REVISED EDITION
BASED ON THE SINGAPORE BAR MODEL METHOD

AS PER LATEST CBSE CURRICULUM

Content developed by

E3 EDUSOLUTIONS
TRANSFORMING LEARNING

Eupheus Learning
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.

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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 example image]

**Pictorial**

Siya has 2 cars.

![Pictorial example image]

**Abstract**

They have 5 cars in all.

![Abstract example image]
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.

**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.

**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.

**Tip**
Includes suggestions/ideas for teacher and parents to make the learning of the topic comprehensive and complete.

**Addition**
Theme based checking of how much the children have learned about 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**

S.P. = ₹300.00
Profit = ₹20.00
C.P. = ₹300.00 – ₹20.00
C.P. = ₹280.00

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,

\[
\frac{1}{6}x + \frac{1}{3}x + 12 = x \\
\frac{2x + 2x + 72}{6} = x \\
\frac{3x + 72}{6} = x \\
3x + 72 = 6x \\
3x - 6x = -72 \\
-3x = -72 \\
x = 24
\]

Tanya had 24 stamps at first.

**Model Method**

Total Stamps

Remainder

Given to first brother

Remainder 12

Second brother

First brother

3 units = 12
1 unit = 12 ÷ 3 = 4
6 units = 6 × 4 = 24

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.

**Step - 1**
Understanding the problem

- Identify wanted, Given & Needed information
- Restate the problem

**Step - 2**
Devising a Plan

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

**Step - 3**
Doing

- Workout the solution
- Tryout different strategies

**Step - 4**
Checking

- Check the solution
- Seek alternatives solutions, if required
- Extend the method to other problems

**Contents**

1. Numbers 11
2. Addition 40
3. Subtraction 57
4. Multiplication 81
5. Division 106
6. Whole and Parts: Fractions 127
7. Shapes 136
8. Patterns 150
9. Measurement 159
10. Time 177
11. Money 191
12. Data Handling 203

**Example Problem**

<table>
<thead>
<tr>
<th>Total People</th>
<th>Men</th>
<th>Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>90</td>
<td>60</td>
<td>30</td>
</tr>
</tbody>
</table>

**Given**

<table>
<thead>
<tr>
<th>Total People</th>
<th>Men</th>
<th>Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>90</td>
<td>60</td>
<td>30</td>
</tr>
</tbody>
</table>
Contents

1. Numbers 11
   Everyday Maths, Practice Sheet

2. Addition 40
   Think Smart, Maths Lab

3. Subtraction 57
   Maths Fun, Practice Sheet

4. Multiplication 81
   Everyday Maths, Practice Sheet

5. Division 106
   Think Smart, Worksheet

6. Whole and Parts: Fractions 127
   Maths Fun, Maths Lab

7. Shapes 136
   Worksheet, Maths Lab

8. Patterns 150
   Think Smart, Practice Sheet

9. Measurement 159
   Practice Sheet, Maths Lab

10. Time 177
    Everyday Maths, Practice Sheet

11. Money 191
    Think Smart, Worksheet, Maths Lab

12. Data Handling 203
    Everyday Maths, Maths Lab
9 tens and 6 ones make 96.

We make a __ by joining 10 __.

Count the blocks and fill in the blanks.

I Can __

I Have Learnt ___________________

Number name ___________________

_____ tens and _____ ones make _____ .

_____ and _____ make _____ .

Number name ___________________

_____ tens and _____ ones make _____ .

_____ and _____ make _____ .

Number name ___________________

_____ tens and _____ ones make _____ .

_____ and _____ make _____ .

---

Numbers 10 + 10 + 10 + 10 + 10 + 10 + 10 + 10 + 10 + 6 = 96
We make a by joining 10. 

10 + 10 + 10 + 10 + 10 + 10 + 10 + 10 + 10 + 6 = 96

9 tens and 6 ones make 96. 
90 and 6 make 96.

I Have Learnt

I Can

1. Count the blocks and fill in the blanks.

a) 

b) 

c) 

Numbers
2. Form 2-digit numbers using any two different digits given on the clouds. Then, write their number names.

36
Thirty-six

From the numbers above, write:
the greatest number   ,
the smallest number   

Warm Up
I have taken one hundred straws and twenty straws.
One hundred straws and twenty straws is read as one hundred twenty straws.

Counting to 199

1 One
10 Ones
10 Tens 1 Hundred

1 Ten
10 ones make a ten and 10 tens make a hundred.
**Warm Up**

I have taken one hundred straws and twenty straws.

One hundred straws and twenty straws is read as one hundred twenty straws.

**Counting to 199**

1 One

10 Ones → 1 Ten

10 Tens → 1 Hundred

10 ones make a ten and 10 tens make a hundred.
**Example 1**

The number is **130**.
The number name is **one hundred thirty**.

**Example 2**

The number is **153**.
The number name is **one hundred fifty-three**.

**Example 3**

The number is **178**.
The number name is **one hundred seventy-eight**.

---

**Exercise 1**

1. Write the numbers and their number names.
2. Complete the number grid.

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>102</td>
<td>104</td>
</tr>
<tr>
<td>106</td>
<td>109</td>
<td>115</td>
</tr>
<tr>
<td>120</td>
<td>128</td>
<td></td>
</tr>
<tr>
<td>133</td>
<td></td>
<td></td>
</tr>
<tr>
<td>140</td>
<td>147</td>
<td></td>
</tr>
<tr>
<td>154</td>
<td></td>
<td></td>
</tr>
<tr>
<td>160</td>
<td>169</td>
<td></td>
</tr>
<tr>
<td>172</td>
<td></td>
<td></td>
</tr>
<tr>
<td>180</td>
<td>186</td>
<td></td>
</tr>
<tr>
<td>195</td>
<td>199</td>
<td></td>
</tr>
</tbody>
</table>

---

(a)  
(b)  
(c)  
(d)  
(e)  
1. Write the numbers and their number names.

   a) ![Diagram](image.png)
   
   H T O
   
   ____________

   b) ![Diagram](image.png)
   
   H T O
   
   ____________

   c) ![Diagram](image.png)
   
   H T O
   
   ____________

   d) ![Diagram](image.png)
   
   H T O
   
   ____________

   e) ![Diagram](image.png)
   
   H T O
   
   ____________

2. Complete the number grid.

<table>
<thead>
<tr>
<th>100</th>
<th>102</th>
<th>104</th>
<th>106</th>
<th>109</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>120</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>115</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>133</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>140</td>
<td></td>
<td></td>
<td>147</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>154</td>
<td></td>
<td></td>
</tr>
<tr>
<td>160</td>
<td></td>
<td></td>
<td></td>
<td>169</td>
</tr>
<tr>
<td></td>
<td>172</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>180</td>
<td></td>
<td></td>
<td>186</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>195</td>
<td></td>
<td>199</td>
</tr>
</tbody>
</table>
Counting to 1000

10 Tens = 1 Hundred = 100

20 Tens = 2 Hundreds =

30 Tens = 3 Hundreds =

40 Tens = 4 Hundreds =

50 Tens = 5 Hundreds =

60 Tens = 6 Hundreds =

70 Tens = 7 Hundreds =

80 Tens = 8 Hundreds =

90 Tens = 9 Hundreds =

100 Tens = 10 Hundreds = 1000

10 hundreds are written as 1000 and read as one thousand.

Explain the children that all numbers from 100 to 999 are made up of 3 digits while 1000 (thousand) is made up of 4 digits. $999 + 1 = 1000$
Counting to 1000

Explain the children that all numbers from 100 to 999 are made up of 3 digits while 1000 (thousand) is made up of 4 digits.

Teaching Tip

999 + 1 = 1000
10 Tens 1 Hundred
10 Hundreds 1 Thousand

10 hundreds are written as 1000 and read as one thousand.

**Fact Zone**

To read a 3-digit number, first read the hundreds place and then read the last 2-digits together.

- 1 7 0: One hundred seventy
- 5 0 8: Five hundred eight
- 9 4 5: Nine hundred forty-five
Example 4

The number is 657.
The number name is six hundred fifty-seven.

Example 5

The number is 780.
The number name is seven hundred eighty.

Example 6

The number is 999.
The number name is nine hundred ninety-nine.
Exercise 2

1. Write the numbers and their number names.

a)

b)

c)

d)

e)

2. Complete the number strips.

a) 341 348

b) 650 658

c) 400 408

d) 794 798

e) 245 252

f) 862
### Example 1

<table>
<thead>
<tr>
<th>Hundreds</th>
<th>Tens</th>
<th>Ones</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>3</td>
<td>5</td>
</tr>
</tbody>
</table>

3 Hundreds 3 Tens 5 Ones = 335

Expanded form: 300 + 30 + 5
Standard form: 335

In 335, the digit
3 is in the hundreds place. Its place value is 300.
3 is in the tens place. Its place value is 30.
5 is in the ones place. Its place value is 5.

The face value of each digit in 335 is:
- 3: 3
- 3: 3
- 5: 5

The face value of a digit in a number is the digit itself.

### Example 2

<table>
<thead>
<tr>
<th>Hundreds</th>
<th>Tens</th>
<th>Ones</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>0</td>
<td>3</td>
</tr>
</tbody>
</table>

4 Hundreds 0 Tens 3 Ones = 403

Expanded form: 400 + 00 + 3
Standard form: 403

In 403, which digit is in the ones place?
3 is in the ones place.
**Example 3**

<table>
<thead>
<tr>
<th>Hundreds</th>
<th>Tens</th>
<th>Ones</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>4</td>
<td>0</td>
</tr>
</tbody>
</table>

2 Hundreds 4 Tens 0 Ones = 240

Expanded form: 200 + 40 + 0
Standard form: 240

In 240, which digit is in the ones place?
0 is in the ones place.

**Fact Zone**

The smallest 3-digit number is 100. Can you tell what is the greatest 3-digit number? It is 999.

**Exercise 3**

1. Write the correct digit in each place to write the numbers and their number names.

   a) These are 100.

<table>
<thead>
<tr>
<th>Hundred</th>
<th>Tens</th>
<th>Ones</th>
</tr>
</thead>
<tbody>
<tr>
<td>___</td>
<td>___</td>
<td>___</td>
</tr>
</tbody>
</table>

   1___ One hundred

<table>
<thead>
<tr>
<th>Hundreds</th>
<th>Tens</th>
<th>Ones</th>
</tr>
</thead>
<tbody>
<tr>
<td>___</td>
<td>___</td>
<td>___</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hundreds</th>
<th>Tens</th>
<th>Ones</th>
</tr>
</thead>
<tbody>
<tr>
<td>___</td>
<td>___</td>
<td>___</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hundred</th>
<th>Tens</th>
<th>Ones</th>
</tr>
</thead>
<tbody>
<tr>
<td>___</td>
<td>___</td>
<td>___</td>
</tr>
</tbody>
</table>

   These are 100.
2. Write the digits of the given numbers at their correct place. Also, write their number names.

a) 539
   Hundreds  Tens  Ones
   Five hundred

b) 491
   Hundreds  Tens  Ones


c) 706
   Hundreds  Tens  Ones


d) 950
   Hundreds  Tens  Ones


e) 303
   Hundreds  Tens  Ones
3. **What place value is represented by each digit of the number?**

   a) \[\begin{array}{c}
   4 \\
   3 \\
   6 \\
   \end{array}\]

   b) \[\begin{array}{c}
   5 \\
   7 \\
   6 \\
   \end{array}\]

   c) \[\begin{array}{c}
   9 \\
   4 \\
   8 \\
   \end{array}\]

4. **What is the place value of 5 in each number?**

   a) 570
   b) 359
   c) 510
   d) 451
   e) 625
   f) 985
   g) 571
   h) 153
   i) 752

5. **Write the face value of:**

   a) 7 in 573 = 7
   b) 4 in 428 =
   c) 2 in 732 =
   d) 2 in 502 =
   e) 6 in 160 =
   f) 9 in 900 =
   g) 1 in 691 =
   h) 3 in 355 =

6. **Write the following in expanded form.**

   a) 543 = 500 + 40 + 3
   b) 359 =
   c) 777 =
   d) 580 =
   e) 648 =
   f) 202 =
   g) 756 =
   h) 333 =

7. **Write the following in standard form.**

   a) 500 + 60 + 7 =
   b) 800 + 90 + 3 =
   c) 400 + 20 =
   d) 300 + 1 =
   e) 200 + 70 + 9 =
   f) 700 + 80 + 6 =
   g) 500 + 60 =
   h) 900 + 9 =
Finding Numbers

1 More

‘1 more’ is the number that comes ‘just after’.

Example 1
What is 1 more than 152?
152 + 1 = 153
1 more than 152 is 153.

To find ‘1 more’, add 1 to the digit in the ones place.

Example 2
What is 1 more than 387?
387 + 1 = 388
1 more than 387 is 388.

1 Less

‘1 less’ is the number that comes ‘just before’.

Example 2
What is 1 less than 352?
352 – 1 = 351
1 less than 352 is 351.

To find ‘1 less’, subtract 1 from the digit in the ones place.

Example 4
What is 1 less than 587?
587 – 1 = 586
1 less than 587 is 586.

10 More and 10 Less

Example 3
What is 10 more than 452 and 687?
452 + 10 = 462
10 more than 452 is 462.

Example 4
What is 10 less than 452 and 687?
452 – 10 = 442
10 less than 452 is 442.

Do you see a pattern? Observe the change in the digit in the tens place carefully.
**Finding Numbers**

'1 more' is the number that comes 'just after'.

10 more than 687 is 697.

10 less than 687 is 677.

**100 More and 100 Less**

**Example 5**

What is 100 more than 748?  
\[ 748 + 100 = 848 \]  
100 more than 748 is 848.

What is 100 less than 748?  
\[ 748 - 100 = 648 \]  
100 less than 748 is 648.

Do you see a pattern here?

What happens to the digit in the hundreds place when you add or subtract 100?

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**Mental Maths**

1. Circle the number that has 3 in its hundreds place.   133  130  313
2. The greatest number between 700 and 800 is ______________.
3. The smallest number between 100 and 200 is ______________.
4. Complete the series.  
   111, 222, 333, ________, ________, ________  
   380, 370, 360, ________, ________, ________

---

**Exercise 4**

1. Write the number that comes just before (1 less) the given numbers.  
   _____  789  _____  499  
   _____  315  _____  450  
   _____  333  _____  999  
   _____  810  _____  786  
   _____  410  _____  562  
   _____  210  _____  456  
   _____  766  _____  755

2. Write the number that comes just after (1 more) the given numbers.  
   646 _____  356 _____  
   345 _____  244 _____  
   650 _____  351 _____  
   200 _____  987 _____  
   819 _____  888 _____  
   466 _____  469 _____  
   930 _____  654 _____
3. Write the number, which is 10 more than:     10 less than:

<table>
<thead>
<tr>
<th>Number</th>
<th>New Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>574</td>
<td>684</td>
</tr>
<tr>
<td>245</td>
<td>345</td>
</tr>
<tr>
<td>345</td>
<td>245</td>
</tr>
<tr>
<td>75</td>
<td>175</td>
</tr>
<tr>
<td>620</td>
<td>720</td>
</tr>
<tr>
<td>777</td>
<td>877</td>
</tr>
<tr>
<td>750</td>
<td>850</td>
</tr>
<tr>
<td>320</td>
<td>420</td>
</tr>
</tbody>
</table>

4. Write the number, which is 100 more than:    100 less than:

<table>
<thead>
<tr>
<th>Number</th>
<th>New Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>345</td>
<td>445</td>
</tr>
<tr>
<td>147</td>
<td>247</td>
</tr>
<tr>
<td>789</td>
<td>889</td>
</tr>
<tr>
<td>356</td>
<td>456</td>
</tr>
<tr>
<td>36</td>
<td>136</td>
</tr>
<tr>
<td>402</td>
<td>502</td>
</tr>
<tr>
<td>418</td>
<td>518</td>
</tr>
<tr>
<td>526</td>
<td>626</td>
</tr>
</tbody>
</table>

Comparing Numbers

Greater (or larger) means more than.
Smaller means less than.

Example 1

Which is the smaller number: 164 or 239?

Start comparing from the digit on the left.

In this case, we compare the digits in the hundreds place.
Example 1

Which is the smaller number: 164 or 239?

164 < 239
So, 164 is smaller than 239.

Example 2

Which is the greater number: 452 or 428?

452 > 428
So, 452 is greater than 428.

Teaching Tip

Explain children that in both the signs (> and <), the closed side points towards the smaller number while the open side points towards the larger number. ‘=’ sign is used when the given numbers are equal.
Example 3

Which is the smaller number: 325 or 326?

Both the numbers have 3 hundreds and 2 tens. Then, how do we compare?

<table>
<thead>
<tr>
<th></th>
<th>H</th>
<th>T</th>
<th>O</th>
</tr>
</thead>
<tbody>
<tr>
<td>325</td>
<td>3</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>326</td>
<td>3</td>
<td>2</td>
<td>6</td>
</tr>
</tbody>
</table>

3 H = 3 H
2 T = 2 T
5 O < 6 O

So, 325 is smaller than 326.

Make students observe that we compare the number till the first ‘less than’ or ‘greater than’ digit is found. As soon as it is found, there is no need to compare the rest of the digits in the given numbers.
1. **Write the given numbers in the place value chart. Circle the greater number in each of the following.**

   a) 28; 481

<table>
<thead>
<tr>
<th>H</th>
<th>T</th>
<th>O</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>8</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

   b) 57; 930

<table>
<thead>
<tr>
<th>H</th>
<th>T</th>
<th>O</th>
</tr>
</thead>
<tbody>
<tr>
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<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td>7</td>
</tr>
<tr>
<td>9</td>
<td></td>
<td>0</td>
</tr>
</tbody>
</table>

   c) 874; 55

<table>
<thead>
<tr>
<th>H</th>
<th>T</th>
<th>O</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td></td>
<td>5</td>
</tr>
</tbody>
</table>

   d) 168; 145

<table>
<thead>
<tr>
<th>H</th>
<th>T</th>
<th>O</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td>1</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

   e) 678; 466

<table>
<thead>
<tr>
<th>H</th>
<th>T</th>
<th>O</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>4</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

   f) 651; 751

<table>
<thead>
<tr>
<th>H</th>
<th>T</th>
<th>O</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>7</td>
<td>5</td>
<td>1</td>
</tr>
</tbody>
</table>

   g) 246; 642

<table>
<thead>
<tr>
<th>H</th>
<th>T</th>
<th>O</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>6</td>
<td>4</td>
<td>2</td>
</tr>
</tbody>
</table>

   h) 532; 537

<table>
<thead>
<tr>
<th>H</th>
<th>T</th>
<th>O</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>5</td>
<td>3</td>
<td>7</td>
</tr>
</tbody>
</table>

   i) 213; 123

<table>
<thead>
<tr>
<th>H</th>
<th>T</th>
<th>O</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

2. **Compare the numbers. Use >, < or =.**

   a) 83 [ ] 343

   b) 567 [ ] 565

   c) 230 [ ] 230

   d) 335 [ ] 443

   e) 489 [ ] 451

   f) 628 [ ] 629

   g) 742 [ ] 740

   h) 798 [ ] 897

**Mental Maths**

Use >, < or = to make the following true.

168 [ ] 186

333 [ ] 333

151 [ ] 115

198 [ ] 189

111 [ ] 101

666 [ ] 666
**Example 1**

Which is the greatest and the smallest number amongst 235, 542 and 282?

<table>
<thead>
<tr>
<th></th>
<th>H</th>
<th>T</th>
<th>O</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>235</td>
<td>2</td>
<td>3</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>542</td>
<td>5</td>
<td>4</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>282</td>
<td>2</td>
<td>8</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

**Step 1:** Compare the hundreds.

5 H > 2 H  
5 Hundreds > 2 Hundreds  
So, 542 is the greatest number.

**Step 2:** Now, compare 235 and 282.

2 H = 2 H  
3 T < 8 T  
3 Tens < 8 Tens  
So, 235 is the smallest number.
Example 2

Arrange 343, 646 and 486 in ascending order.

Step 1: Circle the smallest number.

\[
\begin{array}{ccc}
343 & 646 & 486 \\
\end{array}
\]

Step 2: Compare the remaining numbers, circle the smaller one.

\[
\begin{array}{ccc}
646 & 486 \\
\end{array}
\]

The leftover number that remains is the greatest.

\[
343 < 486 < 646
\]

The numbers in ascending order are 343, 486, 646.

Example 3

Arrange 640, 813 and 754 in descending order.

Step 1: Circle the greatest number.

\[
\begin{array}{ccc}
640 & 813 & 754 \\
\end{array}
\]

Step 2: Compare the remaining numbers, circle the greater one.

\[
\begin{array}{ccc}
640 & 754 \\
\end{array}
\]

The leftover number that remains is the smallest.

\[
813 > 754 > 640
\]

The leftover numbers in descending order are 813, 754, 640.

Exercise 6

1. Colour the smallest number in yellow and the greatest number in red.

   a) \[
   \begin{array}{ccc}
   692 & 634 & 647 \\
   \end{array}
   \]

   b) \[
   \begin{array}{ccc}
   528 & 629 & 708 \\
   \end{array}
   \]

   c) \[
   \begin{array}{ccc}
   313 & 812 & 751 \\
   \end{array}
   \]

   d) \[
   \begin{array}{ccc}
   209 & 439 & 62 \\
   \end{array}
   \]

   e) \[
   \begin{array}{ccc}
   496 & 336 & 518 \\
   \end{array}
   \]

   f) \[
   \begin{array}{ccc}
   439 & 896 & 477 \\
   \end{array}
   \]

   g) \[
   \begin{array}{ccc}
   564 & 968 & 794 \\
   \end{array}
   \]

   h) \[
   \begin{array}{ccc}
   800 & 208 & 802 \\
   \end{array}
   \]
2. Arrange the given numbers in ascending order.
   a) 96, 80, 103
   b) 115, 143, 93
   c) 136, 132, 63
   d) 181, 149, 156
   e) 739, 473, 545
   f) 375, 975, 775
   g) 984, 222, 552
   h) 764, 468, 646
   i) 777, 222, 333

3. Arrange the given numbers in descending order.
   a) 55, 73, 44
   b) 640, 360, 784
   c) 401, 875, 213
   d) 84, 33, 69
   e) 241, 356, 899
   f) 123, 653, 840
   g) 23, 461, 86
   h) 481, 468, 186
   i) 684, 262, 556

Given are the ages of the members in a family.

<table>
<thead>
<tr>
<th>Members</th>
<th>Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grandfather</td>
<td>79</td>
</tr>
<tr>
<td>Grandmother</td>
<td>76</td>
</tr>
<tr>
<td>Rahul</td>
<td>10</td>
</tr>
<tr>
<td>Father</td>
<td>38</td>
</tr>
<tr>
<td>Mother</td>
<td>35</td>
</tr>
<tr>
<td>Sister</td>
<td>12</td>
</tr>
<tr>
<td>Uncle</td>
<td>32</td>
</tr>
<tr>
<td>Brother</td>
<td>5</td>
</tr>
</tbody>
</table>

1. Arrange everyone’s age in ascending order.
   \[ \boxed{<} \boxed{<} \boxed{<} \boxed{<} \boxed{<} \]

2. Who is older than grandmother?
   ________

3. Who is younger than Rahul?
   ________

4. Who is older: uncle or mother?
   ________

5. Is Rahul older or younger than his sister? ________
Forming Numbers

Read the given numbers.

| 69 | 96 |
| 231 | 123 | 312 |

Are the numbers in each set same? Let us compare.

<table>
<thead>
<tr>
<th>T</th>
<th>O</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>9</td>
</tr>
<tr>
<td>9</td>
<td>6</td>
</tr>
</tbody>
</table>

6 Tens < 9 Tens
So, 69 < 96

Example 1

Form the greatest number by using the digits 5, 2, 9.

Step 1: Write the greatest digit in the hundreds place.

<table>
<thead>
<tr>
<th>H</th>
<th>T</th>
<th>O</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Step 2: Write the smallest digit in the ones place.

<table>
<thead>
<tr>
<th>H</th>
<th>T</th>
<th>O</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

Step 3: Write the leftover digit in the tens place.

<table>
<thead>
<tr>
<th>H</th>
<th>T</th>
<th>O</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>5</td>
<td>2</td>
</tr>
</tbody>
</table>

Greatest number

9 5 2

Example 2

Form the smallest number by using the digits 0, 3, 9.

Step 1: Write the smallest digit (other than 0) in the hundreds place.

<table>
<thead>
<tr>
<th>H</th>
<th>T</th>
<th>O</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Step 2: Write the greatest digit in the ones place.

<table>
<thead>
<tr>
<th>H</th>
<th>T</th>
<th>O</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>9</td>
<td></td>
</tr>
</tbody>
</table>

Step 3: Write the left over digit in the tens place.

<table>
<thead>
<tr>
<th>H</th>
<th>T</th>
<th>O</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>0</td>
<td>9</td>
</tr>
</tbody>
</table>

Smallest number

3 0 9

Teaching Tip

Make students observe that 039 is not a 3-digit number as zero in the highest place in a number has no value. So, when forming the smallest number from a given number of digits containing a zero, zero is always placed in the second highest place.
Example 3

Form all the 3-digit numbers using the digits 2, 8 and 7.

Step 1: Choose any one digit, say 2. Write it in the hundreds place.

\[
\begin{array}{ccc}
H & T & O \\
2 & & \\
\end{array}
\]

Step 2: Write the remaining two digits in the tens and the ones place.

\[
\begin{array}{ccc}
H & T & O \\
2 & 7 & 8 \\
\end{array}
\]

Step 3: Interchange the digits in the tens and the ones place.

\[
\begin{array}{ccc}
H & T & O \\
2 & 8 & 7 \\
\end{array}
\]

Step 4: Change the digits in the hundreds place to form other numbers.

The other numbers formed are:

\[
\begin{array}{ccc}
H & T & O \\
7 & 2 & 8 \\
7 & 8 & 2 \\
8 & 2 & 7 \\
8 & 7 & 2 \\
\end{array}
\]

So, the 3-digit numbers formed using the digits 2, 8 and 7 are 278, 287, 728, 782, 827 and 872.

Exercise 7

1. Use the digits given below to form the greatest and the smallest number.

<table>
<thead>
<tr>
<th></th>
<th>Greatest Number</th>
<th>Smallest Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) 4 8 1</td>
<td>841</td>
<td>148</td>
</tr>
<tr>
<td>b) 2 7 5</td>
<td>752</td>
<td>257</td>
</tr>
<tr>
<td>c) 6 4 6</td>
<td>664</td>
<td>466</td>
</tr>
<tr>
<td>d) 0 7 9</td>
<td>970</td>
<td>079</td>
</tr>
</tbody>
</table>

2. Form all the possible 3-digit numbers using the following digits, without repeating.

- a) 6, 1, 7
- b) 7, 4, 1
- c) 3, 0, 5
- d) 6, 6, 5
- e) 3, 5, 9
- f) 9, 8, 2

Think Smart

What numbers can you form using the digits 9, 0, 9? How many numbers could you form?
Even and Odd Numbers

Even Numbers
The numbers that form pairs are called even numbers.

These are 6 socks.

Here, 6 is grouped into 2’s.
So, 6 is an even number.

Odd Numbers
The numbers that do not form pairs are called odd numbers.

These are 7 socks.

Here, 7 is not grouped into pairs completely.
So, 7 is an odd number.

Example
Identify the even and odd numbers.

522, 313, 540, 357, 888, 999

522, 540, 888 can be grouped into pairs. So, these are even numbers.
313, 357, 999 cannot be grouped into pairs completely. So, these are odd numbers.

Fact Zone
All numbers are either odd or even. Every odd number is followed by an even number, and every even number is followed by an odd number.
1. Circle the objects to make pairs. Write even or odd.

   a) [Images of pairs of objects circled]

   b) [Images of pairs of objects circled]

   c) [Images of pairs of objects circled]

   d) [Images of pairs of objects circled]

2. Circle the even numbers.

   a) 425 228 789 430 222

   b) 510 450 633 747 756

   c) 230 501 962 173 492

   d) 112 545 730 625 880

3. Identify the odd numbers and write them in the given space.

   a) 480 658 114 535 375

   b) 431 101 702 284 923

   c) 634 720 445 711 413

   d) 989 267 708 437 821

4. Look for a pattern. Then continue the line.

   a) [Images of a pattern with numbers circed]

   b) [Images of a pattern with numbers circed]
Ordinal Numbers

Ordinal numbers show the order in which the objects are lined up or positioned.

The car near the board is the first. It is at the first position.
Similarly, the cars lined up next are at the second, third, fourth, ..., ninth position.
The last car is at the tenth position.

Exercise 9

1. Read, draw and colour:
   a) Draw six flowers.  
      Colour the sixth flower.
   b) Draw ten beads.  
      Colour the second and fourth red.  
      Colour the seventh and ninth blue.

2. Look at the word and answer the questions that follow:

   M A T H E M A G I C

   a) M is at the _________ and _________ positions.
   b) _________ is at the eighth position.
   c) C is at the _________ position.
   d) _________ is the fifth letter.
1. Look at the blocks given below. Write the number.

   ![Blocks]

<table>
<thead>
<tr>
<th>H</th>
<th>T</th>
<th>O</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. Fill in the blanks.
   a) 10 more than 580 is ________.
   b) 100 less than 880 is ________.
   c) 480 = ________ hundreds ________ tens ________ ones
   d) The number just before 999 is ________.
   e) Seven hundred eighty-nine = __________________________
   f) 600 + 40 + 5 makes ________________________

3. Arrange these numbers in ascending order.
   a) 195, 419, 291, 129
   b) 116, 611, 161, 716

4. Arrange these numbers in descending order.
   a) 670, 607, 706, 760
   b) 944, 495, 316, 511

5. Compare the numbers using =, > or <.
   a) 167 ________ 128
   b) 159 ________ 161
   c) 600 ________ 730
   d) 793 ________ 545

6. Circle the even numbers and underline the odd numbers.
   a) 620, 881, 724, 980, 111
   b) 465, 143, 800, 94, 542

7. Make the greatest and the smallest number using the given digits, without repetition.
   a) 4, 5 and 9
   b) 9 and 5
   ________ > ________
   ________ > ________
Aim: To reinforce the number concept.

Requirement: Number chits with digits from 0 to 9

Steps:
1. Pair the students sitting next to each other.
2. Keep all the chits in a bowl, with one digit on each chit.
3. Each pair picks 3 chits from the bowl and writes the digits in the table given below.
4. Form all the possible 3-digit numbers from the digits.
5. Find the smallest and the greatest number.
6. Arrange these numbers in ascending and descending order.
7. Circle the even number and underline the odd number.

Record Table

<table>
<thead>
<tr>
<th>Our Chits</th>
<th>Our 3-digit numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Numbers in ascending order
Numbers in descending order

The smallest number
The greatest number
What is 55 + 4 equal to?

On a number line, count forward 4 steps from 55.

To add the ones, we can use blocks.

Add the ones. Count all the blocks to add ones.
5 Ones + 4 Ones = 9 Ones

Add the tens. Count all the blocks to add tens.
5 Tens + 0 Tens = 5 Tens

The addition sentence is 55 + 4 = 59.
1. Add to complete the number bonds.
   a) \[ \begin{array}{c}
   7 \\
   2
   \end{array} \]
   b) \[ \begin{array}{c}
   4 \\
   0
   \end{array} \]
   c) \[ \begin{array}{c}
   5 \\
   5
   \end{array} \]

2. Use the number line to add.

   \[ \begin{array}{cccccccccccccccc}
   7 & 8 & 9 & 10 & 11 & 12 & 13 & 14 & 15 & 16 & 17 & 18 & 19 & 20 \\
   \end{array} \]
   a) \[ 15 + 5 = \hfil \]
   b) \[ 13 + 6 = \hfil \]
   c) \[ 11 + 4 = \hfil \]
   d) \[ 16 + 2 = \hfil \]

3. Add the following.
   a) \[ \begin{array}{cc}
   4 & 2 \\
   + & 2 \hfil 7
   \end{array} \]
   b) \[ \begin{array}{cc}
   3 & 6 \\
   + & 6 \hfil 3
   \end{array} \]
   c) \[ \begin{array}{cc}
   5 & 4 \\
   + & 1 \hfil 8
   \end{array} \]
   d) \[ \begin{array}{cc}
   7 & 8 \\
   + & 1 \hfil 9
   \end{array} \]

4. Find the total to write the addition sentences.
   a) Tom has 10 mangoes and 11 apples. How many fruits does he have in total?

   Addition sentence: \[ \hfil \]

   b) Reena has 46 crayons and Tina has 32 crayons. How many crayons do they have altogether?

   Addition sentence: \[ \hfil \]
Warm Up

I have 111 marbles. How many marbles do both of you have altogether?

I have 114 marbles. 114 + 111 = ?

111 + 114 = 225.

Think Smart

Tina has 111 marbles. Siya has 114 marbles. How many marbles do they have altogether?

The addition sentence is:

On adding

Add the Ones.

Add the Tens.

Add the Hundreds.

\[
\begin{array}{c@{}c@{}c@{}c@{}c@{}c}
1 & 1 & 1 & + & 1 & 1 4 \\
\hline
1 & 1 & 4
\end{array}
\]

111

114

225

So, Tina and Siya have 225 marbles altogether.

Example

If Venu has 150 marbles, how many marbles will Siya, Tina and Venu have altogether?

Teaching Tip

Although the numbers can be added horizontally or vertically, adding the numbers vertically makes the computation easier, thus reducing the chances of mistakes.

Addition without Regrouping

111 marbles

114 marbles

114 + 111 = ?
Example
Tina has 111 marbles.
Siya has 114 marbles.
How many marbles do they have altogether?

The addition sentence is \( 111 + 114 = 225 \).

Think Smart
If Venu has 150 marbles, how many marbles will Siya, Tina and Venu have altogether?

Although the numbers can be added horizontally or vertically, adding the numbers vertically makes the computation easier, thus reducing the chances of mistakes.
Exercise 1

1. Find the sum.

<table>
<thead>
<tr>
<th>Hundreds</th>
<th>Tens</th>
<th>Ones</th>
</tr>
</thead>
<tbody>
<tr>
<td>300</td>
<td></td>
<td></td>
</tr>
<tr>
<td>34</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

300 + 34 = \[ \square \]

2. Add 127 and 231.

<table>
<thead>
<tr>
<th>Hundreds</th>
<th>Tens</th>
<th>Ones</th>
</tr>
</thead>
<tbody>
<tr>
<td>127</td>
<td></td>
<td></td>
</tr>
<tr>
<td>231</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

127 + 231 = \[ \square \]

3. Add the following.

a) 

<table>
<thead>
<tr>
<th>H</th>
<th>T</th>
<th>O</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>7</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

b) 

<table>
<thead>
<tr>
<th>H</th>
<th>T</th>
<th>O</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

c) 

<table>
<thead>
<tr>
<th>H</th>
<th>T</th>
<th>O</th>
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<tbody>
<tr>
<td>6</td>
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d) 

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>4</td>
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<td>7</td>
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e) 

<table>
<thead>
<tr>
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<th>T</th>
<th>O</th>
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<tbody>
<tr>
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<td>2</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>5</td>
<td>3</td>
</tr>
</tbody>
</table>

f) 

<table>
<thead>
<tr>
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<th>T</th>
<th>O</th>
</tr>
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<tbody>
<tr>
<td>5</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td>0</td>
</tr>
</tbody>
</table>

g) 

<table>
<thead>
<tr>
<th>H</th>
<th>T</th>
<th>O</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>3</td>
<td>9</td>
</tr>
<tr>
<td>7</td>
<td>5</td>
<td>0</td>
</tr>
</tbody>
</table>

h) 

<table>
<thead>
<tr>
<th>H</th>
<th>T</th>
<th>O</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

i) 

<table>
<thead>
<tr>
<th>H</th>
<th>T</th>
<th>O</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>
Addition of Three Numbers without Regrouping

Example

Add 130, 221 and 312.

Add any two numbers.

\[
\begin{array}{ccc}
H & T & O \\
1 & 3 & 0 \\
2 & 2 & 1 \\
3 & 5 & 1 \\
\end{array}
\]

Add the sum of two numbers with the third number.

\[
\begin{array}{ccc}
H & T & O \\
3 & 5 & 1 \\
3 & 1 & 2 \\
6 & 6 & 3 \\
\end{array}
\]

Or

Add all the three numbers together.

\[
\begin{array}{ccc}
H & T & O \\
1 & 3 & 0 \\
2 & 2 & 1 \\
3 & 1 & 2 \\
6 & 6 & 3 \\
\end{array}
\]

The addition sentence is \(130 + 221 + 312 = 663\).

Numbers can be added in any order. Their sum does not change.
1. Add 120, 111 and 100.

Add these three numbers in different order.

120 + 111 + 100 = [ ]

Is the sum (final) same? ________

2. Add the following.

a) [ ]

b) [ ]

c) [ ]

The number obtained on adding the given numbers is called the sum.
Add 236 and 48.

<table>
<thead>
<tr>
<th>Hundreds</th>
<th>Tens</th>
<th>Ones</th>
</tr>
</thead>
<tbody>
<tr>
<td>236</td>
<td></td>
<td></td>
</tr>
<tr>
<td>48</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Add the ones.

<table>
<thead>
<tr>
<th>H</th>
<th>T</th>
<th>O</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>4</td>
<td>8</td>
<td>8</td>
</tr>
</tbody>
</table>

6 Ones + 8 Ones = 14 Ones
1 Ten (carry over)

Add the tens.

<table>
<thead>
<tr>
<th>H</th>
<th>T</th>
<th>O</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>4</td>
<td>8</td>
<td>4</td>
</tr>
</tbody>
</table>

1 Ten (carry over) + 3 Tens + 4 Tens = 8 Tens

Add the hundreds.

<table>
<thead>
<tr>
<th>H</th>
<th>T</th>
<th>O</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>0</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>2</td>
<td>8</td>
<td>4</td>
</tr>
</tbody>
</table>

2 Hundreds + 0 Hundreds = 2 Hundreds

Part 236
Part 48
Whole 284

The addition sentence is 236 + 48 = 284.

Mind It

Mind It

Explain the concept of regrouping to children using base ten blocks.
Example 2
Add 147 and 281.

Add the ones.

\[
\begin{array}{c|c|c}
H & T & O \\
1 & 4 & 7 \\
2 & 8 & 1 \\
\hline
7 & & 8
\end{array}
\]

7 Ones + 1 One
= 8 Ones

Add the tens.

\[
\begin{array}{c|c|c}
H & T & O \\
1 & 4 & 7 \\
2 & 8 & 1 \\
\hline
4 & 8 & 2
\end{array}
\]

4 Tens + 8 Tens
= 12 Tens
= 1 Hundred
2 Tens

Write 2 in the tens place.
Carry over 1 to the hundreds column.

Add the hundreds.

\[
\begin{array}{c|c|c}
H & T & O \\
1 & 4 & 7 \\
2 & 8 & 1 \\
\hline
1 & & 8
\end{array}
\]

1 Hundred (carry over)
+ 1 Hundred
+ 2 Hundreds
= 4 Hundreds

The addition sentence is
\[147 + 281 = 428.\]
Exercise 3

1. Add 285 and 141.

\[
\begin{array}{c|c|c|c}
\text{Hundreds} & \text{Tens} & \text{Ones} \\
\hline
285 & & \\
141 & & \\
\end{array}
\]

\[
285 + 141 = \boxed{428}
\]

2. Add the following.

\[
\begin{array}{c|c|c|c}
\text{a)} & \text{H} & \text{T} & \text{O} \\
& 1 & 5 & 4 \\
+ & & & 9 \\
\text{b)} & \text{H} & \text{T} & \text{O} \\
& 4 & 5 & 0 \\
+ & & & 7 \ 9 \\
\text{c)} & \text{H} & \text{T} & \text{O} \\
& 6 & 5 & 4 \\
+ & & & 1 \ 8 \ 1 \\
\text{d)} & \text{H} & \text{T} & \text{O} \\
& 2 & 5 & 2 \\
+ & 5 & 0 & 9 \\
\text{e)} & \text{H} & \text{T} & \text{O} \\
& 5 & 9 & 3 \\
+ & 2 & 5 & 2 \\
\text{f)} & \text{H} & \text{T} & \text{O} \\
& 6 & 8 & 3 \\
+ & 2 & 9 & 5 \\
\text{g)} & \text{H} & \text{T} & \text{O} \\
& 6 & 2 & 5 \\
+ & 1 & 0 & 9 \\
\text{h)} & \text{H} & \text{T} & \text{O} \\
& 2 & 8 & 8 \\
+ & 4 & 0 & 7 \\
\text{i)} & \text{H} & \text{T} & \text{O} \\
& 1 & 9 & 6 \\
+ & 5 & 4 & 0 \\
\text{j)} & \text{H} & \text{T} & \text{O} \\
& 5 & 6 & 7 \\
+ & 1 & 2 & 7 \\
\text{k)} & \text{H} & \text{T} & \text{O} \\
& 7 & 7 & 8 \\
+ & 1 & 4 & 1 \\
\text{l)} & \text{H} & \text{T} & \text{O} \\
& 5 & 6 & 8 \\
+ & 4 & 0 & 8
\end{array}
\]
Addition with Regrouping (Two Steps)

Example

Add 267 and 155.

- **Add the ones.**
  - Add 7 Ones + 5 Ones = 12 Ones
  - Write 2 in the ones place. Carry over 1 to the tens column.

- **Add the tens.**
  - Add 1 Ten (carry over) + 6 Tens + 5 Tens = 12 Tens
  - Write 2 in the tens place. Carry over 1 to the hundreds column.

- **Add the hundreds.**
  - Add 1 Hundred (carry over) + 2 Hundreds + 1 Hundred = 4 Hundreds

The addition sentence is $267 + 155 = 422$. 

Exercise 4

1. Add 157 and 265.
2. Add the following:
   - 157 + 265 = 422
   - 348 + 30 = 378
   - 566 + 10 = 576
   - 425 + 60 = 485
   - 912 + 80 = 992
   - 564 + 300 = 864
   - 720 + 100 = 820
   - 444 + 500 = 944
   - 310 + 600 = 910
   - 235 + 200 = 435

Mental Maths

Add the following:
- 204 + 70 = 274
- 348 + 30 = 378
- 566 + 10 = 576
- 425 + 60 = 485
- 912 + 80 = 992
- 564 + 300 = 864
- 720 + 100 = 820
- 444 + 500 = 944
- 310 + 600 = 910
- 235 + 200 = 435

Teaching Tip

Make sure that the children are familiar with the concept of regrouping.
Exercise 4

1. Add 157 and 265.

Addition with Regrouping (Two Steps)

Hundreds Tens Ones

157

265

Add 267 and 155.

Add the ones.

Add the tens.

Add the hundreds.

7 Ones + 5 Ones = 12 Ones

10 Ones = 1 Ten

Write 2 in the ones place. Carry over 1 to the tens column.

Write 2 in the tens place. Carry over 1 to the hundreds column.

The addition sentence is:

1 Ten (carry over) + 6 Tens + 5 Tens = 12 Tens

1 Hundred (carry over)

+ 2 Hundreds + 1 Hundred = 4 Hundreds

H T O

2 6 7

1 5 5

2 2

4 2 2

157 + 265 = 422.

2. Add the following.

a) H T O

5 2 9

+ 3 7 8

b) H T O

4 5 6

+ 4 5 6

c) H T O

8 4 2

+ 1 4 8

d) H T O

2 5 7

+ 5 9 5

e) H T O

5 9 3

+ 2 1 9

f) H T O

6 8 8

+ 2 9 8

Mental Maths

Add the following:

204 + 70 = 274
348 + 30 = _________
566 + 10 = _________
425 + 60 = _________
912 + 80 = _________

Add the tens.

564 + 300 = 864
720 + 100 = _________
444 + 500 = _________
310 + 600 = _________
235 + 200 = _________

Add the hundreds.

Make sure that the children are familiar with the concept of regrouping.
Example 1
Add 118, 124 and 129.

Add any two numbers.

Add the sum of two numbers with the third number.

Add all the three numbers together.

The addition sentence is

\[ 118 + 124 + 129 = 371. \]
1. **Add 125, 472 and 243.**

   - **Exercise 5**

   - **Add 118, 124 and 129.**

     
     $$
     \begin{array}{c}
     \text{H T O} \\
     1 1 8 \\
     1 2 4 \\
     1 2 9 \\
     \hline
     3 7 1
     \end{array}
     $$

   - Is the sum (final) same? ______________

2. **Add the following.**

   - a) **H T O**
   
     $$
     \begin{array}{c}
     \text{H T O} \\
     5 4 0 \\
     2 7 5 \\
     1 1 1 \\
     \hline
     9 2 6
     \end{array}
     $$

   - b) **H T O**
   
     $$
     \begin{array}{c}
     \text{H T O} \\
     4 4 4 \\
     3 0 3 \\
     1 2 5 \\
     \hline
     8 6 2
     \end{array}
     $$

   - c) **H T O**
   
     $$
     \begin{array}{c}
     \text{H T O} \\
     4 5 2 \\
     3 4 3 \\
     1 2 9 \\
     \hline
     9 2 5
     \end{array}
     $$

   - d) **H T O**
   
     $$
     \begin{array}{c}
     \text{H T O} \\
     2 0 3 \\
     2 1 4 \\
     2 2 5 \\
     \hline
     6 3 2
     \end{array}
     $$

   - e) **H T O**
   
     $$
     \begin{array}{c}
     \text{H T O} \\
     2 4 2 \\
     2 4 4 \\
     \hline
     5 3 0
     \end{array}
     $$

   - f) **H T O**
   
     $$
     \begin{array}{c}
     \text{H T O} \\
     6 6 8 \\
     1 4 2 \\
     1 3 1 \\
     \hline
     9 4 1
     \end{array}
     $$

**Addition Facts**

### Adding 0

When zero is added to a number, the answer is the number itself.

$$
\begin{array}{c}
\text{H T O} \\
3 \\
\hline
3
\end{array} + \begin{array}{c}
\text{H T O} \\
0 \\
\hline
3
\end{array} = \begin{array}{c}
\text{H T O} \\
3 \\
\hline
3
\end{array}
$$

### Adding 1

When 1 is added to a number, the answer is the number just after.

$$
\begin{array}{c}
\text{H T O} \\
4 \\
\hline
5
\end{array} + \begin{array}{c}
\text{H T O} \\
1 \\
\hline
5
\end{array} = \begin{array}{c}
\text{H T O} \\
5 \\
\hline
5
\end{array}
$$
Order of Numbers

When the order of numbers to be added is changed, the sum does not change.

\[
\begin{align*}
\text{5} & + \text{2} = 7 \\
\text{2} & + \text{5} = 7
\end{align*}
\]

These facts apply to bigger numbers also.

Everyday Maths

Collect a few bills from your parents. They can be grocery bills, restaurant bills etc. Copy the amounts from the bill in your notebook and calculate the total.

Exercise 6

1. Fill in the blanks.
   a) \( 9 + 0 = \) _____  b) \( 7 + 1 = \) _____  c) \( 23 + 0 = \) _____
   d) \( 39 + 1 = \) _____  e) \( 723 + 0 = \) _____  f) \( 462 + 1 = \) _____

2. Add the given numbers by changing their order.
   358 and 527
   \[
   \begin{array}{ccc}
   \ \Box & + & \Box \\
   \Box & + & \Box \\
   \end{array}
   \]

3. Complete the given addition sentences.
   a) \( 7 + 3 = \) _____  \( \leftrightarrow \) 3 + 7 = _____
   b) \( 34 + 58 = \) _____  \( \leftrightarrow \) 58 + 34 = _____
   c) \( 832 + 111 = \) _____  \( \leftrightarrow \) 111 + 832 = _____
Example 1

Irfan has 14 coins. Venu has 5 coins. How many coins do they have altogether?

Understanding

Irfan and Venu have some coins. We need to find the total coins they have.

Planning

We can use cubes or draw a model to show the number of coins.

Doing

We add the parts to find the whole.

14 + 5 = 19

They have 19 coins altogether.

Teaching Tip

Encourage children to use connecting cubes to represent coins or different items used in word problems to plan and act out the given situation.
The answer is correct.

**Example 2**
Srisha had 15 cookies first. Deep gave her 5 cookies. Harsh gave her 11 cookies. How many cookies does Srisha now have?

\[
\begin{array}{c}
\text{Srisha's cookies} \\
\hline
15 \\
\text{Deep's cookies} \\
5 \\
\text{Harsh's cookies} \\
11 \\
\end{array}
\]

\[
15 + 5 + 11 = 31
\]

Srisha has 31 cookies.

**Check!**
If \(15 + 5 = 20\), then \(31 - 11\) should be equal to 20.

The answer is correct.

**Example 3**
Vidya has 16 hair clips. Akriti has 18 more hair clips than Vidya. How many hair clips does Akriti have?

\[
\begin{array}{c}
\text{Vidya} \\
16 \\
\hline
\text{Akriti} \\
18 \\
\end{array}
\]

\[
16 + 18 = 34
\]

Akriti has 34 hair clips.

Give connecting cubes to children to act out the situation. Discuss how it is easier to show the situation with larger numbers with rectangular bars rather than connecting cubes. Bring it to their notice how the length of bar varies for different numbers.
The answer is correct.

19 – 5 = 14

Checking count backward from 19 to check your answer.

3 2 1

11 10 12 13 14

Example 2

Srisha has 31 cookies.

15 + 5 + 11 = 31

Teaching Tip

Give connecting cubes to children to act out the situation. Discuss how it is easier to show the situation with larger numbers with rectangular bars rather than connecting cubes. Bring it to their notice how the length of bar varies for different numbers.

If 15 + 5 = 20, then 31 – 11 should be equal to 20.

The answer is correct.

Check!

If 16 + 18 = 34, then 34 – 18 should be equal to 16.

The answer is correct.

Check!

Exercise 7

1. Solve the word problems given below. Which model should you use? Fill in the boxes of the correct model. First one is done for you.

a) There are 575 maths books and 225 science books in a library. How many books are there in all?

b) Shilpa has 254 stamps. She has 103 more stamps than Reena. How many stamps does Reena have?
2. Suresh has distributed 110 invitation cards. He still has 48 invitation cards to be distributed. How many invitation cards does he have in the beginning?

They have ? invitation cards in all.

3. Tina has 127 coins, Siya had 234 coins, and Irfan has 324 coins. How many coins do they have in all?

They have ? coins in all.

4. Reeta bought 442 pink envelopes. Seema bought 20 more green envelopes than pink envelopes that Reeta bought.

a) How many green envelopes in all did Seema buy?

Seema bought ? green envelopes.

b) How many envelopes did they buy altogether?

They bought ? envelopes in all.
1. Complete the following addition sentences.
   a) $10 + 0 = \underline{\hspace{1cm}}$
   b) $999 + 0 = \underline{\hspace{1cm}}$
   c) $99 + 1 = \underline{\hspace{1cm}}$
   d) $754 + 1 = \underline{\hspace{1cm}}$

2. Find the sum.
   
   a) 
   \[
   \begin{array}{c@{}c@{}c@{}c}
   & H & T & O \\
   + & 1 & 9 & 4 \\
   \hline
   & & & 9 \\
   \end{array}
   \]
   b) 
   \[
   \begin{array}{c@{}c@{}c@{}c}
   & H & T & O \\
   + & 9 & 4 & 5 \\
   \hline
   & & & 3 \\
   \end{array}
   \]
   c) 
   \[
   \begin{array}{c@{}c@{}c@{}c}
   & H & T & O \\
   + & 5 & 9 & 4 \\
   \hline
   & & & 3 \\
   \end{array}
   \]
   d) 
   \[
   \begin{array}{c@{}c@{}c@{}c}
   & H & T & O \\
   + & 2 & 9 & 9 \\
   \hline
   & & & 9 \\
   \end{array}
   \]
   e) 
   \[
   \begin{array}{c@{}c@{}c@{}c}
   & H & T & O \\
   + & 2 & 4 & 1 \\
   \hline
   & & & 5 \\
   \end{array}
   \]
   f) 
   \[
   \begin{array}{c@{}c@{}c@{}c}
   & H & T & O \\
   + & 1 & 7 & 5 \\
   \hline
   & & & 4 \\
   \end{array}
   \]

3. Which two aeroplanes together have more than 500 passengers?

   The aeroplanes $\underline{\hspace{1cm}}$ and $\underline{\hspace{1cm}}$ together have more than 500 passengers.
Aim: To form 3-digit numbers and their sum.

Requirement: Deck of cards (1 to 5)

Steps:
1. Pair the students sitting next to each other.
2. Take the deck of cards, numbered from 1 to 5. Shuffle them and place them on the table upside down.
3. Tell a child in the pair to pick any 3 cards and make a 3-digit number.
4. Ask the other child to make another 3-digit number from the same numbered cards by changing the place of each card.
5. Ask the children to add the two numbers thus formed and find the sum.
6. Repeat steps 2 to 4 and complete the table given below.

Record Table

<table>
<thead>
<tr>
<th>First number</th>
<th>Second number</th>
<th>Sum</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>235</td>
<td>523</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
I Have Learnt

What is 48 – 3 equal to?

On a number line, count backward 3 steps from 48.

To subtract 3 from 48, we can use blocks.

Subtract the ones.
Cross out 3 ones blocks to subtract.
8 Ones – 3 Ones = 5 Ones

Subtract the tens.
Cross out 0 tens blocks to subtract.
4 Tens – 0 Tens = 4 Tens

Whole 48

Part 45

The subtraction sentence is 48 – 3 = 45.
1. Look at the picture given below. Complete the subtraction sentences.

   a) \[10 - 4 = \square\]

   b) \[13 - 5 = \square\]

   c) \[12 - 6 = \square\]

2. Use the number line to subtract.

   a) \[19 - 8 = \square\]

   b) \[12 - 3 = \square\]

   c) \[14 - 4 = \square\]

3. Subtract the following.

   a) \[
   \begin{array}{c|c}
   \text{T} & \text{O} \\
   \hline
   7 & 8 \\
   - & - \\
   \hline
   \end{array}
   \] = \square

   b) \[
   \begin{array}{c|c}
   \text{T} & \text{O} \\
   \hline
   4 & 2 \\
   - & - \\
   \hline
   \end{array}
   \] = \square

   c) \[
   \begin{array}{c|c}
   \text{T} & \text{O} \\
   \hline
   9 & 7 \\
   - & - \\
   \hline
   \end{array}
   \] = \square

   d) \[
   \begin{array}{c|c}
   \text{T} & \text{O} \\
   \hline
   6 & 6 \\
   - & - \\
   \hline
   \end{array}
   \] = \square

4. In a packet, there are 24 pencils. Siya uses 9 pencils. How many pencils are left in the packet? \[
\begin{array}{c|c}
\text{T} & \text{O} \\
\hline
- & - \\
\hline
\end{array}
\]
1. Look at the picture given below. Complete the subtraction sentences.

10 – 4 = 
13 – 5 = 
12 – 6 = 
14 – 4 = 

2. Use the number line to subtract.

3. Subtract the following.

4. In a packet, there are 24 pencils. Siya uses 9 pencils. How many pencils are left in the packet?

5. Tina had 195 marbles. She has given 82 marbles to us. How many marbles are left with her?

Oh! the ball is gone.

So, we are left with just 3 balls.

Do you know we had 8 balls with us? 5 balls are lost.

195 – 82 = ?

Warm Up

So, we are left with just 3 balls.
Subtraction without Regrouping

**Example 1**

Tina had 195 marbles.
She has given 82 marbles to Irfan and Venu.
How many marbles are left with her?

Remember to write the greater number on the top.

<table>
<thead>
<tr>
<th>Hundreds</th>
<th>Tens</th>
<th>Ones</th>
</tr>
</thead>
<tbody>
<tr>
<td>195</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Subtract the ones.

<table>
<thead>
<tr>
<th>H</th>
<th>T</th>
<th>O</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>9</td>
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<td>-</td>
<td>8</td>
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<tr>
<td></td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

Subtract the tens.

<table>
<thead>
<tr>
<th>H</th>
<th>T</th>
<th>O</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>9</td>
<td>5</td>
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<td>-</td>
<td>8</td>
<td>2</td>
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<tr>
<td></td>
<td>1</td>
<td>3</td>
</tr>
</tbody>
</table>

Subtract the hundreds.

<table>
<thead>
<tr>
<th>H</th>
<th>T</th>
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</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>9</td>
<td>5</td>
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<tr>
<td>-</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>3</td>
</tr>
</tbody>
</table>

There is no digit in the hundreds place, so we consider it as zero.

The subtraction sentence is \(195 - 82 = 113\)

Tina is left with 113 marbles.

**Teaching Tip**

Explain to the children that zero before a number has no effect on the number. However placing a zero before a number helps in computation process.

\[ \begin{align*}
265 - 3 & \quad 2 \ 6 \ 5 \ \times \ \ 0 \ 0 \ 3 \\
\ & \quad 2 \ 6 \ 5 \\
\ & \quad 2 \ 6 \ 5 \\
\ & \quad 2 \ 6 \ 5
\end{align*} \]
Example 2
Subtract 230 from 352.

The subtraction sentence is \(352 - 230 = 122\)
Difference = 122

Fact Zone
The number obtained on subtracting the given numbers is called difference.
Exercise 1

1. Subtract by crossing out.

a) 76 from 296

\[
\begin{array}{c|c|c|c|c}
\text{Hundreds} & \text{Tens} & \text{Ones} & \text{H} & \text{T} & \text{O} \\
\hline
296 & & & 2 & 9 & 6 \\
\hline
\text{76} & & & 7 & 6 & \\
\hline
\end{array}
\]

\[296 - 76 = \square\]

b) 164 from 265

\[
\begin{array}{c|c|c|c|c}
\text{Hundreds} & \text{Tens} & \text{Ones} & \text{H} & \text{T} & \text{O} \\
\hline
265 & & & 2 & 6 & 5 \\
\hline
\text{164} & & & 1 & 6 & 4 \\
\hline
\end{array}
\]

\[265 - 164 = \square\]

c) 123 from 349

\[
\begin{array}{c|c|c|c|c}
\text{Hundreds} & \text{Tens} & \text{Ones} & \text{H} & \text{T} & \text{O} \\
\hline
349 & & & 3 & 4 & 9 \\
\hline
\text{123} & & & 1 & 2 & 3 \\
\hline
\end{array}
\]

\[349 - 123 = \square\]

d) 280 from 498

\[
\begin{array}{c|c|c|c|c}
\text{Hundreds} & \text{Tens} & \text{Ones} & \text{H} & \text{T} & \text{O} \\
\hline
498 & & & 4 & 9 & 8 \\
\hline
\text{280} & & & 2 & 8 & 0 \\
\hline
\end{array}
\]

\[498 - 280 = \square\]
2. Subtract the following.

<table>
<thead>
<tr>
<th></th>
<th>H</th>
<th>T</th>
<th>O</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>2</td>
<td>7</td>
<td>5</td>
</tr>
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<td></td>
<td>1</td>
<td>3</td>
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<td>b</td>
<td>4</td>
<td>5</td>
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<td></td>
<td>4</td>
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<tr>
<td>c</td>
<td>6</td>
<td>0</td>
<td>0</td>
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<td></td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>d</td>
<td>5</td>
<td>3</td>
<td>7</td>
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<td></td>
<td>3</td>
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<td>e</td>
<td>4</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>f</td>
<td>3</td>
<td>5</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>g</td>
<td>9</td>
<td>8</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>h</td>
<td>7</td>
<td>8</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>4</td>
<td>2</td>
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<tr>
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<td>9</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>j</td>
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<td>8</td>
<td>8</td>
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<td></td>
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<td>4</td>
<td>4</td>
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<tr>
<td>l</td>
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</tr>
<tr>
<td></td>
<td>8</td>
<td>1</td>
<td>8</td>
</tr>
</tbody>
</table>

---

**Maths Fun**

1. Take a snake and ladder game board and a dice.
2. Throw the dice twice on the game board.
3. Note down the numbers on the board on which the dice falls.
4. Subtract the smaller number from the greater number using base ten blocks.
5. Repeat this activity 5-6 times.
Subtraction with Regrouping (One Step)

**Example**

Subtract 37 from 152.

<table>
<thead>
<tr>
<th>Hundreds</th>
<th>Tens</th>
<th>Ones</th>
</tr>
</thead>
<tbody>
<tr>
<td>152</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Subtract the ones.

<table>
<thead>
<tr>
<th>H</th>
<th>T</th>
<th>O</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>45</td>
<td>12</td>
</tr>
<tr>
<td>0</td>
<td>3</td>
<td>7</td>
</tr>
</tbody>
</table>

Regroup 5 Tens to 4 Tens. 12 Ones.

12 Ones – 7 Ones = 5 Ones

Subtract the tens.

<table>
<thead>
<tr>
<th>H</th>
<th>T</th>
<th>O</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>45</td>
<td>12</td>
</tr>
<tr>
<td>0</td>
<td>3</td>
<td>7</td>
</tr>
</tbody>
</table>

4 Tens – 3 Tens = 1 Ten

Subtract the hundreds.

<table>
<thead>
<tr>
<th>H</th>
<th>T</th>
<th>O</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>45</td>
<td>12</td>
</tr>
<tr>
<td>0</td>
<td>3</td>
<td>7</td>
</tr>
</tbody>
</table>

1 Hundred – 0 Hundreds = 1 Hundred

The subtraction sentence is

152 – 37 = 115.
Subtraction with Regrouping (One Step)

Subtract 37 from 152.

<table>
<thead>
<tr>
<th>Hundreds</th>
<th>Tens</th>
<th>Ones</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>3</td>
<td>7</td>
</tr>
</tbody>
</table>

Regroup 5 Tens
2 Ones to 4 Tens
12 Ones.

12 Ones – 7 Ones
= 5 Ones

4 Tens – 3 Tens
= 1 Ten

1 Hundred – 0 Hundreds
= 1 Hundred

H T O
1 5 2
0 3 7
1 1 5

Example
The subtraction sentence is 152 – 37 = 115.

Exercise 2

1. Subtract 126 from 232.

2. Subtract the following.

a) 

<table>
<thead>
<tr>
<th>H</th>
<th>T</th>
<th>O</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>-</td>
<td>8</td>
<td>1</td>
</tr>
</tbody>
</table>

b) 

<table>
<thead>
<tr>
<th>H</th>
<th>T</th>
<th>O</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>4</td>
<td>9</td>
</tr>
<tr>
<td>-</td>
<td>5</td>
<td>8</td>
</tr>
</tbody>
</table>

c) 

<table>
<thead>
<tr>
<th>H</th>
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</thead>
<tbody>
<tr>
<td>9</td>
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<td>8</td>
</tr>
<tr>
<td>-</td>
<td>2</td>
<td>9</td>
</tr>
</tbody>
</table>

d) 

<table>
<thead>
<tr>
<th>H</th>
<th>T</th>
<th>O</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>-</td>
<td>5</td>
<td>2</td>
</tr>
</tbody>
</table>

e) 

<table>
<thead>
<tr>
<th>H</th>
<th>T</th>
<th>O</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>0</td>
<td>7</td>
</tr>
<tr>
<td>-</td>
<td>2</td>
<td>5</td>
</tr>
</tbody>
</table>

f) 

<table>
<thead>
<tr>
<th>H</th>
<th>T</th>
<th>O</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>9</td>
<td>0</td>
</tr>
<tr>
<td>-</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

g) 

<table>
<thead>
<tr>
<th>H</th>
<th>T</th>
<th>O</th>
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</thead>
<tbody>
<tr>
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<td>5</td>
</tr>
<tr>
<td>-</td>
<td>2</td>
<td>9</td>
</tr>
</tbody>
</table>

h) 

<table>
<thead>
<tr>
<th>H</th>
<th>T</th>
<th>O</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>-</td>
<td>3</td>
<td>2</td>
</tr>
</tbody>
</table>

i) 

<table>
<thead>
<tr>
<th>H</th>
<th>T</th>
<th>O</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>-</td>
<td>1</td>
<td>3</td>
</tr>
</tbody>
</table>

Think Smart

Solve the puzzle.

<table>
<thead>
<tr>
<th>420</th>
<th>–</th>
<th>60</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>150</th>
<th>–</th>
<th>50</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>250</th>
<th>–</th>
<th>210</th>
<th>–</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Subtraction with Regrouping (Two Steps)

Example 1
Subtract 78 from 235.

Subtract the ones.

Regroup 3 Tens 5 Ones to 2 Tens 15 Ones.
15 Ones – 8 Ones = 7 Ones

Subtract the tens.

Regroup 2 Hundreds 2 Tens to 1 Hundred 12 Tens.
12 Tens – 7 Tens = 5 Tens

Subtract the hundreds.

1 Hundred – 0 Hundreds = 1 Hundred

The subtraction sentence is
235 – 78 = 157.

Think Smart

Form three subtraction sentences, using the given numbers.

1. 256 – 121 = 135
2. __________________
3. __________________
Example 2
Subtract 152 from 220.

<table>
<thead>
<tr>
<th>Hundreds</th>
<th>Tens</th>
<th>Ones</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 2 0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 5 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 3 2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Subtract the ones.

Regroup 2 Tens 0 Ones to 1 Ten 10 Ones.
10 Ones – 2 Ones = 8 Ones

Subtract the tens.

Regroup 2 Hundreds 1 Ten to 1 Hundred 11 Tens.
11 Tens – 5 Tens = 6 Tens

Subtract the hundreds.

1 Hundred
– 1 Hundred
= 0 Hundreds

The subtraction sentence is 220 – 152 = 68.

Mind It

We cannot subtract 2 Ones from 0 Ones, and 5 Tens from 2 Tens as 152 is smaller than 220.
Exercise 3

1. Subtract 135 from 322.

<table>
<thead>
<tr>
<th>Hundreds</th>
<th>Tens</th>
<th>Ones</th>
<th>H</th>
<th>T</th>
<th>O</th>
</tr>
</thead>
<tbody>
<tr>
<td>322</td>
<td></td>
<td></td>
<td>3</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>135</td>
<td></td>
<td></td>
<td>1</td>
<td>3</td>
<td>5</td>
</tr>
</tbody>
</table>

The subtraction sentence is 322 – 135 = □

2. Subtract the following.

   a) 723
   b) 500
   c) 647
   d) 708
   e) 389
   f) 920

3. Complete the number sentences to find the value of ● and ◆.

   a) 500 – 350 = ●
   b) 530 – 200 = ◆

   ● – 50 = 100
   ◆ – 40 = □

   The value of ● is □.
   The value of ◆ is □.

4. Which of the following subtraction sentences give the same answer? Colour the boxes with the same answer.

   a) 709 – 253 = □
   b) 809 – 353 = □
   c) 759 – 203 = □
Subtraction Facts

Subtracting 0
When zero is subtracted from a number, the answer remains the number itself.

\[
\begin{align*}
5 & - 0 = 5 \\
9 - 9 & = 0
\end{align*}
\]

Subtracting 1
When 1 is subtracted from a number, the answer is the number just before the given number.

\[
\begin{align*}
4 - 1 & = 3 \\
8 - 5 & = 3 \\
8 - 3 & = 5
\end{align*}
\]

Subtracting the Same Number
When a number is subtracted from itself, the answer is zero.

\[
\begin{align*}
9 - 9 & = 0
\end{align*}
\]

Making Subtraction Sentences from an Addition Sentence

\[
\begin{align*}
5 + 3 & = 8 \\
8 - 5 & = 3 \\
8 - 3 & = 5
\end{align*}
\]

Fact Zone
Subtraction is the opposite operation of addition.
1. Subtract the following.
   a) 9 – 0 = __________  
   b) 13 – 13 = __________  
   c) 23 – 1 = __________  
   d) 26 – 26 = __________  
   e) 769 – 1 = __________  
   f) 536 – 0 = __________  

2. Draw and write subtraction sentences.
   Draw seven stars and cross out four stars.  
   Subtraction sentence
   a) __________   __________
   Draw seven stars and cross out three stars.  
   Subtraction sentence
   b) __________   __________

3. Write the subtraction sentences for each of the following addition sentences.

<table>
<thead>
<tr>
<th>Addition sentence</th>
<th>Subtraction sentences</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) 124 + 12 = 136</td>
<td></td>
</tr>
<tr>
<td>b) 237 + 50 = 287</td>
<td></td>
</tr>
<tr>
<td>c) 459 + 130 = 589</td>
<td></td>
</tr>
<tr>
<td>d) 300 + 150 = 450</td>
<td></td>
</tr>
<tr>
<td>e) 520 + 240 = 760</td>
<td></td>
</tr>
</tbody>
</table>

Mental Maths
Subtract the following.

185 – 30 = 155  
165 – 40 = __________  
483 – 20 = __________  
563 – 60 = __________  
755 – 50 = __________

Subtract from the tens.
740 – 100 = 640  
281 – 200 = __________  
642 – 400 = __________  
830 – 500 = __________  
463 – 300 = __________

Subtract from the hundreds.
Example 1

Tina has 20 candies. 8 of the candies are pink and the rest are yellow. How many yellow candies does Tina have?

Understanding

Tina has 8 pink candies and some yellow candies. We need to find the number of yellow candies.

Planning

We can use cubes or draw a model to show the number of candies.

Which bars show the parts? Which bar shows the whole?

Doing

We subtract the part (given) from the whole.

\[
\begin{align*}
20 - 8 &= 12 \\
\end{align*}
\]

Tina has 12 yellow candies.

Checking

Count on 8 steps from 12 to check your answer.

\[
\begin{align*}
12 + 8 &= 20 \\
\end{align*}
\]

The answer is correct.
**Example 2**

Mrinal baked 356 tarts. He gave 270 tarts away. How many tarts are left with Mrinal?

```
<table>
<thead>
<tr>
<th>Tarts left</th>
<th>Tarts given away</th>
</tr>
</thead>
<tbody>
<tr>
<td>?</td>
<td>270</td>
</tr>
</tbody>
</table>

-356 - 270 = 86

Mrinal had 86 tarts left with him.

**Check!**

If 356 – 270 = 86,
then 270 + 86 should be equal to 356.
The answer is correct.

**Example 3**

Karuna reads 32 story books in July. She read 15 fewer story books in August. How many storybooks did she read in August?

She read 17 story books in August.

**Example 4**

Siya walked 234 steps to reach the gate, while Rahul walked 152 steps. How many more steps did Siya walk than Rahul?

Siya walked 82 more steps than Rahul.

**Check!**

If 234 – 152 = 82, then 152 + 82 should be equal to 234.
The answer is correct.

**Example 5**

Amita has 246 oranges and 175 mangoes.

a) How many fruits does she have altogether?

b) How many fewer mangoes than oranges does she have?

**Teaching Tip**

Encourage the use of connecting cubes with smaller numbers before moving to bar model for situations involving words like ‘more than’, ‘less than’. Bring it to the notice of the children how the bar model changes in situations like example 3 and 4.

If 32 – 15 = 17, then 17 + 15 should be equal to 32.
The answer is correct.
Example 2
Mrinal baked 356 tarts. He gave 270 tarts away. How many tarts are left with Mrinal?

<table>
<thead>
<tr>
<th>Tarts left</th>
<th>Tarts given away</th>
</tr>
</thead>
<tbody>
<tr>
<td>356</td>
<td>270</td>
</tr>
</tbody>
</table>

Mrinal had 86 tarts left with him.

356 – 270 = 86

Example 3
Karuna reads 32 story books in July. She read 15 fewer story books in August. How many storybooks did she read in August?

32 – 15 = 17

Example 4
Siya walked 234 steps to reach the gate, while Rahul walked 152 steps. How many more steps did Siya walk than Rahul?

234 – 152 = 82

Siya walked 82 more steps than Rahul.

Example 5
Amita has 246 oranges and 175 mangoes.

a) How many fruits does she have altogether?

b) How many fewer mangoes than oranges does she have?

Teaching Tip
Encourage the use of connecting cubes with smaller numbers before moving to bar model for situations involving words like ‘more than’, ‘less than’. Bring it to the notice of the children how the bar model changes in situations like example 3 and 4.
a) Amrita has some oranges and mangoes. I should draw a model to show the two parts and the whole.

\[
\begin{array}{c}
246 \\
\text{oranges} \\
? \\
175 \\
\text{mangoes}
\end{array}
\]

\[246 + 175 = 421\]

She has 421 fruits altogether.

b) I will draw two bars here. The bar for orange will be longer than the bar for mango.

\[
\text{Oranges} \quad \begin{array}{c}246 \\ ? \end{array} \\
\text{Mangoes} \quad \begin{array}{c}175 \\ ? \end{array}
\]

\[246 - 175 = 71\]

She has 71 fewer mangoes than oranges.

Encourage the children to check their answers at the end of the solution to the question.
Exercise 5

1. Solve the word problems given below. Which model should you use? Fill in the boxes of the correct model. First one is done for you.

   a) There are 122 people in a park. 20 of them are children. How many adults are in the park?

   ![Model diagram]

   \[122 - 20 = 102\]

   b) Keshav has 404 game cards in his shop. He sells 215 game cards. How many game cards is he left with?

   ![Model diagram]

   \[404 - 215 = \, ?\]

   c) There are 228 people in canteen A. There are 44 fewer people in canteen B. How many people are there in canteen B?

   ![Model diagram]

   \[228 - 44 = \, ?\]
2. In a school, there were 758 students. Out of them, 529 students went for the picnic. How many students did not go for the picnic?

\[
\begin{array}{c}
758 \\
529 \\
\text{?}
\end{array}
\]

\[
\Box - \Box = \Box
\]

\[
\text{students were left in the school.}
\]

3. A baker sold 650 cookies. He also sold 477 cupcakes. How many more cookies than cupcakes did the baker sell?

\[
\begin{array}{c}
650 \\
\text{Cookies} \\
477 \\
\text{Cupcakes} \\
\text{?}
\end{array}
\]

\[
\Box - \Box = \Box
\]

The baker sold \[
\text{more cookies than cupcakes.}
\]

4. Rahul had \(₹235\) and Raj had \(₹123\) less than Rahul.

\[
\begin{array}{c}
\text{Rahul} \\
\text{Raj} \\
\text{?} \\
\text{₹123}
\end{array}
\]

a) Who has more money?  

b) How much money did Raj have?

5. A carton of 625 biscuit packets has 135 packets of coconut biscuits, 275 packets of cream biscuits and the rest are chocolate biscuits.

\[
\begin{array}{c}
625 \\
\text{Biscuits} \\
\text{Coconut biscuits} \\
\text{Cream biscuits} \\
135 \\
275 \\
\text{?}
\end{array}
\]

a) How many packets of coconut and cream biscuits does the carton have?  

b) How many packets of chocolate biscuits are there in the carton?
1. **Find the difference.**
   a) \(100 - 0 = \) 
   b) \(729 - 1 = \) 
   c) \(283 - 28 = \) 
   d) \(560 - 0 = \) 
   e) \(249 - 199 = \) 
   f) \(333 - 333 = \)

2. **Subtract the following.**

   a) \[
   \begin{array}{c|c|c|c}
   & H & T & O \\
   \hline
   1 & 2 & 4 & \\
   \hline
   - & 9 & 3 & \\
   \end{array}
   \]
   b) \[
   \begin{array}{c|c|c|c}
   & H & T & O \\
   \hline
   1 & 5 & 9 & \\
   \hline
   - & 3 & 3 & \\
   \end{array}
   \]
   c) \[
   \begin{array}{c|c|c|c}
   & H & T & O \\
   \hline
   2 & 8 & 8 & \\
   \hline
   - & 4 & 2 & \\
   \end{array}
   \]
   d) \[
   \begin{array}{c|c|c|c}
   & H & T & O \\
   \hline
   6 & 4 & 9 & \\
   \hline
   - & 4 & 2 & 7 & \\
   \end{array}
   \]
   e) \[
   \begin{array}{c|c|c|c}
   & H & T & O \\
   \hline
   7 & 3 & 0 & \\
   \hline
   - & 5 & 3 & 1 & \\
   \end{array}
   \]
   f) \[
   \begin{array}{c|c|c|c}
   & H & T & O \\
   \hline
   9 & 9 & 2 & \\
   \hline
   - & 8 & 0 & 8 & \\
   \end{array}
   \]
   g) \[
   \begin{array}{c|c|c|c}
   & H & T & O \\
   \hline
   4 & 0 & 4 & \\
   \hline
   - & 2 & 0 & 9 & \\
   \end{array}
   \]
   h) \[
   \begin{array}{c|c|c|c}
   & H & T & O \\
   \hline
   3 & 5 & 1 & \\
   \hline
   - & 2 & 3 & 9 & \\
   \end{array}
   \]

3. **Nita bought 822 paper plates and glasses for her birthday party. She bought 535 paper plates. Find the number of glasses she bought.**

4. **Rohit had 346 stickers and Ravi had 234 fewer stickers than Rohit.**
   a) Who had more stickers? ______________  
   b) How many stickers did Ravi have? ______________

5. **Rohit had 42 ducks at first. He sold 18 of them. How many ducks had he left? Draw a bar model.**
Aim: To reinforce subtraction of a 3-digit number.

Requirement: Three dice

Steps:
1. Play this game with at least one friend.
2. Take turns to roll three dice and form any 3-digit number.
3. If your number is smaller than 500, subtract it from 500. If your number is greater than 500, subtract 500 from it.
4. Repeat steps 2 and 3. Complete the table given below.

**Examples**

<table>
<thead>
<tr>
<th>Round</th>
<th>I got</th>
<th>I form</th>
<th>I subtract</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>6, 3 and 2</td>
<td>623</td>
<td>623 – 500 = 123</td>
</tr>
<tr>
<td>2</td>
<td>4, 1 and 2</td>
<td>421</td>
<td>500 – 421 = 79</td>
</tr>
<tr>
<td>3</td>
<td>1, 5 and 2</td>
<td>521</td>
<td>521 – 500 = 21</td>
</tr>
</tbody>
</table>

Record Table

<table>
<thead>
<tr>
<th>Round</th>
<th>I got</th>
<th>I form</th>
<th>I subtract</th>
</tr>
</thead>
<tbody>
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</tr>
</tbody>
</table>
I Have Learnt

There are 4 tables. There are 3 chairs with each table. How many chairs are there?

Multiplication is a shortcut for repeated addition. ‘×’ stands for multiplication.

I Can

1. Write the number for each group. Add the objects in each group and complete the count.
   a) Each jar has 5 laddoos.

   ![Image of jars with laddoos]

   + + + + +
   5 10

   b) Each plate has 3 cookies.

   ![Image of plates with cookies]

   + + + + + + + + +

   2. Complete the multiplication sentences.
   a) \(5 \times 4 = \) 
   b) \(7 \times 2 = \) 
   c) \(3 \times 3 = \) 
   d) \(8 \times 4 = \) 
   e) \(6 \times 5 = \) 
   f) \(9 \times 2 = \)
3. **On the eighty chart given below, draw**

- ○ around numbers to show counting by twos.
- △ around numbers to show counting by threes.
- □ around numbers to show counting by fours.

<table>
<thead>
<tr>
<th></th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
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<td></td>
<td></td>
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<tr>
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<td>74</td>
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<td>76</td>
<td>77</td>
<td>78</td>
<td>79</td>
<td>80</td>
</tr>
</tbody>
</table>

**Answer the following questions.**

a) **Around which numbers did you draw both: ○ and △?**

b) **Around which numbers did you draw all three shapes: ○, △ and □?**

---

**Teaching Tip:**

Bring it to the notice of the children that both □ and ○ are drawn around 4. Encourage them to think about it and give reasons for it.
3. On the eighty chart given below, draw around numbers to show counting by twos.
draw around numbers to show counting by threes.
draw around numbers to show counting by fours.

Answer the following questions.

a) Around which numbers did you draw both:

____________________________________________________

b) Around which numbers did you draw all three shapes:

____________________________________________________

There are 6 rows of 9 plants each. 6 times 9 equals 54. So, there are 54 plants in all.

How many are these in total?
### Equal Grouping

**Example**

There are 4 unequal groups.

1 + 2 + 3 + 4 = 10

There are 10 biscuits.

There are 5 equal groups.

2 + 2 + 2 + 2 + 2 = 10

5 groups of 2 = 10 or 5 × 2 = 10

5 twos = 10

There are 10 biscuits.

There are 2 equal groups.

5 + 5 = 10

2 groups of 5 = 10 or 2 × 5 = 10

2 fives = 10

There are 10 biscuits.

---

To consolidate the concept of multiplication, ask the children to make up some multiplication stories. In each story, get them to identify the groups and the items.
Exercise 1

1. Write a number sentence for the number of buns in each picture. Did you add or multiply? Circle the option.

   a) 
   ![Bun Image]
   =
   I added/multiplied

   b) 
   ![Bun Image]
   =
   I added/multiplied

   c) 
   ![Bun Image]
   =
   I added/multiplied

   d) 
   ![Bun Image]
   =
   I added/multiplied

2. Fill in the missing numbers to write the multiplication sentence.

   ![Bun Image]
   groups of =

   sevens =

   × =

3. Write the multiplication sentence for each of the following addition sentences.

   a) 5 + 5 + 5 + 5 =

   b) 4 + 4 + 4 =

   c) 2 + 2 + 2 + 2 + 2 + 2 + 2 + 2 =

   d) 1 + 1 + 1 + 1 + 1 + 1 + 1 + 1 =

   e) 3 + 3 + 3 + 3 + 3 =
4. Look at the figure given below. Draw the same number of objects in each box. Write the multiplication sentence.

a) 

\[
\begin{array}{ccccccc}
\text{+} & \text{+} & \text{+} & \text{+} & \text{+} & \text{+} \\
\text{4} & \text{+} & \text{+} & \text{+} & \text{+} & \text{+} \\
\end{array}
\]

The multiplication sentence is \( \_ \times \_ = \_ \)

b) 

\[
\begin{array}{ccccccc}
\text{+} & \text{+} & \text{+} & \text{+} & \text{+} & \text{+} \\
\text{3} & \text{+} & \text{+} & \text{+} & \text{+} & \text{+} \\
\end{array}
\]

The multiplication sentence is \( \_ \times \_ = \_ \)

5. Riya has 8 plates. There are 2 idlies on each plate. How many idlies are there in all?

\[
2 + 2 + 2 + 2 + 2 + 2 + 2 + 2 = \_ \]

\[
\_ \text{ groups of } \_ = \_ 
\]

\[
8 \text{ twos } = \_ 
\]

\[
8 \times 2 = \_ 
\]

There are \( \_ \) idlies.

6. There are 9 bunches of cherries. Each bunch has 3 cherries. How many cherries are there in all?

\[
3 + 3 + 3 + 3 + 3 + 3 + 3 + 3 + 3 = \_ \]

\[
\_ \text{ groups of } \_ = \_ 
\]

\[
\_ \times \_ = \_ 
\]

There are \( \_ \) cherries.
4. Look at the figure given below. Draw the same number of objects in each box. Write the multiplication sentence.

5. Riya has 8 plates. There are 2 idlies on each plate. How many idlies are there in all?

6. There are 9 bunches of cherries. Each bunch has 3 cherries. How many cherries are there in all?

The multiplication sentence is $\times = \frac{}{}$

The multiplication sentence is $\times = \frac{}{}$

$2 + 2 + 2 + 2 + 2 + 2 + 2 + 2 =$

$3 + 3 + 3 + 3 + 3 + 3 + 3 + 3 + 3 =$

There are $\text{idlies}$. There are $\text{cherries}$. 

### Multiplication Tables

#### Table of 6

<table>
<thead>
<tr>
<th></th>
<th>+ 6</th>
<th>+ 6</th>
<th>+ 6</th>
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<table>
<thead>
<tr>
<th></th>
<th>1 x 6 = 6</th>
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<tr>
<td>6 + 6</td>
<td>2 x 6 = 12</td>
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<td>6 + 6 + 6</td>
<td>3 x 6 = 18</td>
</tr>
<tr>
<td>6 + 6 + 6 + 6</td>
<td>4 x 6 = 24</td>
</tr>
<tr>
<td>6 + 6 + 6 + 6 + 6</td>
<td>5 x 6 = 30</td>
</tr>
<tr>
<td>6 + 6 + 6 + 6 + 6 + 6</td>
<td>6 x 6 = 36</td>
</tr>
<tr>
<td>6 + 6 + 6 + 6 + 6 + 6 + 6</td>
<td>7 x 6 = 42</td>
</tr>
<tr>
<td>6 + 6 + 6 + 6 + 6 + 6 + 6 + 6</td>
<td>8 x 6 = 48</td>
</tr>
<tr>
<td>6 + 6 + 6 + 6 + 6 + 6 + 6 + 6 + 6</td>
<td>9 x 6 = 54</td>
</tr>
<tr>
<td>6 + 6 + 6 + 6 + 6 + 6 + 6 + 6 + 6 + 6</td>
<td>10 x 6 = 60</td>
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#### Table of 7

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<td>56</td>
<td>63</td>
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<table>
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<td>2 x 7 = 14</td>
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<td>7 + 7 + 7</td>
<td>3 x 7 = 21</td>
</tr>
<tr>
<td>7 + 7 + 7 + 7</td>
<td>4 x 7 = 28</td>
</tr>
<tr>
<td>7 + 7 + 7 + 7 + 7</td>
<td>5 x 7 = 35</td>
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<tr>
<td>7 + 7 + 7 + 7 + 7 + 7</td>
<td>6 x 7 = 42</td>
</tr>
<tr>
<td>7 + 7 + 7 + 7 + 7 + 7 + 7</td>
<td>7 x 7 = 49</td>
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<td>7 + 7 + 7 + 7 + 7 + 7 + 7 + 7</td>
<td>8 x 7 = 56</td>
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<tr>
<td>7 + 7 + 7 + 7 + 7 + 7 + 7 + 7 + 7</td>
<td>9 x 7 = 63</td>
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<td>10 x 7 = 70</td>
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# Table of 8

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<th>Expression</th>
<th>Calculation</th>
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<td>8</td>
<td>1 \times 8  =  8</td>
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<tr>
<td>8 + 8</td>
<td>2 \times 8  =  16</td>
</tr>
<tr>
<td>8 + 8 + 8</td>
<td>3 \times 8  =  24</td>
</tr>
<tr>
<td>8 + 8 + 8 + 8</td>
<td>4 \times 8  =  32</td>
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<td>8 + 8 + 8 + 8 + 8</td>
<td>5 \times 8  =  40</td>
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<tr>
<td>8 + 8 + 8 + 8 + 8 + 8</td>
<td>6 \times 8  =  48</td>
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<td>8 + 8 + 8 + 8 + 8 + 8 + 8</td>
<td>7 \times 8  =  56</td>
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<td>8 + 8 + 8 + 8 + 8 + 8 + 8 + 8 + 8 + 8</td>
<td>9 \times 8  =  72</td>
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<td>10 \times 8  =  80</td>
</tr>
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# Table of 9

<p>| | | | | | | | | | | | | | | | | | | | | | | | | | | |</p>
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<td>2 \times 9  =  18</td>
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<td>3 \times 9  =  27</td>
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<td>9 + 9 + 9 + 9</td>
<td>4 \times 9  =  36</td>
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<td>9 + 9 + 9 + 9 + 9</td>
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<td>7 \times 9  =  63</td>
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<tr>
<td>9 + 9 + 9 + 9 + 9 + 9 + 9 + 9</td>
<td>8 \times 9  =  72</td>
</tr>
<tr>
<td>9 + 9 + 9 + 9 + 9 + 9 + 9 + 9 + 9</td>
<td>9 \times 9  =  81</td>
</tr>
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<td>10 \times 9  =  90</td>
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</tbody>
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**Table of 10**

<table>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 + 10 + 10 + 10 + 10 + 10</td>
<td></td>
<td></td>
<td>60</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 + 10 + 10 + 10 + 10 + 10 + 10</td>
<td></td>
<td></td>
<td>70</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 + 10 + 10 + 10 + 10 + 10 + 10 + 10</td>
<td></td>
<td></td>
<td>80</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Cheeku rabbit is hungry. Help him to reach the carrots.
You can move up, down, right or left.
Start from 8 and count in 8s. Colour each step in order till you reach 80.
1. Count in nines on the number line and write the number in the box.

2. Count in tens on the number line and write the number in the box.

3. Complete the multiplication sentences.
   a) \(7 \times 2 = \) \_
   b) \(2 \times 7 = \) \_
   c) \(3 \times 8 = \) \_
   d) \(8 \times 3 = \) \_
   e) \(8 \times 4 = \) \_
   f) \(4 \times 8 = \) \_
   g) \(6 \times 5 = \) \_
   h) \(5 \times 6 = \) \_
   i) \(2 \times 6 = \) \_
   j) \(6 \times 2 = \) \_
   k) \(9 \times 8 = \) \_
   l) \(8 \times 9 = \) \_

4. Write the missing numbers.

Fact Zone

It is easy to find ten times of a number. You just have to place a zero at the end of the number.

\[
\begin{align*}
1 \times 10 &= 10 \\
2 \times 10 &= 20 \\
8 \times 10 &= 80 \\
9 \times 10 &= 90
\end{align*}
\]
**Multiplication Facts**

**Multiplying by 1**
Any number multiplied by 1 is the number itself.

\[1 \times 6 = 6\]

**Multiplying by 0**
Any number multiplied by 0 is 0.
There is no fruit in any of the baskets.

\[0 + 0 + 0 + 0 + 0 = 0\]
\[5 \times 0 = 0\]

**Order of Numbers**
Changing the order of two numbers in a multiplication sentence does not change the answer.

5 groups of 3 cookies
\[5 \times 3 = 15\]

3 groups of 5 cookies
\[3 \times 5 = 15\]

Both have 15 as the answer.

**Think Smart**
Fill in the chart.

<table>
<thead>
<tr>
<th>×</th>
<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>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>14</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\[2 \times 7 = 14\]
Exercise 3

1. Complete the multiplication sentences.
   a) $9 \times 0 = \underline{ }$
   b) $10 \times 1 = \underline{ }$
   c) $8 \times 1 = \underline{ }$
   d) $7 \times 0 = \underline{ }$
   e) $6 \times 0 = \underline{ }$
   f) $9 \times 1 = \underline{ }$

2. Fill in the missing numbers.
   a) $7 \times \underline{ } = 0$
   b) $10 \times \underline{ } = 10$
   c) $6 \times \underline{ } = 6$
   d) $9 \times \underline{ } = 0$
   e) $8 \times \underline{ } = 0$
   f) $7 \times \underline{ } = 7$

3. Solve the following.
   a) $4 \times 2 = \underline{ }$
   b) $2 \times 4 = \underline{ }$
   c) $6 \times 2 = \underline{ }$
   d) $2 \times 9 = \underline{ }$
   e) $9 \times 2 = \underline{ }$
   f) $5 \times 2 = \underline{ }$
### Exercise 3

1. Complete the multiplication sentences.
   a) \(9 \times 0 = \) __________
   b) \(10 \times 1 = \) __________
   c) \(8 \times 1 = \) __________
   d) \(7 \times 0 = \) __________
   e) \(6 \times 0 = \) __________
   f) \(9 \times 1 = \) __________

2. Fill in the missing numbers.
   a) \(7 \times \) __________ = 0
   b) \(10 \times \) __________ = 10
   c) \(6 \times \) __________ = 6
   d) \(9 \times \) __________ = 0
   e) \(8 \times \) __________ = 0
   f) \(7 \times \) __________ = 7

### Exercise 4

1. Find the product.
   a) \(T\) \(O\)
      \(\times\) \(6\)
      \(\times\) \(2\)
      \(1\) \(8\)

2. Multiply the following.
   a) \(6 \times 8 = \) __________
   b) \(4 \times 5 = \) __________
   c) \(8 \times 3 = \) __________
   d) \(9 \times 1 = \) __________
   e) \(9 \times 6 = \) __________
   f) \(7 \times 7 = \) __________
   g) \(8 \times 4 = \) __________
   h) \(6 \times 7 = \) __________
   i) \(6 \times 5 = \) __________
   j) \(7 \times 6 = \) __________
   k) \(9 \times 9 = \) __________
   l) \(8 \times 8 = \) __________
The product of 32 and 3 is 96.

Example 1

Example 2

Multiply 32 by 3.

The product of 22 and 2 is 44.

Multiply 22 by 2.

Exercise 5

Think Smart

Complete the following such that the product of numbers at the bottom gives the number on top.

36

× 36

9

24

6

24

4

Solve the following.

1. Multiply the ones.

2 Tens × 2 = 4 Tens

1. Multiply the ones.

2 Ones × 3 = 6 Ones

2. Multiply the tens.

3 Tens × 3 = 9 Tens

2. Multiply the tens.

Tens × 3 = 6 Tens

Without Regrouping

Multiplying a 2-digit Number by a 1-digit Number

Example 1

Example 2

1. Multiply the ones.

2 Ones × 3 = 6 Ones

2. Multiply the tens.

3 Tens × 3 = 9 Tens
Multiply 22 by 2.

\[ 22 \times 2 = 44 \]

The product of 22 and 2 is 44.

Multiply 32 by 3.

\[ 32 \times 3 = 96 \]

The product of 32 and 3 is 96.

Exercise 5

Think Smart

Complete the following such that the product of numbers at the bottom gives the number on top.
Multiplying a 2-digit Number by a 1-digit Number

With Regrouping

Example 1

Multiply 26 by 3.

\[
\begin{array}{c|c}
\text{T} & \text{O} \\
\hline
2 & 6 \\
\times & 3 \\
\hline
1 & 8 \\
\end{array}
\]

\[6 \times 3 = 18\text{ Ones}\]

Write 8 in the ones place. Carry over 1 in the tens column.

\[20 \times 3 = 60\text{Tens}\]

\[18 + 60 = 78\]

\[26 \times 3 = 78\]

The product of 26 and 3 is 78.

Example 2

Multiply 67 by 2.

\[
\begin{array}{c|c}
\text{H} & \text{T} & \text{O} \\
\hline
6 & 7 & 2 \\
\times & 2 & \\
\hline
1 & 4 & 0 \\
\end{array}
\]

\[7 \times 2 = 14\text{ Ones}\]

Write 4 in the ones place. Carry over 1 in the tens column.

\[60 \times 2 = 120\text{Tens}\]

\[14 + 120 = 134\]

\[67 \times 2 = 134\]

The product of 67 and 2 is 134.
Exercise 6

1. Find the product.
   a) \( \begin{array}{c} T \\ O \\ \hline 1 \\ 3 \\ \times \\ 5 \end{array} \)
   b) \( \begin{array}{c} T \\ O \\ \hline 3 \\ 7 \\ \times \\ 2 \end{array} \)
   c) \( \begin{array}{c} T \\ O \\ \hline 2 \\ 4 \\ \times \\ 4 \end{array} \)
   d) \( \begin{array}{c} T \\ O \\ \hline 1 \\ 6 \\ \times \\ 5 \end{array} \)
   e) \( \begin{array}{c} T \\ O \\ \hline 2 \\ 6 \\ \times \\ 3 \end{array} \)
   f) \( \begin{array}{c} T \\ O \\ \hline 1 \\ 9 \\ \times \\ 0 \end{array} \)
   g) \( \begin{array}{c} T \\ O \\ \hline 2 \\ 4 \\ \times \\ 3 \end{array} \)
   h) \( \begin{array}{c} T \\ O \\ \hline 1 \\ 3 \\ \times \\ 7 \end{array} \)

2. Multiply the following.
   a) \( \begin{array}{c} H \\ T \\ O \\ \hline 8 \\ 7 \\ \times \\ 4 \end{array} \)
   b) \( \begin{array}{c} H \\ T \\ O \\ \hline 7 \\ 9 \\ \times \\ 3 \end{array} \)
   c) \( \begin{array}{c} H \\ T \\ O \\ \hline 8 \\ 4 \\ \times \\ 8 \end{array} \)
   d) \( \begin{array}{c} H \\ T \\ O \\ \hline 9 \\ 9 \\ \times \\ 4 \end{array} \)
   e) \( \begin{array}{c} H \\ T \\ O \\ \hline 3 \\ 5 \\ \times \\ 0 \end{array} \)
   f) \( \begin{array}{c} H \\ T \\ O \\ \hline 9 \\ 8 \\ \times \\ 2 \end{array} \)

Mental Maths

Write the missing numbers.

- \(12 \times 3 = 36\)
- \(4 \times 8 = 32\)
- \(63 \times 9 = 567\)
- \(7 \times 9 = 63\)
- \(80 \times 8 = 640\)
- \(6 \times 2 = 12\)
Multiplying a 3-digit Number by a 1-digit Number

Without Regrouping

**Example**

Multiply 123 by 2.

1. Multiply the ones.
   
   \[
   \begin{array}{c|c|c}
   H & T & O \\
   \hline
   1 & 2 & 3 \\
   \times & 2 & \\
   \hline
   6 & & \\
   \end{array}
   \]
   
   3 Ones × 2 = 6 Ones

2. Multiply the tens.
   
   \[
   \begin{array}{c|c|c}
   H & T & O \\
   \hline
   1 & 2 & 3 \\
   \times & 2 & \\
   \hline
   4 & 6 & \\
   \end{array}
   \]
   
   2 Tens × 2 = 4 Tens

3. Multiply the hundreds.
   
   \[
   \begin{array}{c|c|c}
   H & T & O \\
   \hline
   1 & 2 & 3 \\
   \times & 2 & \\
   \hline
   2 & 4 & 6 \\
   \end{array}
   \]
   
   1 Hundred × 2 = 2 Hundreds

The product of 123 and 2 is 246.

**Exercise 7**

Multiply the following.

1. \[
   \begin{array}{c|c|c}
   H & T & O \\
   \hline
   2 & 1 & 1 \\
   \times & 4 & \\
   \hline
   & & \\
   \end{array}
   \]

2. \[
   \begin{array}{c|c|c}
   H & T & O \\
   \hline
   4 & 3 & 2 \\
   \times & 2 & \\
   \hline
   & & \\
   \end{array}
   \]

3. \[
   \begin{array}{c|c|c}
   H & T & O \\
   \hline
   2 & 1 & 3 \\
   \times & 3 & \\
   \hline
   & & \\
   \end{array}
   \]

4. \[
   \begin{array}{c|c|c}
   H & T & O \\
   \hline
   1 & 1 & 0 \\
   \times & 5 & \\
   \hline
   & & \\
   \end{array}
   \]

5. \[
   \begin{array}{c|c|c}
   H & T & O \\
   \hline
   1 & 0 & 4 \\
   \times & 2 & \\
   \hline
   & & \\
   \end{array}
   \]

6. \[
   \begin{array}{c|c|c}
   H & T & O \\
   \hline
   3 & 3 & 2 \\
   \times & 3 & \\
   \hline
   & & \\
   \end{array}
   \]
With Regrouping

**Example**

Multiply 226 by 2.

\[
\begin{array}{c}
\text{H} \\
2 \\
\text{T} \\
2 \\
\text{O} \\
6 \\
\times \\
2 \\
\hline
2
\end{array}
\]

1. Multiply the ones.
   - 6 Ones × 2 = 12 Ones
   - 1 Ten 2 Ones
   - Write 2 in the ones place. Carry over 1 to the tens column.

\[
\begin{array}{c}
\text{H} \\
2 \\
\text{T} \\
2 \\
\text{O} \\
6 \\
\times \\
2 \\
\hline
5 \\
2
\end{array}
\]

2. Multiply the tens.
   - 2 Tens × 2 = 4 Tens
   - 4 Tens + 1 Ten = 5 Tens (carry over)

\[
\begin{array}{c}
\text{H} \\
2 \\
\text{T} \\
2 \\
\text{O} \\
6 \\
\times \\
2 \\
\hline
4 \\
5 \\
2
\end{array}
\]

3. Multiply the hundreds.
   - 2 Hundreds × 2 = 4 Hundreds

\[
\begin{array}{c}
\text{H} \\
2 \\
\text{T} \\
2 \\
\text{O} \\
6 \\
\times \\
2 \\
\hline
4 \\
5 \\
2
\end{array}
\]

The product of 226 and 2 is 452.

**Example 2**

Multiply 156 by 2.

\[
\begin{array}{c}
\text{H} \\
1 \\
\text{T} \\
5 \\
\text{O} \\
6 \\
\times \\
2 \\
\hline
3 \\
1 \\
2
\end{array}
\]

The product of 156 and 2 is 312.
Everyday Maths

There are 100 students in class 2 of a school. Each student has 9 books. How many books do these students have in all?

The product of 156 and 2 is 312.

Exercise 8

Multiply the following.

1. \[ \begin{array}{ccc} \text{H} & \text{T} & \text{O} \\ 4 & 8 & 1 \\ \times & 2 & \end{array} \]

2. \[ \begin{array}{ccc} \text{H} & \text{T} & \text{O} \\ 1 & 2 & 3 \\ \times & 7 & \end{array} \]

3. \[ \begin{array}{ccc} \text{H} & \text{T} & \text{O} \\ 1 & 3 & 4 \\ \times & 3 & \end{array} \]

4. \[ \begin{array}{ccc} \text{H} & \text{T} & \text{O} \\ 2 & 3 & 5 \\ \times & 4 & \end{array} \]

5. \[ \begin{array}{ccc} \text{H} & \text{T} & \text{O} \\ 2 & 3 & 9 \\ \times & 3 & \end{array} \]

6. \[ \begin{array}{ccc} \text{H} & \text{T} & \text{O} \\ 1 & 9 & 7 \\ \times & 4 & \end{array} \]

7. \[ \begin{array}{ccc} \text{H} & \text{T} & \text{O} \\ 1 & 2 & 3 \\ \times & 8 & \end{array} \]

8. \[ \begin{array}{ccc} \text{H} & \text{T} & \text{O} \\ 1 & 0 & 6 \\ \times & 9 & \end{array} \]

9. \[ \begin{array}{ccc} \text{H} & \text{T} & \text{O} \\ 1 & 4 & 5 \\ \times & 5 & \end{array} \]
Example
There are 7 tables in each hall. How many tables are there in 5 halls?

1. Read the question carefully.
2. What is the question asking?

Understanding
Each hall has 7 tables. We have to find the number of tables in 5 halls.

I need to multiply the numbers. Let us draw a model for it.

Planning

Doing
1 part = 7 tables
5 parts = 7 × 5
= 35

There are 35 tables in 5 halls.

Checking
Check by repeated addition.
Number of tables in 1 hall = 7
Number of tables in 5 halls = 7 + 7 + 7 + 7 + 7
= 35

Total number of tables is equal to the product. So, my answer is correct.
Exercise 9

Solve the following word problems.

1. A fruit seller bought 4 baskets of mangoes. If there are 120 mangoes in each basket, how many mangoes did he buy?

\[
\begin{array}{c}
120 \\
\hline
\end{array}
\]

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

\[
120 \times 4 = \boxed{480}
\]

He bought \boxed{480} mangoes.

2. A table has 4 legs. How many legs do 50 such tables have?

3. One packet has 100 candies. How many candies are there in 8 such packets?

4. Each row in a farm has 105 trees. How many trees are there in 3 such rows?
5. There are 125 cars stuck in a traffic jam. What is the total number of wheels stuck on the road?

6. Rohan spends ₹210 in a month on transport. How much does he spend in 4 months?

7. There are 8 chairs arranged in a row. If there are 110 rows of chairs, then how many chairs are there altogether?

8. An ice cream cone factory produces 126 ice cream cones in a day. How many ice cream cones does it produce in a week?
1. **Complete the multiplication sentences.**
   
   a) $8 \times 0 = \square$
   
   b) $10 \times 1 = \square$
   
   c) $6 \times 1 = \square$
   
   d) $\square \times 9 = 0$
   
   e) $5 \times 2 = \square$
   
   f) $7 \times 7 = \square$
   
   g) $0 \times 0 = \square$
   
   h) $6 \times \square = 6$
   
   i) $4 \times \square = 0$

2. **Multiply the following.**

   a) \[
   \begin{array}{ccc}
   & H & T & O \\
   1 & 4 & \times & 4 \\
   \end{array}
   \]

   b) \[
   \begin{array}{ccc}
   & H & T & O \\
   5 & 7 & \times & 2 \\
   \end{array}
   \]

   c) \[
   \begin{array}{ccc}
   & H & T & O \\
   3 & 5 & \times & 9 \\
   \end{array}
   \]

   d) \[
   \begin{array}{ccc}
   & H & T & O \\
   1 & 7 & \times & 5 \\
   \end{array}
   \]

   e) \[
   \begin{array}{ccc}
   & H & T & O \\
   2 & 4 & \times & 4 \\
   \end{array}
   \]

   f) \[
   \begin{array}{ccc}
   & H & T & O \\
   7 & 8 & \times & 1 \\
   \end{array}
   \]

   g) \[
   \begin{array}{ccc}
   & H & T & O \\
   2 & 3 & \times & 4 \\
   \end{array}
   \]

   h) \[
   \begin{array}{ccc}
   & H & T & O \\
   1 & 2 & \times & 5 \\
   \end{array}
   \]

3. **Solve the following word problems.**

   a) Each row in a class has 12 desks. How many desks are there in 3 such classes?

   b) There are 7 days in a week. How many days will there be in a year? One year has about 52 weeks.

   c) A book has 246 pages. How many pages are there in 6 such books?
Aim: To reinforce the concept of multiplication.

Requirements: A beach ball (Use the marker to divide the ball into 6 equal sections. Then, write any number in each section.), a permanent marker

Steps:
1. Arrange the children in pairs.
2. Call any one pair forward (at random).
3. Tell a child to toss the ball to the other child.
4. Note the section where his or her thumb lands when he or she catches it.
5. Write the number in the table.
6. Have him or her toss the ball back to the first child.
7. Again note the section where the thumb of the first child lands.
8. Multiply both the numbers and find the answer. Write your answer in the record table.

Record Table

<table>
<thead>
<tr>
<th>First number</th>
<th>Second number</th>
<th>Product</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>2</td>
<td>$7 \times 2 = 14$</td>
</tr>
</tbody>
</table>

9. Repeat the activity with other pairs as well.