

# Teaching and learning

Build and  
strengthen  
content  
knowledge and  
understanding

Focus


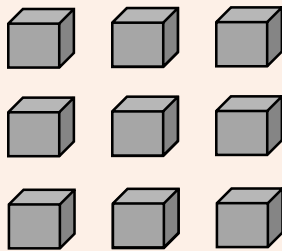
Increase  
motivation &  
interest in  
subject

Develop  
mathematical  
skills

Teaching Approaches

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

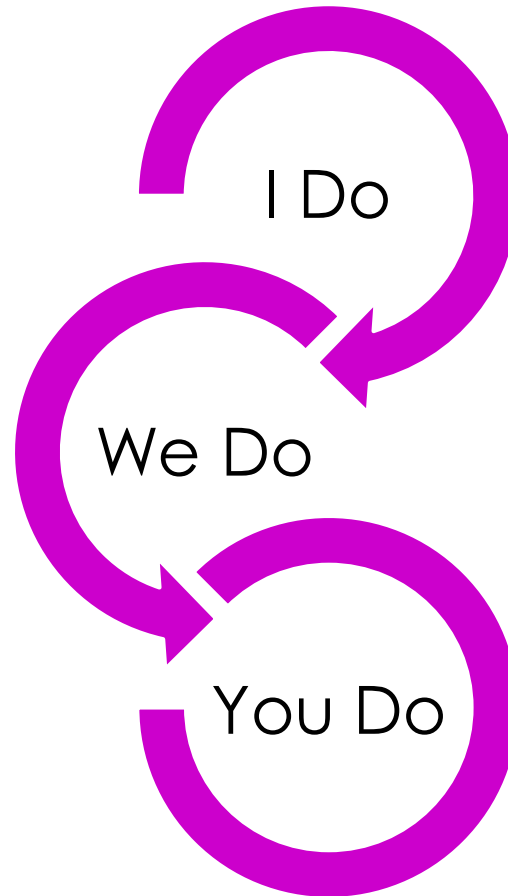
# Teaching approaches

	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)

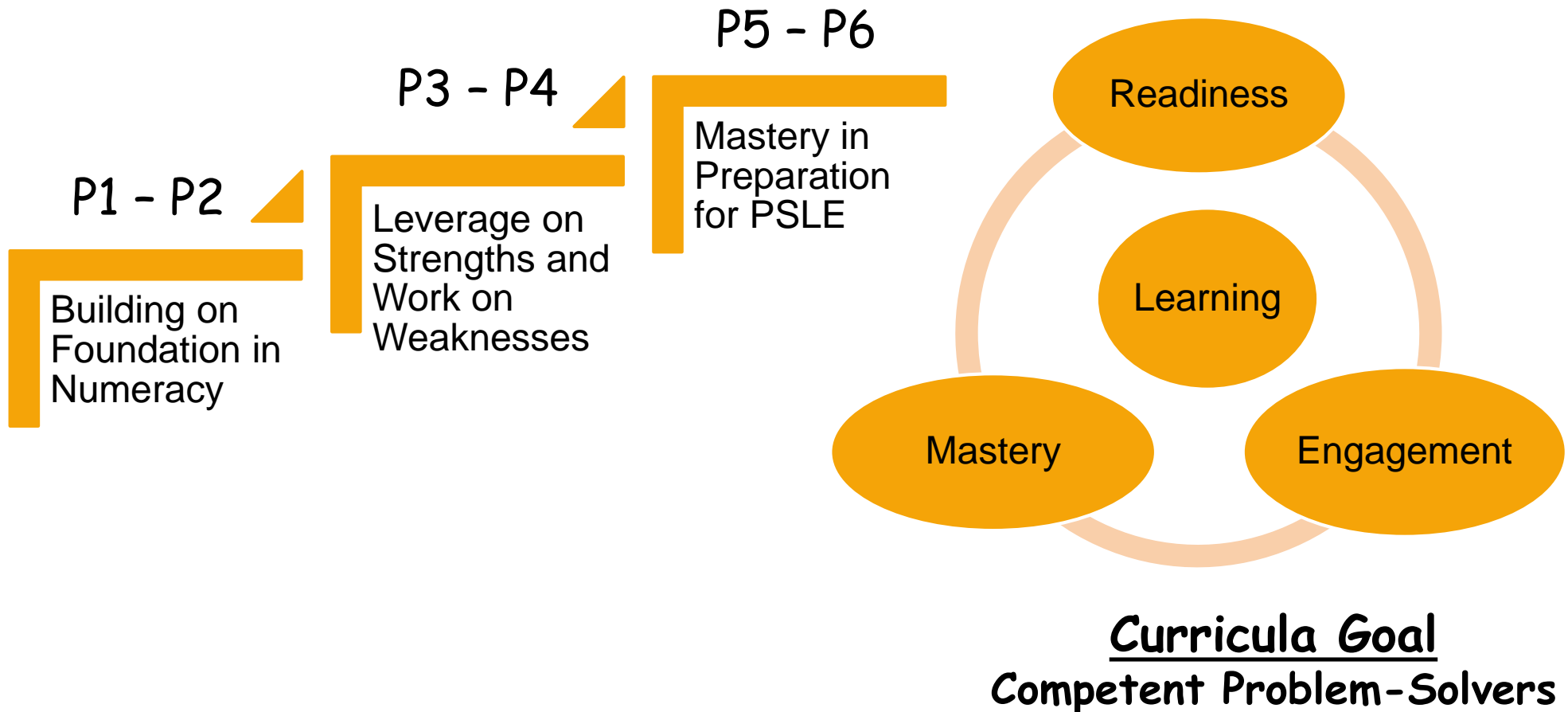
Teacher/Students Do Together



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



# Assessment

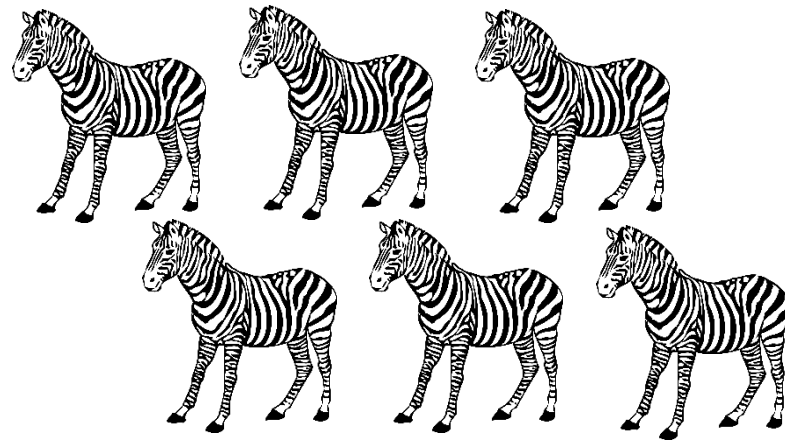
- No weighted assessment
- Focus on formative assessment
  - Lesson-based (e.g. questioning, white board)
  - Authentic Learning
    - Learning Experiences (e.g. use play money to simulate real-live experiences)
  - Topical Mastery/ Learning Reviews (Progressive - check students' mastery of concepts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

## 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?

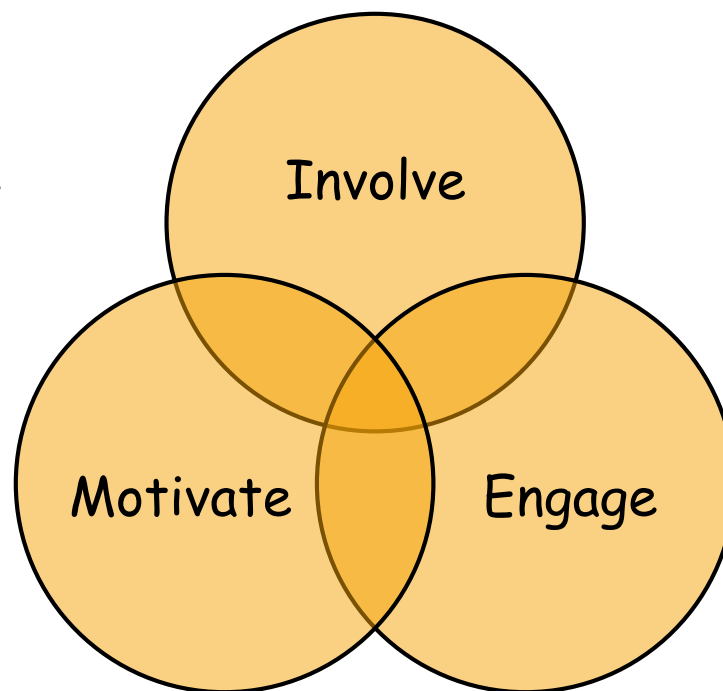
# IME Approach

## 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 ✓
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