MATHEMATICS

Information
for
Primary One Parents

Primary Mathematics (Laying a strong foundation)

The Primary Mathematics syllabus aims to enable all students to:

- Acquire mathematical concepts and skills for everyday use and for continuous learning in Mathematics.
- Develop thinking, reasoning, communication, application and metacognitive skills through a mathematical approach to problem solving; and
- Build confidence and foster interest in Mathematics

Primary Mathematics
Key Focus

- Develop critical mathematical processes that support the development of 21st century competencies
- Develop a greater awareness of the big ideas in Mathematics that will deepen students' understanding and appreciation of Mathematics
- Give greater emphasis to the development of metacognition to promote self-directed learning and reflection.

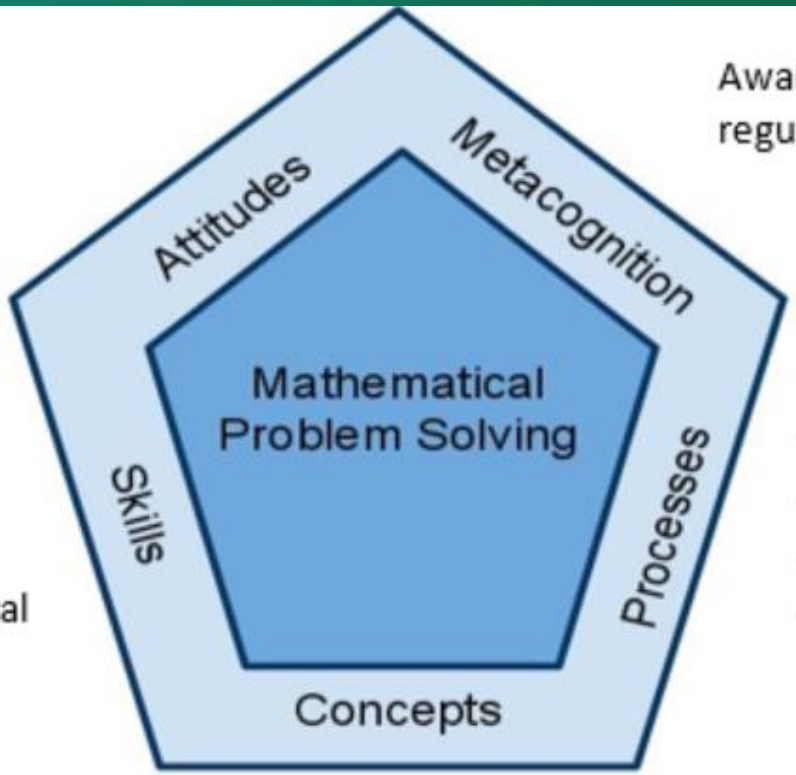
Our Vision

A Creative, Innovative and Effective Mathematics Problem Solver

Mathematics Curriculum Framework

Belief, appreciation, confidence, motivation, interest and perseverance

Awareness, monitoring and regulation of thought processes



Proficiency in carrying out operations and algorithms, visualising space, handling data and using mathematical tools

Competencies in abstracting and reasoning, representing and communicating, applying and modelling

Understanding of the properties and relationships, operations and algorithms

Syllabus Organisation

The concepts and skills covered in the syllabus are organised along 3 content strands. The development of processes, metacognition and attitudes are embedded in the learning experiences that are associated with the content.

Concept and Skills		
Number and Algebra	Measurement and Geometry	Statistics
Learning Experiences (Processes, Metacognition and Attitudes)		

Content Sequence – Primary 1

Semester 1	
Numbers to 10 Addition Up to 10 Subtraction Up to 10 Shapes Ordinal Numbers	Numbers to 20 Addition & Subtraction Up to 20 Picture Graphs Numbers to 100
Semester 2	
Addition & Subtraction within 100 Length Multiplication	Division Time Money

Changes in P1 Content

Topics	Movement	Removal
Length	➢ P2: Standard Unit of Length (cm)	• Non-standard unit of Length
Time	• Use of Digital Clock • Telling time to 5 min	• Use of ‘half past’
Shapes	• Half circle and quarter circle (P2 to P1) • Patterns (P1 to P2)	

Learning Outcomes – P1

2021 Syllabus

1. Understand numbers up to hundred
2. Understand addition and subtraction
3. Add and subtract numbers
4. Understand multiplication and division
5. Identify, name, describe and sort shapes
6. Tell time to 5 minutes
7. Measure and compare lengths of objects
8. Read and interpret picture graphs

Content Sequence – Primary 2

Semester 1	
Numbers to 1000 Addition and Subtraction Length	Multiplication & Division Multiplication Tables of 2, 5 & 10 Mass Time
Semester 2	
Addition & Subtraction (2-Step Word Problems) Multiplication Tables of 3 and 4 Money Fractions	Volume Picture Graphs Shapes

Changes in P2 Content

Topics	Changes	Removal	Movement
Length			**P2 to P1:** Standard unit of length (cm)
Time			**P3 to P2:** • Telling time to the minute • Measuring time in hours and minutes • Converting time **P2 to P1:** Telling time to 5 minutes

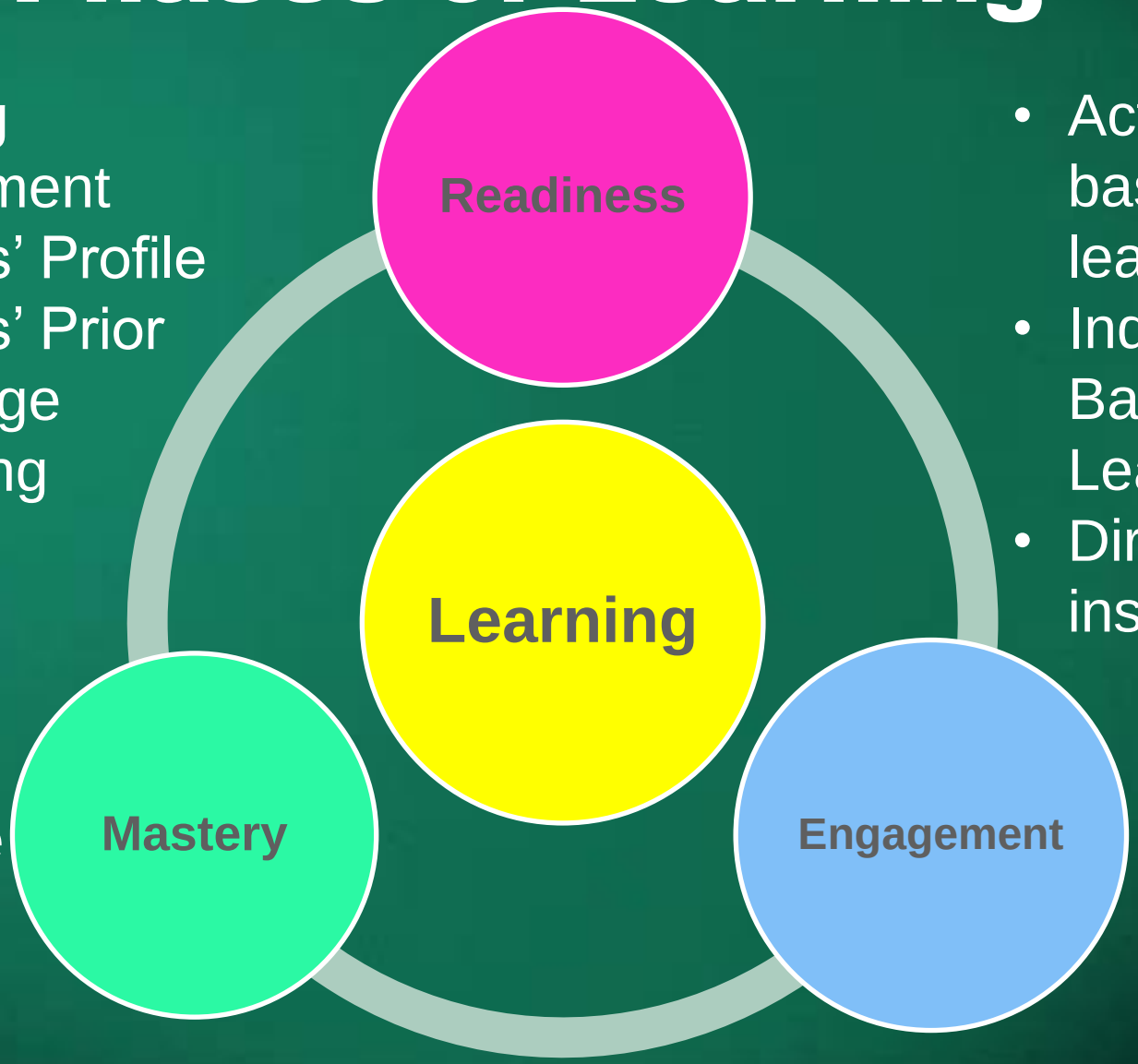
Changes in P2 Content

Topics	Changes	Removal	Movement
Shapes			**P1 to P2:** Making and completing 2D patterns **P2 to P1:** Half circle and quarter circle

Making and completing 2D patterns are done together with making and completing 3D shapes.

Phases of Learning

- Learning Environment
- Students' Profile
- Students' Prior knowledge
- Motivating contexts



- Activity-based learning
- Inquiry-Based Learning
- Direct instruction

- Motivated Practice
- Reflective Review
- Extended Learning

Primary 1 Programme

Primary Mathematics Instructional Programme

To help **students build strong foundation** in primary Math through a structured teaching sequence and supporting manipulatives and materials based on the concrete-pictorial-abstract (CPA) approach.

Primary 1 Programme

Learning Support for Math

- Provide help for students with weak basic numeracy skills
- Students receive more individual attention from teacher
- Students learn through hands-on experiences

Primary 1 Programme

Integrated Trails

- To experience real-life Mathematics around them

Primary 1 Programme

Money Sense!

- Able to count amount of money in dollars up to $100
- Understand the value of money
- Build confidence and foster interest in Mathematics
- Reward system
- Make sound decision

Rubrics – Money sense

I Love Math Rewards Rubric

S/No.	Description	Amount to be awarded
1.	• Shows interest in Mathematics by being actively engaged during lessons and group works • Able to follow instructions during class/ group/ individual activities	20¢
2.	• Able to carry out individual/ peer assessment accurately • Shows perseverance/ positive attitude when solving Mathematics problems	50¢
3.	• Shows great improvement in class work/ homework. For example, from Low Progress learners to Middle Progress learners and from Middle Progress learners to High Progress learners • Demonstrates creativity in problem solving. For example, coming up with alternative ways of solving • Assist/ Guide/ Coach peers when they are facing issues with their tasks. Peers have to show understanding after seeking their help	$1

Money sense

Money sense


20¢ 50¢ 70¢
$3
$1 $1.50
RADIN MAS PR
WORK AND PLAY
REDEMPTION
BOOTH

Ma Alive

- To provide platforms for students to explore and/ or relate the mathematical concepts that they have learnt at a relational or extended abstract level using real-life scenarios.
- To provide platforms for students to link and integrate the mathematical concepts that they have learnt and contribute to a deeper and more coherent understanding of the concepts.

Ma Alive

- To provide platforms for students to tap on their prior knowledge to build new knowledge.

Ma Alive

Ma Packages

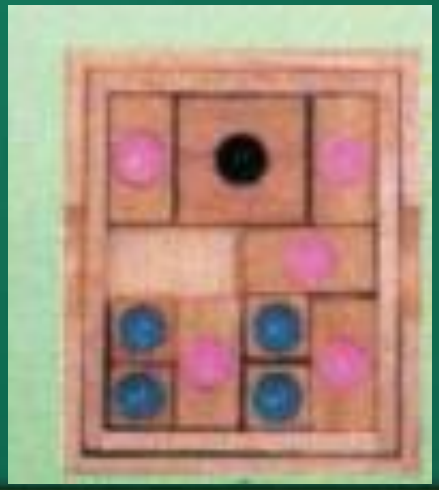
Experiential Learning Activities

- Enhance conceptual understanding through use of the Concrete-Pictorial-Abstract approach
- Communicate their reasoning and connections through various mathematical tasks and activities.

Ma Packages

Brain Games

- To develop the abilities to reason and apply problem solving skills through games



Ma Packages

Reasoning Cartoon

- Develop thinking, reasoning, communication, application and metacognitive skills with the help of our cartoon characters, Chendol, Kachang, Cheng Teng and Cha Cha.

Peter has a box of toy cars and toy aeroplanes.

The box has _____ toys.

There are fewer toy cars than toy aeroplanes.

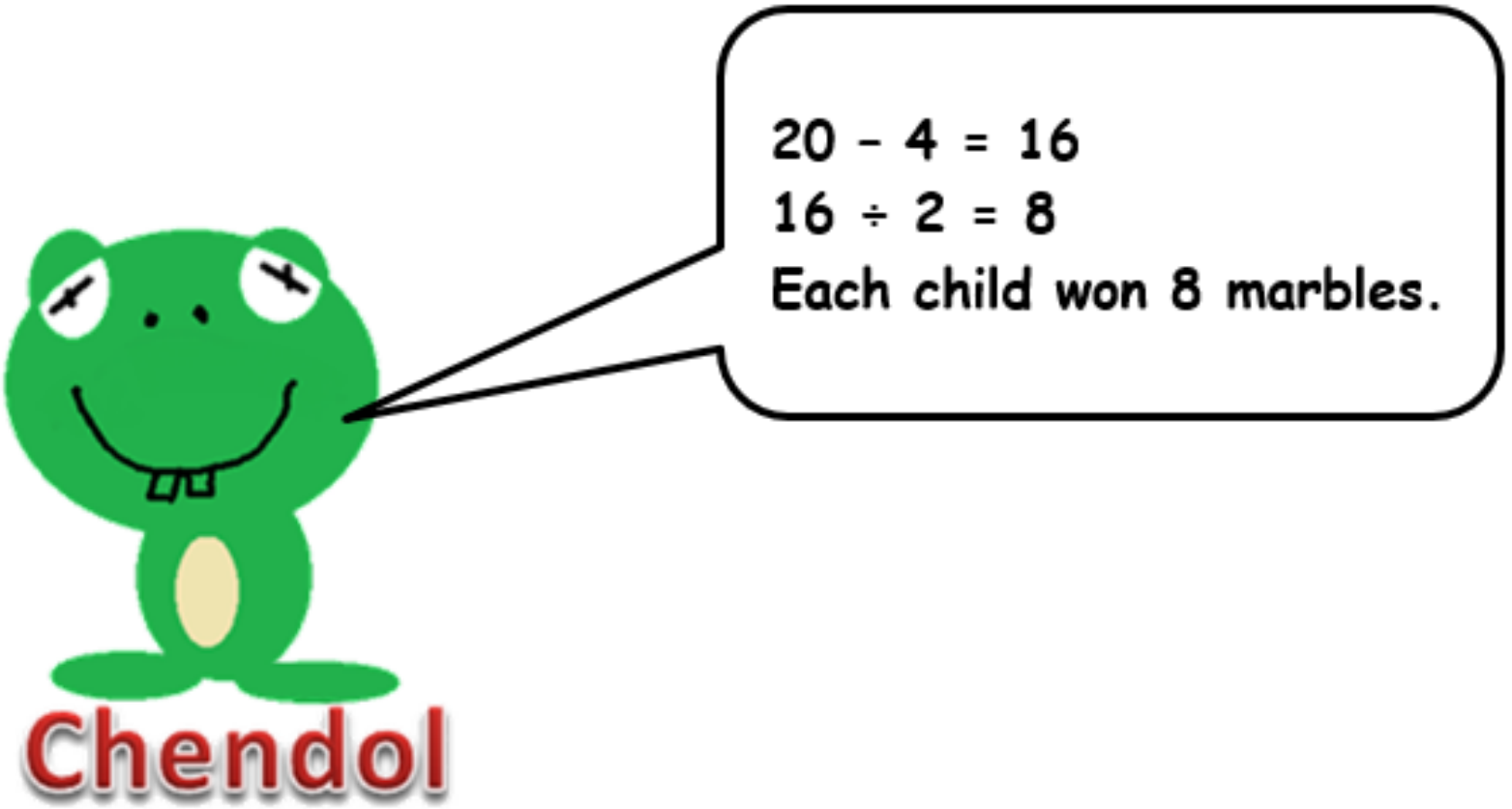
There are _____ toy cars and _____ toy aeroplanes.

Look at the word problem and fill in the blanks with numbers from the box.

Cha Cha

15,	5,	20

Ahmad together with Sam won 20 marbles as a prize at a Fun Fair. Ahmad dropped 4 marbles. On their way home, they decided to share **their prize equally**.



Do you agree with Chendol's working? Explain your reasoning.

The ticket prices for an amusement park are as follows:

Age	Price (1 person)
Below 6 years old	$1
6 – 10 years old	$2
11 – 15 years old	$3

1) If you are 4 years old, how much do you have to pay to enter the amusement park?

Cheng Teng

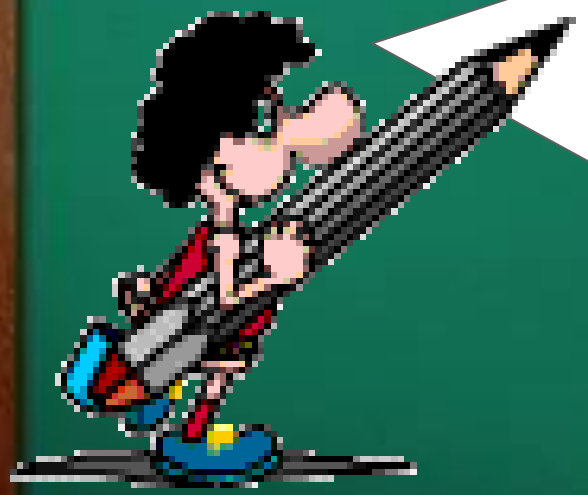
Heuristics (P1 – P5)

1. Draw a model/diagram
2. Make a systematic list/tabulation
3. Look for patterns
4. Guess and check
5. Act it out
6. Use before-after concept

Heuristics (P1 – P5)

7. Work backwards
8. Restate the problem in another way
9. Simplify the problem
10. Make suppositions

CPA Approach



Our approach when teaching Math concepts to young children is from ‘Concrete’ to ‘Pictorial’ to ‘Abstract’.

C-P-A Approach

Model Drawing

- To allow students to “see” the word problem in a mathematical way and help them to solve the problem sums

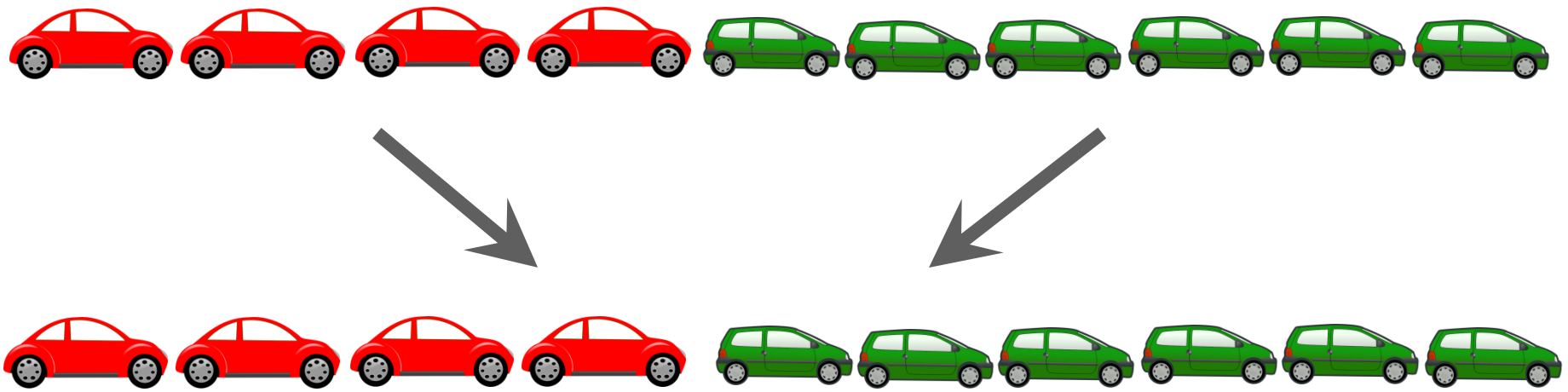
Concrete Objects

Drawing of Rectangular Bars

Solve Abstract Word Problem

STAGE 1: USING CONCRETE MATERIALS

Sam has 4 red toy cars. He buys 6 more green toy cars. How many toy cars does he have now?



4 + 6 = 10

STAGE 2: PICTORIAL REPRESENTATION

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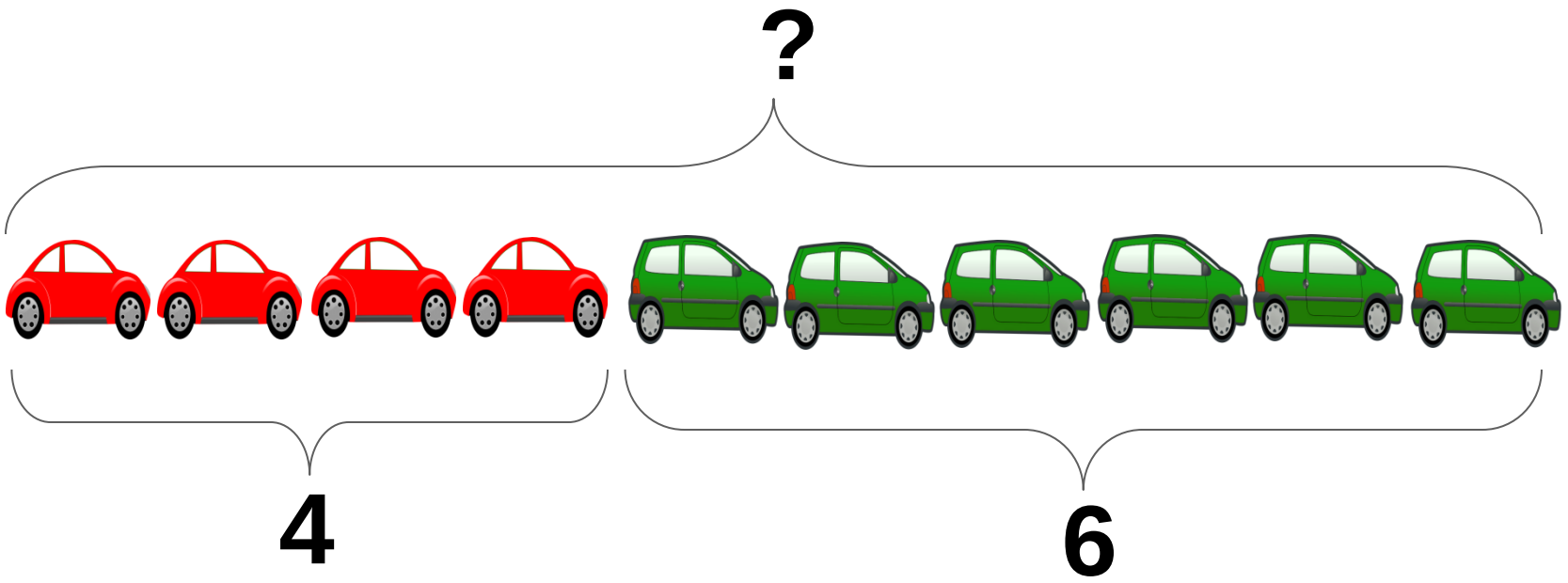

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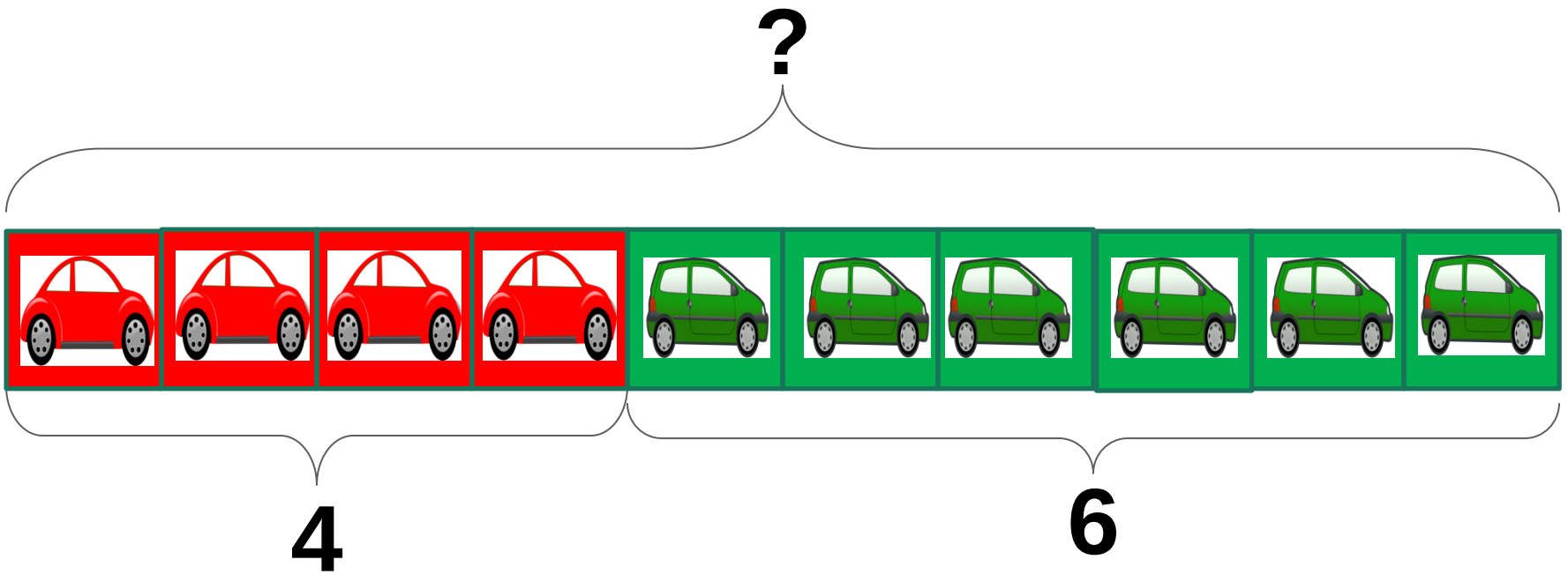
STAGE 3: INSERT BOXES WITH PICTURES

Sam has 4 red toy cars. He buys 6 more green toy cars. How many toy cars does he have now?



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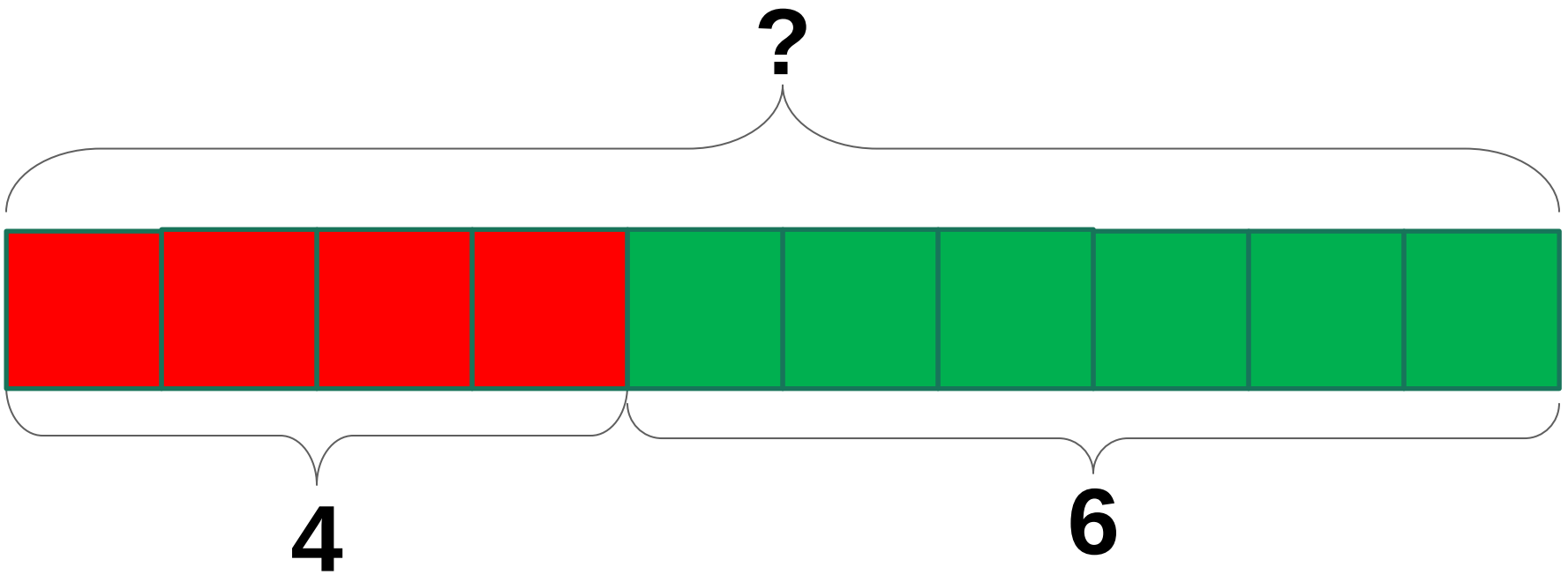

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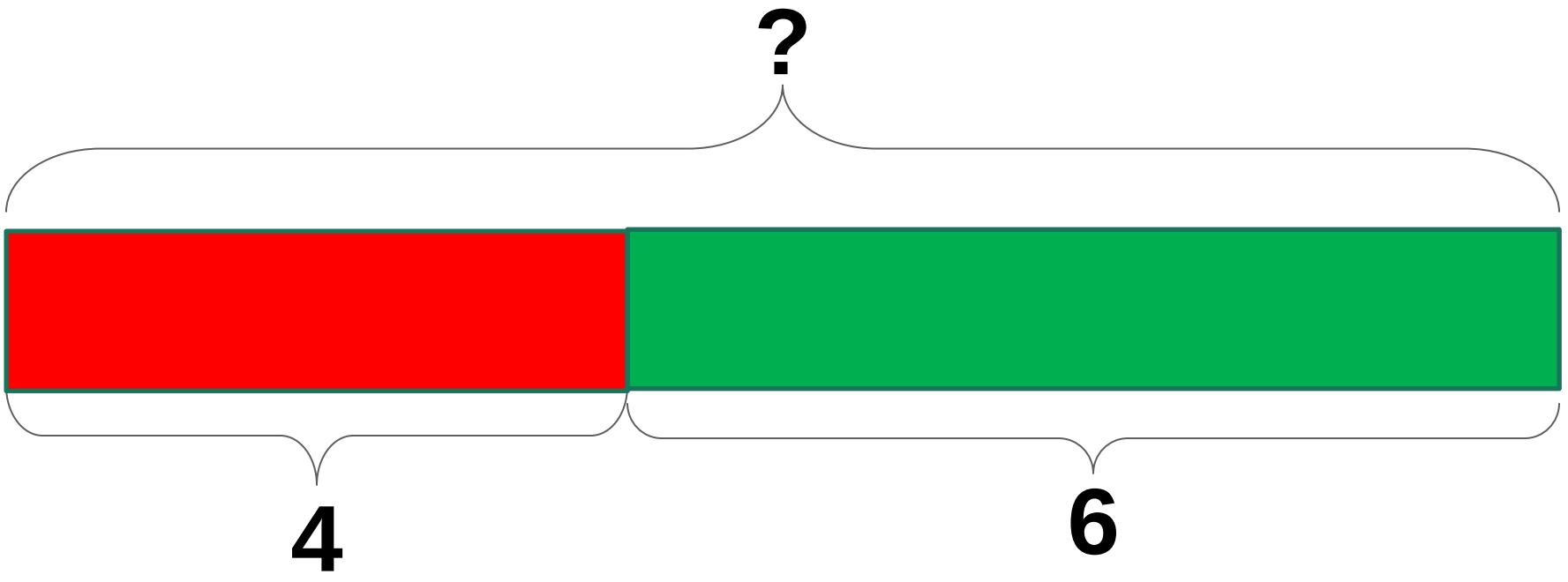

4 + 6 = 10

How Can You Help Your Child In Mathematics

- Carry out these activities in an informal and fun way
- Having mastered counting, (1 to 20), help your child with the number bonds

of 5 : eg. 1 + 4 , 2 + 3

of 10 : eg. 1 + 9 , 2 + 8

of 20 : eg. 1 + 19, 5 + 15

How Can You Help Your Child In Mathematics

- Count with your child, using familiar concrete objects at home, such as toys, spoons, books etc.
- Start with a small number of objects first and then progress to more objects.
- The importance of Math language

How Can You Help Your Child In Mathematics

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THANK YOU