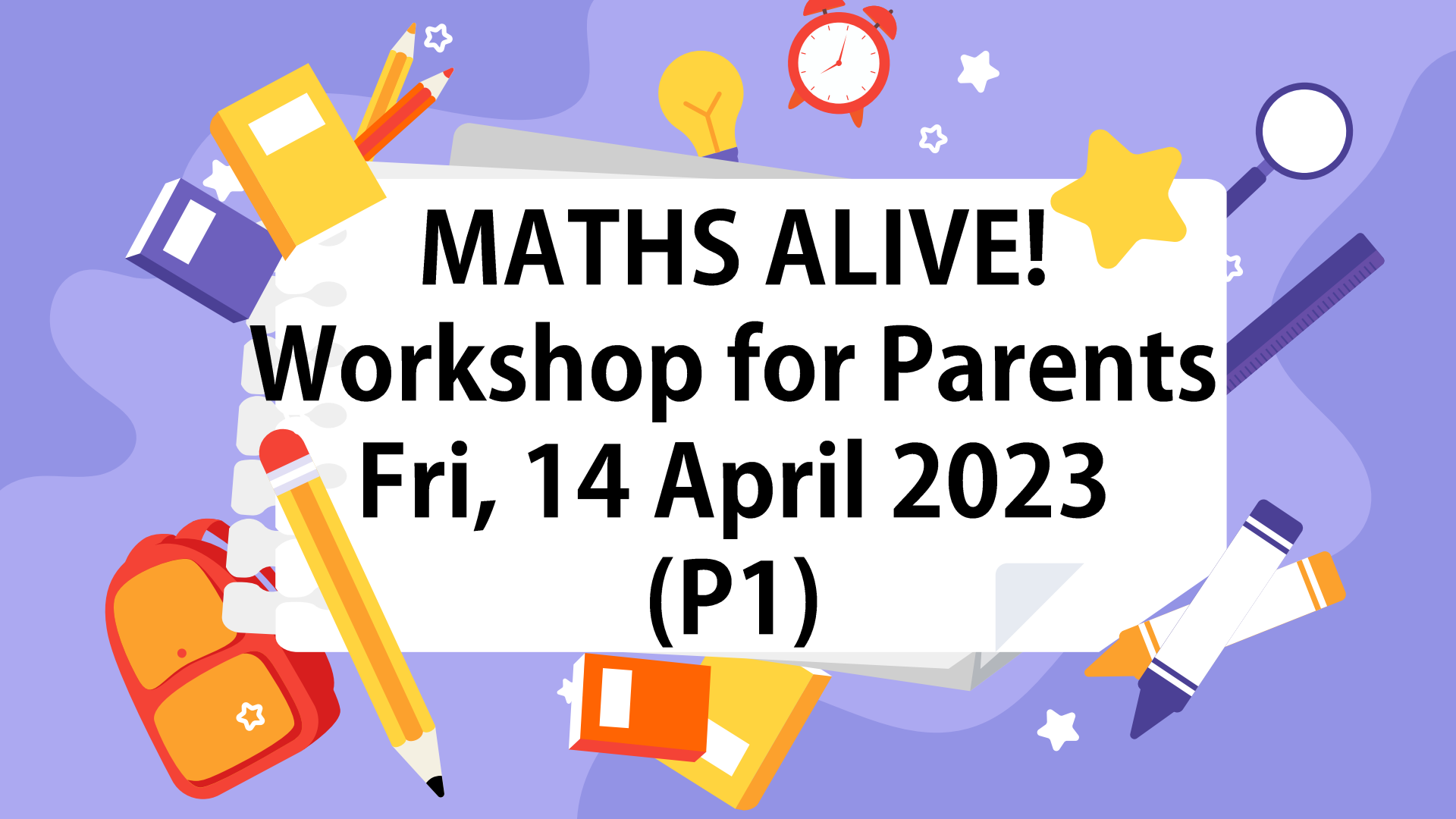

MATHS ALIVE!
Workshop for Parents
Fri, 14 April 2023
(P1)

The materials shared in today's workshop are under the property of Junyuan Primary School, Mathematics Department.

Please **do not** take any photos or videos throughout the sharing.

Thank you for your understanding.

Objectives

- Maths Routines In Class
- Syllabus – Selected Topics

Maths Routines In Class

- Factual Fluency
- LI and SC
- Chapter Opener
- SSM Activities (CPA Approach)
- JYPS Mathematical strategies
- Maths Around Us
- Thinking Aloud
- Maths HB / STAR Hpack
- Workbook
- Maths Exercise Book

Factual Fluency

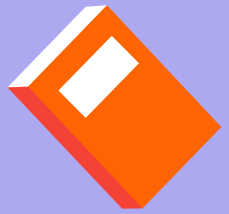
Maths **facts fluency** refers to the ability to recall basic mathematical **facts** in all four operations accurately, quickly and effortlessly.

Factual Fluency

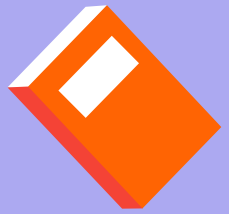
Why is it useful to master factual fluency?

When students achieve automaticity with these **facts**, they have attained a level of mastery that enables them to retrieve mathematical facts without conscious effort/attention. Automaticity is the ability to do things with an automatic response pattern or habit. It is usually the result of learning, repetition and practice.

**Factual Fluency is conducted on a frequent basis using students' mini whiteboard.*



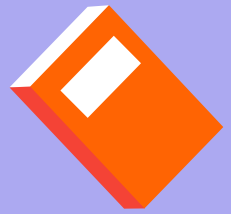

$$8 + 7$$



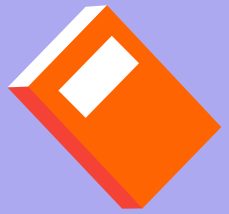

17 - 9

Make 20

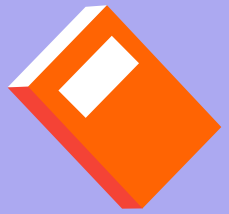
16




4 + 4




_____ is 1 less than 10




1 + 9 + 2

LI and SC

Learning intentions (LI) are statements that describe what students should know, understand and be able to do by the end of a task. Success criteria (SC) are linked to learning intentions and describe what success looks like.

They assist educators to articulate the purpose of a learning task and make judgements about the quality of student learning. They help students to focus on the task taking place and self-reflect.

LI and SC

Learning intentions (LI) are also known as We Are Learning To (WALT). SCs are also known as What I'm Looking For (WILF) or start with I can...

WALT

- Tell order of activities in an event

I can

- Tell positions of objects using ordinal numbers in words or symbols
- Tell positions of objects from the right or left
- Tell order of activities in an event using ordinal numbers or symbols

Chapter Opener

This activity checks students' prior knowledge of the chapter they are going to learn.

This activity also arouses interest by using stories and images. Students share stories through teacher's facilitation and questioning. These stories can sustain students' interest and are powerful sources of motivation for students.

1. What do you see in the picture?
2. What are the different things that we can count?
3. How many birds are there?
4. Who would like to count the number of trees?

Sustained Support for Maths Activities

Students learn Maths concepts through a series of activities using the CPA (Concrete – Pictorial – Abstract) approach to develop conceptual understanding. The activities hinge on the principles of early success, strong basics and steady progress. The focus is to provide students the learning experiences from concrete, to pictorial and then to abstract. This involves the use of manipulatives, songs, storybooks and touching on their daily experiences.

JYPS Mathematical Strategies

- We use VTR (Visible Thinking Routine) to uncover students' thinking about thinking
- It helps support lifelong learning
- It develops students' awareness of their own thinking (J. B. Biggs, 1987)
- It gives teachers an insight of students' misconceptions so teachers can address misconceptions accordingly

Visible Thinking Routine (VTR)

Making thinking visible through…

- See Think Wonder
- Chalk Talk
- I used to think…, Now I think
- What makes you say that?

Visible Thinking Routine

SEE THINK WONDER

- Helps students make careful observation
- Helps students develop their own ideas and interpretation based on what they see
- Encourages students to wonder and question, stimulating curiosity
- Helps students reach for new connections

Visible Thinking Routine

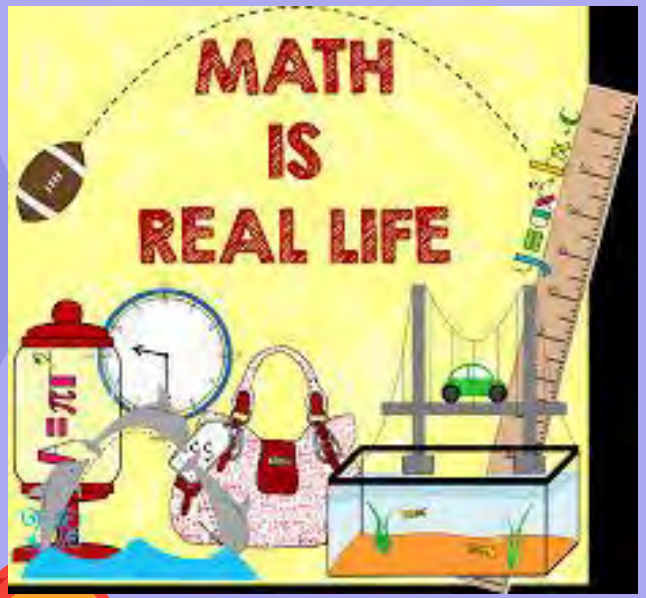
WHAT MAKES YOU SAY THAT?

- Students describe what they see or know
- Helps students build their explanations
- Promotes evidential reasoning as it invites students to share their interpretation
- Encourages students to understand alternatives and multiple perspective

Maths Around Us

- Provides opportunity for students to articulate their understanding on how the concept is used in real world context
- This allows students to clarify their own thinking, deepen their reasoning, listen to others' reasoning and consolidate their understanding.

How to make Maths come alive?



Thinking Aloud

- Provides opportunity for students to reason, think creatively and critically.
- Provides students the opportunity to take on a more active role of making sense of what they have learnt and to verbalise their learning with peers.

Maths HB

- Maths Handbook (HB) is created to help summarise important concepts students need to attain in each topic for each term.
- Provides students a form of revision. Some teachers keep the Maths HB in school for students to revise when they have completed their work.
- File handbook into the orange file
- Orange file is to be kept at home for revision

Junyuan Primary School
Mathematics Handbook
Primary 1
(Term 1)

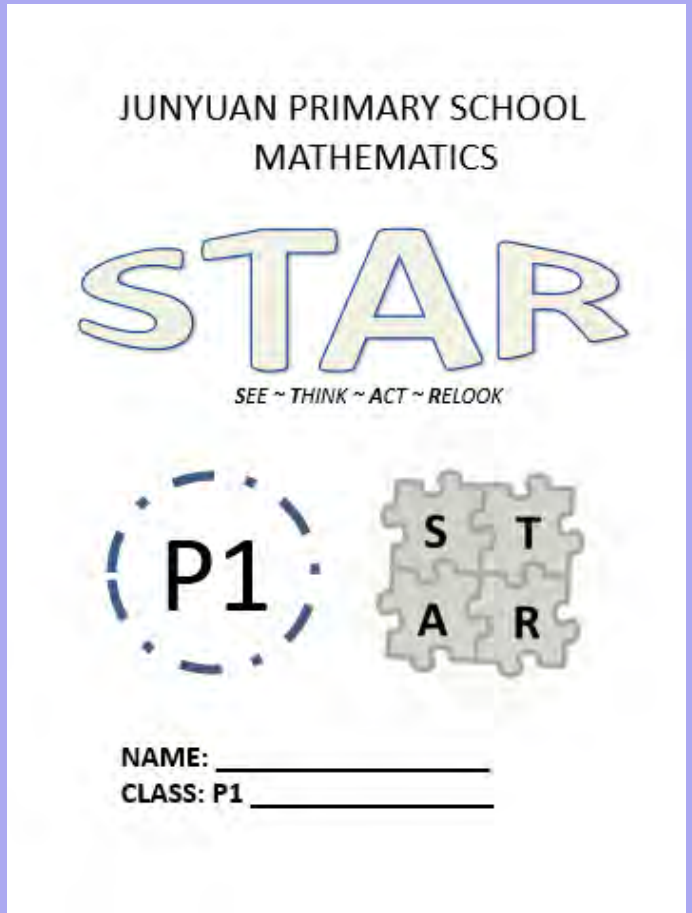
Name: _____

Class: Pr 1 _____

STAR Hpack

- STAR Heuristics Package (STAR Hpack) is created to teach students the methods to solve word problems.
- Develops students' logical thinking and ability to solve difficult problems.
- To be filed into blue file at the end of the year

Problem-Solving Approach: STAR



Starts in term 3

Problem-Solving Approach: STAR

See what is given

↓

Think of a plan

↓

Act on the plan

↓

Relook and Check

Problem-Solving Approach: STAR

Key Questions to ask when solving word problem

See (What is given?)	Think (What is my plan?)
1. Can I retell the problem in my own words? 2. What am I asked to find? 3. What are the key words?	1. Have I solved the same type of problem before? 2. What method(s) can I use? 3. Can I solve a part of the problem first?
Act (What do I need to do?)	**Relook (Reflect and Check)**
1. Can I carry out my plan? 2. Can I show the steps correctly? 3. Can I show the steps clearly?	1. Does my method make sense? 2. How do I know? 3. Is my working/diagram/model accurate? 4. Have I checked my solution thoroughly using the COURT strategy?

Problem-Solving Approach: STAR

What is *COURT* ?

C – COPY; Copy data correctly

O – OPERATION; use the correct operation

U – UNIT; write the correct unit in the answer

R – REASONABLENESS; answer is reasonable

T – TRANSFER; answer correctly onto the answer space

Problem-Solving Approach: STAR

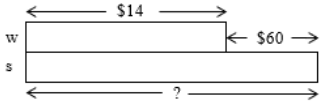
What is ***COURT*** ?

C – ***COPY:*** Copy data correctly
O – ***OPERATION***: Use the correct operation
U – ***UNIT:*** Write the correct unit in the answer
R – ***REASONABLENESS*** of answer
T – ***TRANSFER*** answer correctly onto the answer space

How to check your Mathematics solution.

Use ***COURT*** to check your working steps.

SAMPLE :
Claudia bought a water bottle and a school bag.
The water bottle cost $14 and the school bag cost $60 more than the water bottle.
How much did she pay for the school bag?



14 + 60

= **74**

C - COPY data correctly

O -OPERATION- Use the correct operation

R - Answer is REASONABLE as the printer should cost more than the laptop

T - TRANSFER answer correctly to the answer space

U-UNIT-Write correct unit

C	✓
O	✓
U	✓
R	✓
T	✓

Ans : $74

Problem-Solving Approach: STAR

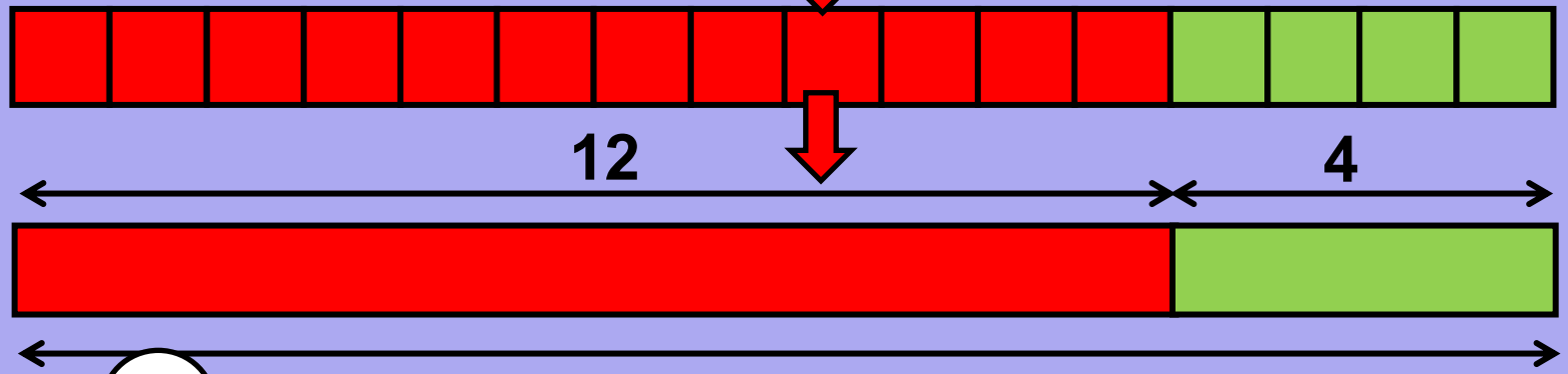
No.	Heuristics
1	Act it out
2	Look for pattern
3	Model Drawing - part - whole

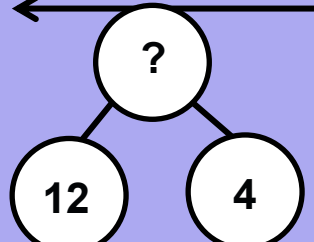
Problem-Solving Approach: STAR

Part-Whole Model

Problem 1

Mother bought 12 red apples and 4 green apples.
How many apples did she buy altogether?





$12 + 4 = \underline{?}$

$12 + 4 = \underline{16}$

She bought 16 apples altogether.

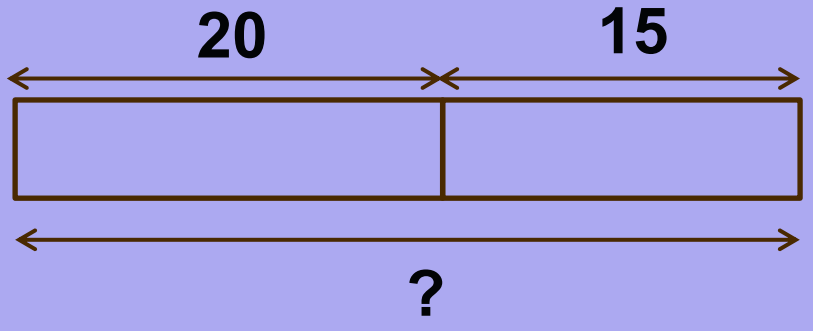
C	✓
O	✓
U	✓
R	✓
T	✓

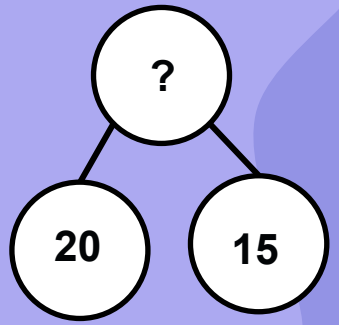
Problem-Solving Approach: STAR

Part-Whole Model

Let's try this.

There are 20 red fishes and 15 green fishes in the tank.
How many fishes are in the tank altogether ?





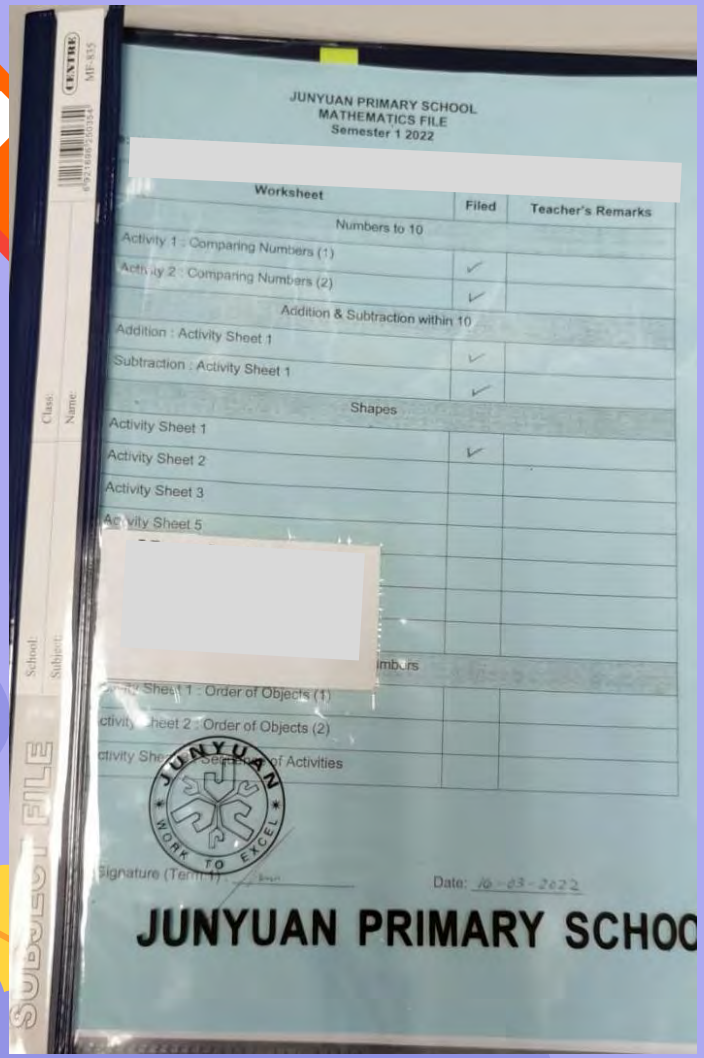
20 + 15 = 35

There are 35 fishes in the tank altogether.

C	✓
O	✓
U	✓
R	✓
T	✓

Blue File

- File SSM activity sheets or other Maths worksheets into the blue file
- Termly parent’s signature



JUNYUAN PRIMARY SCHOOL
MATHEMATICS FILE
Semester 1 2022

Worksheet	Filed	Teacher's Remarks
Numbers to 10		
Activity 1 : Comparing Numbers (1)	✓	
Activity 2 : Comparing Numbers (2)	✓	
Addition & Subtraction within 10		
Addition : Activity Sheet 1	✓	
Subtraction : Activity Sheet 1	✓	
Shapes		
Activity Sheet 1	✓	
Activity Sheet 2		
Activity Sheet 3		
Activity Sheet 5		
[redacted]		
[redacted]		
[redacted]		
[redacted]		
[redacted]		
[redacted]		
[redacted]		
[redacted]		
[redacted]		
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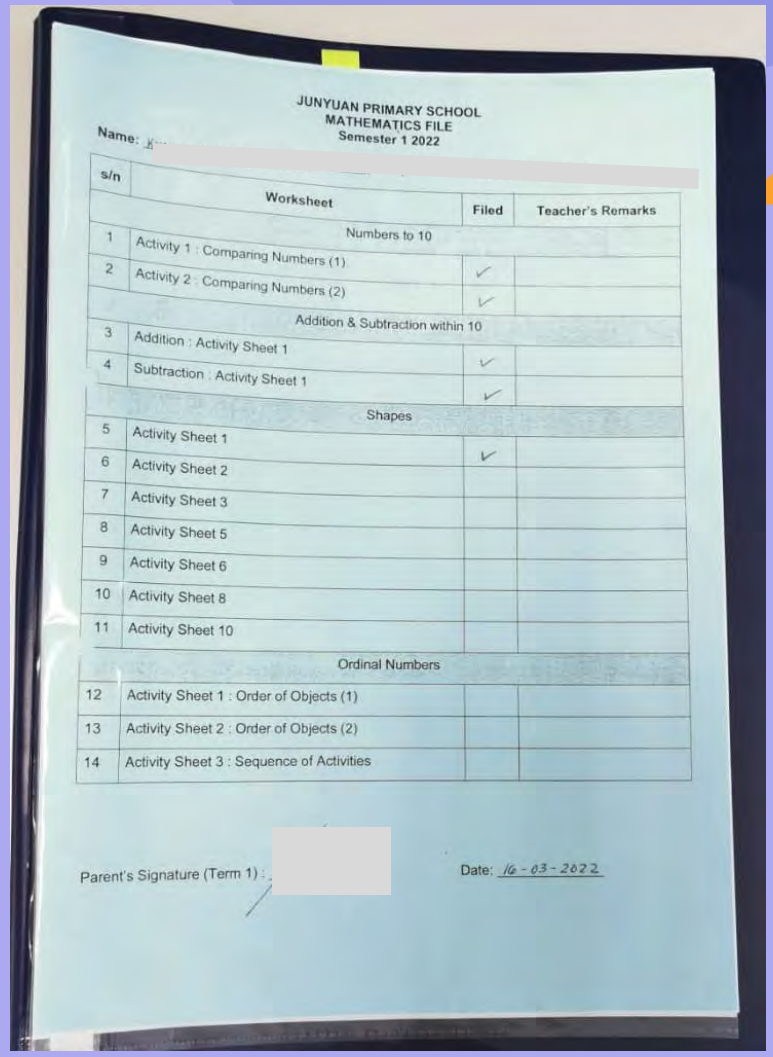
[redacted]		

Signature (Term 1) : [redacted]

Date: 16-03-2022

JUNYUAN PRIMARY SCHOO



JUNYUAN PRIMARY SCHOOL
MATHEMATICS FILE
Semester 1 2022

Name: [redacted]

s/n	Worksheet	Filed	Teacher's Remarks
	Numbers to 10		
1	Activity 1 : Comparing Numbers (1)	✓	
2	Activity 2 : Comparing Numbers (2)	✓	
	Addition & Subtraction within 10		
3	Addition : Activity Sheet 1	✓	
4	Subtraction : Activity Sheet 1	✓	
	Shapes		
5	Activity Sheet 1	✓	
6	Activity Sheet 2		
7	Activity Sheet 3		
8	Activity Sheet 5		
9	Activity Sheet 6		
10	Activity Sheet 8		
11	Activity Sheet 10		
	Ordinal Numbers		
12	Activity Sheet 1 : Order of Objects (1)		
13	Activity Sheet 2 : Order of Objects (2)		
14	Activity Sheet 3 : Sequence of Activities		

Parent's Signature (Term 1) : [redacted]

Date: 16-03-2022

Practice Book

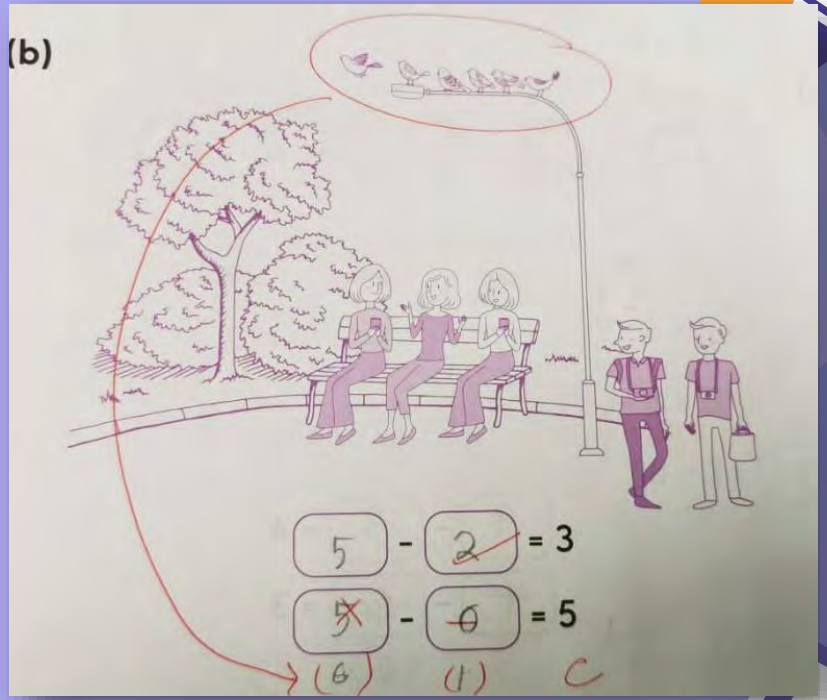
- Students demonstrate understanding of concept learnt.
- Incomplete correction is indicated either at the front or back of the practice book.
- Parent’s signature after every chapter

(d)


1 more
4
6
5
(7)
C

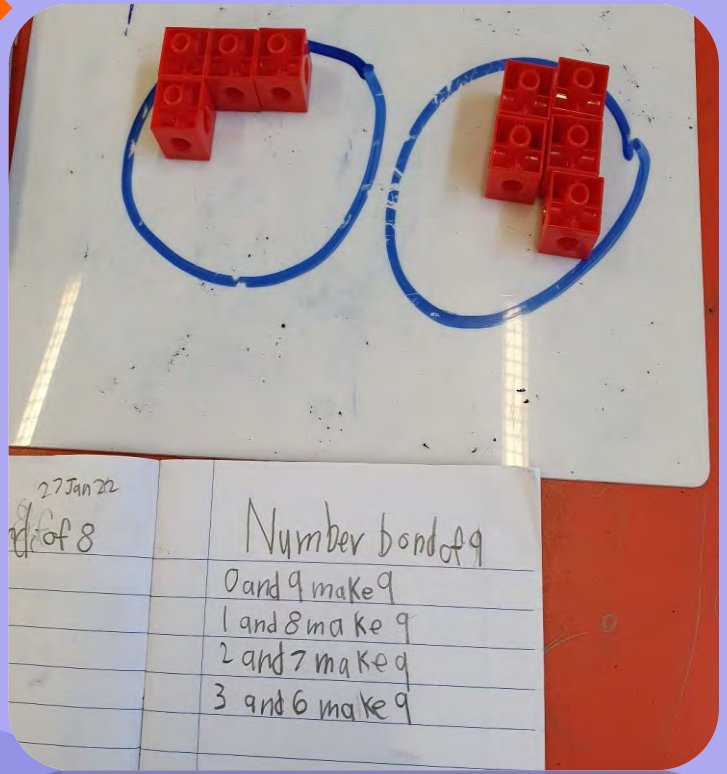

basketballs
soccer balls
C (5)
There are 3 basketballs.
C (3)
There are 5 soccer balls.

(b)


5 - 2 = 3
5 - 0 = 5
(6)
(1)
C

Maths Exercise Book

- Students practise Maths concepts taught.



Make 6

0 and 6 make 6

1 and 5 make 6

2 and 4 make 6

3 and 3 make 6

4 and 2 make 6

5 and 1 make 6

6 and 0 make 6

Homelink Pack

HOMELINK is a package designed to allow students to make use of class manipulatives at home to reinforce the concepts they have learnt in school. Parents are encouraged to play the games or do the activities at home with their children. The manipulatives are kept in their yellow button file before they bring it home. Students also learn to be responsible by keeping the manipulatives properly after use and returning them on time.

HOMELINK 1 – NUMBERS TO 10

Activity	Objective	Materials	Instructions	Pictures
1	• relate number of dots to corresponding numerals without counting	• 1 set of dot cards • 1 set of number cards	Number of players: 2 1. Place all the dot cards and number cards face down. 2. Player takes turn to flip over 1 dot card and 1 number card. 3. If the two cards match, the player keeps the cards. If not the player turn the card face down again. 4. Play continues until all the cards have been paired up. 5. The player with the most cards wins the game.	 Dot Cards  Number Cards

5+5
2

Let’s take a short break!

Syllabus – Selected Topics

- Addition & Subtraction within 10
- Shapes
- Ordinal Numbers
- Addition & Subtraction within 100
- Length
- Division
- Money
- Time

Addition and Subtraction within 10

Students are to be able to:

- understand concepts of addition, subtraction and their relationship
- use of + , - and =
- add and subtract within 10
- mental calculation involving adding and subtracting

Number Bonds

Why is it useful to master number bonds?

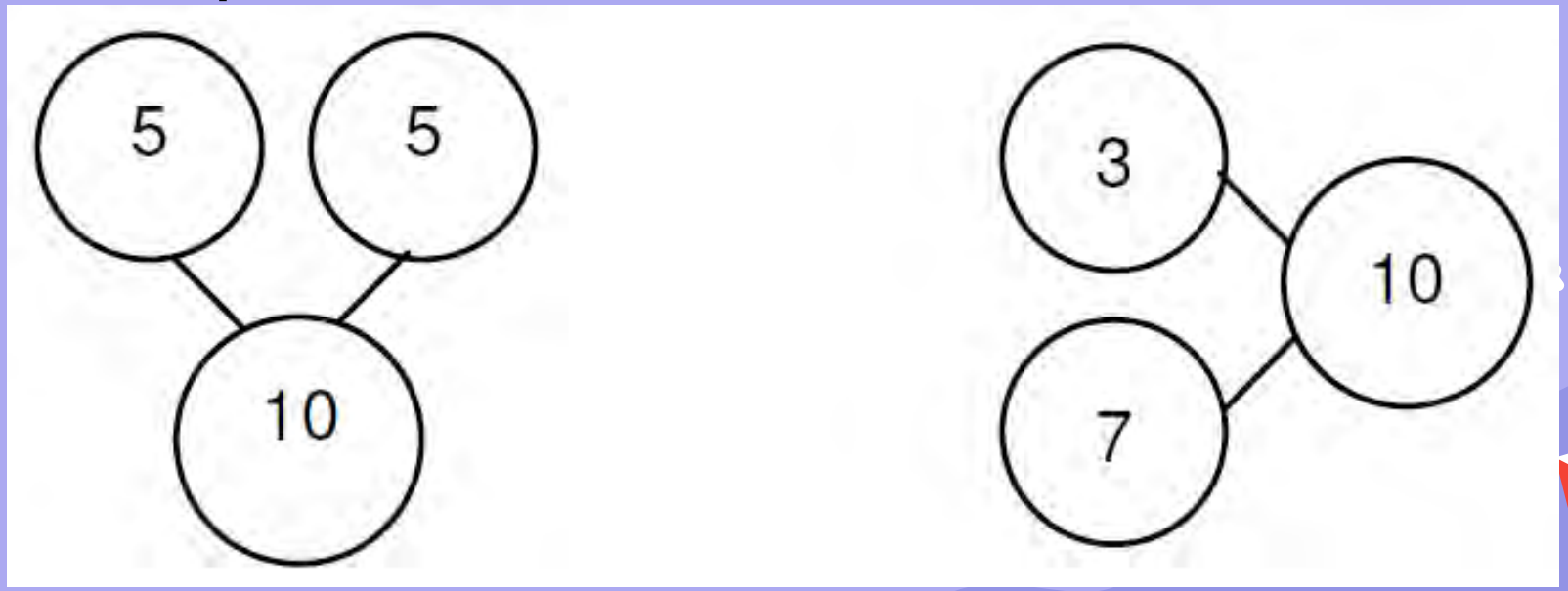
Helps students to master the basic addition and subtraction facts easily

Commit the number bond facts to memory.

Number Bonds

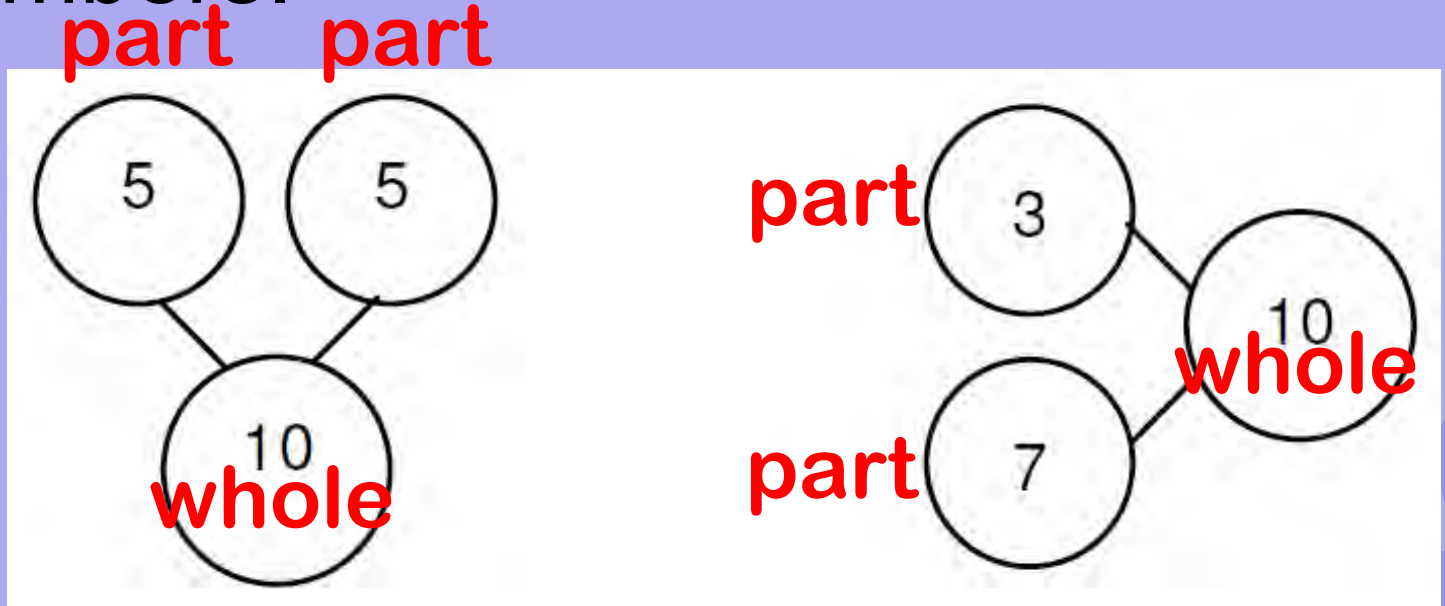
Different combinations of two numbers that make up a given number.

Example:



Number Bonds

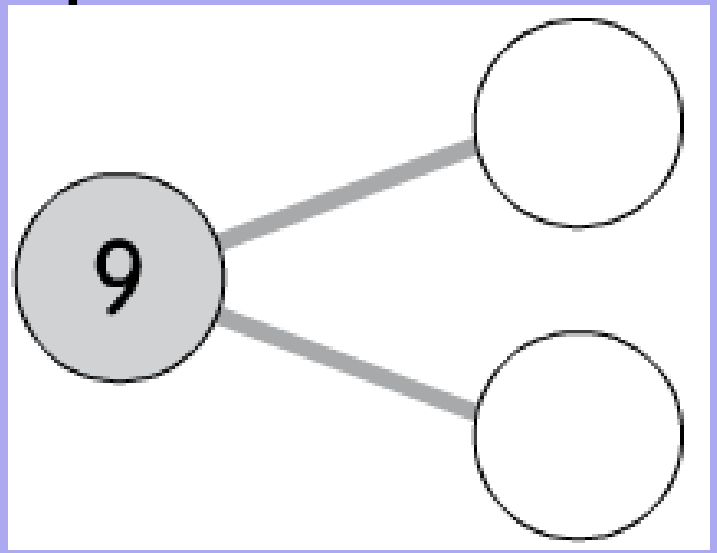
Each number bond represents a part-whole relationship between three numbers.



Number Bonds

Related to a family of four basic addition and subtraction facts.

Example of Fact Family



$2 + 7 = 9$

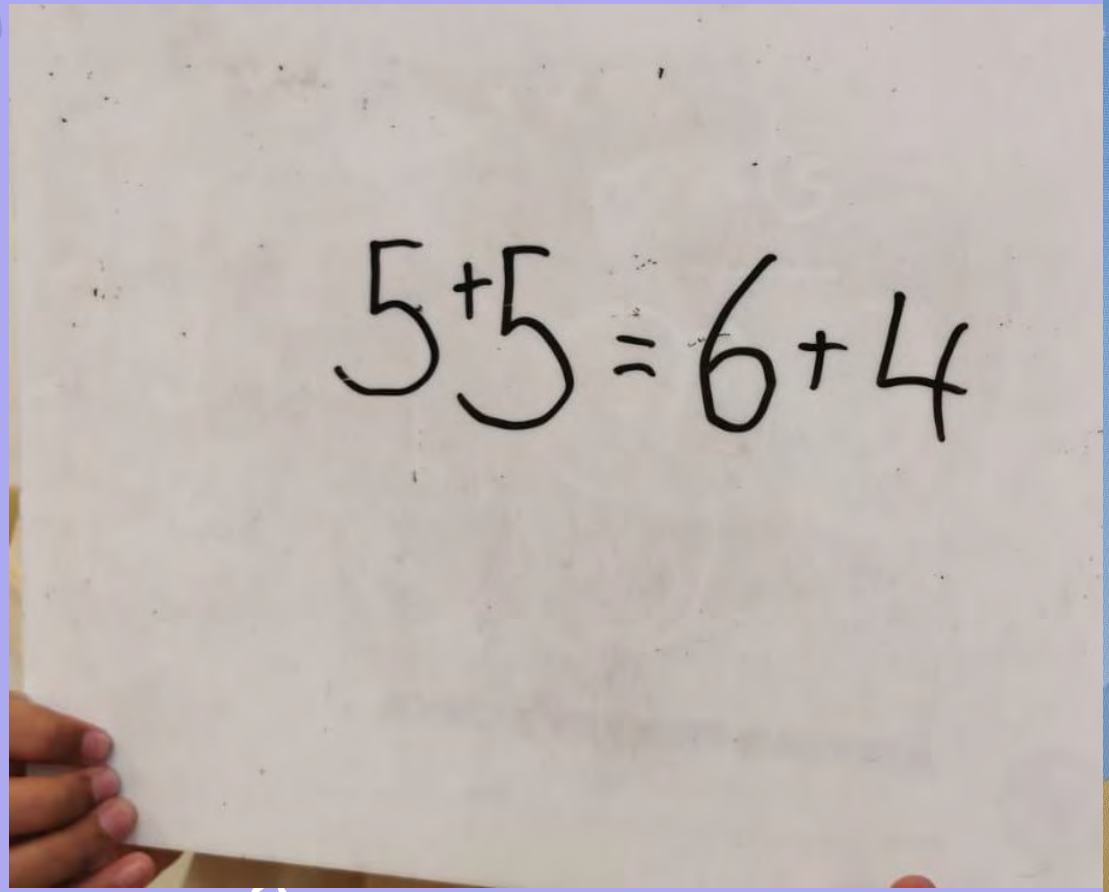
$7 + 2 = 9$

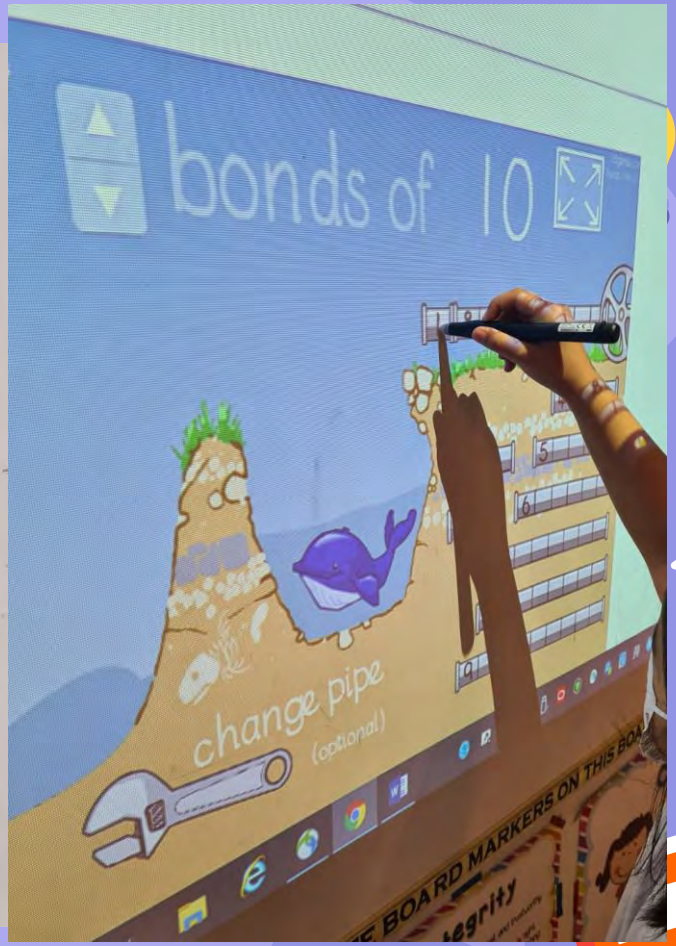
$9 - 7 = 2$

$9 - 2 = 7$

Number Bonds of 10

0 and 10 make 10	6 and 4 make 10
1 and 9 make 10	7 and 3 make 10
2 and 8 make 10	8 and 2 make 10
3 and 7 make 10	9 and 1 make 10
4 and 6 make 10	10 and 0 make 10
5 and 5 make 10	


5+5=6+4


bonds of 10
change pipe
(optional)

Maths Around Us - Subtraction Within 10

Before

?

After

There are 7 people in the van.
2 people get off from the van.
There are 5 people left in the van.

Subtraction Within 10

Concept

- Subtraction as 'taking away' from a set using 'count back' strategy

Sub 0

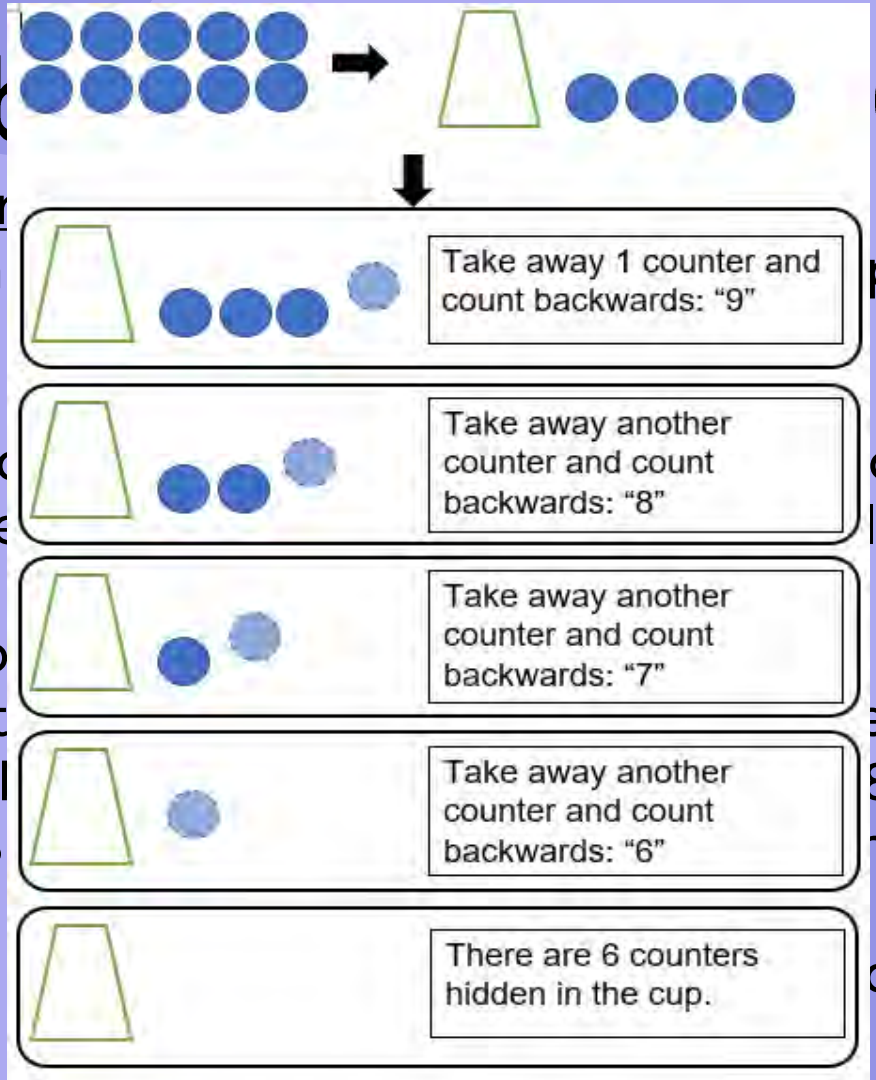
Lesson Procedur

1. Give each pa paper cup.

Counting back to find number of counters in the cup

Studen B co subtracting t en in the cup one l 8, 7, 6' as Student B me.

3. Student B to den in the cup.



Thinking Aloud

Leila has 1 fewer mango than Jiahao.

Jiahao has 1 more mango than Ken.

What do you know about the number of mangoes each child has?

Using VTR "What makes you say that?"

Guiding questions

1. **If Leila has 8 mangoes, how many mangoes do Jiahao and Ken have? What makes you say that?**

Answer

Jiahao has 9 mangoes because Leila has 1 fewer mango than him. Ken has 8 mangoes/the same number of mangoes as Leila because Jiahao has 1 more than Ken.

2. **Try to replace the number of mangoes Leila has with other numbers within 10.**

3. **What can you learn from this activity?**

Answer

The difference will still be the same even if we use different numbers.

Shapes

Students are to be able to:

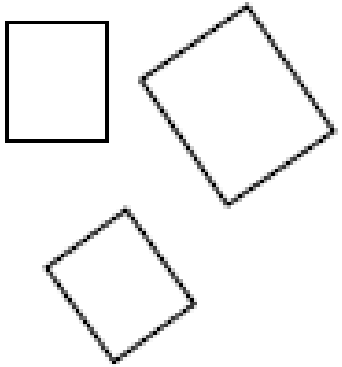
- Identify and name 4 basic shapes

Shapes

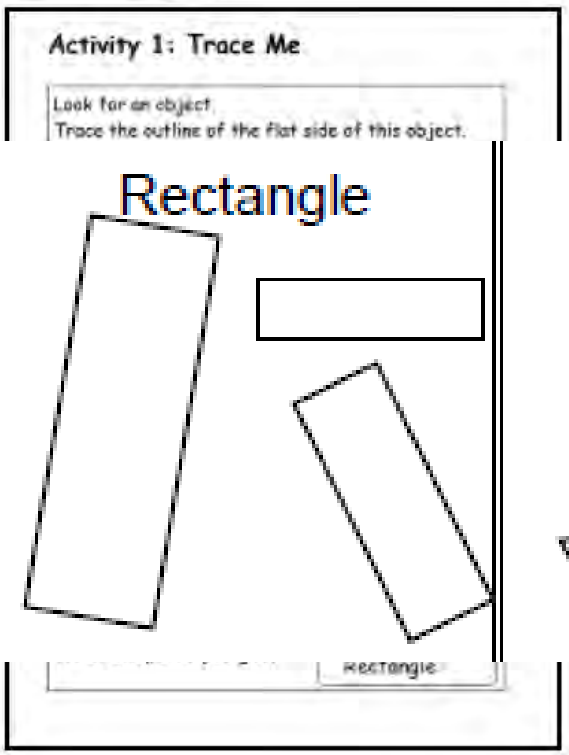
Lesson Procedu

Examples:

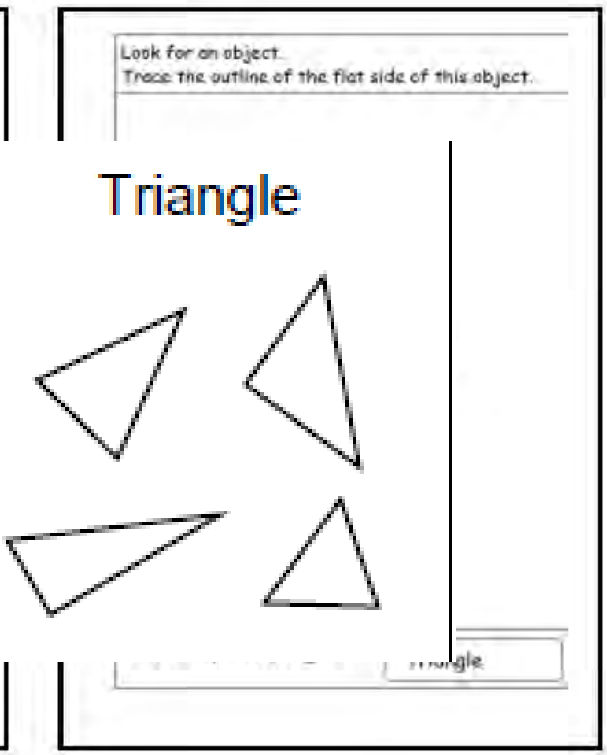
Square

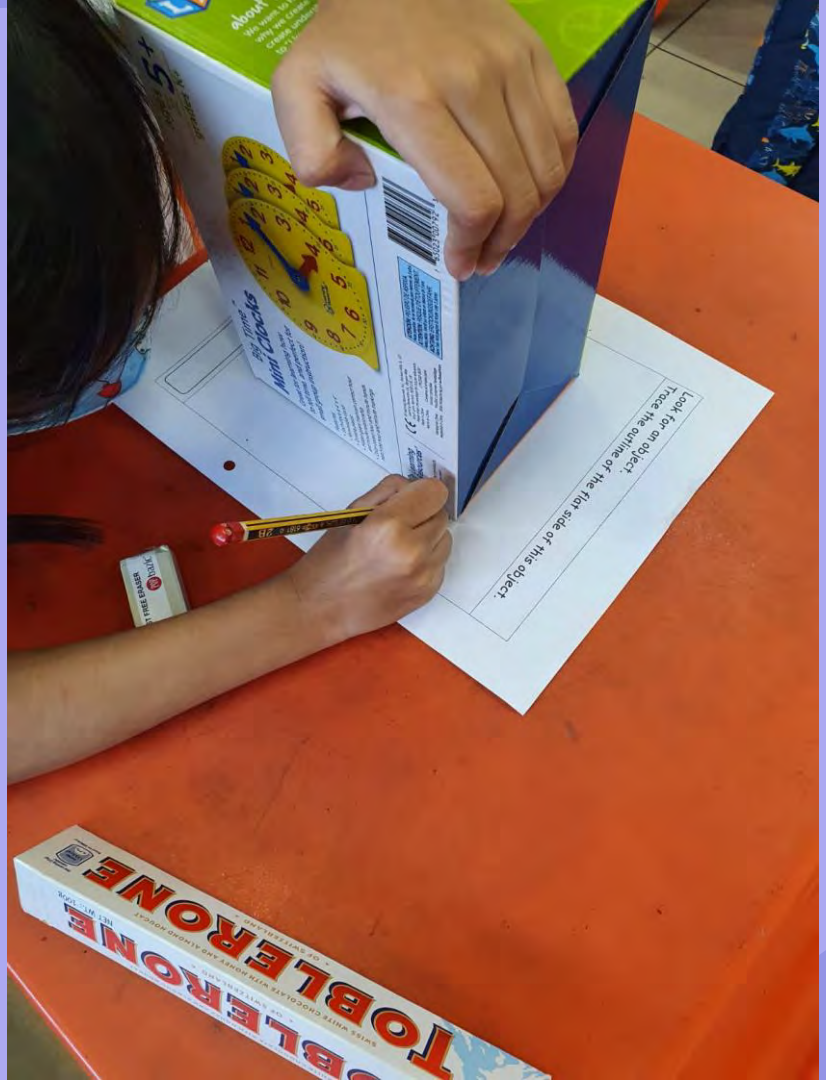


Rectangle



Triangle




Mini Clocks
TOBLERONE
TOBLERONE
Look for an object.
Trace the outline of the flat side of this object.

Maths Around Us

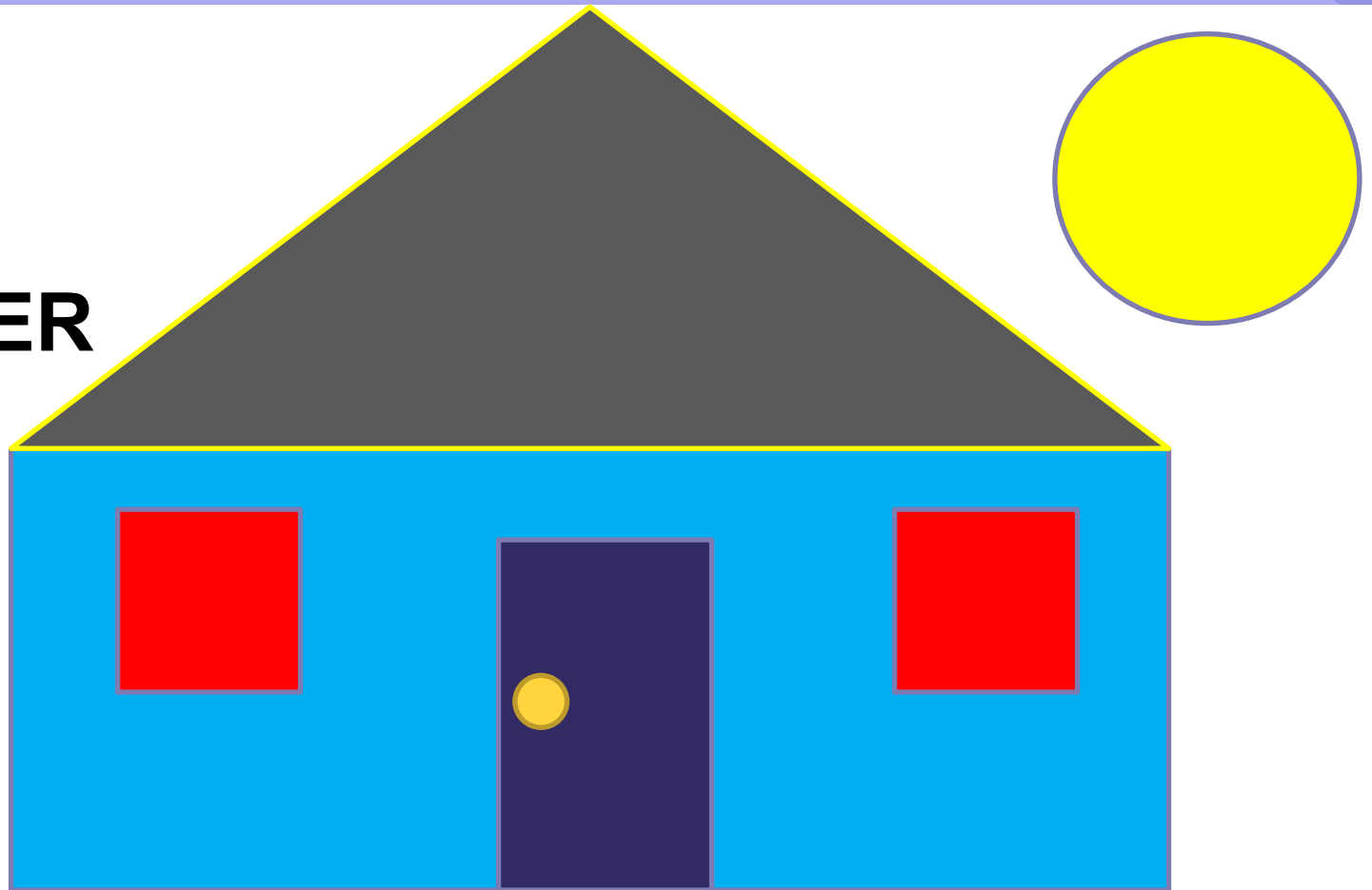
This is the newly built structure in our school. We can see shapes such as circles, squares and rectangles on this structure.

Thinking Aloud

SEE

THINK

WONDER



Ordinal Numbers

Students are to be able to:

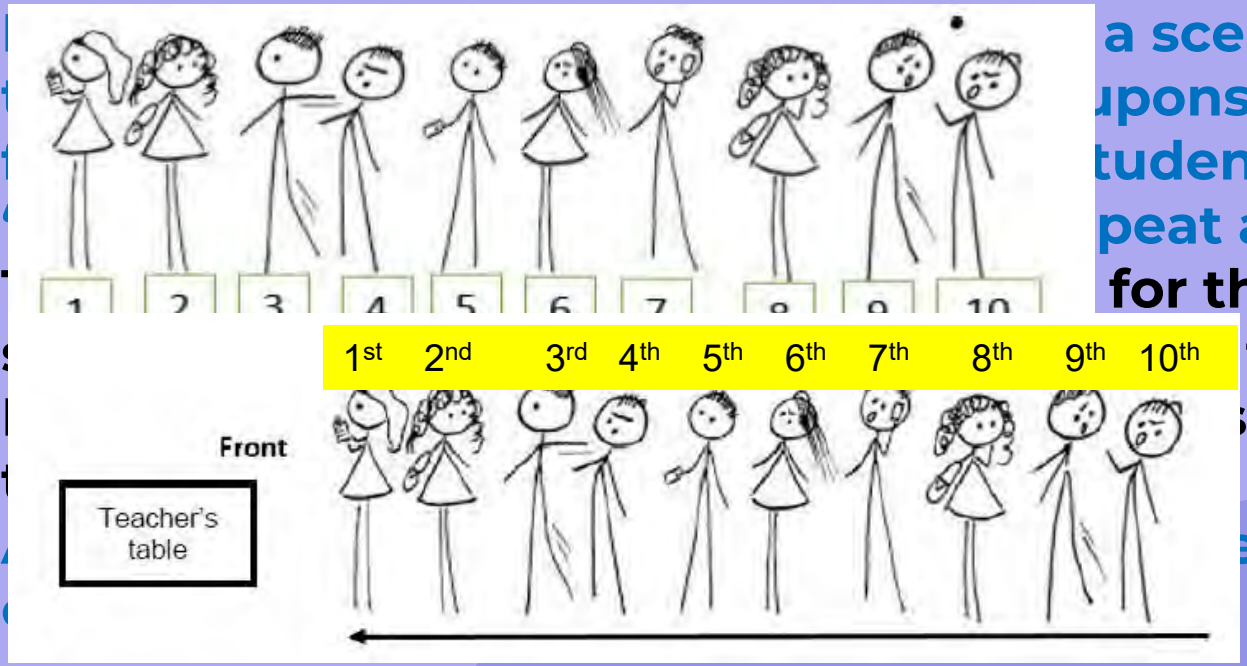
- Use ordinal numbers to tell positions

Ordinal Numbers

SSM

Lesson Procedures

1. 10 students line up in front of the class while holding a numerical card 1 to 10.
2. a scenario of upons from a fun- tudent & say, peat after Teacher.
3. for the rest of the the Ordinal tudents in
4. een ordinal &




left
10th
9th
8th
7th
6th
5th
4th
3rd
2nd
1st
right

Maths Around Us

Queuing

Who is first / last in the queue?

How many people are there in front of the last person?

Thinking Aloud

Answer

I used to think that when Ramli leaves, Ann's position will be affected. Ann is still first in the queue. Now I think that the positions of those behind/after the child that leaves will be affected. The positions of anyone in front/before, will not change.

Using the VTR "I used to think...Now I think…"

Guiding questions

1. What are the positions of Ramli & Jiawei when Ann leaves?
2. What are the positions of Kenny & Laila when Ramli leaves?
3. Whose position will change & not change?
4. Using "I used to think...Now I think…", say what you have learnt from this activity.

Ramli – 1st
Jiawei – 4th
Kenny – 2nd
Laila – 3rd
Change – Kenny, Laila & Jiawei
Not change – Ann

Addition and Subtraction within 100

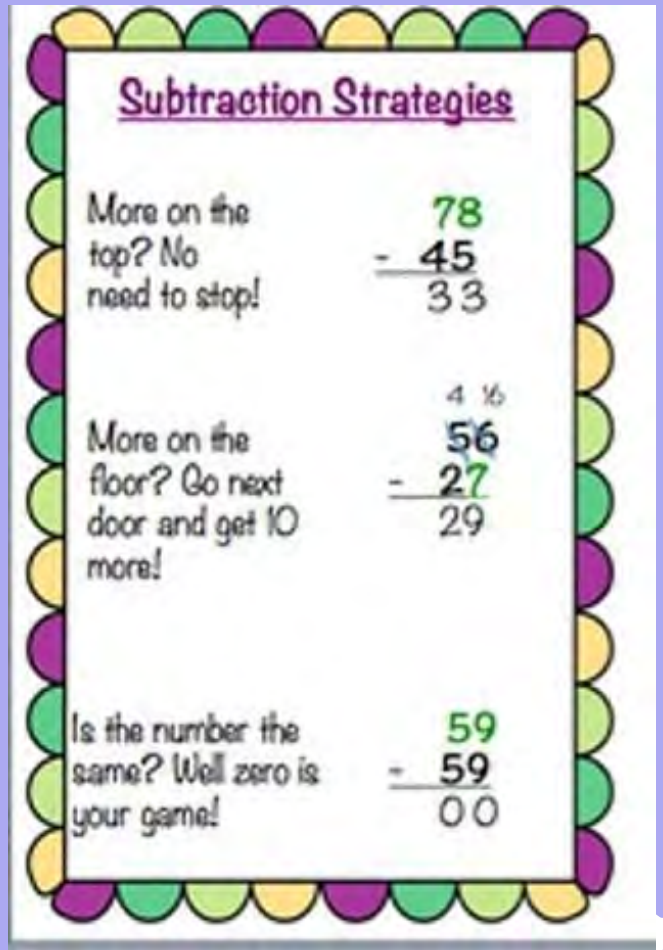
$$\begin{array}{r} 68 \\ -17 \\ \hline \end{array} \qquad \begin{array}{r} 63 \\ -17 \\ \hline \end{array}$$

Students are to be able to:

- add more than two 1-digit numbers
- add and subtract within 100
- use algorithm to add and subtract within 100
- mental calculate addition and subtraction within 20

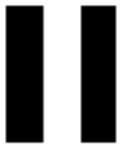
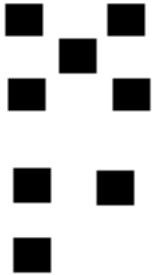
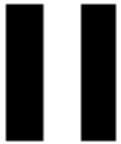
Addition Poem

Subtraction Poem



Addition & Subtraction

Example : 28 + 23

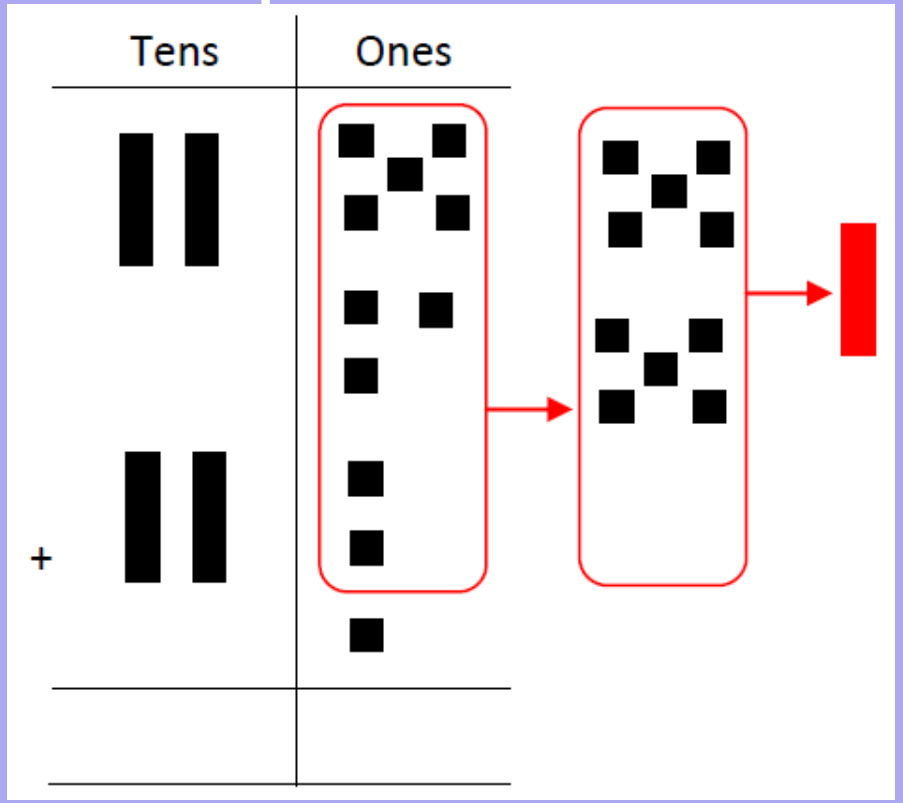
	Tens	Ones
		
+		

Working

	Tens	Ones
	2	8
+	2	3

Addition & Subtraction

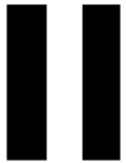
Example : 28 + 23



Renaming 10 ones into 1 ten

Addition & Subtraction

Example : 28 + 23

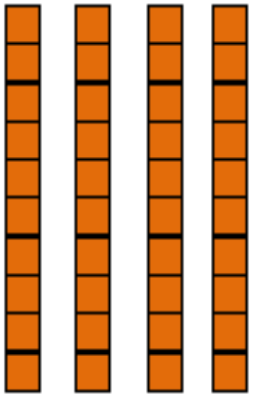
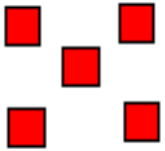
	Tens	Ones
		
+		

Working

	Tens	Ones
	1+ 2	8
+	2	3
	5	1

Addition & Subtraction

Example : 45 - 7

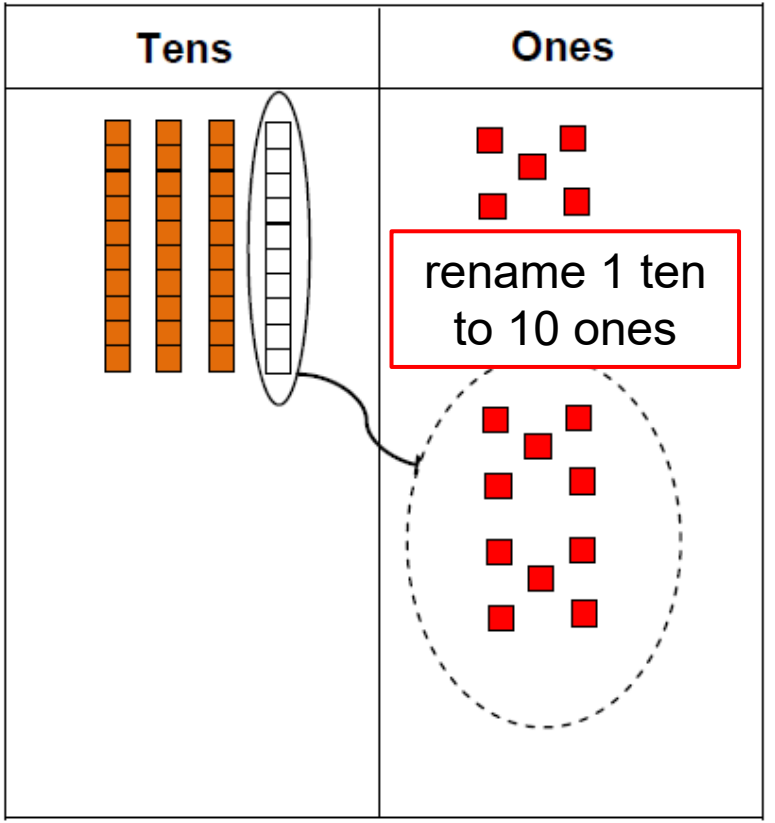
Tens	Ones
	

	Tens	Ones
	4	5
-		7

Addition & Subtraction

Example : 45 - 7

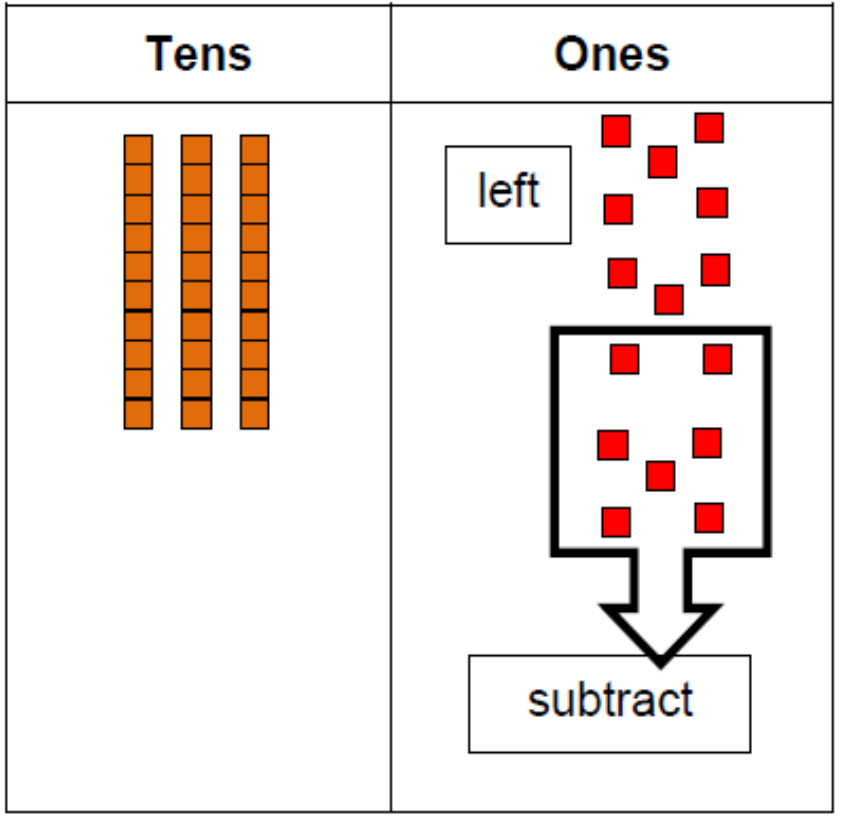
	Tens	Ones
	4	5
-		7



Addition & Subtraction

Example : 45 - 7

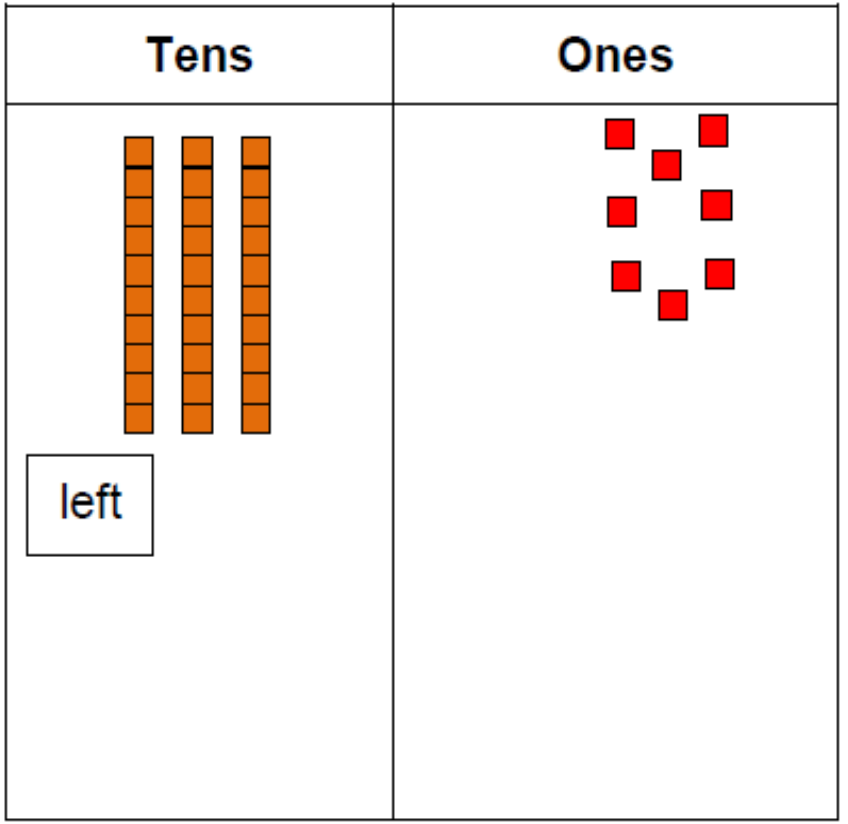
	Tens	Ones
	3 ~~4~~	15 ~~5~~
-		7
		8



Addition & Subtraction

Example : 45 - 7

	Tens	Ones
	3 ~~4~~	15 ~~5~~
-		7
	3	8



Maths Around Us

Look at what happens when a bus is at a bus stop.

1. What happens to the number of passengers when there are only passengers getting on?

Ans: greater than before

2. What happens to the number of passengers when there are only passengers getting off?

Ans: fewer than before

3. When a bus is at the bus stop, can we know immediately if there are fewer or greater number of passengers left than before?

Ans: No. Just because we see passengers getting off, it does not mean that there will be fewer passengers left as more could have gotten on.

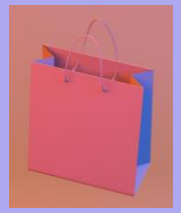
4. Write an addition/ & subtraction story when there are 50 passengers in the bus before it stopped at the bus stop.

Thinking Aloud

I see …

I wonder …

I think …



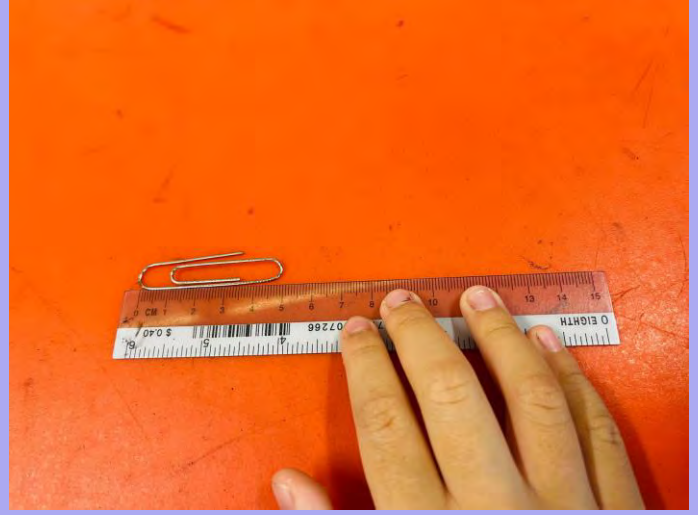
Siti wants to pack 6 lollipops into bags for the lucky draw winners at her birthday party. She has 3 bags to pack them equally.

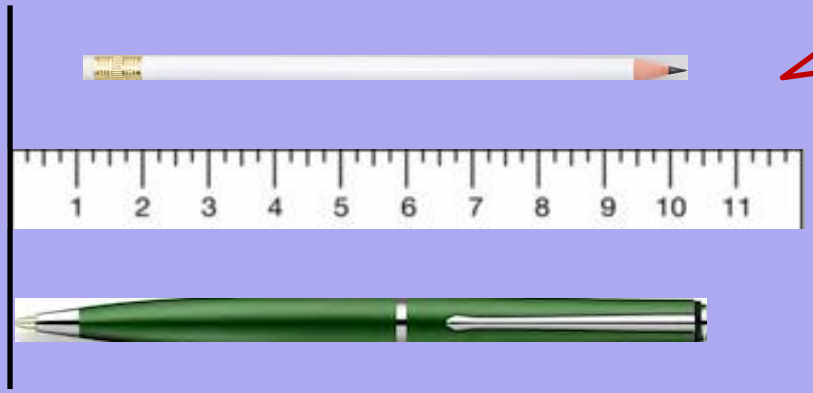
In how many different ways can Siti put the 6 lollipops into 3 different bags?

Length

Students are to be able to:

- Compare and order lengths in cm





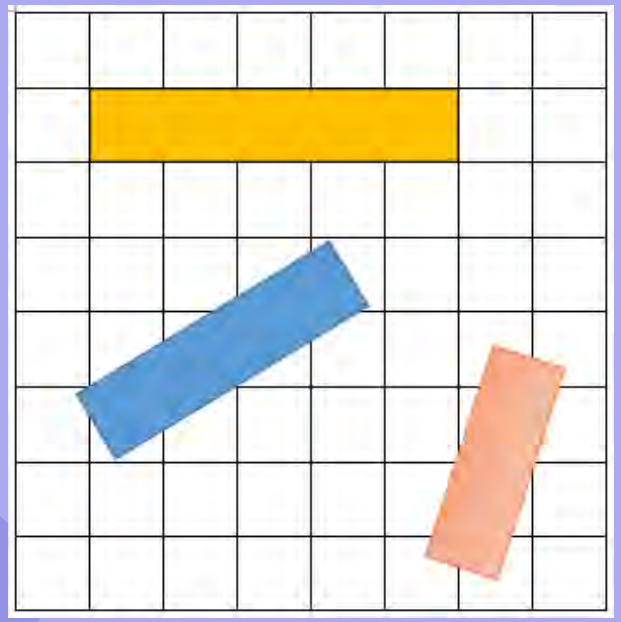
How would you describe the length of these objects? Which is the longest?

How do you know if these objects are of the same height?

Maths Around Us

Which measuring tool will you use to measure a soccer ball to find out if it can fit a locker?
Which measuring tool will you use to measure the whiteboard / your waist?
What makes you say that?

Thinking Aloud



What makes you say that the pink tape is the shortest?

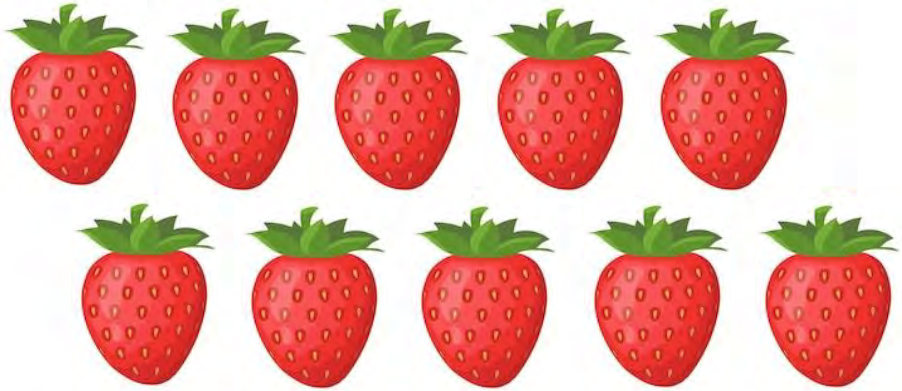
How can we measure the length around a round object?

Division

Students are to be able to:

- understand concepts of division
- divide within 20

Share 10 strawberries equally between 5 children.
How many strawberries does each child get?



Each child gets ____ strawberries.

Sharing concept

There are 20 dresses.
Put 5 dresses in a set.
How many sets are there?

There are ____ sets.

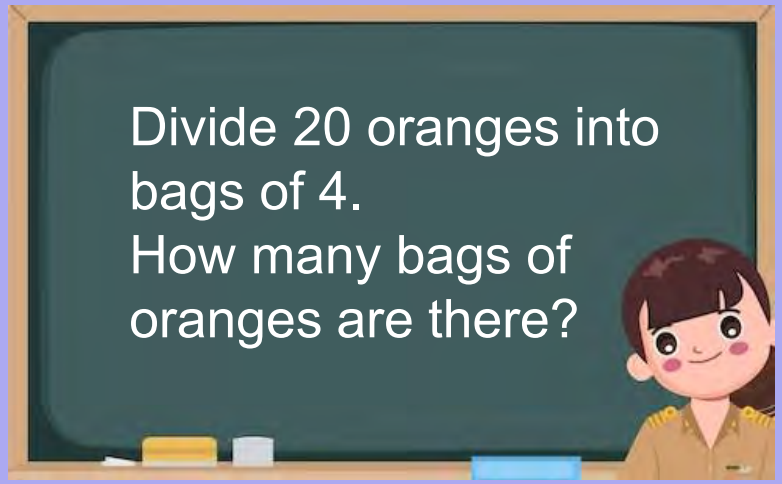
Grouping concept

Maths Around Us

Party packs

You have 6 friends attending your birthday party. If you have 30 sweets, how many sweets should you give to each friend?

Thinking Aloud



What does it mean by ‘bags of 4’?

What makes you say that Ken is correct?

Jiahao: 4 + 4 + 4 + 4 + 4 = 20
There are 5 bags.

Ken: 5 groups of 4 make 20. There are 5 bags.

Lella: There are 4 bags. 4 bags of 5 make 20.

Are the kids correct?

Time

Students are to be able to:

- tell time to 5 min
- use of ‘am’ and ‘pm’
- use of abbreviations h and min
- tell duration of one hour / half hour

Half an hour after 1

Half an hour after 2

Half an hour after 3

Half an hour after 4

Half an hour after 5

Half an hour after 6

Maths Around Us

Having a meal

- What time do we have breakfast?
- What part of the day is breakfast?

Thinking Aloud

An old lady knits with great speed.
30 minutes is all she needs.
She decorates her work with buttons for half an hour.
At 10:30, she is done.
What time did she start her knitting?

What do you see in the picture?

What do you think is happening?

What questions do you wonder about the scenario?

Money

Students are to be able to count amount of money:

- in cents up to $1
- in dollars up to $100

Adam paid this amount of money for a notebook.

How much did the notebook cost?

Show using play money.

Mary paid this amount of money for a doll.

10, 15, 16, 17 dollars

The doll cost $[ ].

Maths Around Us

Saving money

How much money do you have in your savings?
How much more money do you need to buy a toy?

Thinking Aloud

Who has more money?

I have 5 coins.
I have more money than you.

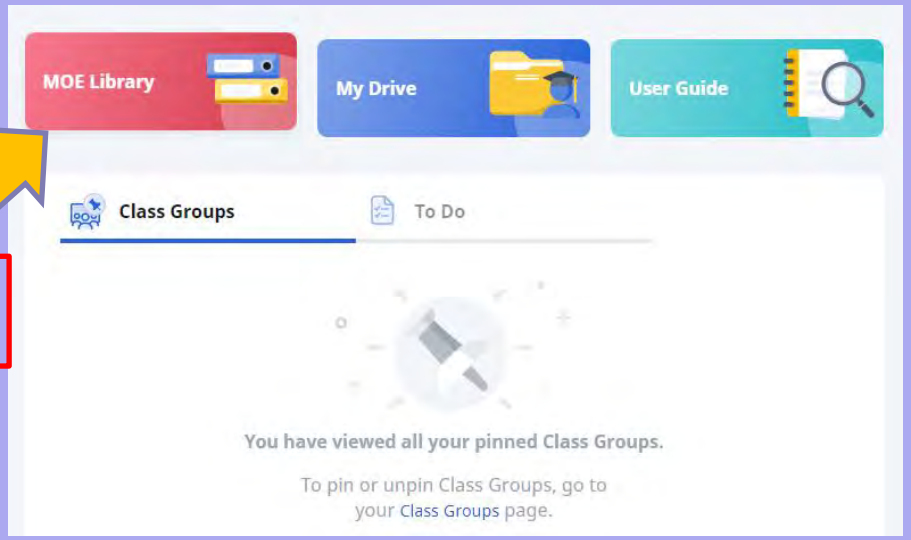
I have 4 coins.
I have more money than you.

How do you know?

Why do you think the boy says he has more money than the girl?

Who has more money?
Give me examples why you say that.

Student Learning Space (SLS)



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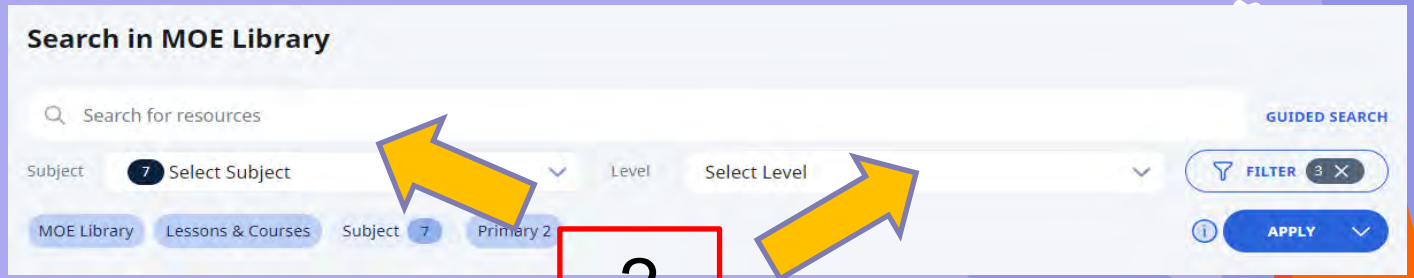

2

KooBits

member.koobits.com

Latest CP Submitted

Name	School	Latest CP	Submission Time	
Basco, *****	UST Angelicum College	3	10:07, 2023-Mar-29	
Papa, L*****	Cembo Elementary School	1	10:07, 2023-Mar-29	
Ahmed U*****	Madrasah Wak Tanjong Al-Islamiah	2	10:07, 2023-Mar-29	
Berbano*****	West Rembo Elementary School	1	10:07, 2023-Mar-29	

Parent App | Teacher App

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Log in details can be found in **student's diary pg 31**

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Joewen Teo
Junyuan Primary School
0 XP
Lvl 1
Brain Games
Events
Story
Daily Challenge
10 personalized questions per day
Start
Mission
Multiplayer
Assignment
0
Total CPs
1000
KoKo Credits
Daily Bonus
Dr. Miko is asking you...
Switch to Teacher

Daily Challenge

Daily Challenge - Math

10 personalized questions per day

Opening Hours:
6am to 10pm, Monday to Saturday

Total Qns
10

Rewards
17 CPs (Full Score)

Start Challenge

Super Vision Challenge

Opening Hours:
6am to 10pm, Monday to Saturday

Score of the Week
0

Start Challenge

Super Speed Challenge

Opening Hours:
6am to 10pm, Monday to Saturday

Score of the Week
0

Start Challenge


KooBits
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Math
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KooBits
Brain
Games
Memory
Flexibility
Speed
Adventure


KooBits
School
Math
Home
Report
Leaderboard
Friends
Help
Joewen Teo
Junyuan Primary School
0 XP
Lvl 1
Brain Games
Events
Story
Daily Challenge
10 personalized questions per day
Start
Mission
Multiplayer
Assignment
0
Total CPs
1000
KoKo Credits
Daily Bonus
Dr. Miko is asking you...
Switch to Teacher

Back

Click Practice Button to Start! (Total 216 skills)

Primary 2 Change Level

0 / 54

Numbers to 1000

Proficiency % | High Score

	High Score	Skill Name	Difficulty	Tutorial	
1		Use base ten blocks to read and write numbers to 1000		▶	Practice
2		Count on by 1s to 1000			Practice
3		Count on by 10s to 1000			Practice
4		Count on by 100s to 1000			Practice
5		Compare numbers to 1000		▶	Practice
6		Identify the greatest or the smallest number from a given number list		▶	Practice
7		Identify odd and even numbers		▶	Practice
8		Write numbers to 1000 in numerals		▶	Practice
9		Write numbers to 1000 in words			Practice
10		Use place value charts to show numbers to 1000		▶	Practice


KooBits
School
Math
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Parent App | Teacher App

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Support

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Ways Parents Can Help their Children

- Do HOMELINK activities with your child
- Ensure written homework is done
- Ensure SLS assignments are completed
- Sign practice book and blue file when brought home and try to go through their corrections

Ways Parents Can Help their Children

What Have I Learnt?

1 Count to 20.

11 eleven	12 twelve	13 thirteen	14 fourteen	15 fifteen
16 sixteen	17 seventeen	18 eighteen	19 nineteen	20 twenty

2 Count by **making a group of 10** first.

There are 12 cakes.

3 Compare and order numbers.

There are 8 **fewer** yellow cubes **than** purple cubes.
There are 8 **more** purple cubes **than** yellow cubes.

The **greatest** number is 19.
The **smallest** number is 7.