning in mathematics.
- Develop **thinking, reasoning, communication, application** and **metacognitive skills** through a mathematical approach to problem-solving.
- Build **confidence** and **foster interest** in mathematics

# Mathematics Curriculum Framework

Belief, appreciation, confidence, motivation, interest and perseverance

Awareness, monitoring and regulation of thought processes




Proficiency in carrying out operations and algorithms, visualising space, handling data and using mathematical tools

Competencies in abstracting and reasoning, representing and communicating, applying and modelling

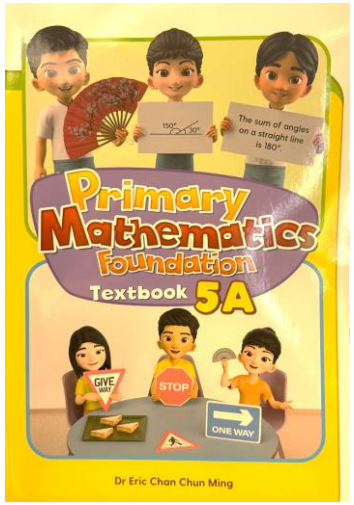
Understanding of the properties and relationships, operations and algorithms

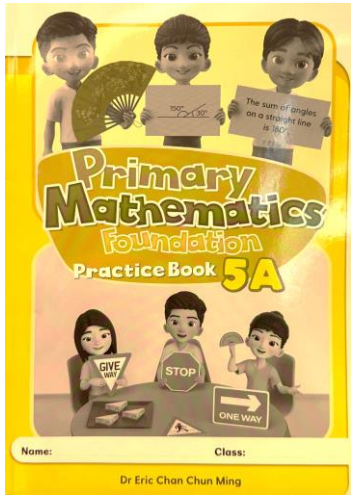
# Mathematics Curriculum

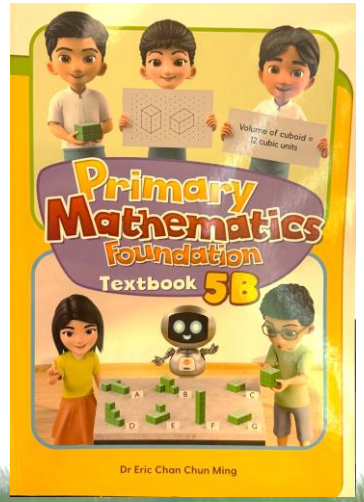
2021 MATHEMATICS SYLLABUS

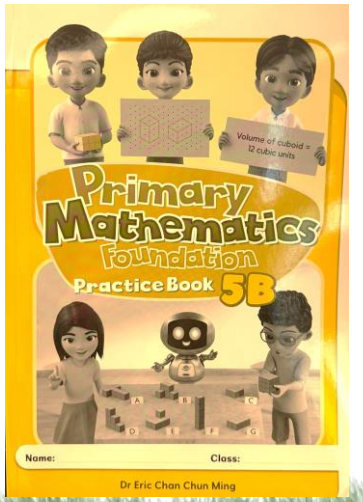
*NEW

| Content | |
|---|---|
| 1. Numbers to 10 million | 8. Rectangles and Squares |
| 2. Four Operations of Whole Numbers | 9. Mixed Numbers and Improper Fractions |
| 3. Factors and Multiples | 10. Multiplication of Fractions |
| 4. Fraction as Part of a Whole | 11. Decimals |
| 5. Time | 12. Four Operations of Decimals |
| 6. Angles | 13. Rate |
| 7. Perpendicular and Parallel Lines | |




# P5 Foundation Mathematics Programmes & Activities

- Learning for Conceptual Understanding
- Mathematics Around Us
- Maths & Science Fiesta

# Assessment

- To inform teachers about students' learning so as to guide the design and delivery of their lessons.
- Modes of assessment
  - Learning sheets
  - Students' responses
  - Weighted Assessment (WA)
  - End-of-Year Examination (EYE)

# P5 Foundation Mathematics Assessment

| | Term 1 | Term 2 (15%) | Term 3 (15%) | Term 4 (70%) |
|---|---|---|---|---|
| Weighted Assessment | - | Term 2 WA Wk 7 | Term 3 WA Wk 8 | - |
| End-of-Year Examination | - | - | - | ✓ Wk 7 |
| Checkpoints & Learning Sheets | Non-weighted (On-going) | Non-weighted (On-going) | Non-weighted (On-going) | Non-weighted (On-going) |

# Common Item Types In Mathematics

| Item Types | Descriptors |
|---|---|
| Multiple Choice Questions | • 1 – 2 marks per question<br>• Four options are provided of which only one is correct |
| Short Answer Questions | • 1 – 2 marks per question<br>• Workings and number equations are to be shown<br>• Marks are awarded for correct method even if answer is wrong |
| Long Answer / Structured Questions | • 3 – 4 marks per question<br>• Workings and number equations are to be shown<br>• Marks are awarded for correct method even if answer is wrong<br>• **Only answer mark awarded if answer is correct but no workings are provided** |

# Term 2 & 3 WA Format

**50 min**
**(No Calculator)**

| Item Types | No. of Questions | Marks Per Question | Marks |
|---|---|---|---|
| Section A<br>Multiple Choice Questions | 10 | 1 | 10 |
| | 5 | 2 | 10 |
| Section B<br>Short Answer Questions | 6 | 2 | 12 |
| Section C<br>Structured Questions | 1 | 4 | 4 |
| **Total** | **22** | | **36** |

# End-of-Year Examination Format

| Paper | Booklet | Item Type | Duration |
|---|---|---|---|
| 1 | A | Multiple-choice | 1 h |
| | B | Short-answer | |
| 2 | | Short-answer | 45 min |
| | | Structured | |
| **Total** | | | **1 h 45 min** |

Both papers will be scheduled on the same day with a break between the two papers.
The use of an approved calculator is allowed in Paper 2 but not Paper 1.

# Types of Marks in Mathematics

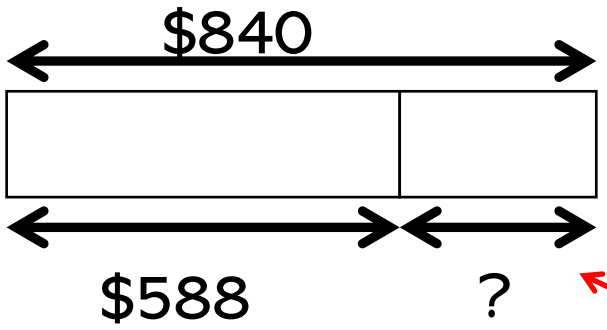
| Mark Types | How They are Given |
|---|---|
| **M**ethod Mark (**M** Mark) | • Awarded for correct method<br>• Not lost for numerical errors, algebraic slips or errors in units<br>• Not given for an incorrect method even if it arrives at a correct answer<br>• Awarded for comparable steps in alternative solutions<br>• Awarded for follow-through computational errors in previous steps when necessary |
| **A**ccuracy or **A**nswer Mark (**A** Mark) | • Awarded for a numerically correct answer<br>• Not given for 'correct' answers obtained from mathematically illogical method |

# Presentation of Work

Siti had $840. She bought a bag and had $588 left.

How much did the bag cost?

Write units only when it is standard units e.g. cm, kg, ℓ, $cm^2$. NO need to write for non-standard units e.g. boys, apples




Model

Bag = 840 – 588

= 252

Write label to help organise train of thoughts

No need to write units in number equation e.g.

$840 – $588 = $252

840

– 588

252

Workings on the right side

Final answer with units

Ans: $252

# Writing Labels

Mrs Low has 800 m/ of milk. She used 50% of the milk to bake a cake and 25% of the remainder to make ice-cream. How many millilitres of milk had she left?

Remainder $= 800 \div 2$

$= 400$

Left $= \frac{3}{4} \times 400$

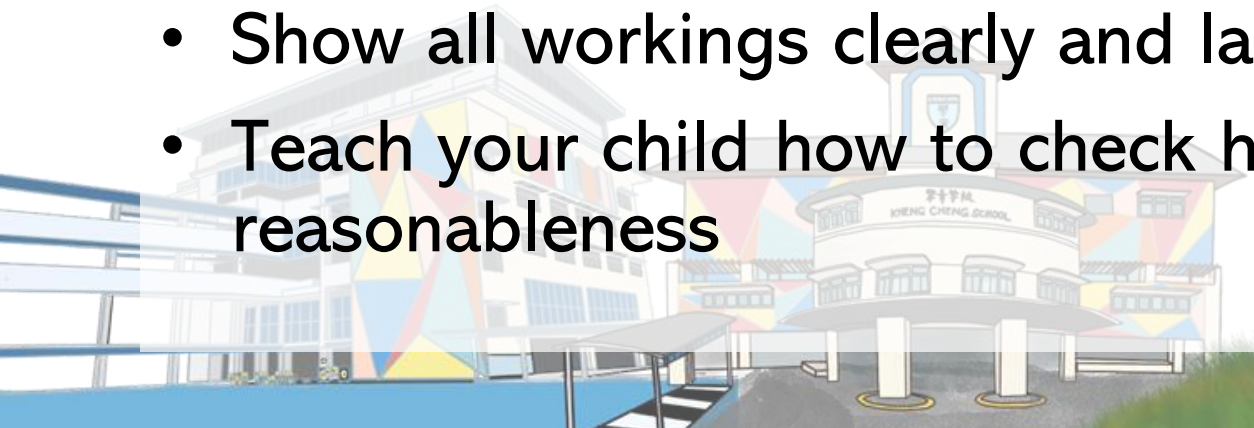
$= 300$

Writing labels for the number equations helps students to organise their thought process especially in upper primary where the solutions have more steps

Ans: 300 m/

# Tips for Parents

- Get your child to understand the problem and how to make sense of the problem
- Get your child to show you the whole process of solving the problem, not just the solutions, e.g. explain the steps and sequence
- Guide your child to look for alternative methods and then choose the most appropriate method
- Allow your child to reason his / her thinking
- Show all workings clearly and label the number equations
- Teach your child how to check his / her answers. Check for reasonableness



# Tips for Parents

- Encourage your child to persevere in solving the questions
- Try all questions, especially MCQ and short-structured questions.
- Master basic mathematical facts. (e.g. multiplication table)
- Set your child a time limit when doing practice papers

# Tips for Parents

- Review what they have learnt in class – spending at least 15 to 30 minutes every day to revise their daily work or concepts
- If your child has made a mistake in a specific question, allow him / her to redo it without referring to the answer provided by the teacher
- Use calculator only when doing Paper 2
- Targeted practice
- Do not over teach. Refer to primary mathematics syllabus on MOE website (https://www.moe.gov.sg/primary/curriculum/syllabus)

# Frequently Asked Question

How are marks allocated? Would it be unfair to my child if he used a method that is not in the marking scheme?

Marks are awarded for essential steps that will help the child arrive at the answer. If the child used another method, marks will still be allocated if the method is mathematically logical. During marking the teachers will standardise the marking scheme and discuss mark allocation at comparable steps for different methods.

# Frequently Asked Question

## How to improve in Paper 2?

- Ensure your child has a strong foundation of Mathematics concepts
- Expose your child to different question types and different ways of testing the same question type so that your child will be able to apply the heuristics aptly in order to solve the questions
- Teach your child a problem solving process to analyse, understand and solve the problems
- Provide your child with sufficient practice.
- Redo the questions that your child was unable to do after the teacher has explained it in class.


Thank you