

# **PARENTS' WORKSHOP 2018**

**PRIMARY 3  
7<sup>TH</sup> APRIL 2018**

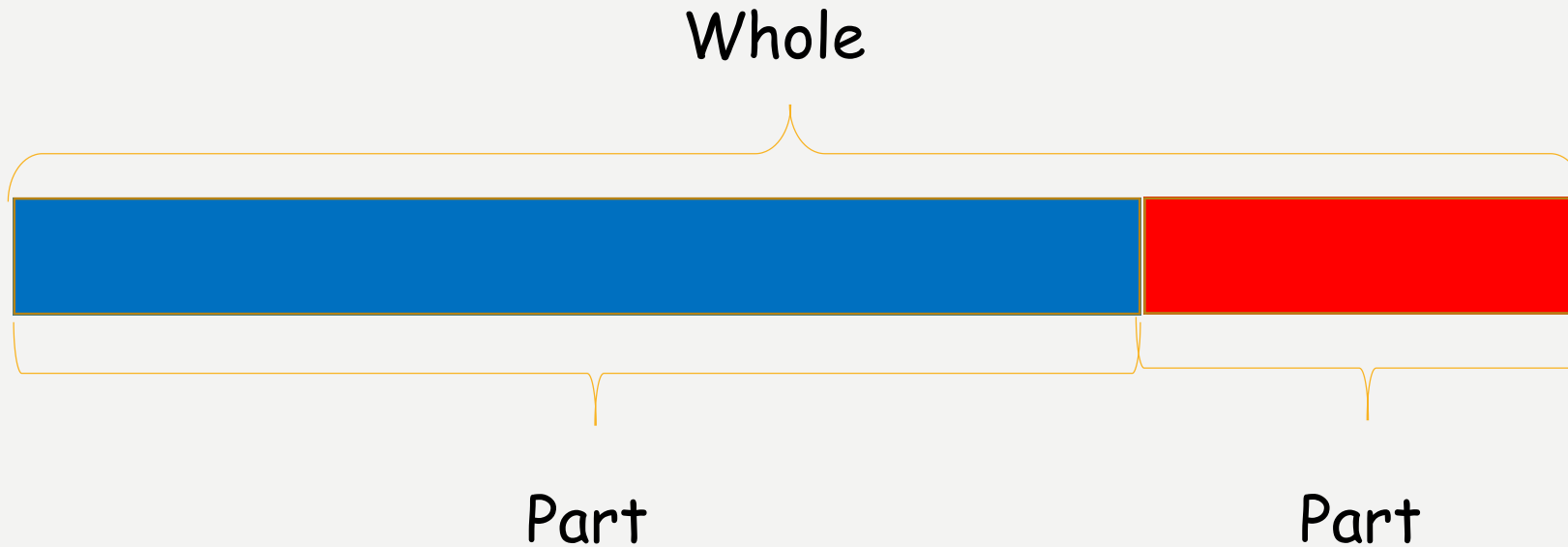
# OBJECTIVE(S)

- To have a better understanding of how to solve Mathematical problem.
- To help parents help their children.

# FOCUS OF SHARING

- Four Operations Concept
- Heuristics - Visualisation

# ADDITION AND SUBTRACTION



\*Parts are interchangeable

\*Whole must be the biggest number.

## Addition

Part + Part = Whole

$$5 + 7 = 12$$

$$7 + 5 = 12$$

## Subtraction

Whole - Part = Part

$$12 - 5 = 7$$

$$12 - 7 = 5$$

# MULTIPLICATION AND DIVISION

Multiplication = Repeated Addition

$$6 \times 4 = 4 + 4 + 4 + 4 + 4 + 4$$

= 6 groups of 4

$$4 \times 6 = 6 + 6 + 6 + 6$$

= 4 groups of 6

$$6 \times 4 = 24$$

Factor    Factor    Product

\*Factor can be exchangeable.

# MULTIPLICATION AND DIVISION

Division = Repeated Subtraction till we reach 0

$$20 \div 4 = 20 - 4 - 4 - 4 - 4 - 4$$

= Grouping 20 into 4s

$$20 \div 5 = 20 - 5 - 5 - 5 - 5$$

= Grouping 20 into 5s

$$\begin{array}{ccccccc} 20 & \div & 4 & = & 5 & & \\ \text{Dividend} & & \text{Divisor} & & \text{Quotient} & & \end{array}$$

\*Divisor/Quotient can be exchangeable.

# FACTUAL FLUENCY

## Number Bond

What and Why?

- Fluent in fundamentals of Mathematics
- Ability to recall and apply knowledge
- Rapidly and accurately

$$40 \div 5 = \underline{\quad}$$

$$5 \times \underline{\quad} = 40$$

$$\begin{array}{r} 389 \\ \times 7 \\ \hline \hline \end{array}$$

## Addition to 20

Multiplication Tables

$$28 = \underline{\quad} \times 7$$

$$\begin{array}{r} 175 \\ + 349 \\ \hline \hline \end{array}$$

# SKILLS TO BE MASTERED TO ACHIEVE FACTUAL FLUENCY:

Concept	Skills to be mastered
Addition, Subtraction	Counting on, Counting back
Subtraction ( eg $\_\_ + 2 = 10$ )	Missing Addend ( Number Bond)
Addition ( eg $6 + 7 = 10 + 3$ )	Make 10
$13 - 5 = ?$ ( think $5 + ? = 13$ )	Related family facts / addition facts
Multiplication, Division	Skip Counting
Multiplication	Repeated Addition
$5 \times 6 = 30, 6 \times 5 = 30$	Related Multiplication Facts Same Factors (Commutative)

## Activities

1. Card Games - Go Fish, Matching
2. Listing the time table  
- 6, 7, 8, 9 (Primary 3)
3. Skip Counting (memory)





# MATH HELP AT HOME

- **Emphasis now is WHY and not just HOW**
- **Multiple ways to solve problems**
- **Problem solving with real-world math**
  - Paying bills
  - Estimate the cost of the groceries in your cart
  - Determine how much food to buy or make for a party
  - Figure the cost of lunch at a restaurant
  - Calculate the cost of school lunch for the week or month
  - Determine how long your child will need to save his allowance in order to buy a particular item
  - Determine the distance driven in  $X$  hours
  - Determine how many chocolate chips are needed if  $X$  number of cookies each has 3 chocolate chips

# SOLVING WORD PROBLEMS



**Chunking**  
- Circle Numbers  
- Underline Keywords  
- Box Question

**Verify Answer**  
- Does it make sense?

Check



Understand

Solving  
Word  
Problems



Plan/Devise

**Draw Model**

Do/Carry  
Out



**Work out solution**  
- Number equations  
- Word Statements

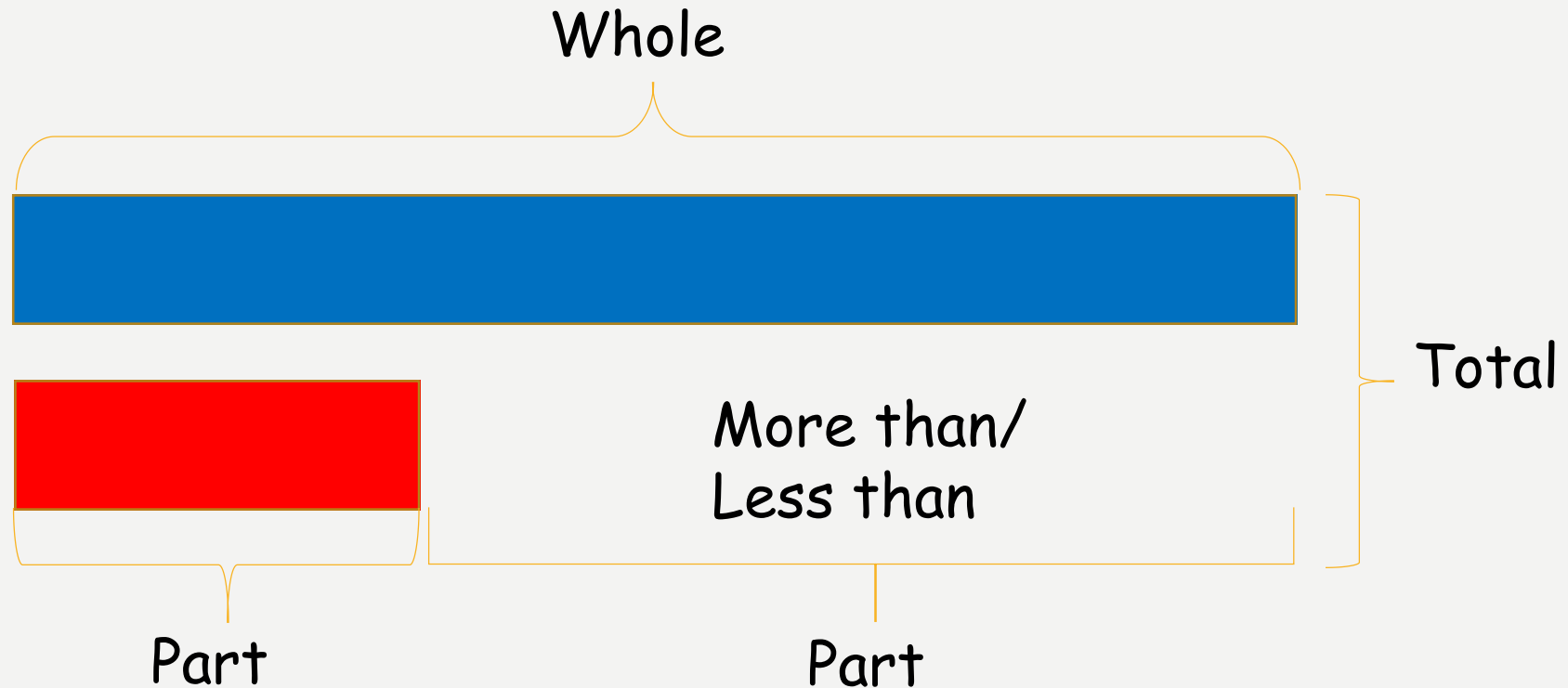


# SOLVING WORD PROBLEMS

- COMPARISON MODEL



## 2) Comparison Model



To find Whole -> add  
To find Part -> subtract

# COMPARISON MODEL QUESTION EXAMPLES

1) Najib sold 273 tarts. Selina sold 125 more tarts than Najib.

- a) How many tarts did Selina sell?
- b) How many tarts did they sell altogether?

Whole ?



Check:  
 $398 - 125 = 273$

a) Se ---  $273 + 125 = 398$

Selina sold 398 tarts.

# COMPARISON MODEL QUESTION EXAMPLES

1) Najib sold 273 tarts. Selina sold 125 more tarts than Najib.

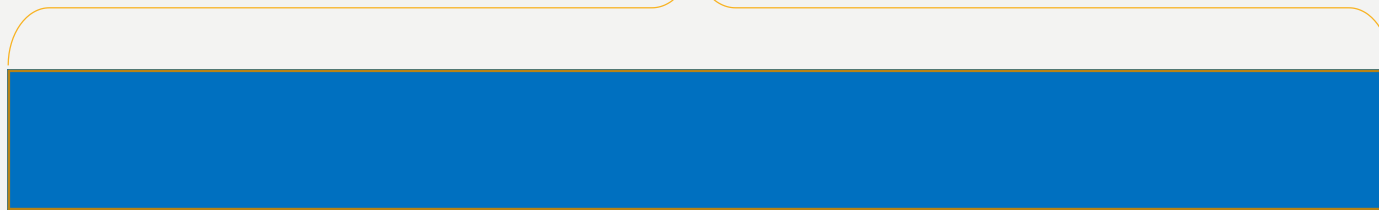
a) How many tarts did Selina sell? **398**

b) How many tarts did they sell altogether?

Whole 398

Check:  
 $671 - 273 = 398$

Se



Na



More than/  
Less than

Part  
125

Total

b) Altogether --  $398 + 273 = 671$

They sold 671 tarts altogether.

# COMPARISON MODEL QUESTION EXAMPLES

2) Mrs Tang spent \$640 on a pair of shoes and a dress.

The pair of shoe cost \$80 less than the dress.

How much did Mrs Tang spend on the shoes?

Check:

$$280 + 280 + 80 = 640$$

Dress



Shoe



More than/  
Less than

Part  
\$80

\$640

$$2 \text{ units --- } 640 - 80 = 560$$

$$1 \text{ unit --- } 560 \div 2 = 280$$

She spent \$280 on the shoes.



# HEURISTICS – FOCUSSED SKILL

**1. Pattern Recognition**

**2. Systematic Listing**

**3. Guess and Check**

**4. Assumption**

**5. Logical Reasoning**

**6. Working Backwards**

# PATTERN RECOGNITION

- Draw a table with appropriate headings
- Start with pattern I and carry on listing.
- Formulate with Pattern Rule

# PATTERN RECOGNITION

A	B	C	D	A	B	C ...
1 <sup>ST</sup>	2 <sup>ND</sup>	3 <sup>RD</sup>	4 <sup>TH</sup>	5 <sup>TH</sup>	6 <sup>TH</sup>	7 <sup>TH</sup>

What is the 23<sup>rd</sup> alphabet?

A	B	B	D	C	A	B	B	D	C ...
1 <sup>ST</sup>	2 <sup>ND</sup>	3 <sup>RD</sup>	4 <sup>TH</sup>	5 <sup>TH</sup>	6 <sup>TH</sup>	7 <sup>TH</sup>	8 <sup>TH</sup>	9 <sup>TH</sup>	10 <sup>TH</sup>

What is the 23<sup>rd</sup> alphabet?

# GUESS AND CHECK

- Draw a table with appropriate headings
- Start with mid-point of number of items.
- Have at least two entries with all correct calculations.

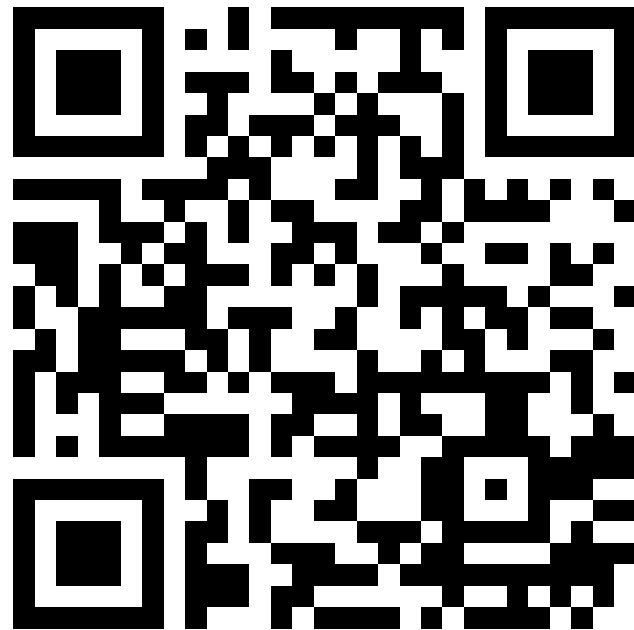
# MATH WEBSITES

	Virtual Manipulatives	URL
1	National Library of Virtual Manipulatives	<a href="http://nlvm.usu.edu/en/nav/vlibrary.html">http://nlvm.usu.edu/en/nav/vlibrary.html</a>
2	A collection of Virtual Manipulatives	<a href="http://www.glencoe.com/sites/common_assets/mathematics/ebook_assets/vmf/VMF-Interface.html">http://www.glencoe.com/sites/common_assets/mathematics/ebook_assets/vmf/VMF-Interface.html</a>
3	Extra Math	<a href="http://www.xtramath.org">www.xtramath.org</a>
4	Front Row	<a href="http://www.frontrowed.com">www.frontrowed.com</a>
5	Number lines, number patterns	<a href="http://www.amblesideprimary.com/ambleweb/mental_maths/numberlines.html">http://www.amblesideprimary.com/ambleweb/mental_maths/numberlines.html</a>
6	Matholia	<a href="http://www.matholia.com.sg/">http://www.matholia.com.sg/</a>
7	McOnline	<a href="https://www.mconline.sg/LEAD/login/lms_login.aspx">https://www.mconline.sg/LEAD/login/lms_login.aspx</a>

# **PARENTS' EVALUATION AND FEEDBACK FOR PARENTS' WORKSHOPS 2018**

- Please scan the QR Code or use the link to give us your valuable feedback. Thank you.

**<https://tinyurl.com/y9m65zxr>**



# **PARENTS' WORKSHOPS 2018**

- Presentation slides will be available on our school website within one week after the workshops.

tenki takk спасибо kam sah hamnida  
дзякуй hvála dhanyavadagalu tack  
gracias djere deuf mési xièxie tanemirt  
arigatô manana diolch akun bedankt dank je  
ačiū grazi shukriya ありがとう kia ora dankon děkuji  
tau barka mamnun grâce kaitos spas  
teşekkür ederim bayarlalaa obrigada chnorakaloutioun  
sagolun murakoze taiku mahalo didi madloba sukriya obrigado chokrane rahmat dakujem  
terima kasih misaotra welalin mercé najis tuke اراكش  
asante grazie nandri 謝謝 mersi kőszönőm sobodi nanni vinaka  
nauruuru natondo cam on ban go raibh maith agat merci paldies ngiyabonga

