Yan Kow Cheong

Yan Kow Cheong, based out of Singapore has been active on the Singapore’s mathematics educational scene for over two decades with teaching appointments at the ACS (Independent), NUS Extension, Institute of Technical Education, and Singapore Science Centre. He regularly conducts workshops and seminars for primary and secondary school students, teachers and parents.

Kow-Cheong is the author of Singapore’s best-selling Mathematical Quickies & Trickies series and the co-author of the MOE-approved Additional Maths 360. Besides editing primary and secondary MOE-approved textbooks, co-writing Teachers’ Guides, and ghost-writing assessment titles, he has also written contests questions and on-line assessment tests, and provided contents for maths apps.

A contributor to mathematics periodicals and journals, such as The Mathematics Educator, Mathematics Medley; he is also the author of The Stack Model Method: An Intuitive and Creative Approach to Solving Word Problems [Primary 3–4 & 5–6] and many other titles. His academic interests involve research in mathematics education, in particular, the psychology of learning and teaching mathematics, and creative problem solving.

Kow-Cheong writes about the good, the bad and the not-so-ugly of Singapore’s maths education and of the local educational publishing industry. Read his two maths blogs at www.singaporemathplus.com and www.singaporemathplus.net.

He can be reached at: kcyan@singaporemathplus.com

Dr. Kevin Mahoney

Dr. Kevin Mahoney, based out of America has been a teacher of mathematics since 1989. A "math war" veteran, he has worked on wide variety of mathematics pedagogy and curricular materials in both public and private schools. In 2012, he became the first American to investigate Singapore’s elementary teaching methods at the doctoral level, publishing original academic research on the effects of Singaporean pedagogy on American math students.

Dr. Kevin worked as Math Curriculum Coordinator at an independent school outside Boston, Massachusetts. He consults with large numbers of schools and teacher training institutes in U.S., Canada, Europe and India, training the faculty and helping schools effectively implement mathematics curriculum and instruction.
**Preface**

**WOW MATHS** based on the Singapore model is a series of eight textbooks specially designed to meet the mathematical needs and wants of primary and middle school students in India, by incorporating the proven problem solving strategies and heuristics commonly used in the Singapore maths curriculum.

Besides promoting critical and creative thinking in mathematics, the **WOW MATHS** series introduces the **Singapore Bar (or Model) Method** - a powerful visualization and problem-solving heuristic used to solve word problems and to help students gain a better insight into mathematical concepts across all the eight grades.

**Approach**

The series infuses the **Concrete-Pictorial-Abstract** (CPA) approach of learning and teaching interwoven with the bar model method. This blend makes the teaching of mathematical concepts much simple and easier. The simpler and effective strategies will not only motivate the students to learn a new topic, concept or skill, but will also make the learning of mathematics more meaningful and relevant to their everyday life.

---

**Concrete**

Venu has 3 cars.

![Concrete diagram]

**Pictorial**

Siya has 2 cars.

![Pictorial diagram]

**Abstract**

<table>
<thead>
<tr>
<th>Venu</th>
<th>Siya</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>2</td>
</tr>
</tbody>
</table>

3 + 2 = 5

They have 5 cars in all.
The WOW series has 15 unique features.

**WOW KIDS**
They are your Maths buddies. They stimulate interest, explain concepts and create involvement in learning.

**I Have Learnt**
Quick recap of the concepts learnt in the previous class.

**Warm Up**
Encourages active student participation and creates opportunity for interaction and discussion.

**Everyday Maths**
Relates the concepts taught to every situation and shows how mathematical concepts are applied to everyday situations.

**Mental Maths**
Trains children to perform mental calculations quickly.

**Mind It**
Cautions/Alerts children of the common mistakes and errors.

**I Can**
Consolidated check of the concepts learnt in the previous class.

**Topics Covered**
Show scaffolded introduction of concepts. Develop conceptual learning.

**Exercise**
Graded exercises assess understanding of mathematical concepts.

**Think Smart**
Helps students enhance their critical and creative thinking skills, and to arouse mathematical curiosity.

**Fact Zone**
Mathematical facts about the topics.

**Practice Sheet**
Consists of graded questions that test understanding and application of concepts taught with an integrated approach.

**Maths Lab Activity**
Hands on activities to further consolidate the concepts taught.
Singapore Maths Curriculum is recognized around the world for its innovative and effective teaching and learning practices. Singapore uses heuristics (problem solving strategies) and Bar Model Method (an effective pedagogical strategy recognized in over 30 countries and ranked the highest in TIMSS).

Bar or the Model drawing is a powerful visualization problems solving heuristic that is used to solve both arithmetic and algebraic problems. The Model method enables word problems that we traditionally set at higher grades (using algebra) to be set at lower grades.

The Bar (or Model) method:
• helps students to gain a better insight into mathematical concepts such as fraction, ratio and percentage
• helps students to plan for the solution steps for solving a maths problem
• is comparable to, but is less abstract than, the algebraic method
• empowers students to solve challenging problems

Let’s solve some problems by both the traditional and bar model methods.

Venu spent \( \frac{1}{2} \) of his pocket money on a movie and \( \frac{1}{4} \) on a new pen. What fraction of his pocket money was left?

**Traditional Method**

Money spent on movie = \( \frac{1}{2} \)

Money spent on pen = \( \frac{1}{4} \)

Total money spent = \( \frac{1}{2} + \frac{1}{4} \)

\[ = \frac{2}{4} + \frac{1}{4} = \frac{3}{4} \]

Money left = \( 1 - \frac{3}{4} \)

\[ = \frac{4}{4} - \frac{3}{4} = \frac{1}{4} \]

\( \frac{1}{4} \) of his pocket money was left.

**Model Method**

Money left = \( \frac{1}{4} \)

\( \frac{1}{4} \) of his pocket money was left.
Sahil earned a profit of ₹20.00 by selling a pair of shoes for ₹300.00. What was the cost of the pair of shoes?

**Traditional Method**

Selling price (S.P.) = ₹300.00  
Profit (P) = ₹20.00  
Cost price (C.P.) = ?  
C.P. = S.P. – Profit  
C.P. = ₹300.00 – ₹20.00  
C.P. = ₹280.00  
The cost price of the pair of shoes was ₹280.00.

**Model Method**

<table>
<thead>
<tr>
<th>S.P.</th>
<th>C.P. =?</th>
<th>Profit</th>
</tr>
</thead>
<tbody>
<tr>
<td>₹300.00</td>
<td>₹280.00</td>
<td>₹20.00</td>
</tr>
</tbody>
</table>

The cost price of the pair of shoes was ₹280.00.

---

Bar modeling is also helpful in solving mathematical problems of higher grades.

Tanya has two brothers. She gave \( \frac{1}{6} \) of her stamp collection to one of them and \( \frac{2}{5} \) of the remainder to the other. In the end, she was left with 12 stamps. How many stamps did Tanya have at first?

**Traditional Method**

Number of stamps = \( x \)  
Stamps given to one brother = \( \frac{1}{6} x \)  
Remaining stamp collection = \( \frac{5}{6} x \)  
Stamps given to other brother  
\[ = \frac{2}{5} \times \frac{5}{6} x = \frac{1}{3} x \]  
Remaining stamps = 12  
According to the question,  
\[ \frac{1}{6} x + \frac{1}{3} x + 12 = x \]  
\[ \frac{x + 2x + 72}{6} = x \]  
\[ \frac{3x + 72}{6} = x \]  
\[ 3x + 72 = 6x \]  
\[ 3x - 6x = -72 \]  
\[ -3x = -72 \]  
\[ x = 24 \]  
Tanya had 24 stamps at first.

**Model Method**

Total Stamps

<table>
<thead>
<tr>
<th>Remainder</th>
<th>Given to first brother</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td></td>
</tr>
<tr>
<td>6 units</td>
<td>12 ÷ 3 = 4</td>
</tr>
</tbody>
</table>

Tanya had 24 stamps at first.
Polya’s four-step model, named after the Hungarian mathematician, George Polya (1887-1985), is commonly used in mathematical problem solving.

Polya’s 4-step problem solving process

**Step - 1**
Understanding the problem

**Step - 2**
Devising a Plan

**Step - 3**
Doing

**Step - 4**
Checking

**Read, Visualize & Think**
- Identify wanted, Given & Needed information
- Restate the problem

**Choose a Strategy**
- Draw a model
- Work backwards
- Look for a pattern
- Guess & Check
- Simplify a problem

**Solve the Problem**
- Workout the solution
- Tryout different strategies

**Explain Your Work**
- Check the solution
- Seek alternatives solutions, if required
- Extend the method to other problems

### Example Problem

**Given Data**
- Total People: 90
- Men: 60
- Women: ?

**Solution**
- Women: 30
- Men + Women = Total People
- 60 + 30 = 90

**Example Problem 2**

**Given Data**
- Total People: 90
- Men: 60
- Women: 30

**Solution**
- Men + Women = Total People
- 60 + 30 = 90

**Example Problem 3**

**Given Data**
- Total People: 90
- Women: ?
- Men: 60

**Solution**
- Women + Men = Total People
- ? + 60 = 90

**Example Problem 4**

**Given Data**
- Total People: 90
- Men: 60
- Women: 30

**Solution**
- Men + Women = Total People
- 60 + 30 = 90

---

**Contents**

1. Rewind
2. Think Smart, Everyday Maths
3. Number Bonds
4. Maths Fun, Maths Lab
5. Addition to 10
6. Mental Maths, Practice Sheet
7. Subtraction to 10
8. Think Smart, Maths Lab
9. Numbers 11 to 20
10. Everyday Maths, Maths Lab
11. Numbers 20 to 100
12. Practice Sheet, Maths Lab
13. Addition and Subtraction within 100
14. Mental Maths, Worksheet
15. Multiplication
16. Maths Fun, Worksheet, Maths Lab
17. Shapes and Patterns
18. Everyday Maths, Worksheet, Maths Lab
19. Measurement
20. Mental Maths, Maths Lab
21. Time
22. Maths Fun, Worksheet, Maths Lab
23. Money
24. Mental Maths, Maths Lab
25. Data Handling
26. Everyday Maths, Practice Sheet, Maths Lab
Contents

1. **Rewind**  
   Think Smart, Everyday Maths  
   **11**

2. **Number Bonds**  
   Maths Fun, Maths Lab  
   **27**

3. **Addition to 10**  
   Mental Maths, Practice Sheet  
   **35**

4. **Subtraction to 10**  
   Think Smart, Maths Lab  
   **52**

5. **Numbers 11 to 20**  
   Everyday Maths, Maths Lab  
   **67**

6. **Numbers 20 to 100**  
   Practice Sheet, Maths Lab  
   **94**

7. **Addition and Subtraction within 100**  
   Mental Maths, Worksheet  
   **116**

8. **Multiplication**  
   Maths Fun, Worksheet, Maths Lab  
   **134**

9. **Shapes and Patterns**  
   Everyday Maths, Worksheet, Maths Lab  
   **149**

10. **Measurement**  
    Mental Maths, Maths Lab  
    **164**

11. **Time**  
    Maths Fun, Worksheet, Maths Lab  
    **177**

12. **Money**  
    Mental Maths, Maths Lab  
    **185**

13. **Data Handling**  
    Everyday Maths, Practice Sheet, Maths Lab  
    **191**
I have a glass of juice in my left hand.

I have an apple in my right hand.

Use real objects or pictures of various objects. Show these to children and ask them to guess the names. Ask the children to make comparison statements, such as “Which is bigger?, Which is smaller?, Which is heavier?, Which is lighter?”
I have a glass of juice in my left hand.

I have an apple in my right hand.

Thicker Thinner

Longer Shorter

Heavier Lighter

Bigger Smaller

Outside Inside

Near Far

Taller Shorter

Top Bottom

Use real objects or pictures of various objects. Show these to children and ask them to guess the names. Ask the children to make comparison statements, such as “Which is bigger?, Which is smaller?, Which is heavier?, Which is lighter?”
Exercise 1

1. For each item in column A, circle an item in column B that shows the opposite of it.

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heavier</td>
<td>Lighter</td>
</tr>
<tr>
<td>Thicker</td>
<td>Thinner</td>
</tr>
<tr>
<td>Taller</td>
<td>Shorter</td>
</tr>
<tr>
<td>Bigger</td>
<td>Smaller</td>
</tr>
</tbody>
</table>

2. Tick (✓) the picture that matches the description.

a) Taller building
b) Shorter girl
c) Heavier glass
d) Shorter snake
e) Longer rope
f) Lighter object
3. Some figures are given below. Read and draw as per the given instructions.

<table>
<thead>
<tr>
<th>A smaller rectangle</th>
<th>A bigger square</th>
</tr>
</thead>
<tbody>
<tr>
<td>![Image](A smaller rectangle)</td>
<td>![Image](A bigger square)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>A longer line</th>
<th>A shorter ribbon</th>
</tr>
</thead>
<tbody>
<tr>
<td>![Image](A longer line)</td>
<td>![Image](A shorter ribbon)</td>
</tr>
</tbody>
</table>

4. Circle the correct option. What is

a) near the ball? ![Image](Ball) ![Image](Chair)

b) far from the girl? ![Image](Girl) ![Image](Ball)

c) inside the box? ![Image](Box)

d) outside the house? ![Image](House)

e) on the top of the cupboard? ![Image](Cupboard)

f) at the bottom of the stairs? ![Image](Stairs)

Think Smart

Look at the scene on the right. Discuss it with your classmates. Talk about the position of the animals and objects using the following words.

near far down in out longer shorter up taller smaller bigger
Counting

1 One
2 Two
3 Three
4 Four
5 Five
6 Six
7 Seven
8 Eight
9 Nine
10 Ten

Zero

My basket is empty. There are no objects kept in it. This means you have ‘zero’ objects in the basket.

Fact Zone
In counting, zero (0) comes before 1.

Teaching Tip
We always use plural to denote zero of something: zero cats, zero fruits. A common mistake is to associate the number zero with nothing. Zero is the absence of something.
1. How many are there in each group? Draw a line from each group to match the number. The first one has been done for you.

   a)  
   b)  
   c)  
   d)  
   e)  
   f)  
   g)  
   h)  
   i)  
   j)  

2. Write the missing numbers on the number line.

```
1 2 3 4 5 6 7 8 9
```

3. Count the circles on each balloon. Match it with the correct number.

```markdown
1 2 3 4 5 6 7 8 9
```
4. Look at the picture given below. Count the objects and write their number in the given boxes.

5. Count and write.
   a) How many fish are there in the pond?

   ________

   b) How many books are there on the desk?

   ________

   c) How many objects are there on the table?

   ________

   d) How many pens are there in the pen holder?

   ________
6. Count the objects. Write their numbers and number names.

7. Read the given numbers.

895214736

Complete the sequence.

1  

Everyday Maths

1. Count the number of books you have in your school bag.
   Write the number of books.
   Write its number name. ____________________

2. Look around in your classroom. Count the given objects and write their number in the boxes.
   Doors  Display boards  Charts  Windows
Comparing Numbers

1. Which set has more marbles?
   - Set A
   - Set B

   Set B has more marbles than Set A.
   Set B has 2 more marbles than Set A.
   So, 6 is greater than 4.

2. Which set has less balls?
   - Set A
   - Set B

   Set B has less balls than Set A.
   Set B has 2 less balls than Set A.
   So, 5 is smaller than 7.

3. Compare the beads in Set A and Set B.
   - Set A
   - Set B

   Set A and Set B have equal beads.
   Set A has as many beads as Set B.
   Set B has as many beads as Set A.
   So, 5 equals 5.

Everyday Maths

How many wheels does each vehicle have?

- Bicycle
- Bus
- Auto rickshaw
- Car
1. Count and write the number of objects. Tick (✔️) the set that has more objects.

Set A

Set B

2. Read and draw. Count and then write ‘more’ or ‘less’.
   a) 3 triangles
      5 triangles

   b) 5 rectangles
      2 rectangles

Remember to count correctly and draw neatly.

3. Look at the given sets and fill in the blanks.
   a) Set A
      Set B
      Set A has more kites than Set B.
      So, is more than .

   b) Set A
      Set B
      Set A has less apples than Set B.
      So, is less than .
4. Count the objects and write their number in the box. Circle the groups which have an equal number of objects.

5. Put the correct sign (> ≤ or =).
   a) 3 5   b) 2 1   c) 6 3
   d) 7 7   e) 1 0   f) 9 2

Before, After and Between

1. What comes just before 5?

   To get the number that comes just before 5, count 1 backward from 5.
   So, 4 comes just before 5.

2. What comes just after 5?

   To get the number that comes just after 5, count 1 forward from 5.
   So, 6 comes just after 5.
3. What comes in between?

- 4 comes before 5 and 6 comes after 5. This means 5 is between 4 and 6.

Exercise 4

1. Which number comes just before and just after? Count on the number line.

   - a) □ comes just before 7.
   - b) □ comes just after 7.
   - c) □ comes just before 3.
   - d) □ comes just after 3.

2. For each middle number, write the numbers that come before and after it.

   - a) △ ← 1 → △
   - b) △ ← 3 → △
   - c) △ ← 5 → △
   - d) △ ← 8 → △

3. Write the number that comes in between the two given numbers.

   - a) 1 ← △ → 3
   - b) 4 ← △ → 6
   - c) 7 ← △ → 9
   - d) 8 ← △ → 10

Guide the children to draw arrows on the number line to show a number just before and just after.
Increasing and Decreasing Order

Moving from a smaller number to a greater number is known as increasing order.

Moving from a greater number to a smaller number is known as decreasing order.

Maths Fun

Call five children in front of the class. Ask their roll numbers and get them to arrange themselves in increasing or decreasing order.

Exercise 5

1. Write each set of numbers in increasing order.
   a) 6, 4, 5, 1
   b) 8, 3, 9, 10

2. Write the given numbers in decreasing order.
   a) 1, 10, 5, 6
   b) 9, 2, 8, 0
3. **Write the numbers in increasing order.**

a) | Six | 9 | 3 | Two | 7 | Five |
---|----|---|---|-----|---|------|
Smallest | | | | | | Greatest |

b) | Four | Two | Zero | Ten | Nine | Six |
---|------|-----|------|-----|------|----|
Smallest | | | | | | Greatest |

**Ordinal Numbers**

An ordinal number is used to show the position or order of an object.

![Ordinal Numbers](image)

**Mind It**

| | Forth | Fourth | Nineth |
---|-------|--------|--------|
- | ✗     | ✔      | ✗      |

**Maths Fun**

Take out any five books from your school bag.
Arrange them in a stack and label the position.
Rearrange the books for each round and complete the given table.

| Round | Position of the book | Book name |
---|-----------------------|-----------|
Round 1 | Third | |
Round 2 | Fifth | |
Round 3 | Second | |
Round 4 | First | |
Round 5 | Fourth | |

**Teaching Tip**

Encourage the children to notice that the numbers they have written in both the cases of question 3, are in increasing order.
Exercise 6

1. Look at the picture given below.

a) Fill in the blanks.
The shirt is first from the left.
The skirt is second from the left.
The ________ is third from the left.
The ________ is fourth from the left.
The ________ is fifth from the left.

b) What is second from the right? ______________
c) What is fourth from the right? ______________
d) What is fifth from the right? ______________

2. Compare the numbers with ordinal numbers.

a) Colour the last three boxes.

 Colour the third box from the left.

b) Circle first six leaves.

 Circle the sixth leaf from the left.
1. Find and circle the number names of the given numbers.

<p>| | | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>4</td>
<td>5</td>
<td>3</td>
<td>1</td>
<td>10</td>
<td>6</td>
</tr>
</tbody>
</table>

2. Which number comes just before and after? Count and mark on the number line.

a) ______ comes just before 9.  
   b) ______ comes just after 7.

3. Put the correct sign (>, < or =).

4. Look at the picture and answer the questions.

Name the animal
a) on the third step.  
   b) on the first step.  
   c) between the third and the fifth step.
Aim: To recognise numbers from 1 to 10 and compare them.

Requirements: 10 number cards, sketch pens

Steps:
1. Play this game in pairs.
2. Take 10 cards and write 0 to 9 on them with different coloured sketch pens. Give one set of cards to each pair.
3. Lay the cards in a single line (upside down).
4. Take turns and draw a card one by one.
5. Compare the numbers on the cards.
6. The child having a greater number will keep both the cards.
7. Write your numbers on the table. Use ‘>’ or ‘<’ for comparison.
8. Repeat steps 4 to 7 until all the cards are used.
9. The child having more cards will win the game.

Record Table

<table>
<thead>
<tr>
<th>Turn</th>
<th>Number on my card</th>
<th>Number on my friend's card</th>
<th>Compare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>4</td>
<td>3</td>
<td>4 &gt; 3</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Aim: To recognise numbers from 1 to 10 and compare them.

Requirements: 10 number cards, sketch pens

Steps:
1. Play this game in pairs.
2. Take 10 cards and write 0 to 9 on them with different coloured sketch pens. Give one set of cards to each pair.
3. Lay the cards in a single line (upside down).
4. Take turns and draw a card one by one.
5. Compare the numbers on the cards.
6. The child having a greater number will keep both the cards.
7. Write your numbers on the table. Use '>' or '<' for comparison.
8. Repeat steps 4 to 7 until all the cards are used.
9. The child having more cards will win the game.

Teaching Tip: You can make the number cards using a cardboard or a paper.

Warm Up

3 dogs are sitting.
3 dogs are standing.
There are 6 dogs.

2 flowers are red.
4 flowers are yellow.
There are 6 flowers.
Making Number Bonds

Put 🟢 and 🟢 together. Make a 🟢.

How many 🟢 are there in each part?

3 and 1 make 4.
This is a number bond.

Now, break 🟢 into 🟢 and 🟢.

Tell children to draw two circles on their desk with chalk. Give 4 cubes to each child. Ask them to keep these cubes in the first circle. Record the number combination. Then move one cube to the second circle. Record the new combination. Do this activity until all the cubes are in the second circle.
Making 2
There are 2 balls.

1 and 1 make 2.

Making 3
There are 3 handkerchiefs.

2 and 1 make 3.

Making 4
There are 4 leaves.

2 and 2 make 4.

Making 5
There are 5 teddy bears.

1 and 4 make 5.

2 and 3 make 5.

Think Smart
What numbers make 1? Can you find all the possible ways?

Which other number combinations can be used to make 5?
Making 6
There are 6 mangoes.

2 and 4 make 6.

Making 7
There are 7 cubes.

2 and 5 make 7.

Making 8
There are 8 kites.

3 and 5 make 8.

4 and 4 make 8.

Making 9
There are 9 shirts.

4 and 5 make 9.

How many number bonds can you make for 7 and 8?
1. What are the missing numbers in each number bond?

   a) \( \begin{array}{c}
   1 \quad 2 \quad 3 \quad 4 \quad 5 \quad 6 \quad 7 \quad 8 \quad 9 \\
   \end{array} \)

   b) \( \begin{array}{c}
   1 \quad 2 \quad 3 \quad 4 \quad 5 \quad 6 \quad 7 \quad 8 \quad 9 \\
   \end{array} \)

2. Fill in the missing numbers to complete the number bonds.

   a) \( \begin{array}{c}
   1 \quad 2 \quad 3 \quad 4 \quad 5 \quad 6 \quad 7 \quad 8 \quad 9 \\
   \end{array} \)

   b) \( \begin{array}{c}
   1 \quad 2 \quad 3 \quad 4 \quad 5 \quad 6 \quad 7 \quad 8 \quad 9 \\
   \end{array} \)

   c) \( \begin{array}{c}
   1 \quad 2 \quad 3 \quad 4 \quad 5 \quad 6 \quad 7 \quad 8 \quad 9 \\
   \end{array} \)

   d) \( \begin{array}{c}
   1 \quad 2 \quad 3 \quad 4 \quad 5 \quad 6 \quad 7 \quad 8 \quad 9 \\
   \end{array} \)

   e) \( \begin{array}{c}
   1 \quad 2 \quad 3 \quad 4 \quad 5 \quad 6 \quad 7 \quad 8 \quad 9 \\
   \end{array} \)

   f) \( \begin{array}{c}
   1 \quad 2 \quad 3 \quad 4 \quad 5 \quad 6 \quad 7 \quad 8 \quad 9 \\
   \end{array} \)

   g) \( \begin{array}{c}
   1 \quad 2 \quad 3 \quad 4 \quad 5 \quad 6 \quad 7 \quad 8 \quad 9 \\
   \end{array} \)

   h) \( \begin{array}{c}
   1 \quad 2 \quad 3 \quad 4 \quad 5 \quad 6 \quad 7 \quad 8 \quad 9 \\
   \end{array} \)

   i) \( \begin{array}{c}
   1 \quad 2 \quad 3 \quad 4 \quad 5 \quad 6 \quad 7 \quad 8 \quad 9 \\
   \end{array} \)

3. What numbers make 10? Draw all the possible number bonds.
4. Look at each picture carefully. Fill in the missing numbers. The first one has been done for you.

a)  

b) 

c)  

d)  

5. Complete the number bonds for each of the following.

a)  

b) 

c)  

1. Complete the given number bonds.

a) \[ \begin{array}{c}
1 \\
\hline
1
\end{array} \]

b) \[ \begin{array}{c}
3 \\
\hline
5
\end{array} \]

c) \[ \begin{array}{c}
1 \\
\hline
4
\end{array} \]

d) \[ \begin{array}{c}
4 \\
\hline
2
\end{array} \]

e) \[ \begin{array}{c}
3 \\
\hline
7
\end{array} \]

f) \[ \begin{array}{c}
5 \\
\hline
6
\end{array} \]

g) \[ \begin{array}{c}
2 \\
\hline
2
\end{array} \]

h) \[ \begin{array}{c}
6 \\
\hline
2
\end{array} \]

i) \[ \begin{array}{c}
\hline
8
\end{array} \]

2. Write the missing number in each number bond.

a) \[ \begin{array}{c}
\hline
5
\end{array} \]

b) \[ \begin{array}{c}
\hline
2
\end{array} \]

c) \[ \begin{array}{c}
1 \\
\hline
0
\end{array} \]

d) \[ \begin{array}{c}
\hline
5
\end{array} \]

e) \[ \begin{array}{c}
\hline
4
\end{array} \]

f) \[ \begin{array}{c}
\hline
8
\end{array} \]

g) \[ \begin{array}{c}
7 \\
\hline
6
\end{array} \]

h) \[ \begin{array}{c}
\hline
4
\end{array} \]

i) \[ \begin{array}{c}
\hline
9
\end{array} \]
**Aim:** To make number bonds using a number balance.

**Requirement:** Number balance

**Steps:**
1. Work in pairs.
2. Take a number balance.
3. Put a \( \square \) on one side of the number balance on any number, say 8.
4. Now, take two or more \( \square \) and place it on the numbers on the other side such that the parts together make 8.
5. Explore and find all possible ways to make number bonds of 8 using \( \square \).
6. Repeat the activity for other numbers.
I Can

1. Count and add.
   a) \[ \begin{array}{c}
   \text{\includegraphics{hand.png}}
   \end{array} + \begin{array}{c}
   \text{\includegraphics{hand.png}}
   \end{array} = \begin{array}{c}
   \text{\includegraphics{hand.png}}
   \end{array} \]
   \[ \begin{array}{c}
   \square + \square = \square
   \end{array} \]
   b) \[ \begin{array}{c}
   \text{\includegraphics{basket.png}} + \begin{array}{c}
   \text{\includegraphics{tomato.png}}
   \end{array} = \begin{array}{c}
   \text{\includegraphics{basket.png}}
   \end{array} \]
   \[ \begin{array}{c}
   \square + \square = \square
   \end{array} \]

2. Add the numbers.
   a) \[ \begin{array}{ccccccccc}
   1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 & 10
   \end{array} \]
   \[ \begin{array}{c}
   5 + 4 = \square
   \end{array} \]
   b) \[ \begin{array}{ccccccccc}
   1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 & 10
   \end{array} \]
   \[ \begin{array}{c}
   4 + 3 = \square
   \end{array} \]
   c) \[ \begin{array}{ccccccccc}
   1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 & 10
   \end{array} \]
   \[ \begin{array}{c}
   9 + 1 = \square
   \end{array} \]
There are 7 boys in the party.

There are 3 girls in the party.

How many children are there in total?

There are 5 girls in the party.

How many are there in all?

There are 6 cubes in all.

Four plus two equals six.

Addition using Number Bonds

There are 7 girls in all.

The number we get on adding two or more numbers is called the ‘sum’ or the ‘total’.

5 + 2 = 7

5 and 2 make 7.

There are 2 more girls join the party.

Five plus two equals seven.

‘=' means ‘equal to’

Addition means putting together.

‘+’ is called plus. It means to put together. ‘4 + 2’ is the same as 6.
Warm Up

There are 7 boys in the party.
There are 3 girls in the party.
How many children are there in total?

There are 5 girls in the party.
How many girls are there in all?

There are 6 cubes in all.
4 + 2 = 6 is an addition sentence.
Four plus two equals six.

‘+’ means ‘equal to’

Addition using Number Bonds

There are 5 girls in the party.
2 more girls join the party.

How many girls are there in all?
girls
5
7 girls
2 girls
5 and 2 make 7.
5 + 2 = 7

There are 7 girls in all.
Five plus two equals seven.
Exercise 1

1. Find the total.
   a) \[4 + 1 = \square\]
   b) \[3 + 4 = \square\]
   c) \[5 + 4 = \square\]
   d) \[4 + 2 = \square\]
   e) \[2 + 2 = \square\]
   f) \[6 + 3 = \square\]

2. Write the given number bonds as addition sentences.
   a) \[6 \quad 0\]
   b) \[5 \quad 3\]
   c) \[9 \quad 1\]
   d) \[3 \quad 4\]
   e) \[4 \quad 4\]
   f) \[7 \quad 0\]

3. Count the objects and write the addition sentence.
   a) \[\text{Addition sentence}\]

Explain to the children that parts add up to give the whole (sum). These parts and wholes are written together as an addition sentence using ‘+’ sign and ‘=’ sign.

Teaching Tip
Maths Fun

Play the game in pairs.

Make two sets of number cards, from 0 to 9.
Mix the cards and place them face down on the table.
Take turns to flip over any two cards. Do they make up 8?
If yes, keep the cards. If no, place them back facing down and let your partner play.
Repeat. The child who gets the maximum cards, wins.
1. Find the total.

2. Write the given number bonds as addition sentences.

\[
\begin{align*}
4 + 1 &= \text{a)} \\
4 + 2 &= \text{b)} \\
3 + 4 &= \text{c)} \\
2 + 2 &= \text{d)}
\end{align*}
\]

3. Count the objects and write the addition sentence.

4. Look at each picture carefully. Complete the number bond and write the addition sentence.

\[
\begin{align*}
\text{Addition sentence} &= \text{a)} \\
\text{Addition sentence} &= \text{b)} \\
\text{Addition sentence} &= \text{c)} \\
\text{Addition sentence} &= \text{d)}
\end{align*}
\]

Play the game in pairs.
Make two sets of number cards, from 0 to 9.
Mix the cards and place them face down on the table.
Take turns to flip over any two cards. Do they make up 8?
If yes, keep the cards. If no, place them back facing down and let your partner play.
Repeat. The child who gets the maximum cards, wins.

Explain to the children that parts add up to give the whole (sum). These parts and wholes are written together as an addition sentence using ‘+’ sign and ‘=’ sign.
**Addition on Number Line**

1. Add the numbers on the number line.

   a) $2 + 3 = \_\_\_\_$

   b) $4 + 2 = \_\_\_\_$

2. Use the number line to count on and add.

   a) $8 + 1 = \_\_\_\_$

   b) $6 + 2 = \_\_\_\_$

   c) $4 + 5 = \_\_\_\_$

   d) $2 + 8 = \_\_\_\_$

   e) $5 + 1 = \_\_\_\_$

   f) $3 + 7 = \_\_\_\_$
Adding Two Numbers

There are 3 birds sitting on a tree.

2 more birds join in.

How many birds are now sitting on the tree?

\[ \begin{align*} 
3 \quad \text{+} \quad 2 & = \quad 5 \\
\text{3} \quad \text{+} \quad \text{2} & = \quad \text{5} \\
\text{3} \quad \text{+} \quad \text{2} & = \quad \text{5} \\
\end{align*} \]

This is same as

\[ \begin{align*} 
\text{3} \quad \text{+} \quad \text{2} & = \quad \text{5} \\
\text{3} \quad \text{+} \quad \text{2} & = \quad \text{5} \\
\text{3} \quad \text{+} \quad \text{2} & = \quad \text{5} \\
\end{align*} \]

5 birds are now sitting on the tree.

Adding Zero

Tina has 5 fish in her fish tank. She adds 0 fish to the tank. How many fish does she have in all?

\[ \begin{align*} 
5 \quad \text{+} \quad 0 & = \quad 5 \\
\text{5} \quad \text{+} \quad \text{0} & = \quad \text{5} \\
\text{5} \quad \text{+} \quad \text{0} & = \quad \text{5} \\
\end{align*} \]

Tina has 5 fish in all.

When zero is added to a number, the total remains the same.

Fact Zone

You can add numbers in any order. The answer will be the same in all the cases.
Exercise 3

1. **Add 0 and write the total in each box.**
   
   a) $3 + 0 = \underline{\hspace{2cm}}$
   
   b) $8 + 0 = \underline{\hspace{2cm}}$
   
   c) $0 + 9 = \underline{\hspace{2cm}}$
   
   d) $6 + 0 = \underline{\hspace{2cm}}$
   
   e) $0 + 1 = \underline{\hspace{2cm}}$
   
   f) $7 + 0 = \underline{\hspace{2cm}}$
   
2. **Add and write.**
   
   a) $3 + 1 = \underline{\hspace{2cm}}$
   
   b) $2 + 5 = \underline{\hspace{2cm}}$
   
   c) $4 + 0 = \underline{\hspace{2cm}}$
   
   d) $2 + 1 = \underline{\hspace{2cm}}$
   
   e) $4 + 3 = \underline{\hspace{2cm}}$
   
   f) $3 + 4 = \underline{\hspace{2cm}}$
   
   g) $4 + 4 = \underline{\hspace{2cm}}$
   
   h) $5 + 3 = \underline{\hspace{2cm}}$
   
   i) $5 + 1 = \underline{\hspace{2cm}}$
   
   j) $6 + 3 = \underline{\hspace{2cm}}$
   
   k) $0 + 5 = \underline{\hspace{2cm}}$
   
   l) $7 + 2 = \underline{\hspace{2cm}}$
   
   m) $8 + 1 = \underline{\hspace{2cm}}$
   
   n) $1 + 9 = \underline{\hspace{2cm}}$
   
   o) $2 + 6 = \underline{\hspace{2cm}}$

3. **Add the following.**
   
   a) $6 + 3 = \underline{\hspace{2cm}}$
   
   b) $5 + 2 = \underline{\hspace{2cm}}$
   
   c) $0 + 9 = \underline{\hspace{2cm}}$
   
   d) $4 + 5 = \underline{\hspace{2cm}}$
   
   e) $2 + 8 = \underline{\hspace{2cm}}$
   
   f) $3 + 4 = \underline{\hspace{2cm}}$
   
   g) $5 + 3 = \underline{\hspace{2cm}}$
   
   h) $2 + 7 = \underline{\hspace{2cm}}$
   
   i) $7 + 0 = \underline{\hspace{2cm}}$
   
   j) $0 + 0 = \underline{\hspace{2cm}}$

Make students observe the fact that numbers can be added in any order by making them add with concrete objects like chalk pieces, pencils and other objects.
Adding Three Numbers

There is 1 hen in a garden.

3 more hens join in.

Now, there are 4 hens in the garden.

2 more hens join them.

Now, there are 6 hens in the garden.

We write it as:

1 + 3 + 2 = 6 hens

Think Smart

Make two addition sentences with 1, 2, 5, 7, 8 and 9.

Use each number once.

□ □ = □

□ □ = □
Exercise 4

1. Count each object and find the total.

a) 
\[
\begin{align*}
\text{①} & \quad + & \quad \text{②} & \quad + & \quad \text{③} & \quad = & \quad \text{④} \\
\text{④} & \quad = & \quad \text{⑤} \\
\text{⑤} & \quad = & \quad \text{cars}
\end{align*}
\]

b) 
\[
\begin{align*}
\text{①} & \quad + & \quad \text{②} & \quad + & \quad \text{③} & \quad = & \quad \text{④} \\
\text{④} & \quad = & \quad \text{⑤} \\
\text{⑤} & \quad = & \quad \text{caps}
\end{align*}
\]

c) 
\[
\begin{align*}
\text{①} & \quad + & \quad \text{②} & \quad + & \quad \text{③} & \quad = & \quad \text{④} \\
\text{④} & \quad = & \quad \text{flowers}
\end{align*}
\]

2. Add and write the answer in the boxes.

a) \( 3 + 1 + 2 = \) ⑥ 

b) \( 1 + 1 + 1 = \) ⑦ 

c) \( 4 + 3 + 0 = \) ⑧ 

d) \( 3 + 2 + 4 = \) ⑨ 

e) \( 6 + 2 + 1 = \) ⑩ 

f) \( 7 + 1 + 2 = \) ⑪ 

g) \( 5 + 2 + 2 = \) ⑫ 

h) \( 0 + 8 + 0 = \) ⑬
3. **Add the following.**

   a) 3 + 1 + 2 =
   b) 4 + 2 + 1 =
   c) 5 + 1 + 1 =
   d) 6 + 1 + 0 =
   e) 2 + 2 + 0 =

4. **Read and solve.**

   a) Gagan has 3 towels.
   Meena has 2 towels.
   Priya has 1 towel.

   There are ____ towels in all.

   b) Lata ate 3 apples.
   Varun ate 2 apples.
   Jatin ate 2 apples.

   There are ____ apples in all.

---

**Everyday Maths**

Count the number of pencils you have in your pencil box.
Write the number of pencils. ____
Count the number of pencils your friend has in his/her pencil box.
Write the number of pencils. ____
How many pencils do both of you have altogether?
__ __ + __ __ = ____
Solving Word Problems

1. Irfan has 3 balloons. Venu has 4 balloons. How many balloons do they have altogether?

\[ \begin{array}{c}
3 \\
+ \\
4 \\
\hline
7 \\
\end{array} \]

They have 7 balloons altogether.

2. Venu has 4 kites. He buys 5 more kites. How many kites does he have in all?

\[ \begin{array}{c}
4 \\
+ \\
5 \\
\hline
9 \\
\end{array} \]

Venu has 9 kites in all.

Exercise 5

Solve the given word problems.

1. Tina has 2 dolls. She buys 3 more dolls. How many dolls does she have in all?

\[ \begin{array}{c}
\square \\
+ \\
\square \\
\hline \\
\square \\
\end{array} \]

She has \[ \square \] dolls in all.
2. Irfan has 3 cats. He also has 2 rabbits. How many animals he has in all?

\[ \square + \square = \square \]

He has \[ \square \] animals in all.

3. Siya baked 6 cakes. She baked 3 more cakes. How many cakes did she bake in all?

\[ \square + \square = \square \]

She baked \[ \square \] cakes in all.

4. Venu has no pencil in his pencil box. Irfan gives 3 pencils to Venu. How many pencils does Venu now have?

\[ \square + \square = \square \]

Venu now has \[ \square \] pencils in all.

---

**Mental Maths**

Solve the following.

- \(2 + 0 = \square\)
- \(3 + 5 = \square\)
- \(2 + 1 = \square\)
- \(6 + 3 = \square\)
- \(\square + \square = \square\)
1. There are 3 pink flowers. There are 4 yellow flowers. How many flowers are there in all?
   \[3 + 4 = 7\]

2. There are 4 blue dots. There are 6 red dots. How many dots are there in total?
   \[4 + 6 = 10\]

Exercise 6

Look at the pictures below and write an addition story for each.

1. ___________________________________________________________________
   ___________________________________________________________________
   ___________________________________________________________________

   \[\text{CLUES}\]
   red, green, balls, total

2. ___________________________________________________________________
   ___________________________________________________________________
   ___________________________________________________________________

   \[\text{CLUES}\]
   sharpeners, red, yellow, in all
3. There are 3 pink flowers.
   There are 4 blue dots.
   How many flowers are there in all?
   There are 4 red dots.
   How many dots are there in total?
   ______________________________
   ______________________________
   ______________________________
   3 + 4 = 7
   4 + 6 = 10

Exercise 6
Look at the pictures below and write an addition story for each.
   ______________________________
   ______________________________
   ______________________________

CLUES
flowers, pink, yellow, in all red, blue, dots, total red, green, balls, total sharpeners, red, yellow, in all

Think Smart
Look at the picture given below. Write an addition story, using the given words.
   a) Red and yellow flowers   b) Brown and yellow birds
   c) Yellow and blue balloons   d) Boys, girls and children

CLUES
apples, bananas, fruits, altogether red, yellow, flowers, in all
1. **Complete the number bonds. Write the addition sentence.**
   a) 2
   7
   b) 5
   4

2. **Add on the number line and write the sum.**
   
<table>
<thead>
<tr>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
</table>

   a) 2 + 2 =
   b) 4 + 3 =
   c) 7 + 0 =
   d) 8 + 1 =

3. **Add the following.**
   a) 5
   + 2
   ———
   b) 3
   + 3
   ———
   c) 9
   + 1
   ———
   d) 8
   + 0
   ———
   e) 1
   + 6
   ———

4. **Read the story and add.**
   Siya has no apples on her plate.
   Tina puts 6 apples on Siya’s plate.
   How many apples does Siya now have?
   
   □ + □ = □
   Siya has □ apples now.
**Maths Lab Activity**

**Aim:** To add different numbers and find their sum.

**Requirements:** 1 dice, 2 sets of number cards (1 to 4)

**Steps:**
1. Arrange the children in pairs.
2. From the pair, one child rolls the dice and the other picks a card.
3. Next, they note down the numbers on the dice and the card in the table given below and find the sum.

4. Reverse the roles and repeat steps 2 to 4.
5. Continue the activity until the table gets filled.

---

<table>
<thead>
<tr>
<th>Number on my dice</th>
<th>Number on the card</th>
<th>Sum</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
I Can

Fill in the blanks. One has been done for you.

Remember – means to take away. It is read as minus.

4 - 2 = 2

- - =

- - =

- - =

- - =
Warm Up

There were 5 ducks in the pond. 3 came out.

How many ducks are left in the pond?
Subtraction using Number Bonds

1. There are 5 – 2 = 3 cubes left.

   5 – 2 = 3 is a subtraction sentence.
   Five minus two equals three.

2. There are 7 birds.

   How many birds are left?

   7 – 3 = 4
   Four birds are left.
   7 – 3 = 4 is a subtraction sentence.
   Seven minus three equals four.

Teaching Tip:
Emphasise the use of words like ‘out’, ‘away’ (take away, gave away, run away, go away, fly away), ‘left’, ‘subtraction’, ‘minus’, ‘less than’ to build the concept of subtraction.
1. Subtract using number bonds.
   a) \[
   \begin{array}{c}
   5 \\
   \hline
   \end{array}
   \]
   \[
   5 - 3 = \square
   \]
   b) \[
   \begin{array}{c}
   6 \\
   \hline
   \end{array}
   \]
   \[
   6 - 2 = \square
   \]
   c) \[
   \begin{array}{c}
   8 \\
   \hline
   \end{array}
   \]
   \[
   8 - 7 = \square
   \]

2. Write each number bond as a subtraction sentence.
   a) \[
   \begin{array}{c}
   9 \\
   \hline
   \end{array}
   \]
   \[
   9 - 5 = 4
   \]
   b) \[
   \begin{array}{c}
   10 \\
   \hline
   \end{array}
   \]
   \[
   \square
   \]
   c) \[
   \begin{array}{c}
   5 \\
   \hline
   \end{array}
   \]
   \[
   \square
   \]
   d) \[
   \begin{array}{c}
   8 \\
   \hline
   \end{array}
   \]
   \[
   \square
   \]
   e) \[
   \begin{array}{c}
   2 \\
   \hline
   \end{array}
   \]
   \[
   \square
   \]
   f) \[
   \begin{array}{c}
   7 \\
   \hline
   \end{array}
   \]
   \[
   \square
   \]

3. Look at the pictures. Complete the number bond for each. Then, write the subtraction sentence.
   a) \[
   \begin{array}{c}
   \square \\
   \hline
   \end{array}
   \]
   \[
   \square
   \]
   b) \[
   \begin{array}{c}
   \square \\
   \hline
   \end{array}
   \]
   \[
   \square
   \]
Subtraction on a Number Line

1. Subtract the numbers on the number line.

   a) \[6 - 3 = \]
   b) \[7 - 6 = \]
   c) \[4 - 1 = \]
   d) \[9 - 3 = \]
   e) \[3 - 3 = \]
   f) \[8 - 2 = \]

2. Use the number line to count back and subtract.

   a) \[4 - 1 = \]
   b) \[9 - 3 = \]
   c) \[3 - 3 = \]
   d) \[8 - 2 = \]
   e) \[6 - 4 = \]
   f) \[5 - 4 = \]
Subtraction by Crossing Out

There are 6 apples. 4 apples are eaten. How many apples are left?

6 – 4 = 2

2 apples are left.

Exercise 3

1. Subtract by crossing out the boxes.
   
   a) 5 – 2 = 
   
   b) 6 – 1 = 
   
   c) 7 – 4 = 
   
   d) 9 – 5 = 
   
   e) 8 – 2 = 
   
   f) 4 – 3 = 

2. Subtract the following. Draw blocks and cross out.
   
   a) 3 – 2 = 
   
   b) 7 – 5 = 
   
   c) 7 – 2 = 
   
   d) 4 – 1 = 
   
   e) 5 – 4 = 
   
   f) 5 – 3 = 
   
   g) 7 – 1 = 
   
   h) 6 – 6 = 
   
   i) 6 – 4 = 
   
   j) 8 – 4 =
3. Fill in the boxes. Subtract by crossing out.

a) There are 9 glasses. 5 are full of water. How many glasses are empty?

\[
\begin{array}{c}
\phantom{0} - \phantom{0} = \phantom{0} \\
\underline{\phantom{0}} \phantom{0} \text{glasses are empty.}
\end{array}
\]

b) There were 8 bees around the hive. 3 bees flew away. How many bees were left?

\[
\begin{array}{c}
\phantom{0} - \phantom{0} = \phantom{0} \\
\underline{\phantom{0}} \text{bees were left around the hive.}
\end{array}
\]

Think Smart

Complete the subtraction wheel. Fill in the missing numbers.
Subtracting Numbers

There are 7 butterflies. 3 fly away.

How many are left?

\[ \begin{array}{c}
7 \\
4 \\
\hline
\end{array} \]

\[ 7 - 3 = \boxed{4} \]

4 butterflies are left.

Subtracting Zero

There are 4 cars. None goes away.

How many are left?

\[ \begin{array}{c}
4 \\
\hline
\end{array} \]

\[ 4 - 0 = \boxed{4} \]

4 cars are left.

Exercise 4

1. Subtract the following.

   a) \[ 9 - 0 = \boxed{} \]
   b) \[ 2 - 0 = \boxed{} \]
   c) \[ 3 - 0 = \boxed{} \]
   d) \[ 4 - 0 = \boxed{} \]
   e) \[ 5 - 0 = \boxed{} \]
   f) \[ 6 - 0 = \boxed{} \]

2. Subtract.

   a) \[ 9 - 2 = \boxed{} \]
   b) \[ 2 - 1 = \boxed{} \]
   c) \[ 6 - 4 = \boxed{} \]
   d) \[ 8 - 6 = \boxed{} \]
   e) \[ 7 - 5 = \boxed{} \]

Teaching Tip

Reinforce that we always subtract a smaller number from a greater number. When we subtract 0 from any number, the answer is the number itself.
Subtracting from 10

1. 10 ants are standing in a row. How many ants are left?

1 ant goes away.

9 ants are left.

2. There are 10 leaves on a branch of a tree. 4 are blown away.

6 leaves are left on the branch of the tree.

Exercise 5

Subtract and fill in the correct number. You may make blocks and cross out.

1. 10 – 1 =  
2. 10 – 2 =  
3. 10 – 3 =  
4. 10 – 4 =  
5. 10 – 5 =  
6. 10 – 6 =  
7. 10 – 7 =  
8. 10 – 0 =  
Solving Word Problems

1. There are 6 gift boxes. 1 box is taken away. How many gift boxes are left?

6 - 1 = 5

5 boxes are left.

2. There are 5 children. 3 of them are boys. How many girls are there?

5 - 3 = 2

There are 2 girls.

Fact Zone

When we subtract 1 from a number, the answer is the number just ‘before’.

Exercise 6

1. There were 7 frogs in the pond. 2 frogs came out. How many frogs are left in the pond?

7 - 2 = 5

5 frogs are left in the pond.
2. Siya has 7 books. She opens 5 books. How many books are closed?

\[ \square - \square = \square \]

\[ \square \] books are closed.

3. Irfan has 10 pencils. 2 pencils break. How many pencils are left with Irfan?

\[ \square - \square = \square \]

\[ \square \] pencils are left with Irfan.

4. There are 5 candles. 3 candles are used. How many candles are not used?

\[ \square - \square = \square \]

\[ \square \] candles are not used.

Think Smart

Can we subtract the greater number from the smaller number?

Teaching Tip

Explain why we always subtract the smaller number from the greater number.
1. There are 7 flowers. 3 flowers are pink. How many flowers are yellow?

\[7 - 3 = 4\]

4 flowers are yellow.

2. There are 10 lollipops. 4 lollipops are eaten. How many lollipops are left?

\[10 - 4 = 6\]

6 lollipops are left.

Mental Maths

Look at the pictures and complete the number bond family.

\[\square + \square = 8\]
\[8 - \square = \square\]

\[\square + \square = 8\]
\[8 - \square = \square\]
Observe the pictures below and write a subtraction story for each.

1. Subtraction Story
   ______________________________
   ______________________________
   ______________________________
   ______________________________

   CLUES
   bananas, eaten, left

2. Subtraction Story
   ______________________________
   ______________________________
   ______________________________
   ______________________________

   CLUES
   mangoes, fall, left, tree

Maths Fun

Give playing cards, numbered from 1 to 9, to the children. Ask them to draw two cards from the pile. Subtract the smaller number from the greater number. Write the subtraction sentence. Repeat the same activity again.
1. Complete the number bond. Write the subtraction sentence.
   a) \[
   \begin{array}{c}
   10 \\
   \_ \\
   \_ \\
   \end{array}
   \]
   b) \[
   \begin{array}{c}
   6 \\
   \_ \\
   \_ \\
   \end{array}
   \]

2. Subtract on the number line and fill in the blanks.

<table>
<thead>
<tr>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
</table>
   a) 9 - 3 = 
   b) 6 - 1 = 
   c) 8 - 0 = 
   d) 4 - 2 = 

3. Subtract the following.
   a) \[8 - 1 = \] 
   b) \[9 - 7 = \] 
   c) \[6 - 6 = \] 
   d) \[4 - 0 = \] 
   e) \[3 - 2 = \] 

4. Read the story and subtract.

   There were 10 eggs in the basket. 3 eggs broke. How many eggs are left unbroken?

   \[
   \begin{array}{c}
   \_ \\
   - 3 \\
   \_ \\
   \end{array}
   \]

   \[\_\_\_\_\text{ eggs are left unbroken.}\]
Aim: To subtract numbers and find the difference.

Requirement: 1 dice for each child.

Steps:
1. Arrange children in pairs.
2. Each child rolls a dice and writes the number shown on both the dice in the table given below.
3. Subtract the smaller number from the greater number to get the difference. Repeat the game until the given table is filled.

### Record Table

<table>
<thead>
<tr>
<th>Greater number</th>
<th>Smaller number</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>2</td>
<td>6 – 2 = 4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>