

# Mathematics

Information for Primary Three Parents

# Primary Mathematics (Laying a strong foundation)

The Primary Mathematics syllabus aims to enable all students to:

+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; and

+Build confidence and foster interest in Mathematics

### Mathematics Curriculum Framework

Belief, appreciation, confidence, motivation, interest and perseverance

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



Understanding of the properties and relationships, operations and algorithms

### Mathematics Department Vision

### A Creative, Innovative and Effective Mathematics Problem Solver

# **Syllabus Organisation**

+ The concepts and skills covered in the syllabus are organised along 3 content strands. The development of processes, metacognition and attitudes are embedded in the learning experiences that are associated with the content.

	<b>Concept and Skills</b>	
Number	Measurement and Geometry	Statistics
Learning Experiences (Processes, Metacognition and Attitudes)		

### **Content Sequence**

Semester 1		
Numbers to 10 000 Addition and Subtraction Money Multiplication Tables of 6, 7, 8 and 9	Multiplication and Division More Word Problems (I) Bar Graphs Angles	
Semester 2		
Perpendicular and Parallel Lines Fractions Length, Mass and Volume	Area and Perimeter More Word Problems (II) Time	

# Heuristics (P1 – P5)

- 1. Draw a model/diagram
- 2. Make a systematic list

/tabulation

- 1. Look for patterns
- 2. Guess and check
- 3. Act it out
- 4. Use before-after concept

- 7. Work backwards
- 8. Restate the problem in

another way

- 7. Simplify the problem
- 8. Make suppositions

# **Phases of Learning**

- Prior knowledge
- Motivating contexts
- Learning environment

- Motivated Practice
- Reflective
   Review
- Extended Learning



- Activitybased learning
- Teacherdirected inquiry
- Direct instruction

### **Mathematics Key Programmes**



### **Checkpoints**



# Weighting

Term 1	Term 2	Term 3	Term 4
0%	15%	15%	70%
1 Topical Review	1 WA	1 WA	SA

#### Semestral Assessment – SA

### Format – P3 WA

#### **Duration: 45 to 55 minutes**

- Short-Answer Questions
- Long-Answer Questions



### Exam Format – SA

Section A	Section B	Section C
8 MCQ	16 SAQ	5 LAQ
8 Marks	27 Marks	15 Marks
Total Marks: 50 Duration: 1 hour 30 minutes		

MCQ – Multiple Choice Question LAQ – Long-answer Question SAQ – Short-answer Question





 Revisit what they have learnt in Primary 1 and 2



		Whole Numbers		
P1	P2	Р3	P4	P5
Numbers up to 100 Adding and subtracting within 100	Numbers up to 1000 Addition and subtraction up to 3 digits Multiplication tables of 2, 3, 4, 5 and 10	Numbers up to 10 000 Addition and subtraction up to 4 digits Multiplication tables of 6, 7, 8 and 9	Numbers up to 100 000 Rounding numbers to nearest 10, 100 or 1000 Four operations of whole numbers (Multiplication by 2	Numbers up to 10 million Multiplying and dividing by 10, 100, 1000 and their multiples Order of Operations
		Multiplication and Division Algorithms up to 3 digits by 1 digit	Factors and multiples	



Start with a smaller number/simpler problem
Start with concrete materials





HERE	1 × 6 = 6	
Filide Filide	2 × 6 = 12	+6
FATTOR FATTOR FATTOR	3 × 6 = 18	+0
FACTOR FACTOR FACTOR	4 × 6 = 24	+6
FARING MARING MARING MARING MARING	5 × 6 = 30	
ninde filite filite filite filite Heref	6 × 6 = 36	
FARAFA PARAFA FARAFA FARAFA FARAFA Farafa Farafa	7 × 6 = 42	
FARADA DABADA DABADA DABADA DABADA Farada dabada dabada	8 × 6 = 48	
FARADA DAUGUA DAUGUA DAUGUA FARADA DAUGUA DAUGUA DAUGUA	9 × 6 = 54	
FIELDE FLEREF FACTOR FLEREF Fleref fleref factor fleref	10 × 6 = 60	

- Use simple mathematical language
  - Help your child to comprehend word problems through chunking/ model drawing/ role playing/working backwards/ concrete materials/ etc

#### Polya's 4 stages of Problem-Solving







Speak positively about Math



I can learn anything I want to. When I'm frustrated, I persevere. I want to challenge myself. When I fail, I learn. Tell me I try hard. If you succeed, I'm inspired. My effort and attitude determine everything.

## **HOW YOU CAN HELP YOUR CHILD IN MATHEMATICS** Joy of Learning

















Need to space out reviews to make the brain reconstruct that memory, strengthening like a muscle



Forgetting curve

# What do you think is going on?



Why did you...?

What can you do next?

Do you see any patterns?

Does the answer make sense?

How do you know?

# Making mistakes is part of learning!

Neuroscientists have found that mistakes are helpful for brain growth and connectivity and if we are not struggling, we are not learning.



### **Contact Details**

Mdm Leng Sok Wah Celina, HOD Mathematics ✓ <u>leng sok wah celina@schools.gov.sg</u>

Mdm See Rui Si, LH Mathematics

✓ see rui si@schools.gov.sg

