Primary 3

Mathematics

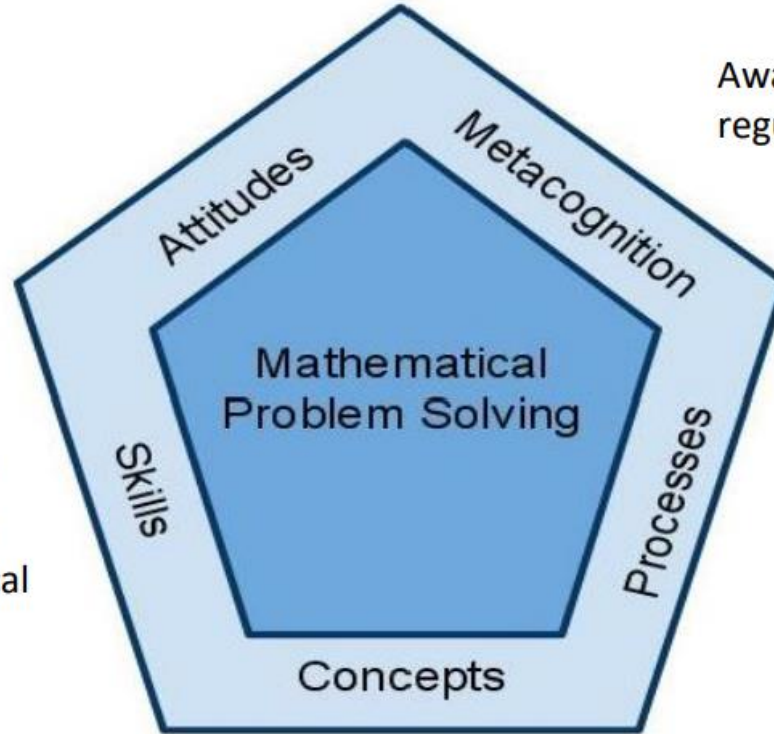# Curriculum Briefing

Outline

- Mathematics Curriculum Framework

- Mission

- Approach to Teaching & Learning

- Assessment

MOE 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

Mission

To enable our students to master mathematical concepts and skills for everyday life and to equip them with process skills to solve mathematical problems.

Content Sequence for P3

| Semester 1	Semester 2
Term 1 Numbers to 10 000 Addition and Subtraction Money Multiplication Tables of 6, 7, 8 & 9	**Term 3** Fractions Length Mass Volume
Term 2 Multiplication & Division Bar Graphs Angles Perpendicular and Parallel Lines Fractions	**Term 4** Area and Perimeter Time

Approach to Teaching & Learning

CONCRETE → PICTORIAL → ABSTRACT

Approach to Teaching & Learning

Multilink Cubes
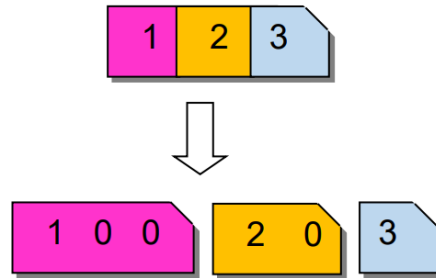
Number Discs

Fraction Discs

Use of concrete manipulatives to develop conceptual understanding

Experiential Learning

Creating a Bar Graph

Survey Question: What is your favourite colour?

Choices	Person 1	Person 2	Person 3	Person 4	Person 5	Person 6	Person 7	Person 8	Person 9	Person 10	Total
Pink	√		√					√	√		4
Yellow		√					√				2
Green				√	√						2
Orange										√	1
Blue				√							1
										TOTAL	10

Combine the surveys of group members

- One member of the group will collect the survey results from all other members.

- She will add up the number of each choice and record it in the summary table on the back page of the survey.

- Each member was to survey 10 persons. 4 members would have surveyed 40 persons.

Favourite Colour	Number of people
Pink	12
Yellow	6
Blue	10
Violet	3
Orange	9
	40

Add all 4 members' total for each choice
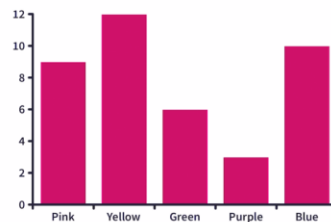
Create a Bar Graph In Polypad

Work in Pairs to create a Bar Graph in Polypad.

After creating the table and bar graph, take a screenshot in iPad, crop away the borders and save as jpeg in photo album.

Watch this video on how to use Polypad to create a Bar Graph.

Group 2

Colour	People
Pink	9
Yellow	12
Green	6
Purple	3
Blue	10

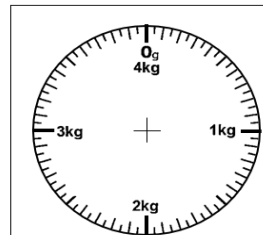Click on image to open video in Youtube

Performance Task

Measuring (Mass) performance task

A **Large interval** from **0 to 1 kg** is equal to **1000 g**

There are _____ **Medium intervals** from **0 to 1 kg (1000g)**

Each **Medium interval** is **1000 g** ÷ _____ = _____ g

Each Small interval (between Medium intervals) is 100 g ÷ 2 = _____ g

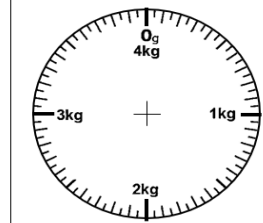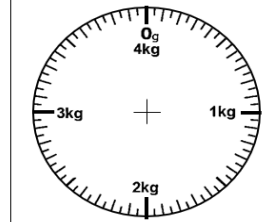|	
0g 4kg / 3kg / 1kg / 2kg	Place the **brass weights** at station 1 gently on the weighing scale. Carefully observe the position of the pointer and decide what is the mass of the brass weights. Draw a line from the centre of the + to the marking where the pointer is pointing. Count the number of Medium intervals from 0g : _____ **At station 1, the mass of the brass weights is _____ g**
0g 4kg / 3kg / 1kg / 2kg	Place the **brass weights** at station 2 gently on the weighing scale. Carefully observe the position of the pointer and decide what is the mass of the brass weights. Draw a line from the centre of the + to the marking where the pointer is pointing. Count the number of Medium intervals from 0g : _____ **At station 2, the mass of the brass weights is _____ g**
0g 4kg / 3kg / 1kg / 2kg	Place the **brass weights** at station 3 gently on the weighing scale. Carefully observe the position of the pointer and decide what is the mass of the brass weights. Draw a line from the centre of the + to the marking where the pointer is pointing. Count the number of Medium intervals *from 1 kg* : _____ **At station 3, the mass of the brass weights is _____ kg _____ g**

Measuring (Volume) performance task

Use a RULER to DRAW a LINE to show the water level in each cup.
Note: Check that the water level drawn is <u>horizontal.</u>
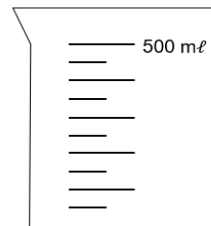
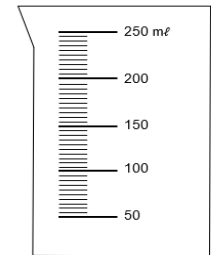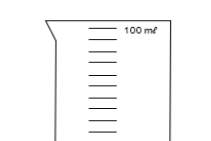|	
Set-up A 500 mℓ	Number of **small intervals** from **0 to 500 mℓ** : _____ Each **small interval** is _____ ÷ _____ = _____ The volume of liquid in Set-up A is _____
Set-up B 250 mℓ / 200 / 150 / 100 / 50	The volume from **50 to 100 mℓ** is _____ **mℓ** Number of **small intervals** from **50 to 100 mℓ** : _____ Each **small interval** is _____ ÷ _____ = _____ The volume of water in Set-up B is _____
Set-up C 100 mℓ	Number of **small intervals** from **0 to 100 mℓ** : _____ Each **small interval** is _____ ÷ _____ = _____ The volume of water in Set-up C is _____

*Please note: Diagrams are not drawn to scale.

Learning how to measure mass using weighing skills and volume using beakers

Heuristic Skills

Guess and Check 1

Name: _____( ) P3 ( )   Date: _____

Use the guess and check method to solve these problems.

1. There are 20 rabbits and ducks.
   There are 54 legs altogether.
   How many ducks are there?
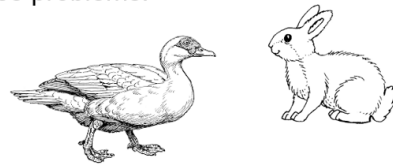
Rabbits	legs	Ducks	legs	Total animals	Total legs	Check (54)?

Ans: _____

Guess and Check strategy

1) Mrs Tan sold **450** curry puffs on **Friday**.
   She sold **35 fewer** curry puffs on **Saturday than on Friday**.
   a) How many curry puffs did she sell on Saturday?
   b) How many curry puffs did she sell on both days?

Step 1: Understanding the word problem

On which days did she sell more curry puffs? On Friday or Saturday? _____

Step 2: Plan

What model do I draw? Part-whole or comparison? _____

Draw your model: Complete the model

Friday [   ]

Saturday

Step 3: Do

Look at your model carefully and solve question (a) and (b).

_____ ◯ _____ = _____

_____ ◯ _____ = _____

- Remember the 4 steps when you do word problems
- Underline your keywords
- Plan how to draw your model
- Make use of your model and solve the question
- Check your work ☺

Ans: a) _____

b) _____

Using Polya's 4 steps method for problem-solving

Activity-based lessons

Part 1: Bingo Game

5090	303	128	10 000
5009	2020	932	7483
4783	766	2787	9011
7005	8824	8024	22

Part 2: List the numbers that you have crossed out in part 1 and write them in words.

_____ : _____

_____ : _____

_____ : _____

Part 3: Group the numbers listed in part 2 into two groups.

Even Numbers	Odd Numbers

Playing the BINGO game for 'Whole Numbers' topic

Differentiated Instructions

Choice Board (P3 Length, Mass & Volume)
- Question 5 must be completed
- Next, choose another 2 tasks to complete your tic-tac-toe.
- Highlight or circle the boxes you have completed.
- This choice board is due on _____.

1	2	3
Use the internet to find the height and length of places in Singapore	Use the internet to find the height and length of places around the world	Use the internet to find the height and length of mountain and rivers around the world
4	5	6
Complete the word problems	Complete the summary	Create your own word problems
7	8	9
Drawing of scales of mass and volume	Reading the scales of mass and volume	Complete the Math Journal

Activity 2

Use the internet to find the height and length of places around the world and complete the table.

Landmark	Height in metres	Height in centimetres
Eiffel Tower in Paris		
Petronas Twin Towers in Malaysia		

Places	Length in kilometres	Length in metres
Great Wall of China		
Amazon River in South America		

What I have learnt:

When converting from metres to centimetres, I _____.

When converting from kilometres to metres, I _____.

Activity 9

The mass of the apples is 320kg.

Terri

Do you think Terri is correct? Please explain.

_____

_____

Giving students autonomy

Using the internet to find out data related to real-world context

Thinking aloud, building metacognition competencies

ICT Enriched Lessons

Relating to real-world context

Using videos for recap

📄 Recap: Measuring Length (Home)

What is a metre?

📄 Activity 2: How Far is 1 Kilometre? (Class)

Let's look at the map below.

The distance of the landmarks (within the BLUE circle) is less than 1 km from Raffles Girls Primary School, and the landmarks outside the blue circle is more than 1 km from Raffles Girls Primary School.
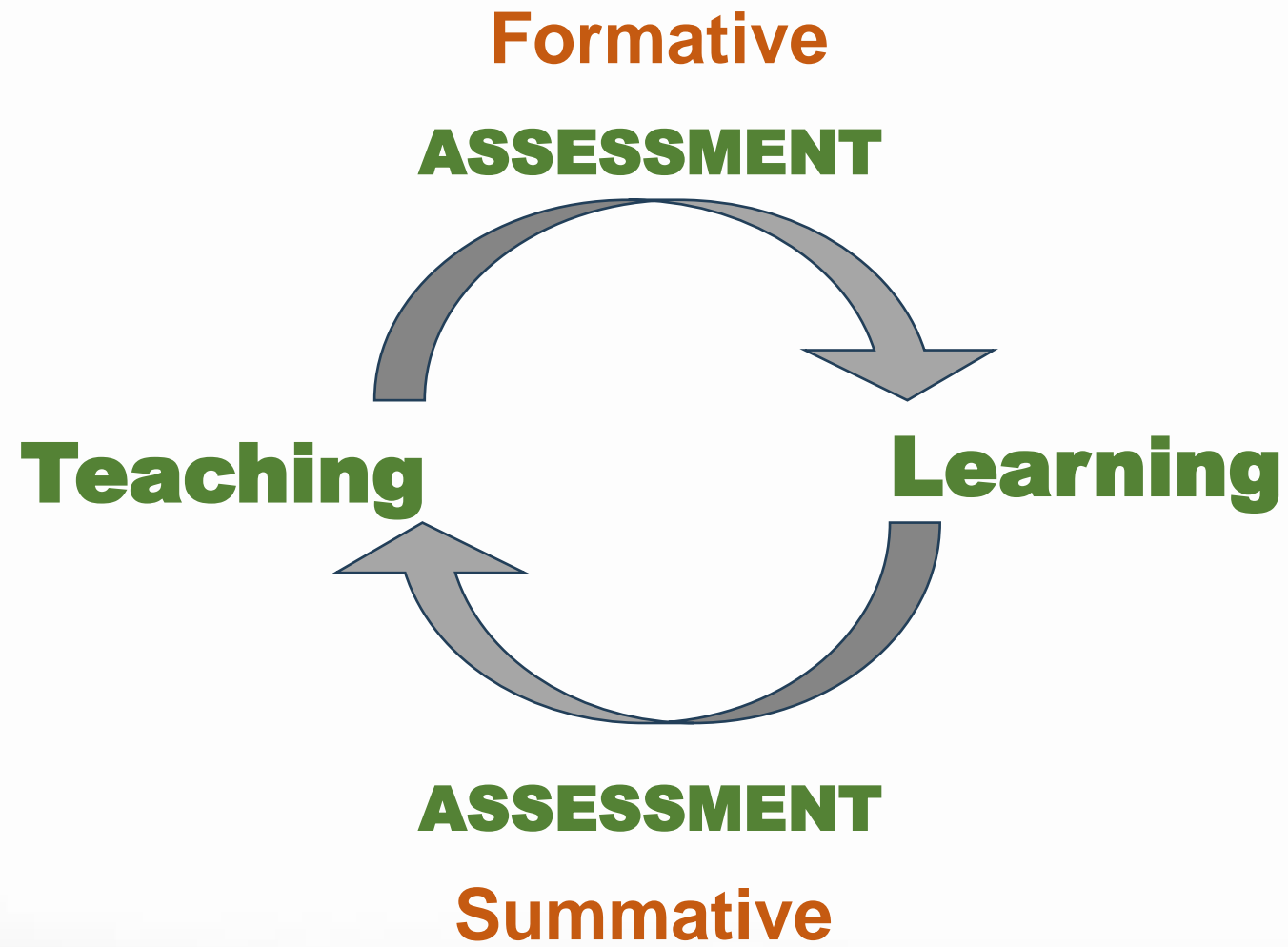
Refer to the the instruction below on how to use the map.

1. Type in the name of the landmark if more than one is shown.
2. Tap enter on your keyboard

3. Read the distance shown on the map. That is the distance between Raffles Girls Primary School and the landmark that you have searched for.

Teaching pupils how to use google maps

Formative Assessment

➢ Daily work

➢ Performance Tasks

➢ Topical Review

➢ Teacher's observation and feedback

Summative Assessment

Weighted Assessment 1	Weighted Assessment 2	End-Year-Examination	Total
15%	15%	70%	100%

Weighted Assessment 1	Weighted Assessment 2
Term 2 Week 5	Term 3 Week 5
20 marks	20 marks
Topics • Numbers to 10 000 • Addition & Subtraction • Multiplication & Division	Topics • Money • Bar Graphs • Angles, Perpendicular & Parallel Lines • Fractions

P3 End-Year-Examination Format

Duration: 1 h 30 min

Section	Item Type	No. of questions	Marks
Section A	Multiple choice	10	15
Section B	Short Answer Questions	10	15
Section C	Long Answer Questions	5	20
Total		**25**	**50**

Empowering Math Learning at Home

- Show the relevance of Math in real-life

- Play Math Games

- Provide a supportive environment

- Encourage a Growth Mindset

Thank you!