P4 Mathematics Curriculum Briefing

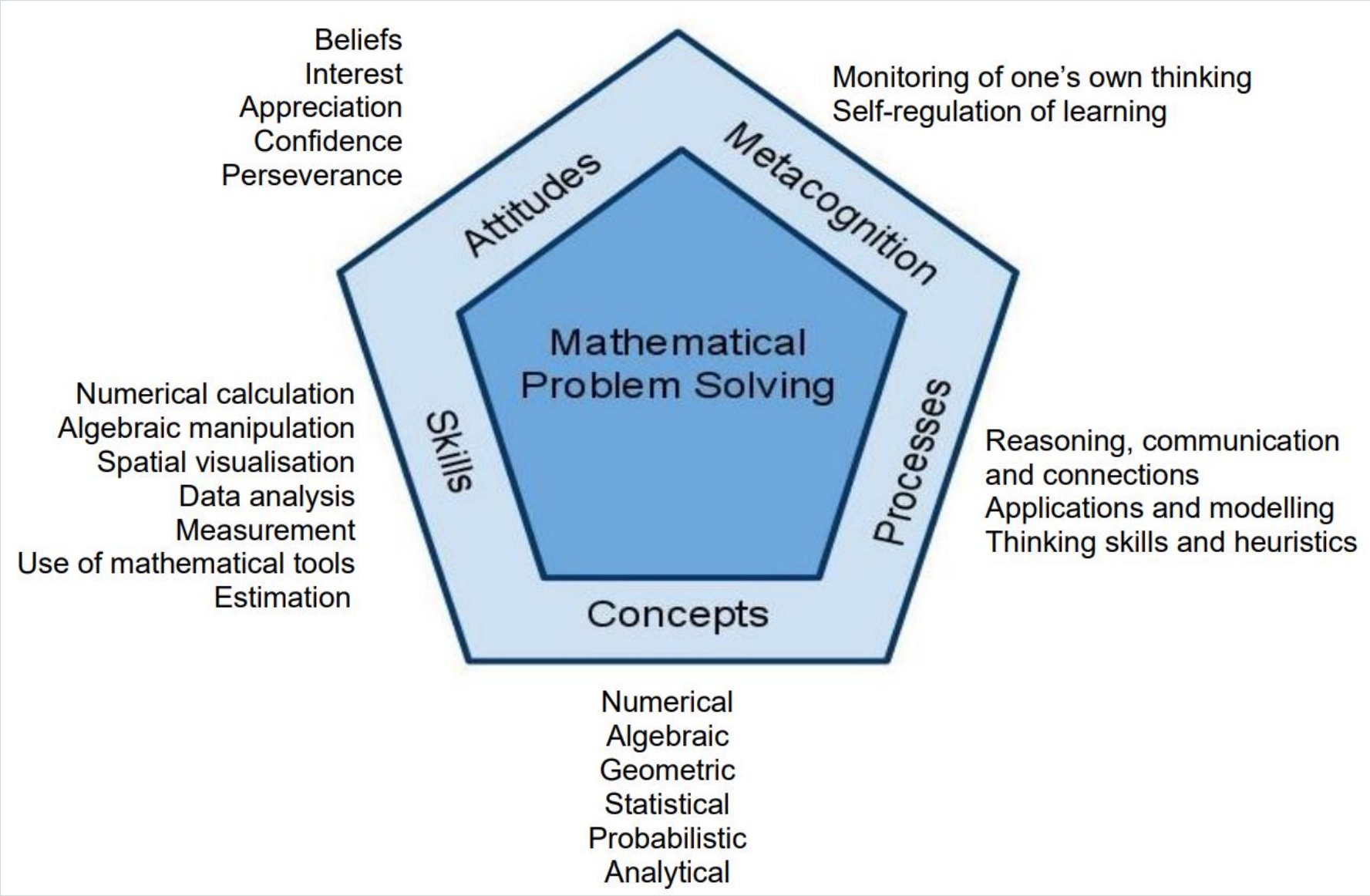
Ms Chong Jieqi (Math HOD)

12 Jan 2023

Mission

To develop our pupils with mathematical concepts and skills for everyday life and to equip them with process skills to solve mathematical problems.

Mathematics Curriculum Framework



Primary Mathematics Curriculum

- The Primary Mathematics Syllabus aims to enable all students to:

➢ acquire mathematical concepts and skills for everyday use

➢ develop thinking, reasoning, communication, application, and metacognitive skills through a mathematical approach to problem solving

➢ and build confidence and foster interest in mathematics

Math teachers:

4AB – Ms Chong Jieqi

4C – Mr Yeo Siah Ong

4D – Mdm Teng Mui Noi

4AD – Mrs Jacqueline Seto

4E – Mr Yeo Siah Ong

4F – Ms Thivyaa

4G – Mdm Teng Mui Noi

4HI – Ms Tan Li Peng

4EI – Ms Chong Jieqi

Topics in P4

1) Whole numbers
2) Geometry
3) Area and Perimeter
4) Fractions
5) Decimals
6) Time
7) Data Analysis

P4 Topics (Term 1)

Whole Numbers:

- Up to 100 000
- Multiplication and division
- Factors and multiples

Geometry:

- Drawing and measuring angles
- 8-point compass
- Properties of rectangle and square
- Symmetry

P4 Topics (Term 2)

Area & Perimeter:

- Area and perimeter of rectangles and squares
- Area and perimeter of composite figures

Fractions:

- Mixed numbers and improper fractions
- Addition and subtraction
- Fraction of a set of objects

P4 Topics (Term 3)

Fractions:

- Mixed numbers and improper fractions
- Addition and subtraction
- Fraction of a set of objects

Decimals:

- Decimals up to 3 decimal places
- Addition and subtraction
- Multiplication and division

P4 Topics (Term 4)

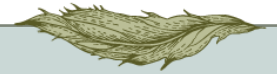
Data Analysis:

- Tables
- Line graphs
- Interpreting data from tables and line graphs

Time:

- Measurement of time in seconds
- 24-hour clock

Teaching & Learning in class



- 11 periods of Math per week
- Syllabus – Workbook, RGPS topical worksheets and in-house problem-solving packages (Heuristics – Model drawing, Listing, Patterns)
- Topical reviews – Checklist feedback for pupils and pupils' reflections
- Teaching – Activity-based lessons, differentiated instructions activities, experiential learning & ICT lessons to deepen teaching & learning

Problem-solving package

Strategy: Making a List

Example:

Meiling wants to come up with as many 2-digit numbers as possible using the digits, 3, 5, 7 and 8. Each digit can be used more than once. How many possible 2-digit numbers can Meiling form?

Solution:

First, write down all the possible 2-digit numbers starting with 3. → 33 35 37 38

Write down all the possible 2-digit numbers starting with 5, then with 7 and lastly with 8. →

33	35	37	38
53	55	57	58
73	75	77	78
83	85	87	88

Ans: She can form **16** 2-digit numbers.

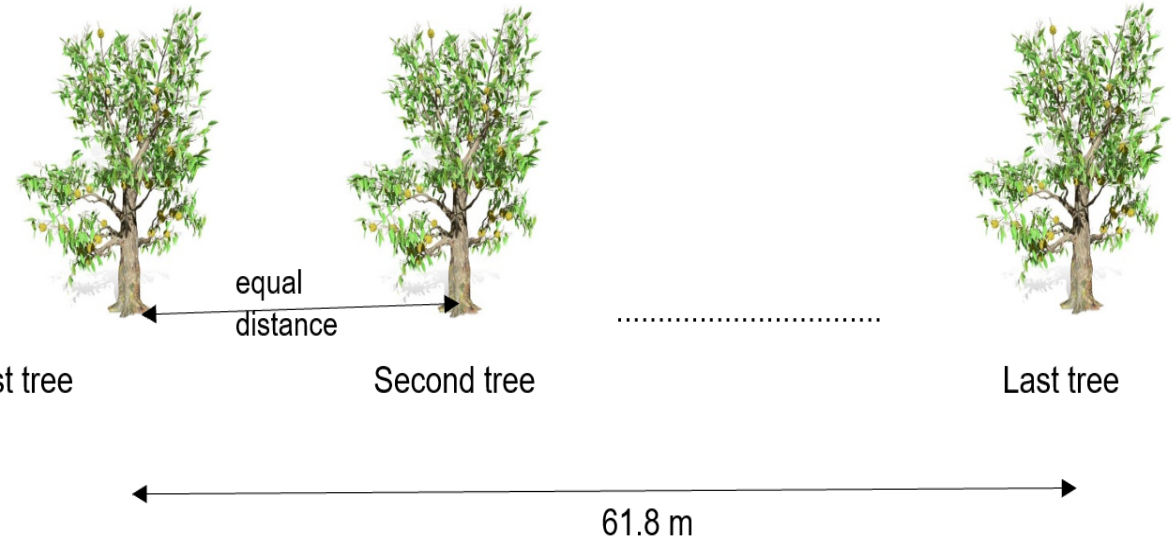
Gap and Intervals

Questions involving gap and intervals test pupils on finding the number of gaps between the items.

Take note that the number of gaps is one less than the number of items. For example, there is 1 gap between 2 trees, 2 gaps between 3 trees, 3 gaps between 4 trees and etc.

Sample Question :

Mr Lee owns a 104 durian trees plantation. He planted the durian trees at an equal distance apart. The distance between the first durian and the last durian tree is 61.8 m. Find the distance between the first and the tenth durian tree. (give your answer in cm)



Differentiated Instructions

Numbers to 100 000 Choice Board

- 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 Use the Internet to find the distance between Singapore and the various cities	2 Use Internet to find the height of the mountains	3 Use Internet to find the length of the rivers
4 Complete the graphic organiser	5  Spiderman: Math Your Way Home (Compulsory question)	6 Complete the Math Journal
7 Complete the number pattern	8 Describe the number pattern and find the next three numbers	9 Create your own number patterns

Giving students autonomy

Question 1

Use the Internet to find the distances in kilometres between Singapore and these cities. Round each distance to the nearest ten kilometres, hundred kilometres and thousand kilometres.

Complete the table.

City	Distance in km (from Singapore)	Rounded to the nearest ten km	Rounded to the nearest hundred km	Rounded to the nearest thousand km
Bangkok				
Seoul				
Tokyo				
Hong Kong				
New York				
Sydney				

What have I learnt:

When rounding to the nearest ten, I look at the digit in the _____ place.

When rounding to the nearest hundred, I look at the digit in the _____ place.

When rounding to the nearest thousand, I look at the digit in the _____ place.

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

Question 6

(a)

The cost of the mobile phone is about $1900. Therefore, the greatest possible value of the mobile phone before it was rounded to the nearest hundred is $1899.

Terri

Is Terri correct? Please explain.

_____

_____

_____

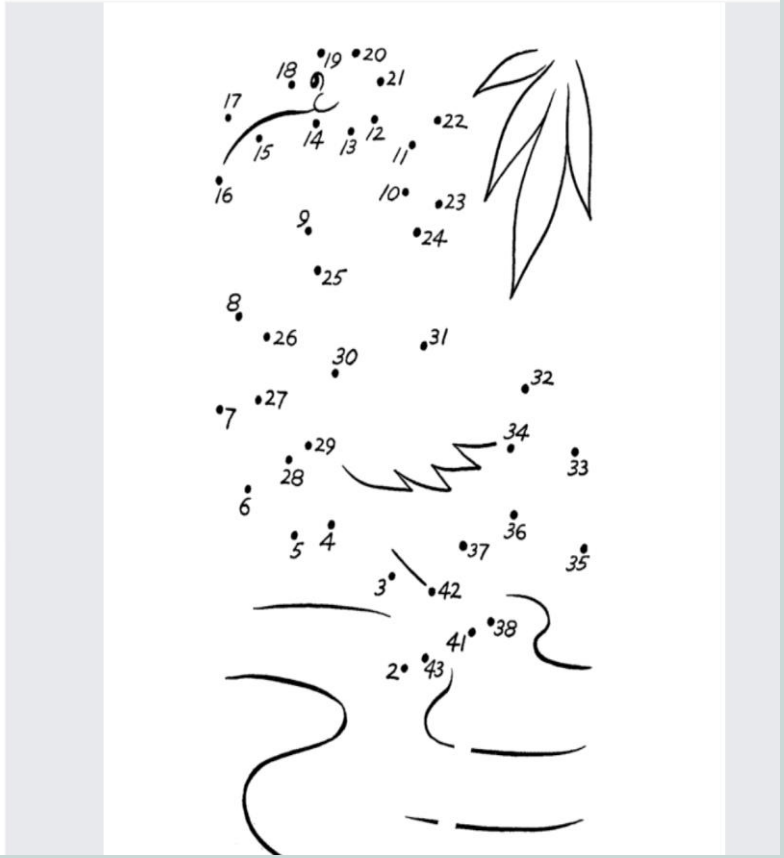
Thinking aloud, building metacognition competencies

ICT enriched lesson

Understanding line graphs:

Double click the picture below.

Join the dots to find out what is inside!



Tuning-in activity

Instructional education videos

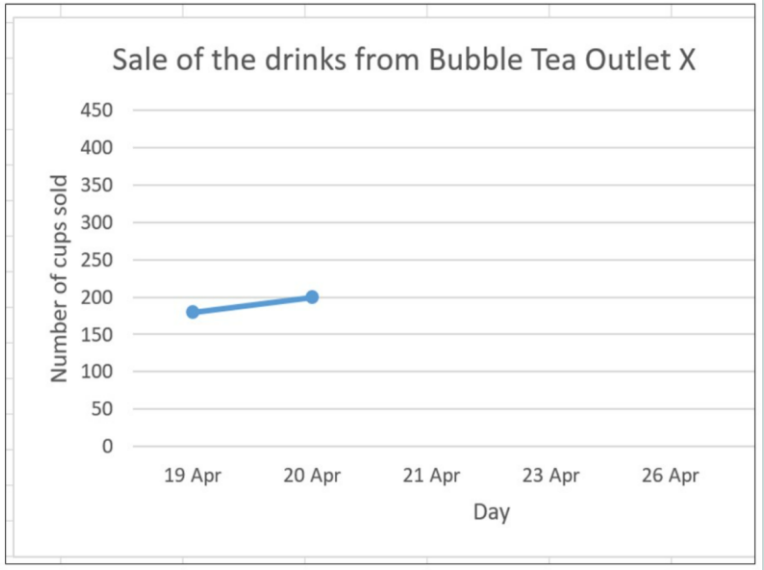
Read the reports from 3 dates below.
Use the information below and complete the line graph for LiHO Bubble Tea outlet X.

21 Apr: Long queues at bubble tea shops before it closes right before midnight

23 Apr: LiHO drinks can be ordered together with meals in selected restaurants.

26 Apr: Many online articles reporting LiHO's launch of new "Boss Happy Delivery" website that allows order and delivery of food and LiHO drinks islandwide

Double click the picture below and draw the graph on it.

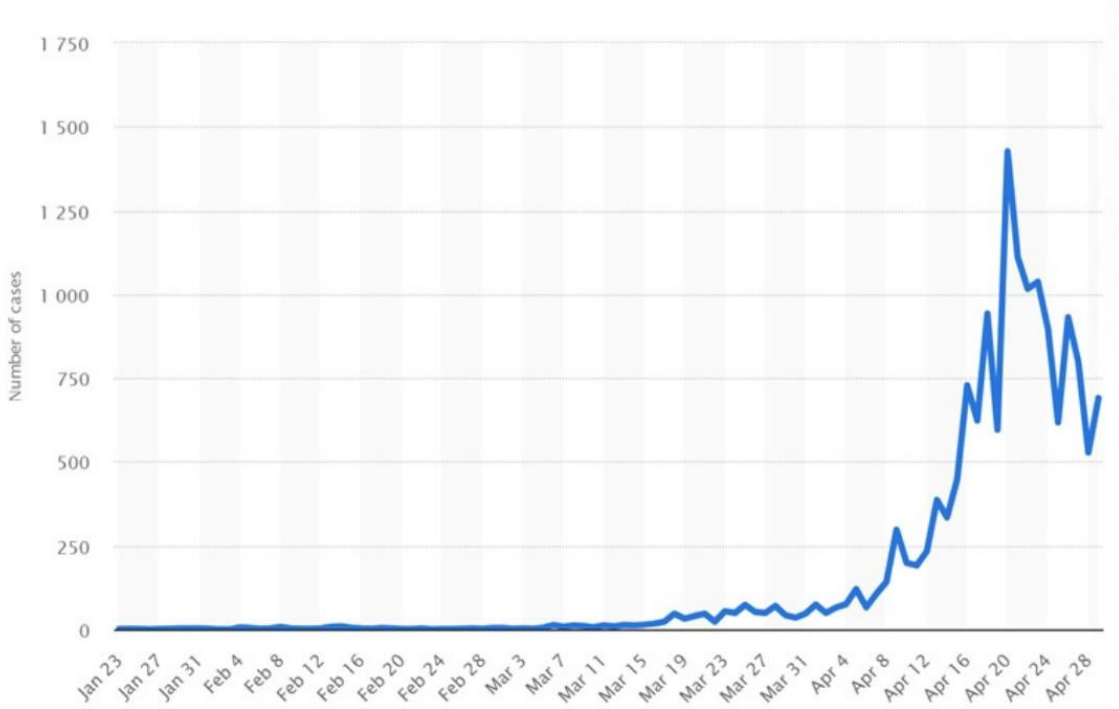


Plotting a line graph

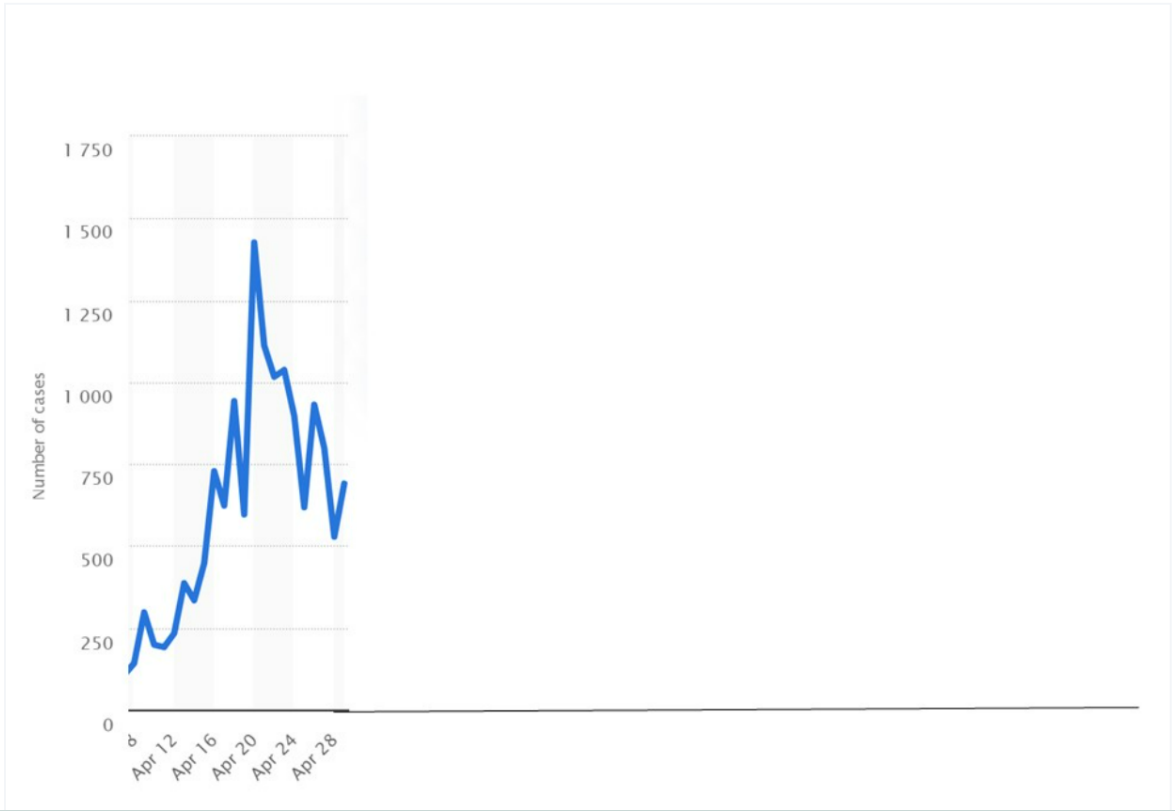
ICT enriched lesson

Understanding line graphs:

The graph below shows the number of new Covid-19 cases in Singapore



In terms of the number of Covid-19 cases, complete the line graph with a trend that you wish for Singapore in the future.



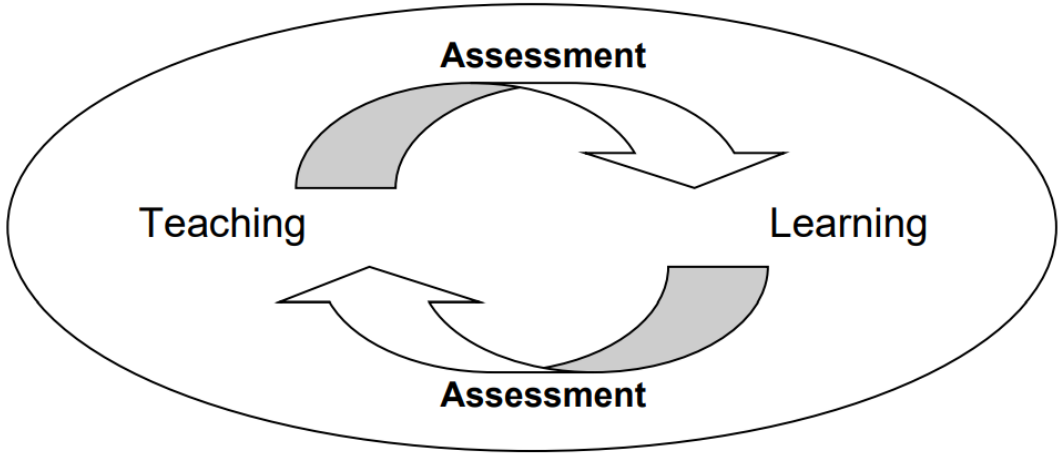
Making connections and linkages between Mathematics and the real world

Assessment Matters

- Assessment is an integral part of the teaching and learning process. It is an ongoing process by which teachers gather information about students' learning to inform and support teaching.

- An important product of assessment is feedback. It must inform students where they are in their learning and what they need to do to improve their learning. It also inform teachers what they need to do to address learning gaps.

- In RGPS, our teachers assess students using different modes of assessment both formally and informally. A meaningful range of assessment modes and tasks includes class discussions, classroom discourse, performance tasks, use of checklists, use of rubrics with teachers' comments and students' reflections.



Teacher's assessment after topical review

Areas for improvement:

- ☐ State the place and value of each digit in a number (Q1)
- ☐ To round numbers to the nearest ten, hundred and thousand (Q2,10)
- ☐ Write a number as the sum of the values of each digit in the number (Q3,4,7,8)
- ☐ Look for a pattern to solve a problem (Q5)
- ☐ Translate numerals to words (Q9)
- ☐ Compare and order numbers up to 100 000 (Q6)
- ☐ Solving word problems involving numbers to 100 000 (Q 11 - 14)

Specific learning outcomes

I am  over my performance because

_____

_____

_____

Student's reflection

Page Number & Question Number	Learning Outcomes
Pupil's Book 4A • Pg 7 to11 **WB 4A Chapter 1** • Pg 5 to 6	**Numbers to 100 000** • Recognise that 10 thousands = 1 ten thousand. • Translate numbers (10 000 to 99 999) from: (i)numerals and words to place value models (ii)numerals to words and (iii) words to numerals • Recognise that 10 ten thousands = 1 hundred thousand. • State the place and value of each digit in a number (10 000 to 99 999). • Write a number as the sum of the values of each digit in the number
Pupil's Book 4A • Pg 12 to 18 **WB 4A Chapter 1** • Pg 7 to 8	**Comparing and Ordering Numbers** • Compare and order numbers up to 100 000.
Pupil's Book 4A • Pg 19 to 22 **WB 4A Chapter 1** • Pg 9 to 10	**Number Patterns** • Look for a pattern to complete a number sequence.
Pupil's Book 4A • Pg 23 to 32 **WB 4A Chapter 1** • Pg 11 to 18	**Rounding & Estimation** • Use the number line to round numbers to the nearest ten, hundred and thousand. • Use the symbol ≈ to show a number has been approximated or rounded to the nearest 10, 100 or 1000. • Make a list of numbers that can round to a number. • Use the rounding strategy to estimate the answers in calculations involving addition and subtraction. • Estimate to check the reasonableness of answers by rounding the number in calculations involving addition and subtraction.

Appendix for pupils to refer to for revision

Weighted Assessment feedback rubrics:

P4 Math - Teacher Assessment Checklist (WA1)

Name: _____ Class: _____

Qn	Learning Objectives	Have understanding	Lack understanding	Computation errors
1	Number notation, representation and place values (thousands, hundreds, tens and ones)			
2	Reading and writing numbers in numerals and in words			
3	Finding sum *(without renaming)*			
4	Finding difference *(without renaming)*			
5	Finding product			
6	Finding quotient and remainder			
7	Comparing and ordering numbers			
8	Add with renaming (up to 4 digits)			
9	Odd and even numbers			
10	Patterns related to whole numbers			
11	Division (up to 3-digits by 1 digit)			

Student's reflection:

I am (*satisfied / not satisfied) with my performance in WA1.
I need to work on the following area(s) :

_____

_____

Summative Assessments

Weighted Assessment 1	Weighted Assessment 2	End-Year Exam
15%	15%	70%

Weighted Assessment 1	Topics tested	Weighted Assessment 2	Topics tested
T2W5 (50 mins)	Whole Numbers Multiplication & Division Geometry - Angles	T3W5 (50 mins)	Area & Perimeter Geometry - Square & Rectangles Fractions

End-Year-Exam Format

Duration: 1 h 45 min

Section	Question Types	Marks
Section A	MCQ: 15 Questions	25 m
Section B	Short Answer Response: 20 Questions	40 m
Section C	Word Problems: 9 Questions	35 m (3,4 or 5 m)

*There is an increase of questions for Section C compared to P3. This is to better prepare our students for upper primary level. (P5 & PSLE will have 13 questions for Section C).

Points to note

- More lengthy and challenging word problems
- More steps involved in getting the answer
- The curriculum takes on a spiral approach. Some of the concepts taught are built on from previous years
- Exams will test on topics taught in previous years

How can you help your child?

- Help to incorporate math into their day-to-day routine, help them to understand and appreciate its relevance.
- Encourage them to check their work for accuracy and not speed.
- Ensure that they have mastered their times tables
- Encourage them to approach their math teachers if they encounter any challenges.
- Ensure that they have shown you their work and filed it properly to facilitate revision.
- Make Math fun for them! (Games, puzzles, concrete materials).
- Be encouraging and adopt a positive mindset!

Thank you