

Primary 3 & Primary 4 Assessment and Curriculum Sharing



Mathematics

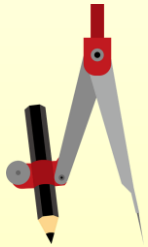




Mathematics Curriculum Framework



Learning Mathematics at Rivervale



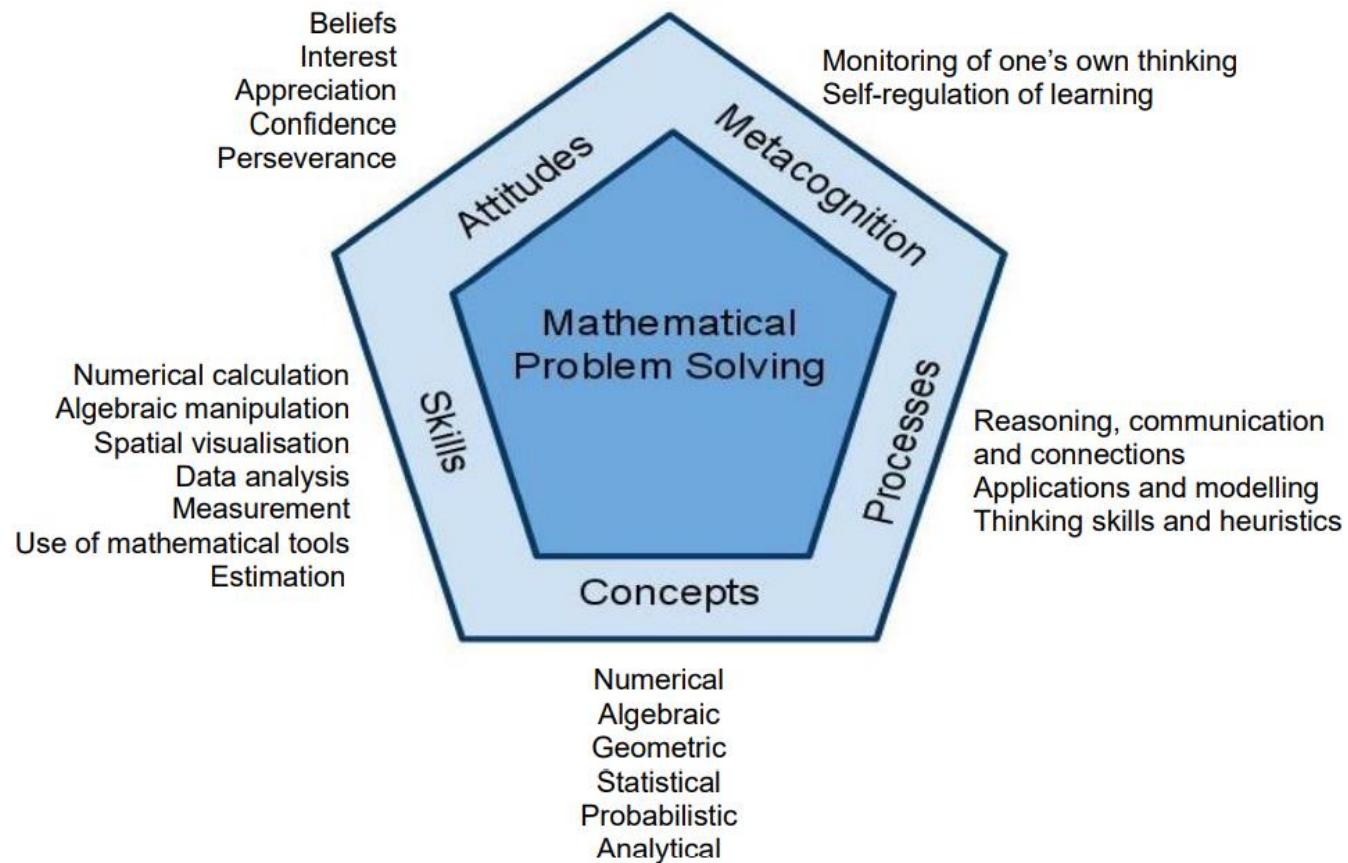
Strategies to support students in learning Mathematics



Assessment Matters for Primary 3 & 4 Mathematics



Mathematics Curriculum Framework



Whole Numbers To 10 000

Addition & Subtraction

Money

Multiplication Tables of 6, 7, 8 & 9

Multiplication & Division

More Word Problems

Bar Graphs

Angles

Perpendicular & Parallel Lines

Fractions

Length, Mass & Volume

Area & Perimeter

Time

Numbers To 100 000

Factors & Multiples

Four Operations of Whole Numbers

Tables & Line Graphs

Fractions

Angles

Squares & Rectangles

Decimals

Four Operations of Decimals

Pie Charts

Area & Perimeter

Nets

Symmetry



Learning

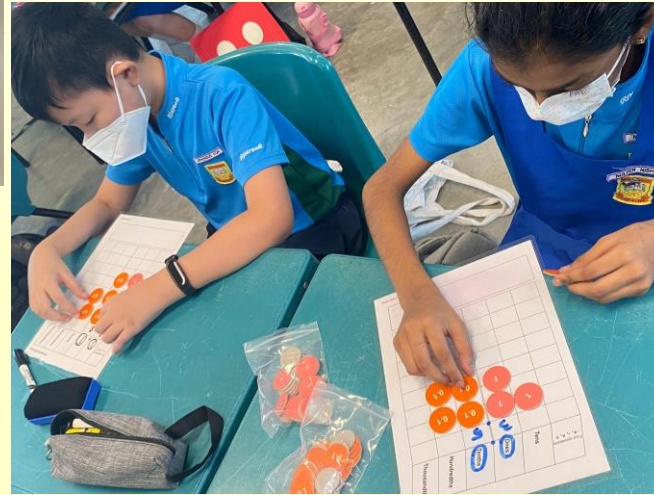


@Rivervale



Learning Experiences

How students learn mathematics really matter.

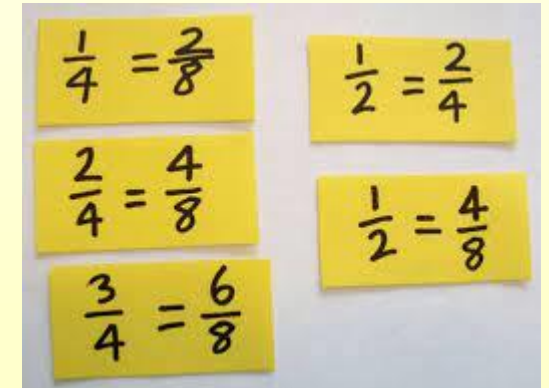
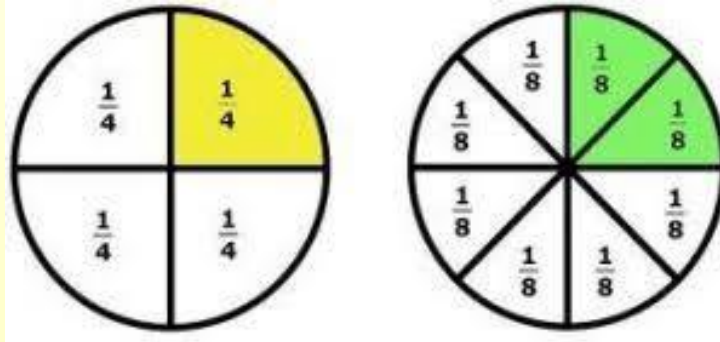


Concrete-Pictorial-Abstract (C-P-A) Approach

Concrete

Pictorial

Abstract



S

Study the problem

(CUB)

- Circle the numbers
- Underline the keywords
- Box up the question

T

Think of a strategy

- Draw models
- Draw diagrams
- Draw a table
- Listing
- Guess and Check
- Act it out
- Work backwards
- Simplify the problem

A

Act out the strategy

R

Review the solution (CURT)

- Calculations
- Units
- Reasonable
- Transference

A decorative border composed of various colorful numbers (0-9) in different fonts and sizes, scattered across a white background.

Heuristics for Problem-Solving

**Solve
challenging and
non-routine
problems**



MaT.HS Trail



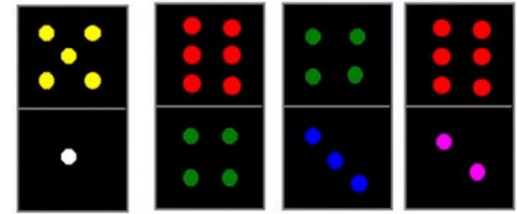
Tangram challenge



Make a square using all 5 pieces of this tangram



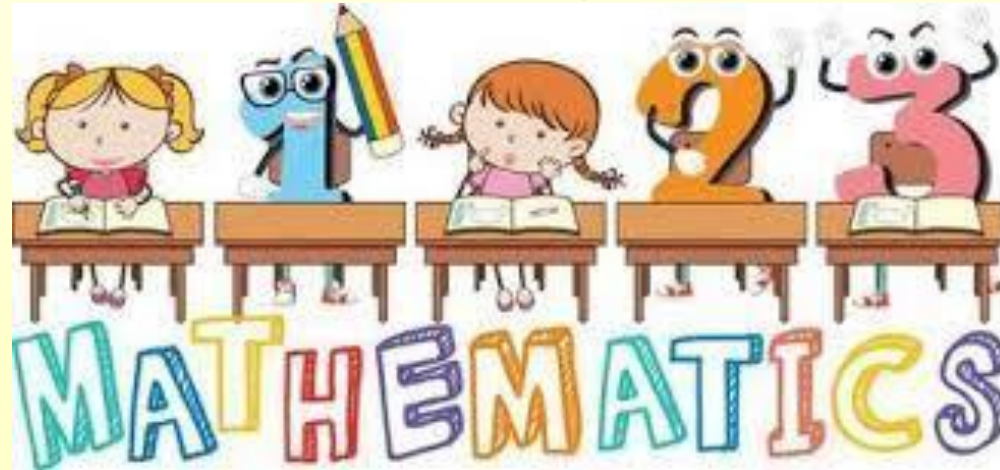
Dominoes Challenge



Use these dominoes to create a square with the same number of dots on each side!



How to support your child in learning



What Can I Do As A Parent?

- Active involvement in child's school work

Ask your child to talk about and teach you math.

Use math with your child in daily life.

Communicate with your child's teacher.

Promote a positive attitude to math. Develop a growth mindset.

Ensure that homework is completed neatly and all doubts clarified.



Mathematics Matters In Everyday Life



Strategies to support students in learning Mathematics

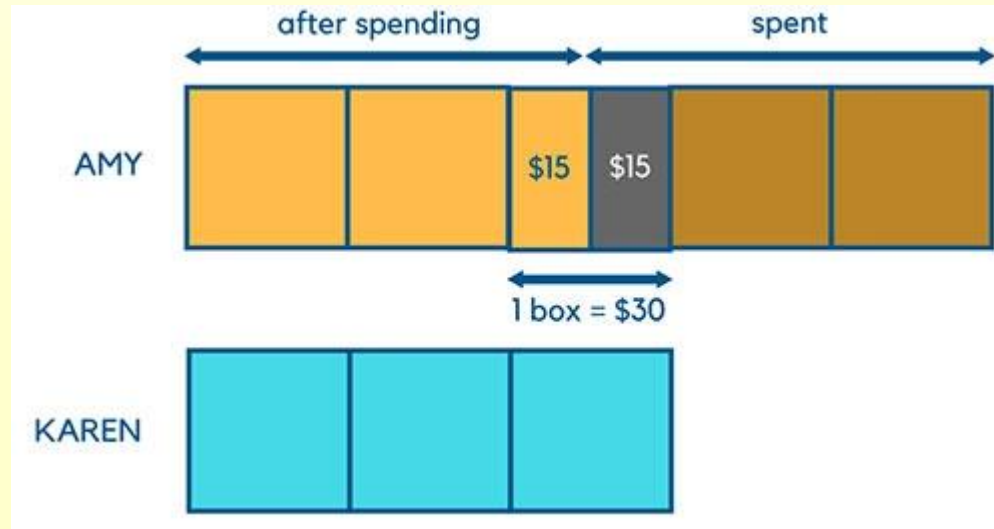
- 1 Master basic arithmetic skills – Mathematical Fluency**
- 2 Practise, practise and practise (and check): Set time limit**
- 3 Review mistakes and LEARN from mistakes:**
 - misread, transfer error,
 - computational/precision errors,
 - conceptual understanding

E.g.: look through Topical Review worksheets, workbook



How to study Mathematics?

- 4 Allow students to struggle in problem solving, focusing on **model drawing** as one of the key tools.





• Encourage self-directed learning



Communicating effectively in



Concerns on Primary 3 & 4 Whole Numbers

Fluency & Mastery in Multiplication Tables



~~$1 \times 6 = 6$~~

~~$2 \times 6 = 12$~~

~~$3 \times 6 = 18$~~

~~$4 \times 6 = 24$~~

~~$5 \times 6 = 30$~~

~~$6 \times 6 = 36$~~

~~$7 \times 6 = 42$~~

~~$8 \times 6 = 48$~~

~~$9 \times 6 = 54$~~

~~$10 \times 6 = 60$~~

~~$1 \times 7 = 7$~~

~~$2 \times 7 = 14$~~

~~$3 \times 7 = 21$~~

~~$4 \times 7 = 28$~~

~~$5 \times 7 = 35$~~

~~$6 \times 7 = 42$~~

~~$7 \times 7 = 49$~~

~~$8 \times 7 = 56$~~

~~$9 \times 7 = 63$~~

~~$10 \times 7 = 70$~~

~~$1 \times 8 = 8$~~

~~$2 \times 8 = 16$~~

~~$3 \times 8 = 24$~~

~~$4 \times 8 = 32$~~

~~$5 \times 8 = 40$~~

~~$6 \times 8 = 48$~~

~~$7 \times 8 = 56$~~

~~$8 \times 8 = 64$~~

~~$9 \times 8 = 72$~~

~~$10 \times 8 = 80$~~

~~$1 \times 9 = 9$~~

~~$2 \times 9 = 18$~~

~~$3 \times 9 = 27$~~

~~$4 \times 9 = 36$~~

~~$5 \times 9 = 45$~~

~~$6 \times 9 = 54$~~

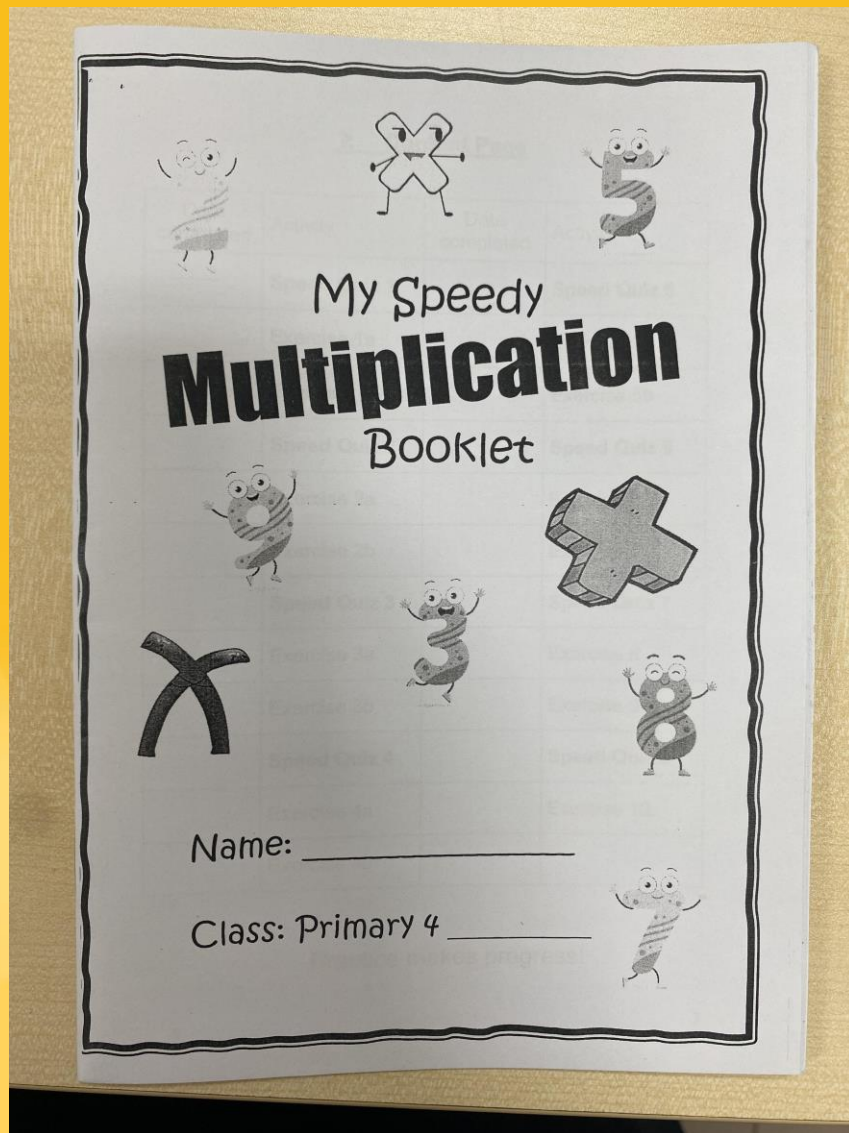
~~$7 \times 9 = 63$~~

~~$8 \times 9 = 72$~~

~~$9 \times 9 = 81$~~

~~$10 \times 9 = 90$~~





- ✓ **Reduce Cognitive load**
- ✓ **Fast and accurate**
- ✓ **Solve deeper and more meaningful problems**



Concerns on Primary 4 Whole Numbers

Fluency & Mastery in Multiplication Tables

Factors

36

$$1 \times 36$$

$$2 \times 18$$

$$3 \times 12$$

$$4 \times 9$$

$$6 \times 6$$

The factors of 36 are:

smallest **1**, 2, 3, 4, 6, 9, 12, 18 and **36** biggest

Multiples

2, 4, 6, 8, 10, 12,

3, 6, 9, 12, 15, 18,

6, 12, 18, 24, 30,

6 is a **common multiple**
of 2, 3, 6

36 is a (common) multiple of
2, 3, 4, 6, 9, 12, 18, 36



Factor

6

30

Multiple

6 is a factor of 30

30 is a multiple of 6

Is 3 a factor of 43?

No

Is 3 a factor of 54?

Yes

Is 56 a multiple of 9?

No

Main consideration:

Is the given (big) number divisible by the (small) number?



Fractions

Common Errors

Wrong presentation / use of "=" sign

Example 1: When finding equivalent fractions of $\frac{2}{3}$

$$\frac{2}{3} \times 2 = \frac{4}{6} \quad \times \qquad \frac{2 \times 2}{3 \times 2} = \frac{4}{6} \quad \checkmark$$

Correct way?
Break up the steps

Example 2: $\frac{2}{3} + \frac{1}{6} = ?$

$$\frac{2}{3} = \frac{2 \times 2}{3 \times 2} = \frac{4}{6} + \frac{1}{6} = \frac{5}{6} \quad \times$$

$$\frac{2}{3} = \frac{2 \times 2}{3 \times 2} = \frac{4}{6}$$

$$\frac{4}{6} + \frac{1}{6} = \frac{5}{6}$$



- Wrong use of mathematical symbol “=” sign

$\frac{2}{9}$ of a basket of durians are rotten. If there are 180 rotten durians, how many durians are there in the basket ?

Error :

$$\frac{2}{9} = 180$$
$$\frac{1}{9} = 180 \div 2 = 90$$
$$\frac{9}{9} = 90 \times 9 = \underline{810}$$

Total parts
= 9 units

$$2 \text{ units} = 180$$
$$1 \text{ unit} = 180 \div 2 = 90$$
$$\text{Total (9 units)} = 9 \times 90$$
$$= \underline{810} \checkmark$$

Correct :

$$\frac{2}{9} \text{ (of basket)} = 180$$
$$\frac{1}{9} \text{ (of basket)} = 180 \div 2$$
$$= 90$$
$$\frac{9}{9} \text{ (of basket)} = 90 \times 9$$
$$= \underline{810} \checkmark$$

- **Misreading /Using the information wrongly**

Mrs Wong had 12 kg of rice. She used $\frac{3}{4}$ of it.
How much rice had she left? (12 kg)

Common answer:

$$12 - \frac{3}{4} = 11 \frac{1}{4} \text{ kg } \times$$

[Misread $\frac{3}{4}$ of it as $\frac{3}{4}$ kg!]

Correct answer:

$$\text{Used} \rightarrow \frac{3}{4} \times 12 = 9 \text{ kg}$$

$$\text{Left} \rightarrow 12 - 9 = \underline{3 \text{ kg}}$$

Alternatively,

$$\text{Fraction left} \rightarrow 1 - \frac{3}{4} = \frac{1}{4}$$

$$\frac{1}{4} \times 12 \text{ kg} = \underline{3 \text{ kg}}$$

Assessment Matters for Primary 3 & 4 Mathematics



Primary 3 Mathematics Format & Duration

Level	Total Marks	Total Number of questions	MCQ / SAQ		LAQ		Duration
			Number of questions	Marks per question	Number of questions	Marks per question	
P3	50	25 - 30	20 - 27	1 - 2	3 - 5	3 - 4	1 h 30 min



Primary 4 Mathematics Format & Duration

Booklets	ITEM TYPE	NO. OF Questions	MARKS PER QUESTION	MARKS PER Section
Section A	MCQ	15	15 x 2 mk	30 mk
Section B	Short-answer	20	20 x 2 mk	40 mk
Section C	Structured/ Long-answer	9	5 x 3 or 4 mk	30 mk
TOTAL		44		100 marks





Thank You!



FOR YOUR SUPPORT

Rivervale Primary

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Succeed & Excel

