

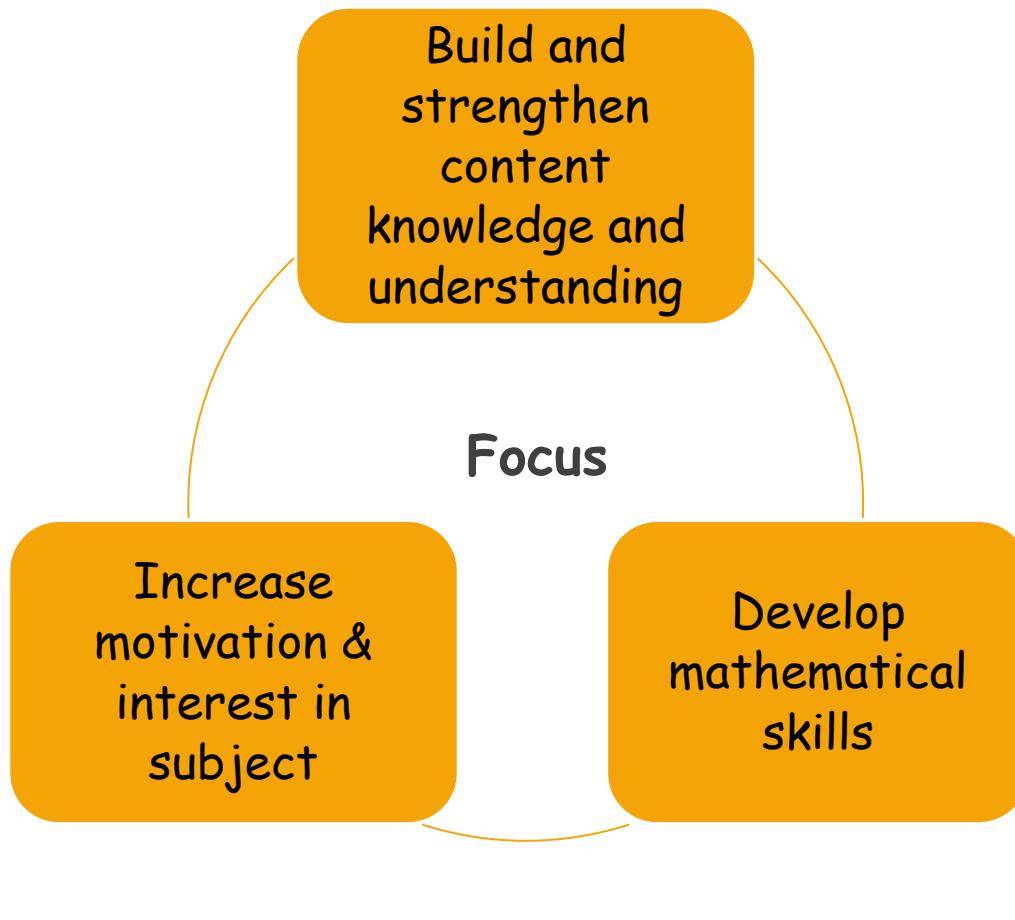
Primary 1 and 2 Mathematics Curriculum Briefing

Content

Learning of Mathematics

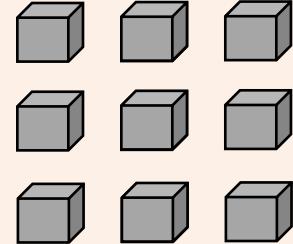
How can I help my child

Teaching and Learning



Teaching Approaches
Concrete-Pictorial-Abstract (**CPA**)
Gradual Release Responsibility (**GRR**)
Problem Solving

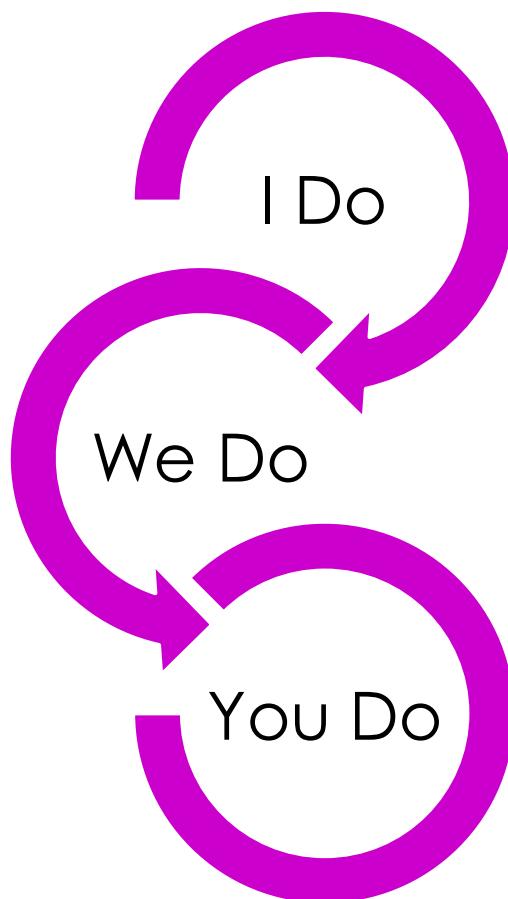
Teaching Approaches

	Characteristics	Example
Concrete	Use of manipulatives, measuring tools or objects	 Count using objects
Pictorial	Use of drawings, diagrams, charts or graphs	Count using diagrams 
Abstract	Use of abstract representations such as numbers and letters	Write the number statement $3 + 5 = 8$

Teaching Approaches

**Gradual Release
Responsibility
(GRR)**

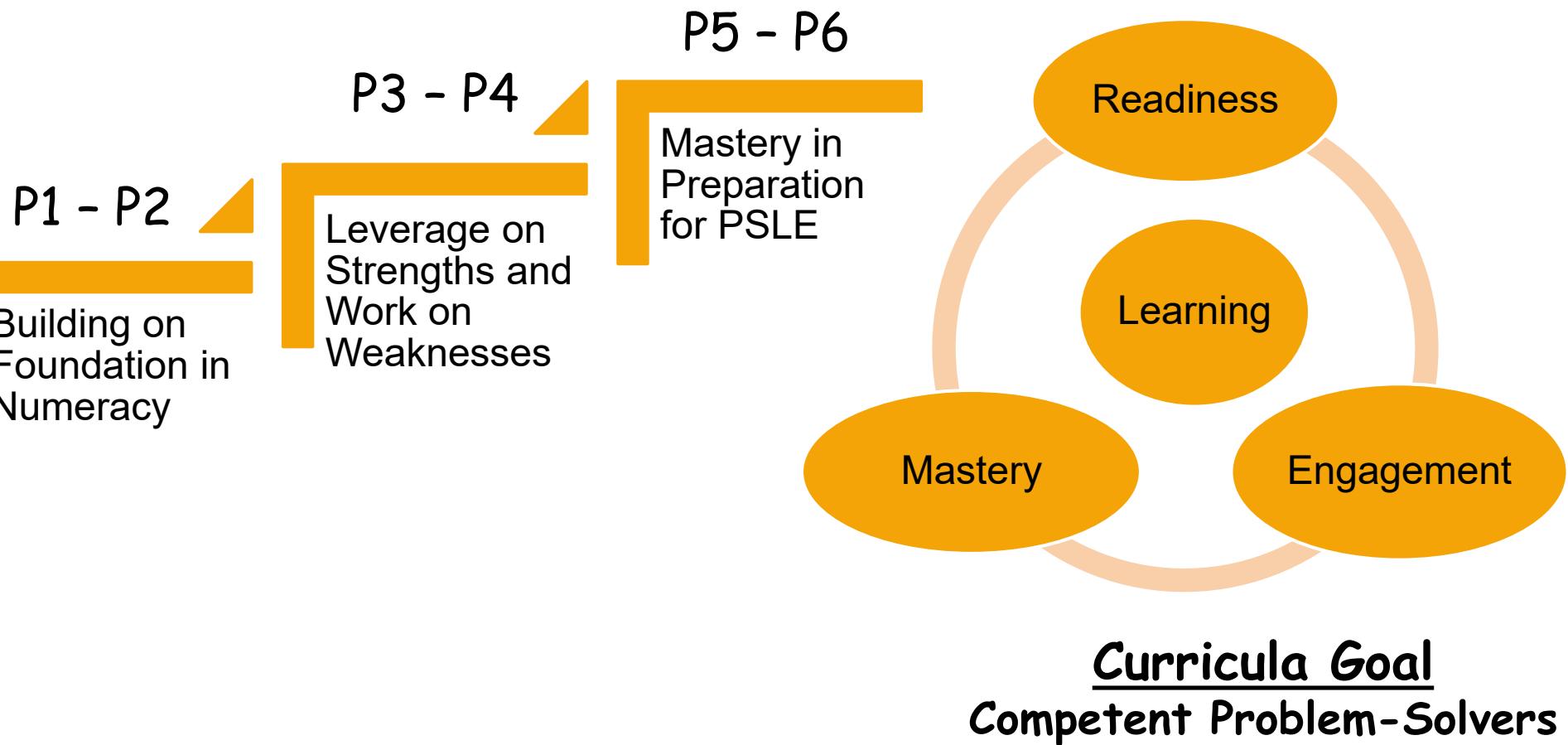
Teacher/Students Do Together



Teacher Demonstrates

Students Try on Their Own

Teaching and Learning



Mathematics Materials

Heuristics
Worksheets

Topical Mastery
and
Learning Reviews

Textbook and Workbook

Topical Mastery and
Learning Reviews used as
formative assessment

Curriculum

Content Strands - Spiral Curriculum

Numbers and Algebra

Whole Numbers

Fractions

Money

Measurement and Geometry

Measurement

Geometry

Statistics

Data Representation and Interpretation

Curriculum

Primary 1

Whole
Numbers

Measure-
ment

Geometry

Data
Analysis

Primary 2

Whole
Numbers

Measure-
ment

Geometry

Data
Analysis

Fractions

Problem Solving - Heuristic skills

P1	P2
Act It Out	Act It Out
Draw a Diagram	Draw a Diagram
Make a List	Make a List
	Look for Patterns
	Work Backwards

Learning Outcomes for P1

- ❖ Understand numbers up to hundred.
- ❖ Understand addition and subtraction.
- ❖ Add and subtract numbers
- ❖ Identify, name, describe and sort shapes
- ❖ Measure and compare lengths of objects.
- ❖ Understand multiplication and division
- ❖ Tell time to 5 minutes
- ❖ Read and interpret picture graphs

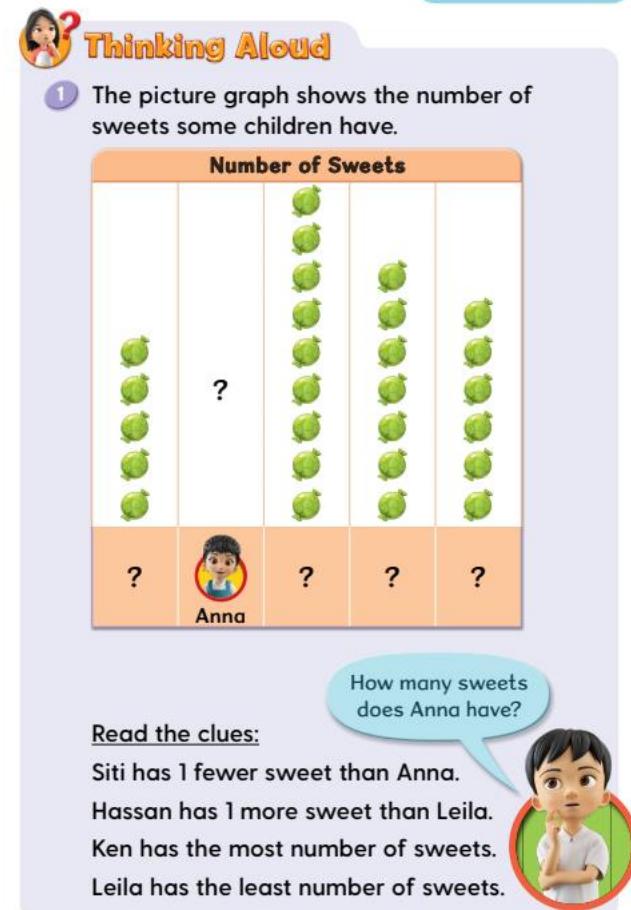
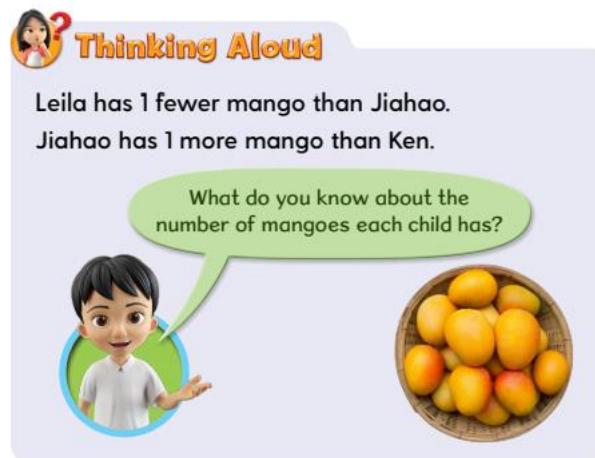
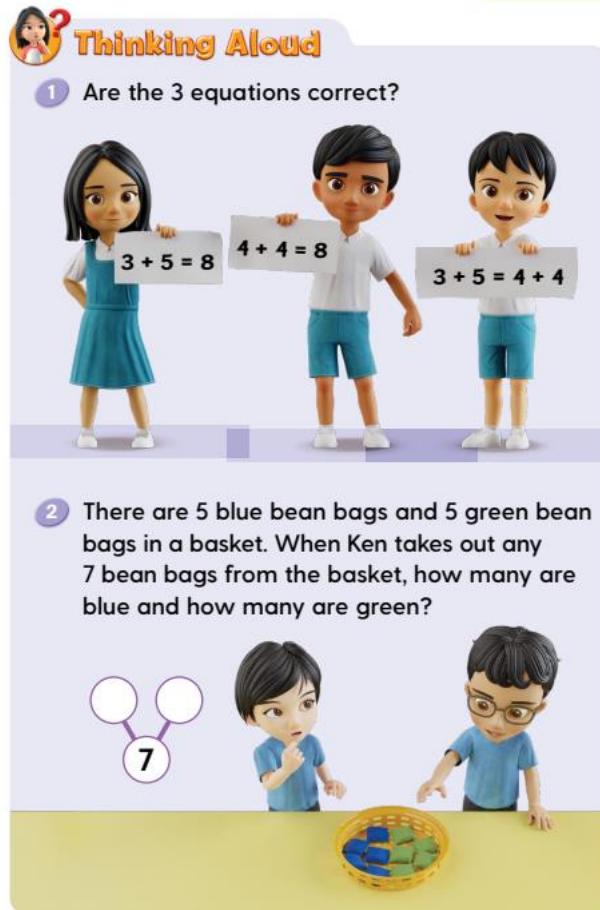
Learning Outcomes for P2

- ❖ Understand numbers up to thousand
- ❖ Solve mathematical problems involving addition and subtraction
- ❖ Multiply and divide numbers within multiplication tables
- ❖ Compare and order objects by length, mass or volume
- ❖ Understand fractions.
- ❖ Read and interpret picture graphs with scales.
- ❖ Identify, name, describe and sort shapes and objects.
- ❖ Tell time to the minute

Mathematics and 21st Century Competencies

- ▶ The learning of mathematics creates opportunities for students to develop key competencies that are important in the 21st century, in particular, Critical, Adaptive and Inventive Thinking

Thinking Aloud



Primary 1

Thinking Aloud

Thinking Aloud

1 $527 - 389 = ?$

$$\begin{array}{r} 527 \\ - 389 \\ \hline 138 \end{array}$$

$$\begin{array}{r} 527 \\ - 389 \\ \hline 138 \end{array}$$

$$\begin{array}{r} 527 \\ - 389 \\ \hline 138 \end{array}$$



Are the children correct?



Jiahao



Siti

2 $23 + 146 = ?$



Is Xinyi correct?

I do it this way.

$$\begin{array}{r} 23 \\ + 146 \\ \hline 376 \end{array}$$

Primary 2

Thinking Aloud

The show 'Elf and Friends' is 113 min long.

How long is the show in hours and minutes?

113 min = 1 h 13 min



113 min = 60 min + 53 min
= 1 h 53 min

Who is correct?



Thinking Aloud

Susan is leaving her home. She needs to do the following before returning home:

- post a letter in the postbox.
- buy cookies from the cafe.
- buy a packet of grapes from the market.
- visit her grandmother.



She can walk along the dotted path shown on the map above.

Which is the shortest path to take?

How long is that path?

Assessment

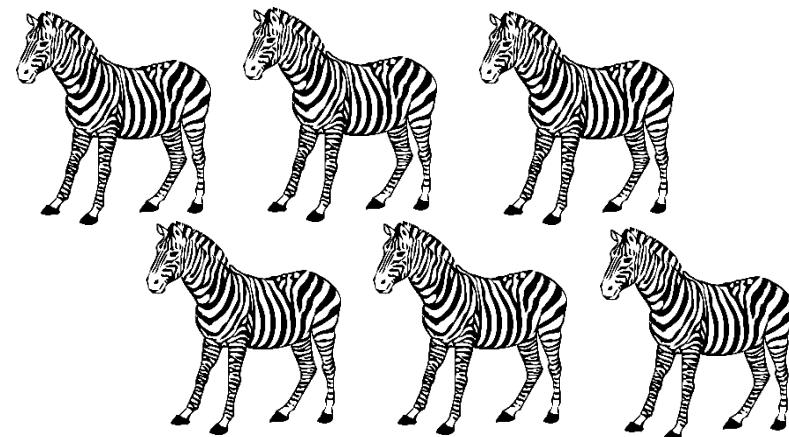
- No weighted assessment
- Focus on formative assessment
 - Lesson-based (e.g. questioning, white board)
 - Authentic Learning
 - Learning Experiences (e.g. use play money to simulate real-live experiences)
 - Topical Mastery/ Learning Reviews (Progressive - check students' mastery of concepts and skills)



How can I help my child

Difficulties Faced

6

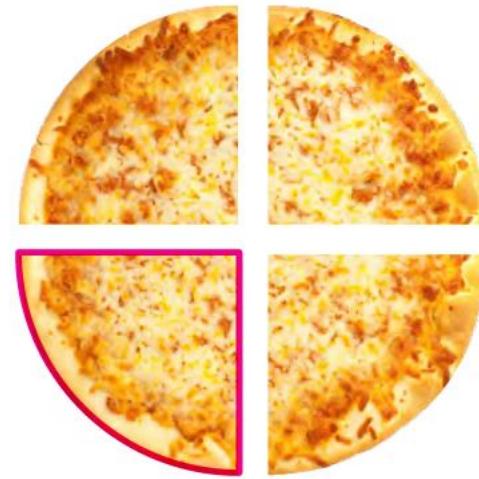


Number symbol has no resemblance to the things they are representing.

Numbers are abstract to children

Difficulties Faced

$$\frac{1}{4}$$



Understanding the meaning
of a fraction.

Difficulties Faced

Vocabulary - Terms

- Altogether / Total / Left
- More Than/Less Than/Greater Than
- Longer/Shorter
- Greatest/Smallest
- Most/Least

Word Problems

There are 3 apples and 5 oranges.

How many fruits are there **altogether**?

Jenny has 9 marbles.

Mary has 6 marbles.

How many **more** marbles does Jenny have than Mary?

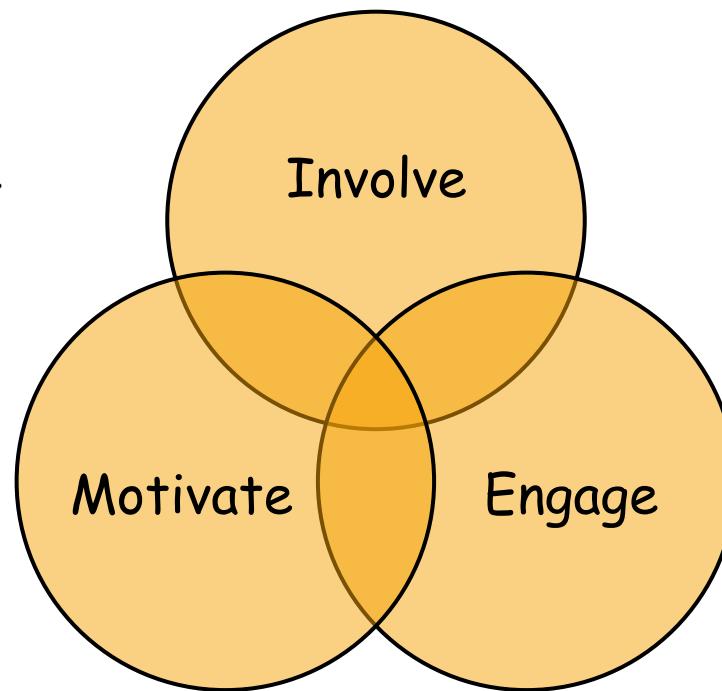
IME Approach

Involve

- Aware of progress and challenges faced
- Ensure homework is done

Motivate

- Help child cultivate positive learning attitude, develop passion in the subject
- Show application and draw links of Mathematics in daily real-life situations



Engage

- Help child develop Factual Fluency of mathematical facts
- Use correct mathematical language

Example:

“Borrow”, “Carry” ✗

Regroup ✓



Thank You