# Primary 3 & 4 Math Alive Workshop for Parents

### 11 April 2025 | 2.30 to 4.00 p.m.

Video Conference Meeting Etiquette

- ✓ Please turn off your video.
- ✓ Use earpiece for better audio clarity.
- ✓ Mute your microphone to minimise background noise for other participants.





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We seek your understanding to <u>NOT</u> take any photos or videos throughout the sharing session. The Presentation Slides will be uploaded on the school website after the workshop. They will be removed after one month.





# **Objectives**

- To see how Mathematics is connected to everyday life
- To introduce strategies used to solve word problems

















# Metacognition

#### **Definition**

- Think about one's *own*thinking
- Critically *aware* of one's thinking and learning.

#### **Process**

- Monitor one's own thinking and one's existing state of knowledge
- Self-regulate one's learning through goal setting, self-monitoring and self instruction



# How to develop metacognition awareness





- Exposure to general problem-solving skills
- Thinking aloud using the strategies and methods taught
- Attempting problems that require planning and evaluation
- Seeking alternative ways to solve a problem
- Checking reasonableness of answers



#### CHECKING Strategy Using ( C - O - U - R - TClaudia bought a laptop and a printer. The laptop cost \$2850 and the printer cost \$530 more than the laptop How much did she bay for the printer?



SAMPLE :

C – Copy data correctly O – Operation sign U – Unit of measurement R – Reasonableness of answer T – Transfer answer correctly





# Heuristics of Problem-Solving Model Drawing

- 1. Part-Whole Model
- 2. Comparison Model
- 3. Unitary Method
- 4. Stacking Model
- 5. Fraction of a Set
- 6. Before and After



# Q1: Model Drawing (Part-Whole) – Find Total

Aaron has 452 cards. Benedict has 373 cards. How many cards do they have altogether?



See (What is given?) Aaron  $\rightarrow$  452 Benedict  $\rightarrow$  373 Altogether  $\rightarrow$  ? <u>Think (What is my plan?)</u> Can I use Model Drawing? Can I look for a pattern? Can I work backwards? Can I use Guess and Check? Other heuristic(s) I can use:

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# **Q2: Model Drawing** (Part-Whole) – Find Part

Rachel and Sally have 263 hair clips altogether. Sally has 91 hair clips. How many hair clips does Rachel have?



See (What is given?) Altogether  $\rightarrow$  263 Sally  $\rightarrow$  91 Rachel  $\rightarrow$  ?







# **Q3: Model Drawing** (Comparison with 2 variables)-Finding Difference

Hotel Pan Pacific Singapore charges \$330 per night. Hotel Amara Singapore charges \$198 per night. How much will Mr Ong save if he decides to stay in Amara Singapore instead of Pan Pacific Singapore for three nights?



See (What is given?) Pan Pacific  $\rightarrow$  \$330 Amara  $\rightarrow$  \$198 Save  $\rightarrow$  ?







## Q4: Model Drawing (Comparison with 2 variables)-Unequal Distribution

At a factory, Worker A and Worker B sorted 1886 plastic bottles altogether. Worker B sorted 988 more bottles than Worker A. How many bottles did Worker A sort?



See (What is given?)  $A + B \rightarrow 1886$   $B \rightarrow 988$  more than A  $A \rightarrow ?$ 







# **Q5: Unitary Method** (Find Total)

Alex ran 234 m. Roy jogged thrice the distance ran by Alex. What was the total distance run by both Alex and Roy?



<u>See (What is given?)</u> Alex → 234 m Roy → 3x the distance ran by Alex Qn: Total distance ran?













See (What is given?) Pencils and Pens → 212 Pens → 3x as many as Pencils Qn: Pencils were sold (?)







# O7: Model Drawing (Stacking Model)

A pair of shoes and 3 bags cost \$60. The pair of shoes cost twice as much as the bag. Find the cost of the pair of shoes.



See (What is given?)  $1S + 3B \rightarrow $60$   $1S \rightarrow 1B \times 2$ Qn: 1S (?)

#### Think (What is my plan?)

Can I use Part-Whole Model Drawing? Can I use Comparison Model Drawing? Can I use Stacking method? Can I act it out? Can I use Guess and Check? Can I use Working Backwards? Other heuristic(s) I can use: \_\_\_\_\_





# **O8: Model Drawing** (Stacking Model)

Mr Koh paid **\$1145** for a dining table and 4 chairs. The table cost **\$270** more than each chair. What was the cost of each chair?



See (What is given?)  $1T + 4C \rightarrow $1145$   $1T \rightarrow 1C + $270$ Qn: 1C (?)

#### Think (What is my plan?)

Can I use Part-Whole Model Drawing? Can I use Comparison Model Drawing? Can I use Stacking method? Can I act it out? Can I use Guess and Check? Can I use Working Backwards? Other heuristic(s) I can use: \_\_\_\_\_



![](_page_40_Figure_0.jpeg)

## **Q9: Model Drawing** (Fraction of a Set)

Annie baked 252 cookies.  $\frac{4}{7}$  of the cookies were chocolate cookies and the rest were butter cookies. How many butter cookies did she bake?

![](_page_41_Figure_2.jpeg)

<u>See (What is given?)</u> Total  $\rightarrow$  252 cookies Chocolate  $\rightarrow \frac{4}{7}$  of the cookies Rest  $\rightarrow$  Butter cookies Qn: Number of butter cookies (?) <u>Think (What is my plan?)</u> Can I use Model Drawing? Can I look for a pattern? Can I work backwards? Can I use Guess and Check?

![](_page_41_Picture_5.jpeg)

![](_page_42_Figure_0.jpeg)

# O10: Model Drawing (Fraction of a Set) Mrs Liz had a birthday party $\frac{3}{5}$ of the children

were **girls**. There were **36 boys** are the party. How many children were there altogether?

![](_page_43_Picture_2.jpeg)

# See (What is given?)Think (What is my plan?) $Girls \rightarrow \frac{3}{5}$ of the childrenCan I use Model Drawing? $Boys \rightarrow 36$ Can I look for a pattern?Qn: Total number of children (?)Can I work backwards?

![](_page_43_Picture_4.jpeg)

![](_page_44_Figure_0.jpeg)

# Q11: Model Drawing (Fraction of a Set)

There are men and women in a room. <sup>8</sup> of the people were men. There were 72 more men than women. How many people were there in the room altogether?

![](_page_45_Figure_2.jpeg)

#### See (What is given?)

Men  $\rightarrow \frac{7}{8}$  of the people Men – Women = 72 Qn: Total number of children (?) <u>Think (What is my plan?)</u> Can I use Model Drawing? Can I look for a pattern? Can I work backwards? Can I use Guess and Check?

![](_page_45_Picture_6.jpeg)

![](_page_46_Figure_0.jpeg)

Act (What do I need to do?)	Relook (Reflect and Check)		С	✓	
МАТСН	M → 7 x 12 = 84		0	✓	
	W → 12				
6 u = 72	M - W = 84 - 12 = 72 <b>√</b> ok		0	v	
1 u = 72 ÷ 6 = 12			R	$\checkmark$	r
8 u = 12 x 8 = <u><b>96</b></u>			Т	$\checkmark$	
There were 96 people altogether			Ĭĸ		

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# **Q12: Model Drawing** (Before and After) – Make Equal

Samy has 250 erasers and Darryl has 64 erasers. How many erasers must Samy give to Darryl so that both have the same number of erasers?

![](_page_47_Picture_2.jpeg)

#### See (What is given?) $S \rightarrow 250$ $D \rightarrow 64$ S give ? to D so that S = D

![](_page_47_Picture_5.jpeg)

![](_page_48_Figure_0.jpeg)

![](_page_49_Figure_0.jpeg)

# O13: Model Drawing<br/>(Before and After) – Make EqualAriel had as many roses as Belle.<br/>After Ariel gave 64 roses away, Belle had 5 times<br/>as many roses as Ariel.<br/>How many roses did Ariel have at first?S - See (What is given?)<br/>- Think (What is my plan?)<br/>Can I use Model Drawing?<br/>Can I use Guess and Check?<br/>Can I use Guess and Check

See (What is given?) Before  $\rightarrow A = B$ After A gave away 64, B  $\rightarrow 5 \times A$ Before  $\rightarrow A$  (?)

![](_page_50_Picture_3.jpeg)

![](_page_51_Figure_0.jpeg)

![](_page_52_Figure_0.jpeg)

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? Help

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#### **Desired Junyuan Outcomes**

#### How is KooBits beneficial?

#### **KooBits Manifesto**

#### Why we wake up every morning and do what we do:

- Help children become a master of technology, not enslaved by it
- · Help children master Math and Science skills and real-world problemsolving skills
- Help children to be a confident and independent thinker
- · Help children to love learning and develop a habit of self-directed learning

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