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Math Genius!

Teacher's Resource Manual



ORANGE

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PREFACE

The Teacher's Resource Manual is specially developed for teachers using **Orange Education's Math Genius!** Coursebooks. The manual has been designed to provide the teacher with additional materials and support that they may require to effectively teach the coursebook. Each **Teacher's Resource Manual** is completely mapped with its coursebook. The method of teaching/learning suggested in the book is completely based on the Learning-by-doing method which supports guidelines and aids of classroom teaching as per the New Education Policy 2020. The classroom teaching/learning activity helps to allay the fear of Mathematics from the minds of the learners and develops an inherent link for the subject.

Each **Teacher's Resource Manual** has two segments—Chapter-wise detailed **Lesson Plans based on 6E model** and **Practice Materials** in the form of **Worksheets**.

Features of the Teacher's Resource Manual:

Detailed Lesson Plan: It contains Topics to be covered in the chapter, Suggested Allocation of Periods, Teaching Objectives, Learning Objectives and Suggested Teaching Aids.

- **Each lesson plan is based on 6E's:** The 6E lesson plan is based on an instructional model that consists of six phases or steps: Engage, Explore, Explain, Elaborate, Evaluate and Enhance.
- **ENGAGE:** It enhances students' curiosity, interest, and engagement and help them access prior knowledge. .
- **Explore:** It provides students with opportunities to construct learning experience through activities.
- **Explain:** students acquire opportunities to explain their learning experiences with the current learning and to conceptualise the topic's main ideas.
- **Elaborate:** Students apply their knowledge to real-world applications.
- **Evaluate:** it allows teachers and students to recognize the learning effect and review and assess what they have learned and how they have learned it.
- **Enhance:** Provides students time to think, plan, investigate, and organize collected information.

Worksheets: This segment has worksheets for each chapter which can be used for practice and evaluation of learners' understanding of the concepts taught. At the end, answers to each worksheet have been given.

A teacher has to use his/her experience and expertise in teaching the subject. This **Teacher's Resource Manual** provides some methodology in this regard but in no way does it limit the scope of the teaching. As per the interest, experience and proficiency of the teaching, you are advised to make suitable additions and modifications to the methodology being discussed.

Suggestions for the improvement of the book will be gratefully acknowledged by the teacher's community.

—Publisher



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1 Numbers up to 999

Learning Objectives

After studying this chapter, students will be able to...

- build, read and write numbers and number names up to 999
- understand the place value concept, apply it to compare and ordering 3-digit numbers
- write numbers in different ways
- understand ordinal numbers
- explore even and odd numbers
- apply various concepts related to 3-digit numbers in daily life

LESSON PLAN

Suggested number of periods: 18

Suggested Teaching Aids: Book: Math Genius! 2, blackboard or whiteboard, dines block up to 999, some real-life objects, pen, pencils, etc.

Keywords: Number, Digit, Place value, Face value, Expanded form, Successor, Predecessor, Even numbers, Odd numbers, Ascending order, Descending order, Ordinal numbers, Cardinal number, etc.

Pre-requisite knowledge: Students must be familiar with 2-digit numbers, their number names, the smallest and greatest 2-digit numbers, ordinal number up to tenth.

NEP feature: The way of teaching provides experiential learning opportunities to the students and allows them to work with the support of each other which helps in their holistic development.

Periods: 1–3	**Topics: Building 3-digit numbers up to 200, Reading numbers up to 200**	**Suggested extra teaching aids: Blackboard or whiteboard, pens, pencils, chalks/marker, notebook, dines block, ice-cream sticks, rubber band, etc. Math Genius! 2, Pages 7–11**

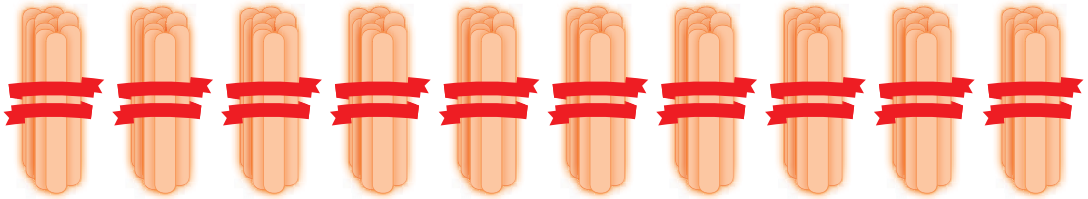
ENGAGE

Introduce the topic in the classroom with some interesting activities:

- Divide the class into 10 groups. And ask the group to count 1 to 10, next group count 11 to 20, … and so on.
- Write few two digits numbers on board and ask one by one to read the numbers loudly.
- Ask to solve the question given in ‘Get ready’ section.

EXPLORE

Divide the class into small groups. Distribute some ice-cream sticks and rubber bands to the groups. Instruct them to make the bundles of 10 ice-cream sticks as many as they can and keep 10 such bundles in row. Then tell to count all ten bundles together. What number do they represent?



Accept the responses. Now, keep adding more rows of 10 such bundles of ice-cream sticks one after another. Ask: If 1 row of 10 bundles of 10 ice-cream sticks each represents one hundred, then what numbers will 2 rows of 10 such bundles, 3 rows of such bundles, ... up to 9 rows of 10 such bundles represent? Accept the responses. Again ask: If adding loose ice-cream sticks with the 1 row of 10 bundles, what numbers will form? Accept the responses.

[Experiential Learning]

EXPLAIN

Explain that when we add 1 one to 9 ones we get 10 ones or 1 ten. Similarly, 2 tens make 20, 3 tens make 30, … 10 tens make 1 hundred. If we add 1 one to 1 hundred, it makes 101 and so on. Similarly, if we add 1 ten to 1 one hundred, it makes 110, and so on.

Further explain that to read a 3-digit number, first read the hundreds digit then read the remaining digits together.

H	T	O
1	7	9

One hundred seventy-nine

ELABORATE

Demonstrate in the classroom the making of 3-digit numbers up to 200 with help of the dines blocks by putting the blocks on table or show in smart board. Refer textbook pages 8–9 for more explanation and examples. Discuss about 'Life Skills' given on page 9.

[Cross Curricular Learning]

EVALUATE

Classwork: Ask to solve Q.1, 2 and 5 of Practice Time 1A.

Homework: Ask to solve Q.3, 4 and 6 of Practice Time 1A.

ENHANCE

- Discuss 'Quick check' given on page 8 in the classroom and motivate to solve it.
- Motivate and help the children to do the activity given in 'Maths Fun' on page 10.

[Critical Thinking]

Periods: 4–6	Topic: Numbers beyond 200, Counting in hundreds, Building numbers up to 999	Suggested extra teaching aids: Blackboard or whiteboard, pens, pencils, chalks/marker, notebook, dines block up to 999, Number chart from 201 to 300, dice. Math Genius! 2, Pages 12–15

ENGAGE

Start the class by writing a few numbers up to 200 on the board, like 98, 140, 161, 182, etc. on the board. Ask: What will come just before 161? What will come just after 140? What will in between 161 and 163? Accept the responses. Ask, 'what will come after 200'? Introduce numbers beyond 200 through the activities discussed on page 12.

EXPLORE

Hang the number chart from 201 to 300 near to board or display it on smartboard.

Call the children of the class one by one near the board.

Give a die and ask to roll it and show the number to the class.

Instruct: To move ahead on the chart by the number they got on the die by reading the numbers loudly and mark the number. For example, if the number that occurred on the die is 3, then read the numbers 201, 202, and 203 and mark the number 203. Next children will start from 203 onwards. The children who did all his steps correctly will be appreciated. If 300 is reached, then restart from 201. Continue till time permits.

[Experiential Learning]

EXPLAIN

Explain counting of blocks in hundreds, as the number '100' is represented by 1 hundred block, written as 100 and read as one hundred and in the place value system, it is represented as shown alongside.

H	T	O
1	0	0

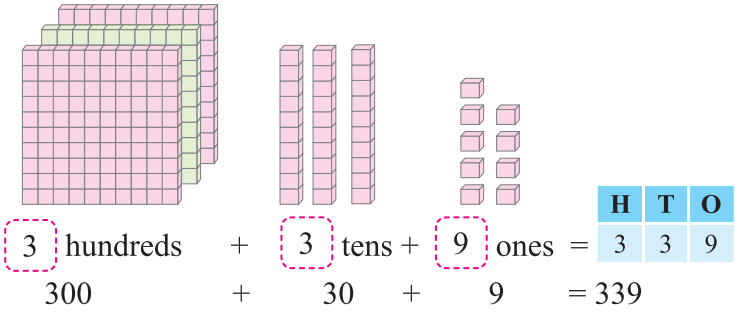
Similarly, show the representation of number 200, 300, … up to 900 by taking the references given on page 13 of the textbook.

Further, explain building of numbers up to 999 using the dines block.

ELABORATE

Demonstrate in the classroom the making of numbers like 339 by using the dines block;

Like, show 3 hundred blocks in the classroom and ask: what number is this? Accept the responses. If any error, then rectify it. Further show 3 tens blocks and ask about the number formed. Then add 9 ones block and ask about the number formed using all the blocks together.



H	T	O
3	3	9

Also use the references and examples given on page 14 of textbook.

EVALUATE

Classwork: Ask the students to solve Q.1, 2 and 4 of Practice Time 1B

Homework: Ask the students to solve Q.3, 5–7 of Practice Time 1B.

ENHANCE

- Discuss the building of number '1000' in the classroom by taking the reference given on page 13 of the textbook.
- Motivate and help the children to do the activity given in 'Maths Fun' on page 15.

[Critical Thinking]

Periods: 7 – 10	Topic: Numbers on the abacus, Place value and Face value, Expanded form and Short form of a number	Suggested extra teaching aids: Blackboard or whiteboard, pens, pencils, chalks/marker, notebook, dines block up to 999, Abacus, etc. Math Genius! 2, Pages 16–20

ENGAGE

Take an abacus and place it on teachers table. Ask one by one about the 3 spikes. Which one is ones place spike, tens place or hundreds place spike on abacus. Accept the responses. Introduce representation of numbers on the abacus.

EXPLORE

Divide the class into groups and name them based on a colour-based animal name, like a white tiger, black panther, etc. Call one group and instruct one of them to think of any number of three digits. And they gave hints to their other group members as follows:

For example, if member A of group white tiger think about the number '126', he/she can give hints to their group member with help of teacher as,

- The number is more than 125 but less than 130.
- The digits at ones place is 6.

The other group member will identify the number and represent it on abacus with help of each other and the teacher. The process will continue with other groups. Group who perform best, *i.e.*, the hints will be clear, recognize the number in minimum time and correct representation of number on the abacus will be the winner.

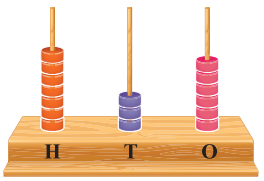
[Holistic Learning]

EXPLAIN

Describe that when there is no bead at any place on abacus, it means the digit '0' is that place by taking the reference given on page 17 of textbook. And the place value of a digit in the given number depends upon its place or position in the number. And the face value of any digit in a number is the digit itself.

The expanded form of a number is the sum of the place values of its digits. And the short form of a number is the numeral that is written using face value of the digits.

ELABORATE



Demonstrate on board the place values of digits of a number using abacus. As the number represent on abacus is 736. There are 6 beads on ones spike, so the place value of 6 is 6 ones or 6.

Similarly, place value of 3 and 7 are 3 tens or 30 and 7 hundreds or 700 respectively. Demonstrate how the place value of each digit change when their positions change in the two numbers 367 and 736.

Demonstrate on board the expanded form and the short form of a number using the examples given on page 19 of the textbook.

EVALUATE

Classwork: Ask the students to solve Q.1 of Practice Time 1C and Q.2, 4 of Practice Time 1D.

Homework: Ask the students to solve the remaining questions of Practice Time 1C and 1D.

ENHANCE

- Discuss, motivate and help the children to solve the questions of 'Think and Answer' and 'Quick Check' given on pages 17 and 18 respectively. **[Logical Critical Thinking]**

Periods: 11–14	**Topic: Comparison of numbers, Ordering numbers, Formation of the smallest and greatest 3-digit numbers, Predecessor and successor**	**Suggested extra teaching aids: Blackboard or whiteboard, pens, pencils, chalks/marker, notebook, etc. Math Genius! 2, Pages 20–26**

ENGAGE

Start the class with an interaction based on the previous concept. Ask: What will come just before 251? What will come just after 119? What will in between 500 and 502? Accept the responses? Write few pairs of numbers on the board. Ask: Which number is greater within the pair? Accept the responses. Introduce the comparison of numbers up to 999.

EXPLORE

Divide the class into pairs. Put some well-shuffled number chits having numbers up to 999 in a bowl. Instruct: Pick any 2 chits from the bowl and compare them. Ask: which number is greater? Accept the responses. Again, instruct to pick 2 more chits from the bowl. Ask: Which number is the biggest? Which number is the smallest? Accept the responses.

EXPLAIN

Discuss the meaning of symbols <, > and = by using the references and examples given on pages 20, 21 of the textbook.

Further, explain the rules of comparing numbers as follows:

- The number with more number of digits is greater than the number with less number of digits.
- When each of the given numbers is of same number of digits say 3 digits, then compare their hundreds digits first. When the digits in the hundreds place is same, then compare the digits in the tens place, and if the digits in the hundreds and tens places are same, then compare the digits in the ones place.

Explain that arranging numbers from the smallest to the greatest is called ascending order or increasing order. And arranging numbers from the greatest to the smallest is called descending order or decreasing order.

Further explain that, to form the greatest number by the given digits, we arrange the given digits in descending order. And to the smallest number, we arrange the given digits in ascending order.

Also discuss that predecessor of a number means a number which is 1 less than the given number. And successor of a number means a number which is 1 more than the given number.

ELABORATE

Demonstrate on board the rules of comparing numbers by taking the examples given on pages 21 and 22.

Also demonstrate arranging the numbers in ascending as well as in descending order by taking the references and examples on pages 23 and 24.

For formation of the greatest and smallest 3-digit numbers, demonstrate that the number formed, using the digits 4, 5 and 6 are 456, 465, 546, 564, 645, 654. Among these numbers the smallest number is: 456, in which the digits are arranged in ascending order and the greatest number is 654, in which the digits are arranged in descending order.

Also take the references and examples given on page 24 of the textbook.

Further, to demonstrate predecessor and successor, take the reference and example given on page 25.

EVALUATE

Classwork: Ask the students to solve Q.1 and 5 of Practice Time 1E, Q.1, 4 and 5 of Practice Time 1F.

Homework: Ask the students to solve the remaining questions of Practice Time 1E and 1F.

ENHANCE

- Discuss about 'Zero' given in the note section on page 24.
- Ask to solve the questions given in 'Quick check' on page 25. **[Logical Thinking]**

Periods: 15–16	Topic: Even and odd numbers, Ordinal numbers	Suggested extra teaching aids: Blackboard or whiteboard, pens, pencils, chalks/ marker, notebook, flash cards of different numbers up to 3-digits, etc. Math Genius! 2, Pages 26–29

ENGAGE

Start the class by using some interesting activities like,

- Name the body parts that are in pair and that which are not in pair.
- Try to put the objects of your bag in pairs. Tell how many objects there are. Could you put then in pairs?

Accept the responses. Start the topic 'Even and odd numbers'.

EXPLORE

Host a game show in your classroom. Write different numbers on flash cards and spread the card on teachers table.

Call two students at a time and ask to select a card and turn it over. Then the students will race to the first student to raise their hand and correctly identify the number as odd or even will win a point. Rotate the students to come up so that every student has the opportunity to identify a number. Try using one-, two-, and if possible, three-digit numbers on the cards. **[Collaborative Learning]**

EXPLAIN

All the numbers that can be put in pairs, that is, in groups of 2s are called even numbers. All the numbers that cannot be put in pairs, that is, in group of 2s are called odd numbers.

Further, recall the ordinal numbers up to 10 and link it with next ordinal numbers. Explain that the ordinal numbers are represented by the counting numbers by adding two letters at the end. For the number first, second and third we add the letters 'st', 'nd' and 'rd', respectively at the end and for other numbers we add 'th' at the end to write it as ordinal numbers.

The numbers that describe how many of something, such as one (1), two (2), three (3), four (4), ... are called cardinal numbers.

ELABORATE

Demonstrate on board the even and odd numbers by taking the references given on pages 26 and 27 of the textbook. focus on the property that an odd number has 1, 3, 5, 7 or 9 at the ones place, and an even number has 0, 2, 4, 6 or 8 at the ones place.

Further, demonstrate the ordinal numbers and cardinal numbers by taking the references given on pages 28 and 29 of the textbook.

EVALUATE

Classwork: Ask to solve Q.1, 4 and 5 of Practice Time 1G and Q.1 of Practice Time 1H.
Homework: Ask to solve the remaining questions of Practice Time 1G and 1H.

ENHANCE

- Motivate to solve the 'Brain Sizzlers' given on page 32.
- And help in doing 'Learning by Doing' given on page 33 of the textbook.

Periods: 17–18	Topic: Revision, Chapter assessment	Suggested extra teaching aids: Blackboard or whiteboard, pens, pencils, chalks/marker, notebook, etc. Math Genius! 2, Pages 31–33

ENGAGE

Make students comfortable, so they can ask any question on any previously learnt topics in which they are confused. Clarify their doubts or queries and start the revision of the exercise.

EXPLAIN

Start the revision of the exercise by using 'Mental Maths' and Chapter Assessment.

ELABORATE

Discuss and help the children to solve the ''Mental Maths' and questions of the Chapter Assessment. If they have any confusion or do any error then explain and correct it.

EVALUATE

Classwork: Discuss questions 1, 2 and 3 of the Chapter Assessment and the Project given on page 32.
Homework: Ask to do the rest of the questions of Chapter Assessment.

ENHANCE

Ask students to watch the video of 'Numbers up to 999' on 'www.fullmarks.online.com.

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ASSIGNMENT–1

Marks Obtained: _____

Student's Name: _____ Section: _____

Roll Number: _____ Date: _____

1. The place value of the digit '8' in 827 is

(*a*) 8 (*b*) 80 (*c*) 800 (*d*) 0

2. Even number just after 311 is

(*a*) 312 (*b*) 314 (*c*) 214 (*d*) 412

3. Three hundred forty-eight in figures is

(*a*) 340 (*b*) 348 (*c*) 357 (*d*) 328

4. Predecessor of 456 is

(*a*) 452 (*b*) 455 (*c*) 398 (*c*) 246

5. Short form of 400 + 20 + 8 is

(*a*) 328 (*b*) 261 (*c*) 752 (*d*) 428

6. Count by 3's and find the missing numbers. 3, 6, 9, 12, 15, 18, 21, ..., ..., 30

(*a*) 48, 32 (*b*) 24, 27 (*c*) 78, 34 (*d*) 48, 64

7. 100 less than 900 is

(*a*) 700 (*b*) 200 (*c*) 300 (*d*) 800

8. The short form 500 + 40 + 0 =

(*a*) 640 (*b*) 740 (*c*) 800 (*d*) 540

9. The greatest 3-digit number is

(*a*) 999 (*b*) 100 (*c*) 109 (*d*) 901

10. 10 less than 40 is

(*a*) 60 (*b*) 30 (*c*) 80 (*d*) 100

11. The least number among 609, 690, 906 and 960 is

(*a*) 609 (*b*) 842 (*c*) 342 (*d*) 340

12. The smallest 2-digit number is

(*a*) 10 (*b*) 99 (*c*) 22 (*d*) 0

13. There are four very old cave paintings. Which is the oldest?

(*a*) 200 years old (*b*) 100 years old (*c*) 500 years old (*d*) 300 years old

14. There are four latest cave paintings. Which is the latest?

(*a*) 200 years old (*b*) 100 years old (*c*) 500 years old (*d*) 300 years old

15. Which one of the following options will make more than 500?

(*a*) 3 hundreds 8 tens 9 ones (*b*) 3 hundreds 18 tens 9 ones

(*c*) 4 hundreds 9 tens 19 ones (*d*) 5 hundreds 0 ones

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ASSIGNMENT–2

Marks Obtained: _____

Student's Name: _____ Section: _____

Roll Number: _____ Date: _____

A. Fill in the blanks.

1. 98 is the greatest 2-digit ..... number.
2. 11 is the smallest 2-digit ..... number.
3. 101 is the smallest 3-digit ..... number.
4. 999 is the greatest 3-digit ..... number whose each digit is the same.
5. ..... is the 10th letter in MATHEMATICS.
6. ..... is the 6th letter in HUNDRED.

B. Label True or False.

1. The successor of a three-digit number is always a three-digit number. .....
2. The successor of a two-digit number is always a two-digit number. .....
3. The predecessor of a two-digit number is always a two-digit number. .....
4. The successor of 900 is 901. .....
5. The smallest 3-digit number formed with 2, 7 and 0 is 027. .....
6. The smallest counting number is 1. .....

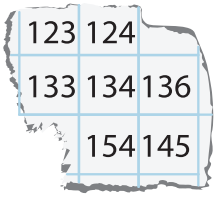
C. Match the following.

Column I	Column II
1. I come between 40 and 50 and there is a 5 in my name.	(*a*) 96
2. I have 9 in my name and am very close to 90.	(*b*) 150
3. If you hit a 4 after me, you score a century.	(*c*) 45
4. I am equal to ten groups of 10.	(*d*) 89
5. I am a century and a half century.	(*e*) 87
6. I am exactly in between 77 and 97.	(*f*) 100

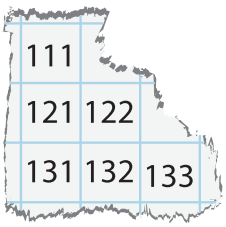
D. Utilise Your Brain

Asha wrote the numbers 101–200 on a 10 by 10 square grid, as she got her homework. Unfortunately, her younger brother tear a piece from the number chart. Which of the following can be the chart piece?

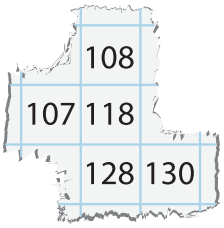
Piece 1



Piece 2



Piece 3





2 Addition

Learning Objectives

After studying this chapter, students will be able to...

- understand addition facts and properties of addition
- add numbers on a number line as well as on a number grid
- regroup ones to make tens
- add numbers without and with regrouping
- understand how to add three numbers in any order
- apply the concept in solving real life problems

LESSON PLAN

Suggested number of periods: 14

Suggested Teaching Aids: Book: Math Genius! 2, blackboard or whiteboard, dines block up to 999, some real-life objects, pen, pencils, etc.

Keywords: Addition, Addition fact, Property of addition, Addend, Sum, Regroup, Plus, Total, Together.

Pre-requisite knowledge: Students must be familiar with sum of 1-digit and 2-digit]numbers.

NEP feature: The way of teaching provides experiential learning opportunities to the students and allows them to work with the support of each other which helps in their holistic development.

Periods: 1–3	**Topics: Addition facts, Addition on the number line, Addition on the number grid**	**Suggested extra teaching aids: Blackboard or whiteboard, pens, pencils, chalks/ marker, notebook, dines block, ice-cream sticks, rubber band, number cards up to 20, etc. Math Genius! 2, Pages 34–37**

ENGAGE

Introduce the topic in the classroom with some interesting activities, like asking questions on previously learned topics and then link to addition.

- Which number is the smallest 2-digit number?
- Which number is the largest 1-digit number?
- When you add both of them, which number you will get?

Accept the responses. Also discuss 'Get Ready' section given on page 34.

EXPLORE

Divide the class into pairs. Either draw a number line up to 40 on the ground using chalk or spread a number mat up to 40 or 50 on the floor. Call any pair randomly. Give them two number cards up to 0–20. Instruct to read the number and the first child will jump on the number line or on the grid of mat up to that number.

Then the second child will start from that number and jump forward as per the number on his/her number card.

Ask to identify the sum of two given numbers. Repeat with different pairs using different combinations of numbers.

[Experiential Learning]

EXPLAIN

The symbol of addition is '+' (plus). The numbers to be added are called addends and the answer is called the sum.

Next, explain the properties of addition as follows:

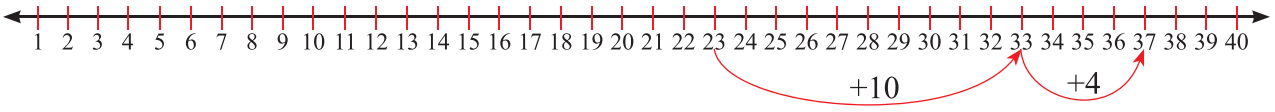
- When we add '0' to a number, we get the same number.
- When we add '1' to a number, we get the next number, *i.e.*, successor of the number.
- When we add two numbers in any order, we get the same sum each time.

Further, explain addition on number line by forward counting and on the number grid to add 10 we move down by one row and to add 1 we move right by one column.

ELABORATE

Demonstrate on board the addition facts, properties of addition by taking the references given on page 35 of the textbook.

Further, demonstrate the addition on number line, as 23 + 14



Start from 23 and first count forward 10 steps. Then count 4 more, we reach at 37.

Thus, 23 + 14 = 37.

The teacher can also take the references given on page 36 for addition on number line.

Further, discuss 'addition on the number grid' by taking the reference and example given on page 36.

[Experiential Learning]

EVALUATE

Classwork: Ask to solve Q.1 of Practice Time 2A.

Homework: Ask to solve Q.2 and 3 of Practice Time 2A.

ENHANCE

- •Ask to solve 'Think and Answer' and 'Quick Check' in the classroom.
- Motivate and help the children to solve the sum given in 'Maths Fun' section on page 37.

[Critical Thinking]

Periods: 4–10	Topic: Adding three 2-digit numbers, Regrouping of numbers, Addition with regrouping to make tens, Addition with regrouping to make more tens, adding more than two numbers with regrouping	Suggested extra teaching aids: Blackboard or whiteboard, pens, pencils, chalks/marker, notebook, number arrow card, etc. Math Genius! 2, Pages 38–46

ENGAGE

Start the class by writing three 1-digit numbers on board, and ask the sum from the class. Motivate the children to do the sum on board. For the correct answer appreciate the child. Introduce the topic 'Adding three 2-digit numbers' by taking the real–life situation given on page 38.

EXPLORE

The teacher will revise the learners' previous knowledge of the addition of two 2-digit numbers with the help of the following game.

- Divide the class into 2 teams. Distribute 10 arrow cards in which a digit is written on each card.
- Ask 3 children from team A to step forward in the front of the class.
- The teacher will ask one child to form a 2-digit number by using the arrow cards, say 35, and the other child will be asked to make a number by interchanging the digits, 53 and the third child will write the numbers on the board.
- Then the teacher will ask team B to find the sum of both numbers.
- Next, the teacher changes the role of teams. **[Collaborative Learning]**

EXPLAIN

Explain addition of three two digit numbers, by using the dines blocks. When we join 10 ones we get a tens rod. We can add tens with ones by regrouping. Further explain addition with regrouping to make tens, addition with regrouping to make more tens and adding more than two numbers with regrouping. At last explain the method of checking the addition.

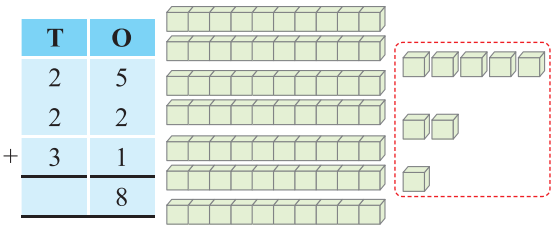
ELABORATE

Discuss any real-life example and demonstrate addition of say 25, 22 and 31 by using the dines block.

First show the addition of ones by counting the ones blocks (5 ones block + 2 ones block + 1 one block = 8 ones block).

Next, show the addition of tens (2 tens + 2 tens + 3 tens = 7 tens).

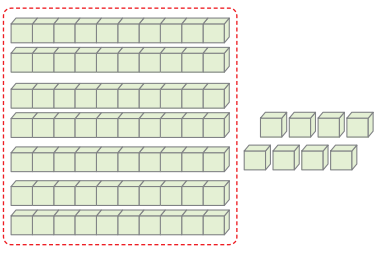
Also, discuss the examples given on page 38.



	T	O
	2	5
	2	2
+	3	1
		8

Further, demonstrate that when we join 10 blocks, we get one tens. And adding tens with ones by regrouping using the examples given on pages 39 and 40 of the textbook.

Discuss addition with regrouping to make tens and more tens, by using the references and examples given on pages 40–43 of textbook.



	T	O
	2	5
	2	2
+	3	1
	7	8

At last, demonstrate the method of checking whether the sum is correct or not by using the order property by taking the examples and few questions of exercise 2G given on page 46.

EVALUATE

Classwork: Ask to solve Q.1–4 of Practice Time 2B, Q.1 of Practice Time 2C, 2D, 2E, 2F and Q.1–4 of Practice Time 2G.

Homework: Ask to solve the remaining question of Practice Time 2B–2G.

ENHANCE

- Discuss and ask to solve 'Think and Answer' sections given on pages 43, 45 of the textbook.
- Take the worksheets/assignments from "www.fullmarks.online.com". **[Critical Thinking]**

Periods: 11 – 12	Topic: Addition stories	Suggested extra teaching aids: Blackboard or whiteboard, pens, pencils, chalks/marker, notebook, dines block up to 999, Abacus, A4 paper sheets, etc. Math Genius! 2, Pages 47–48

ENGAGE

Show any picture and ask the class what they are observing. Accept their responses the start the class by telling a number story like:

There are 4 children bicycling in the park and 10 children playing with ball in the park.

Ask: How many children are there altogether in the park?

Accept the answers. Introduce the topic 'Addition stories'.

EXPLORE

Divide the class into groups of 4–5 children.

Distribute A4 sheets among the children in the class.

Write some addition problems on the board, like: 11 + 22, 10 + 25, etc.

Instruct each group to write one addition story with the help of each other using these numbers, and show the sum. The group whose story is proper and sum is correct will be appreciated.

[Creative and Collaborative Learning]

EXPLAIN

Discuss the way to extract the correct information from the given addition story or word problem. Write equations to represent word problems, and identify the method to solve the problem.

ELABORATE

Demonstrate on board the method to understand, write the equations and solve the problems given in 'Addition stories' by using the example and few questions of Practice Time 2H given on pages 47 and 48 of the textbook.

EVALUATE

Classwork: Ask to solve Q.1–3 of Practice Time 2H.

Homework: Ask to solve Q.4–6 of Practice Time 2H.

ENHANCE

- Ask to solve 'Mental Maths' and 'Brain Sizzlers' given on pages 48 and 50 of the textbook.
- Instruct to download some addition stories worksheet from internet and practice it.

Periods: 13–14	Topic: Revision (chapter assessment)	Suggested extra teaching aids: Blackboard or whiteboard, pens, pencils, chalks/marker, notebook. Math Genius! 2, Pages 49–50

ENGAGE

Make students comfortable, so they can ask any question on any previously learnt topics in which they are confused. Clarify their doubts or queries and start the revision of the exercise.

EXPLAIN

Start the revision of the exercise by using Chapter Assessment.

ELABORATE

Discuss and help the children to solve questions of the Chapter Assessment. If they have any confusion or do any error then explain and correct it.

EVALUATE

Classwork: Discuss questions 1, 2 and 3 of the Chapter Assessment in the classroom.

Homework: Ask to do the rest of the questions of Chapter Assessment as homework assignment.

ENHANCE

- Ask and help to do the activity given in ‘Learning by Doing’ on page 50 of the textbook
- Ask students to watch the video of ‘Addition’ for grade 2 on ‘www.fullmarks.online.com’.

ORANGE

ASSIGNMENT–3

Marks Obtained: _____

Student's Name: _____ Section: _____

Roll Number: _____ Date: _____

1. When we add 0 to a number, we get

(*a*) the same number (*b*) the different number

(*c*) successor (*d*) predecessor

2. When we add 1 to a number, we get

(*a*) the same number (*b*) just the next number

(*c*) predecessor (*d*) none of these

3. When we add two numbers in any order, we get the

(*a*) same result (*b*) different result

(*c*) even number (*d*) none of these

4. When we add two numbers, the result is known as

(*a*) the sum (*b*) the difference (*c*) the addends (*d*) plus

5. 3 tens and 12 ones can be regrouped as

(*a*) 4 tens 12 ones (*b*) 4 tens 2 ones

(*c*) 2 tens 13 ones (*d*) none of these

6. 5 tens and 22 ones can be regrouped as

(*a*) 6 tens 2 ones (*b*) 7 tens 12 ones

(*c*) 6 tens 12 ones (*d*) 8 tens 2 ones

7. Break 97 into two numbers in such a way that the two numbers are one after the other.

(*a*) 47, 50 (*b*) 47, 48 (*c*) 48, 49 (*d*) 49, 50

8. 300 more than 550 is

(*a*) 750 (*b*) 850 (*c*) 250 (*d*) 950

9. 9 tens + 5 tens + 18 ones is

(*a*) 145 (*b*) 140 (*c*) 148 (*d*) 158

10. 121 + smallest 3-digit number is

(*a*) 221 (*b*) 212 (*c*) 232 (*d*) 333

11. Smallest 1-digit number + greatest 2-digit number is

(*a*) 10 tens (*b*) 1 hundred (*c*) 9 century (*d*) all of these

12. 14 tens + 315 ones is

(*a*) 329 (*b*) 455 (*c*) 429 (*d*) 454

ORANGE

ASSIGNMENT–4

Marks Obtained: _____

Student's Name: _____ Section: _____

Roll Number: _____ Date: _____

A. Fill in the blanks.

A teacher kept a note about the children present on two days in a school. This is what she found. Complete the table and fill in the blanks.

Days/Students	Boys	Girls	Total
1st Day	236	212	.....
2nd Day	253	246	.....
Total	.....	.....	

1. ..... students were present on the 1st day.
2. ..... students were present on the 2nd day.
3. ..... boys were present on both the days.
4. ..... girls were present on both the days.
5. Altogether ..... students were present on both the days.

B. Circle the words which are related to addition.

Total	Different	Add	More	Plus	Factor
Addend	Dividend	Less	Divisor	Multiple	Sum

C. Match the following.

Column I	Column II
1. Half-century	(*a*) 99
2. Predecessor of 51 + 49	(*b*) 50 + 10
3. 20 more than 20	(*c*) 50
4. 1 + 2 + 3 + 7 + 8 + 9	(*d*) 46
5. 15 ones more than 31	(*e*) 30
6. Smallest counting number	(*f*) 84
7. 8 tens + 4 ones	(*g*) 59 + 42
8. Number after 100	(*h*) 1 + 0
9. 4 tens + 20 ones	(*i*) 100
10. 47 and 53	(*j*) 40

D. Utilise Your Brain

Observe the number sequence and find the next number.

10 → 15 → 25 → 40 → 65 → 105 → ☐



Subtraction

Learning Objectives

After studying this chapter, students will be able to...

- understand subtraction fact and properties of subtraction
- subtract two numbers using a number line and a 100-number grid
- regroup numbers for subtraction
- subtract numbers without and with regrouping
- check the answer of subtraction using addition
- establish a relation between addition and subtraction
- apply the concept of subtraction in real life problems

LESSON PLAN

Suggested number of periods: 14

Suggested Teaching Aids: Book: Math Genius! 2, blackboard or whiteboard, dines block up to 999, some real-life objects, pen, pencils, etc.

Keywords: Take away, Minus, Minuend, Subtrahend, Difference, Addition facts, Subtraction facts.

Pre-requisite knowledge: Students must be familiar with subtraction of two 1-digit numbers, a 1-digit number from a 2-digit number, etc.

NEP feature: The way of teaching provides experiential learning opportunities to the students and allows them to work with the support of each other which helps in their holistic development.

Periods: 1–3	**Topics: Subtraction facts, Subtraction on the number line, Subtraction on a number grid**	**Suggested extra teaching aids: Blackboard or whiteboard, pens, pencils, chalks/ marker, notebook, dines block, ice-cream sticks, rubber band, number cards up to 50, etc. Math Genius! 2, Pages 51–54**

ENGAGE

Introduce the topic in the classroom with some interesting activities, like asking questions on previously learned topics and then link to subtraction.

- Which number is the smallest 2-digit number?
- Which number is the largest 1-digit number?

- Can you subtract the smallest 2-digit number from the greatest 1-digit number?
- If you subtract the greatest 1-digit number from the smallest 2-digit number, which number will you get?

Accept the responses. Also discuss 'Get Ready' given on pages 51 and 52 and help to complete the statement.

EXPLORE

Divide the class into pairs. Either draw a number line up to 40 on the ground using chalk or spread a number mat up to 100 on the floor. Call any pair randomly. Give them two number cards up to 50. Instruct to read the number and the first child will jump on the number line or on the grid of mat up to that number.

Then the second child will start from that number and jump backward as per the number on his/her number card.

Ask to identify the difference of two given numbers. Repeat with different pairs using different combinations of numbers. **[Experiential Learning]**

EXPLAIN

The symbol of subtraction is '−' (minus). Let them recognise a subtraction fact and its terms. The number from which we subtract another number is called **minuend**. The smaller number that is to be subtracted is called the **subtrahend**, and the answer of subtraction is called the **difference**.

Next, explain the properties of subtraction as follows:

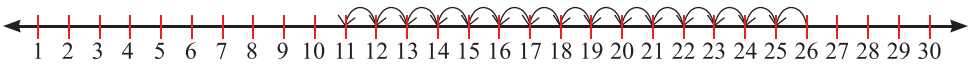
- When we subtract '0' from a number, the difference is the number itself.
- When we subtract '1' from a number, the difference is the number that comes just 'before' the subtracting number, *i.e.*, predecessor of the number.
- When we subtract a number from itself, the difference is '0'.

Further, explain subtraction on the number line by backward counting and on the number grid to subtract 10 we move up by one row and to subtract 1 we move left by one column.

ELABORATE

Demonstrate on board the subtraction facts, properties of subtraction by taking the references given on pages 52 and 53 of the textbook.

Further, demonstrate the subtraction 26 – 15 on the number line as



Start from 26 and count backward 15 steps. We reach at 11.

Thus, 26 – 15 = 11.

Also take the references given on page 53 for subtraction on number line.

Further, demonstrate 'subtraction on the number grid' by taking the reference and example given on page 54.

[Experiential Learning]

EVALUATE

Classwork: Ask to solve Q.1 of Practice Time 3A and 'Quick Check' given on page 54.

Homework: Ask to solve Q.2 of Practice Time 3A.

ENHANCE

- Ask to read aloud the content of 'Maths Connect' given on page 53 and solve it.
- Motivate and help the children to solve the sum given in 'Life Skills' given on page 53.

[Cross Curricular Learning]

Periods: 4–7	Topic: Regrouping numbers for subtraction, Subtraction with regrouping	Suggested extra teaching aids: Blackboard or whiteboard, pens, pencils, chalks/marker, notebook, number arrow card, etc. Math Genius! 2, Pages 55–58

ENGAGE

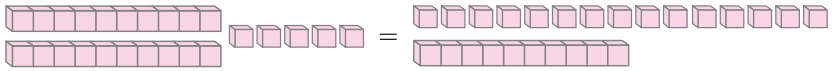
Start the class by recalling the regrouping of ones to tens. And then demonstrate that similarly we can regroup 1 ten to 10 ones. Introduce the topic 'Regrouping numbers for subtraction'.

EXPLORE

Teacher will use the activity given in 'Learning by Doing' given on page 66 of the textbook to make the understanding of subtraction of 2-digit numbers with regrouping. **[Experiential Learning]**

EXPLAIN

After revising the subtraction of two-digit numbers by activity, discuss that sometimes, when there are not enough ones to subtract from, we regroup the numbers. For example, 25 tens can be regrouped into 1 ten and 15 ones.

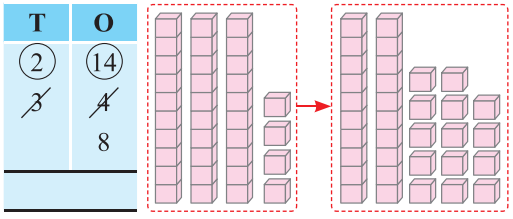


Use the references and examples of regrouping numbers for subtraction explained on page 55.

Next, describe the 'subtraction with regrouping' using the real-life situation and the method given on pages 56, 57 and 58 of the book.

ELABORATE

Demonstrate on board the process of regrouping and subtraction of 1-digit number from a 2-digit number 34 – 8 as follows:

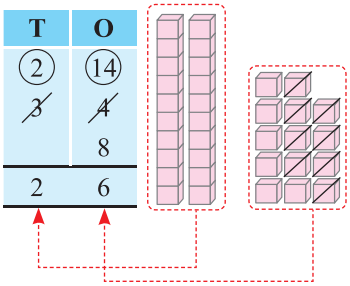


Since, 4 < 8. So, borrow 1 ten from 3 tens, the 3 tens will become 2 tens and regroup 4 ones into 14 ones.

Subtract the ones.

Since, 14 – 8 = 6, write 6 in ones column.

Next subtract the tens. 2 – 0 = 2, write 2 in tens column.



Further, demonstrate subtraction of two 2-digit numbers by taking the references and examples given on pages 57 and 58 of the textbook.

EVALUATE

Classwork: Ask to solve Q.1 and 2 of Practice Time 3B, Q.1 (a), (b) and 2 (a)–(d) of Practice Time 3C.

Homework: Ask to solve the remaining questions of Practice Time 3B and 3C.

ENHANCE

- Discuss and ask to solve 'Think and Answer' section given on pages 55 and 58 of the textbook.

[Critical Thinking]

Periods: 8 – 10	Topic: Checking subtraction with addition, Relation between addition and subtraction, Finding the missing number	Suggested extra teaching aids: Blackboard or whiteboard, pens, pencils, chalks/marker, notebook, crayons/colour pencils, etc. Math Genius! 2, Pages 59–62

ENGAGE

Start the class by creating a situation, such as: if you have a packet of 20 pencils, and you distribute 12 pencils to your friends, then how many pencils have you left, 7 or 8? How can you check which is the correct answer? Introduce the topic 'Checking subtraction with addition'.

EXPLORE

The following activity is used by the teacher to reinforce the concept of 2-digit subtraction.
Divide the class into groups of 4–5 children each.
Instruct to do the activity given in 'Maths Fun' section on page 59 of the textbook with help of other members of the group.
The group that completes the activity first will be the winner.

[Collaborative Learning and Art Integration]

EXPLAIN

Explain that to check whether the difference of minuend and the subtrahend is correct or not we add the difference and the subtrahend, if it is equal to minuend, then our difference is correct, i.e., Difference + Subtrahend = Minuend
Further, explain the relation between addition and subtraction. Note that if we change the order of addends it does not affect the sum and for every addition fact we have two corresponding subtraction facts. Also, demonstrate the finding of missing number by using the addition fact and subtraction fact.

ELABORATE

Demonstrate on board 'Checking subtraction with addition' by taking the references and examples given on page 60.
Further, demonstrate how 'addition and subtraction' are inter-related to each other. For this, consider three numbers 6, 9 and 15 and explain that, if we change the order of addends 6 and 9 it does not affect the sum 15. Also, show that for every addition fact we have two corresponding subtraction facts.

	T	O
		6
+		9
	1	5

	T	O
		9
+		6
	1	5

	T	O
	1	5
–		9
		6

	T	O
	1	5
–		6
		9

Next, describe the way to 'find the missing number' by using the addition and subtraction fact.
For example, what should be added to 12 to get 20?
We can write the statement as an equation: 12 + ___ = 20
Now, write the corresponding subtraction fact to this addition fact as: 20 – 12 = 8
So, 8 should be added to 12 to get 20.

EVALUATE

Classwork: Ask to solve Q.1–2 of Practice Time of 3D, 3E and 3F.

Homework: Ask to solve the remaining questions of 3D, 3E and 3F.

ENHANCE

- Discuss Brain Sizzlers given on page 59.
- Encourage students to do the Activity given on page 62.

Periods: 11–12	Topic: Subtraction stories	Suggested extra teaching aids: Blackboard or whiteboard, pens, pencils, chalks/marker, notebook, etc. Math Genius! 2, Pages 63–64

ENGAGE

Start the class with an interaction based on children's real life experience. Then, tell a number story like: Riya has 12 candies with her. If she gives 8 to her friend Siya, how many candies are left with her?

Accept the answers. Introduce the topic 'Subtraction stories'.

EXPLORE

Divide the class into groups of 4–5.

Distribute A4 sheets among the children in the class.

Write some subtraction problems on the board, like: 22 – 10, 25 – 10, etc.

Instruct each group to write one subtraction story with the help of each other using these numbers, and show the difference.

The group whose story is proper and the difference is correct will be appreciated.

[Creative and Collaborative Learning]

EXPLAIN

Discuss the way to extract the correct information from the given subtraction story or word problem. Write equations to represent word problems, and identify the method to solve the problem.

ELABORATE

Demonstrate on board the method to understand, write the equations and solve the problems given in 'Subtraction stories' by using the example and few questions of Practice Time 3G given on pages 63 and 64 of the textbook.

EVALUATE

Classwork: Ask to solve Q.1–3 of Practice Time 3G.

Homework: Ask to solve Q.4–6 of Practice Time 3G.

ENHANCE

- Ask to solve 'Mental Maths' given on page 64 of the text book.
- Instruct to download some subtraction stories worksheet from internet and practice it.

Period: 13–14	Topic: Revision (Chapter Assessment)	Suggested extra teaching aids: Blackboard or whiteboard, pens, pencils, chalks/marker, notebook, etc. Math Genius! 2, Page 65

ENGAGE

Make students comfortable, so they can ask any question on any previously learnt topics in which they are confused. Clarify their doubts of queries and start the revision of the exercise.

EXPLAIN

Start the revision of the exercise by using Chapter Assessment.

ELABORATE

Discuss and help the children to solve questions of the Chapter Assessment. If they have any confusion or do any error then explain and correct it.

EVALUATE

Classwork: Discuss questions 1, 2 and 3 of the Chapter Assessment in the classroom.

Homework: Ask to do the rest of the questions of Chapter Assessment as homework assignment.

ENHANCE

- Ask students to watch the video of ‘Subtraction’ for grade 2 on ‘www.fullmarks.online.com’.

ORANGE

ASSIGNMENT–5

Marks Obtained: _____

Student's Name: _____ Section: _____

Roll Number: _____ Date: _____

1. Which 2-digit number is the predecessor of the smallest 3-digit number?

(*a*) Smallest (*b*) Largest (*c*) just after 90 (*d*) None of these

2. ..... has a 1-digit number as its predecessor.

(*a*) 50 (*b*) twenty-one (*c*) ten (*d*) 100.

3. The difference of the largest 3-digit number and the smallest 2-digit number is _____.

(*a*) 999 (*b*) 989 (*c*) 900 (*d*) 899

4. Which place lies left to the tens place in a numeral?

(*a*) Ones (*b*) Tens (*c*) Hundreds (*d*) Thousands

5. Which number is 100 less than 900?

(*a*) 200 (*b*) 800 (*c*) 700 (*d*) 600

6. From which subtraction will you get 300 as difference?

(*a*) 500 – 100 (*b*) 600 – 300 (*c*) 200 – 100 (*d*) 200 – 200

7. I am a number just after 50 – 0. Who am I?

(*a*) 0 (*b*) 20 (*c*) 10 (*d*) 51

8. Which is the correct one?

(*a*) 40 – 30 = 20 (*b*) 60 – 60 = 20 (*c*) 50 – 50 = 10 (*d*) 80 – 40 = 40

9. What number is 300 less than 400?

(*a*) 100 (*b*) 700 (*c*) 200 (*d*) 50

10. Garima has 260 pens. She gave 140 pens to her friends. How many pens are left with her?

(*a*) 100 (*b*) 120 (*c*) 130 (*d*) 400

11. Which of the given subtraction sentences is false?

(*a*) 26 – 8 = 18 (*b*) 98 – 60 = 38 (*c*) 45 – 25 = 25 (*d*) 63 – 20 = 43

12. Compare 200 – 100……. 450 – 400

(*a*) < (*b*) > (*c*) = (*d*) none of these

13. Which of the following is not related to 63, 37 and 100?

(*a*) 37 + 63 = 100 (*b*) 100 – 63 = 37 (*c*) 100 – 37 = 63 (*d*) 90 – 27 = 63

14. 2 tens less than 12 ones + 8 tens is

(*a*) 72 (*b*) 90 (*c*) 20 (*d*) 18

ORANGE

ASSIGNMENT–6

Marks Obtained: _____

Student's Name: _____ Section: _____

Roll Number: _____ Date: _____

A. Fill in the blanks.

1. The bigger number from which the smaller number is subtracted is called the ..... .
2. The smaller number that is subtracted from the bigger number is called the ..... .
3. The result obtained on subtraction is called the ..... .
4. When a number is subtracted from itself, the answer is ..... .
5. When 1 is subtracted from a number, the answer is the ..... of the number
6. When 0 is subtracted from a number, the answer is the ..... .
7. Always subtract the ..... from the ..... .

B. Label True or False.

1. The addition and subtraction of numbers cannot be represented on the number line. .....
2. The difference of two numbers is always a number. .....
3. When we subtract 0 from a number the difference is the number itself. .....
4. If we subtract a number from itself the difference is always zero. .....
5. If we subtract 1 from a given number, the difference is the successor of the given number. .....
6. The predecessor of a century is the greatest 2-digit number. .....

C. Match the following.

Column I	Column II
1. If the subtrahend is missing, then the difference is subtracted from the minuend.	(*a*) Minuend – subtrahend = difference
2. When the subtrahend is subtracted from the minuend the answer is called the difference.	(*b*) Difference + subtrahend = minuend
3. To find the missing minuend, the difference is added to the subtrahend.	(*c*) Minuend – difference = subtrahend.

D. Utilise Your Brain

Complete the grid by using suitable numbers.

90	–	10	=	
–		–		–
	–	8	=	7
=		=		=
75	–		=	



Addition and Subtraction

Learning Objectives

After studying this chapter, students will be able to...

- add bigger 2-digit numbers
- add 3-digit numbers without and with regrouping
- subtract 3-digit numbers without and with regrouping
- apply addition and subtraction to solve real life problems

LESSON PLAN

Suggested number of periods: 12

Suggested Teaching Aids: Book: Math Genius! 2, blackboard or whiteboard, dines block up to 999, some real-life objects, pen, pencils, etc.

Keywords: Addends, Sum, Minuend, Subtrahend, Difference, Addition facts, Subtraction facts, Plus, Minus.

Pre-requisite knowledge: Students must be familiar with addition and subtraction two of 1-digit numbers, a 1-digit number from a 2-digit number, Two 2-digit numbers.

NEP feature: The way of teaching provides experiential learning opportunities to the students and allows them to work with the support of each other which helps in their holistic development.

Periods: 1–5	**Topics: Addition of 2-digit bigger numbers, addition of 3-digit numbers without regrouping, addition of 3-digit numbers with regrouping, addition stories**	**Suggested extra teaching aids: Blackboard or whiteboard, pens, pencils, chalks/ marker, notebook, some paper chit/flash cards with addition sum or subtraction sum, etc. Math Genius! 2, Pages 67–75**

ENGAGE

Start the class by discussing the 'Get Ready' section given on pages 67 and 68.

Ask to solve the questions. Accept the responses. Start the topic 'Addition of 2-digit bigger numbers'.

EXPLORE

Divide the class into groups of 4 students each. Place four bowls on the teacher's table. In the 1st bowl, keep some 2-digit number cards, and in the 2nd to 4th bowl, put their decomposition into the addition statement or subtraction statement.

Example: For the number 52, the decompositions into addition statement or subtraction statement are

30 + 10 + 12, 74 – 22, 30 + 20 + 2, etc.

Ask one student of the group to take out a 2-digit number from the first bowl, and the other students will find the correct matched addition and subtraction statements in the other bowls.

They will paste it on the sheet of a paper. For any confusion, the teacher will help.

Repeat this activity with other groups with different 2-digit numbers. The team that completed each task quickly and correctly will be commended. **[Experiential and Collaborative Learning]**

EXPLAIN

Sometimes when we add two 2-digit numbers, we get the sum as a 3-digit number. Recall the addition of 2-digit, numbers and link it to the numbers, when the sum is of a 3-digit number. Use the references and examples given on pages 68 and 69.

Further, explain addition of 3-digit numbers without regrouping and discuss when we have more than 9 ones, say 12 ones, we can regroup 12 ones into 1 ten and 2 ones and when we have more than 9 tens, say 11 tens we can regroup it into 1 hundred and 1 ten and so on. We use this method of regrouping in addition. The teacher can use dines blocks to demonstrate the addition visually.

Next, explain the way to extract the correct information from the given addition story or word problem. Write equations to represent word problems, and identify the method to solve the problem.

ELABORATE

Demonstrate on board the sum of two and three 2-digits numbers, whose sum is a 3-digit number by taking the reference and examples given on pages 68 and 69 of the textbook.

Further demonstrate, how to add two 3-digit numbers and three 2- or 3-digit numbers by discussing the real life situation given on pages 71–72 of the textbook without regrouping.

Next, demonstrate ‘addition of 3-digit numbers with regrouping’ by using the real life situation and examples given on pages 73 and 74 of the textbook.

Also demonstrate on board the method to understand, write the equations and solve the problems given in ‘Addition stories’ by using the examples given on page 75 of the textbook. **[Conceptual Learning]**

EVALUATE

Classwork: Ask to solve Q.1 of Practice Time 4A, 4B and Q.1–3 of Practice Time 4C and 4D.

Homework: Ask to solve the remaining questions of Practice Time 4A–4D.

ENHANCE

- Motivate and help the children to solve the sum given in ‘Think and Answer’ and ‘Maths Connect’ given on pages 69 and 70 respectively.
- Ask to solve the sum and perform the activity given in ‘Activity’ on page 71 of the textbook.
- Discuss ‘Quick Check’ and solve ‘Brain Sizzlers’ given on pages 74 and 76 respectively.

[Cross Curricular Learning]

Periods: 5–10	Topic: Subtraction of 3-digit numbers without regrouping, Subtraction of 3-digit numbers with regrouping, Subtraction stories, Checking subtraction using addition	Suggested extra teaching aids: Blackboard or whiteboard, pens, pencils, chalks/marker, notebook, number arrow card, etc. Math Genius! 2, Pages 76–84

ENGAGE

Start the class by revising two 2-digit subtraction problem. Link it into two 3-digit subtraction. Introduce the topic 'Subtraction of 3-digit numbers without regrouping'.

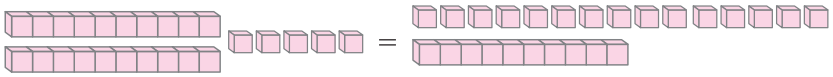
EXPLORE

The teacher will revise the learners' previous knowledge of subtraction of 2-digit numbers with the help of the following activity.

- Divide the class into 2 teams. Distribute 10 arrow cards in which a digit is written on each card.
- Ask 3 children from team A to step forward in the front of the class.
- The teacher will ask one child to form a 2-digit number by using the arrow cards, say 48, and the other child will be asked to make a number by interchanging the digits, 84 and the third child will write the numbers on the board.
- Then the teacher will ask team B to find the difference of both numbers.
- Next, the teacher changes the role of teams. **[Experiential Learning]**

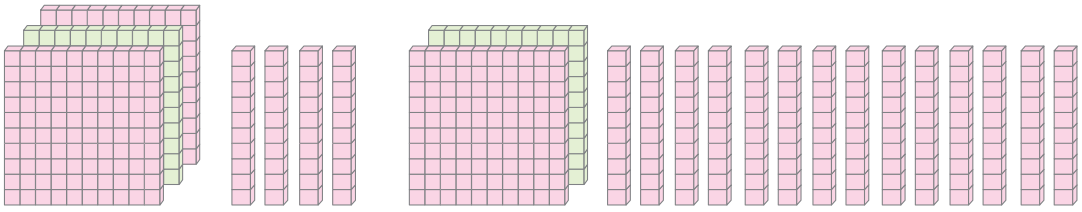
EXPLAIN

After revising the subtraction of two digits by activity, discuss that sometimes, when there are not enough ones to subtract from, we regroup the numbers. For example, 25 tens can be regrouped into 1 ten and 15 ones.



2 tens 5 ones = 1 ten 15 ones

Similarly, we can regroup hundreds into tens if required.



3 hundreds + 4 tens = 3 hundreds + 14 tens

Use the references and examples of regrouping tens, hundreds and both hundreds and tens as given on pages 78, 79 and 80 respectively. Next, discuss the way to extract the correct information from the given subtraction story or word problem. Write equations to represent word problems, and identify the method to solve the problem. At last explain that as 2-digit subtraction we can also check the subtraction of 3-digit numbers using addition as:

Difference + Subtrahend = Minuend.

ELABORATE

Talk about any real life situation where we need to subtract two numbers. For example, a school invited 865 parents/guests for viewing the annual Day celebration. But only 640 guests/parents could attend the function. How many did not come? It can be solved on the board as shown here. Teacher can also demonstrate the methods to solve the examples given on pages 76 and 77 of the textbook on board.

	H	T	O	
	8	6	5	← No. of guests/parents invited
–	6	4	0	← No. of guests/parents attended
	2	2	5	

Further, demonstrate on board the subtraction of 3-digit numbers with regrouping tens, hundreds and hundreds and tens using the references and examples given on pages 78, 79 and 80. Also demonstrate that when zeros are in the minuend, subtracting 1 from minuend and subtrahend both makes the subtraction easier. For example,

	H	T	O
		(9)	
	(7)	(10)	(10)
	~~8~~	~~0~~	~~0~~
–	2	5	6
	5	4	4

and

	H	T	O			H	T	O
	8	0	0	–1 →		7	9	9
–	2	5	6	–1 →	–	2	5	5
						5	4	4

[Conceptual Learning]

Also, demonstrate on board the method to understand, write the equations and solve the problems given in 'Subtraction stories' by using the examples given on page 82 of the textbook.

And as we have learnt checking subtraction by using addition for 2-digit numbers. We do the same for 3-digit numbers by using the example given on page 83 of the textbook.

EVALUATE

Classwork: Ask to solve Q1 of Practice Time 4E, 4F and Q1–3 of Practice Time 4G and Q1 of Practice Time 4H.

Homework: Ask to solve the rest of the questions of Practice Time 4E – 4H.

ENHANCE

- Discuss and ask to solve 'Think and Answer' and 'Brain Sizzlers' given on pages 79 and 80 respectively of the textbook.
- Also discuss 'Maths Fun' and 'Life Skills' given on pages 81 and 83 respectively.

[Critical Thinking]

Periods: 11 – 12	Topic: Revision (Chapter assessment)	Suggested extra teaching aids: Blackboard or whiteboard, pens, pencils, chalks/marker, notebook, crayons/colour pencils, etc. Math Genius! 2, Pages 85–86

ENGAGE

Make students comfortable, so they can ask any question on any previously learnt topics in which they are confused. Clarify their doubts or queries and start the revision of the exercise.

EXPLAIN

Start the revision of the exercise by using the Chapter Assessment.

ELABORATE

Discuss and help the children to solve questions of the Chapter Assessment. If they have any confusion or do any error then explain and correct it.

EVALUATE

Classwork: Discuss questions 1, 2 and 3 of the Chapter Assessment in the classroom.

Homework: Ask to do the rest of the questions of Chapter Assessment as homework assignment.

ENHANCE

- Ask to solve the questions given in 'Mental Maths'. **[Critical Thinking]**
- Ask students to do the activity given in 'Learning by Doing' on page 86 of the textbook. **[Experiential and Collaborative Learning]**

ORANGE

ASSIGNMENT–7

Marks Obtained: _____

Student's Name: _____ Section: _____

Roll Number: _____ Date: _____

1. Which is the smallest number?

(*a*) 34 + 4 (*b*) 45 – 3 (*c*) 28 + 7 (*d*) 37 – 9

2. Which is the greatest number?

(*a*) 64 + 7 (*b*) 75 – 5 (*c*) 58 + 10 (*d*) 77 – 8

3. A hundred more than 679 is

(*a*) 779 (*b*) 579 (*c*) 479 (*d*) 1000

4. 90 less than 999 is

(*a*) 990 (*b*) 909 (*c*) 900 (*d*) 1000

5. Which one is correct for the numbers in increasing order?

P = 6 hundreds + 18 ones Q = 1 hundred + 6 tens + 7 ones

R = 8 hundreds + 11 ones S = 1 hundred + 8 tens + 5 ones

(*a*) Q, S, R, P (*b*) Q, S, P, R (*c*) Q, R, S, P (*d*) R, P, S, Q

6. Which one is correct for the numbers in decreasing order?

P = 6 hundreds + 18 ones Q = 1 hundred + 8 tens + 5 ones

R = 8 hundreds + 11 ones S = 1 hundred + 6 tens + 7 ones

(*a*) R, P, Q, S (*b*) Q, S, P, R (*c*) Q, R, S, P (*d*) R, P, S, Q

7. Shruti has 120 cupcakes. She gives 40 cupcakes to her friends. How many cupcakes are left with her?

(*a*) 160 (*b*) 100 (*c*) 80 (*d*) 150

8. A number just before 597 – 1 is

(*a*) 598 (*b*) 599 (*c*) 496 (*d*) 595

9. The difference of 670 – 70 is

(*a*) 600 (*b*) 521 (*c*) 639 (*d*) 619

10. A farmer had 455 oranges. He sold 200 oranges. How many oranges are left with him?

(*a*) 155 (*b*) 160 (*c*) 255 (*d*) 655

11. Which of the following will fit in the blanks?

10 tens – 50 ones = 3 tens + ☐ ones

(*a*) 50 (*b*) 20 (*c*) 2 (*d*) 130

12. If 10 + 20 + 40 + ☐ = 150, then ☐ =

(*a*) 50 (*b*) 60 (*c*) 70 (*d*) 80

ORANGE

ASSIGNMENT–8

Marks Obtained: _____

Student's Name: _____ Section: _____

Roll Number: _____ Date: _____

A. Fill in the blanks.

1. 9 + ☐ = 14
2. 6 + ☐ = 14
3. 6 + ☐ = 12
4. ☐ – 9 = 4
5. ☐ – 7 = 7
6. ☐ – 9 = 3
7. 14 – ☐ = 8
8. 12 – ☐ = 7
9. 13 – ☐ = 5
10. 9 + ☐ = 20

B. Label True or False.

1. The sum of 231 + 123 is not the equal of 123 + 231. .....
2. The difference of 231 – 123 is not equal to 123 – 31. .....
3. We should move to the left on the number line while doing subtraction. .....
4. We should move to the right on the number line while doing addition. .....
5. We can subtract numbers in any order, the answer remains the same. .....
6. If we subtract from a number the answer is 0. .....
7. Taking away or comparing more or less needs addition. .....
8. If there are not enough ones to subtract from, we regroup hundreds. .....
9. In subtraction, we regroup to borrow. .....

C. Match the following after completing the facts.

I	II	III
1. 13 – 7 = ☐	A. 11 – 4 = ☐	(a) 12 – 7 = ☐
2. 5 + ☐ = 12	B. 11 – 8 = ☐	(b) 13 – 6 = ☐
3. 11 – 3 = ☐	C. 5 + ☐ = 13	(c) 3 + ☐ = 12
4. 8 + ☐ = 13	D. 12 – 5 = ☐	(d) 13 – 5 = ☐
5. 12 – 3 = ☐	E. 6 + ☐ = 13	(e) 3 + ☐ = 11
6. 7 + ☐ = 11	F. 9 + ☐ = 12	(f) 4 + ☐ = 11

D. Utilise Your Brain

What will replace the question mark '?' in the following?

△8 ○5 □13 △16 ○? □26 △24 ○15 □? △? ○20 □52



5 Multiplication

Learning Objectives

After studying this chapter, students will be able to...

- know multiplication as repeated addition
- understand skip counting
- read and write multiplication tables up to 10
- understand properties of multiplication
- multiply two 1-digit numbers horizontally and vertically
- multiply 2-digit number by a 1-digit number without and with regrouping
- solve real life problems using multiplication

LESSON PLAN

Suggested number of periods: 13

Suggested Teaching Aids: Book: Math Genius! 2, blackboard or whiteboard, some real-life objects like sketch pens, pens, pencils, number arrow cards. Times table chart, etc.

Keywords: Multiplicand, Multiplier, Product, Multiplication fact, Repeated addition, Times table, Skip counting.

Pre-requisite knowledge: Students must be familiar with the multiplication table of 1, 2, 5 and 10, and multiplication of 1-digit numbers by 1-digit number.

NEP feature: The way of teaching provides experiential learning opportunities to the students and allows them to work with the support of each other which helps in their holistic development.

Periods: 1–5	Topics: Repeated addition, Multiplication tables, Properties of multiplication	Suggested extra teaching aids: Some real-life objects, chart of multiplication tables up to 10, etc. Math Genius! 2, Pages 87–100

ENGAGE

Introduce the topic by asking to recite the multiplication tables of 1, 2, 5 and 10 in chorus. Appreciate the children. Again, discuss and instruct to complete the 'Get Ready' section given on pages 87–88. Introduce multiplication as repeated addition.

EXPLORE

Divide the class into groups. Distribute some ice-cream sticks to each of them. Instruct to arrange them in groups by adding two sticks in each time. (Start with 2 sticks and make groups by adding 2 sticks), keep them in sequence, as 2 sticks, 4 sticks, 6 sticks, 8 sticks, and so on. Again ask count the number of sticks in each group and write their number in your notebook in sequence and observe these numbers.

Ask: How many numbers are skipped between two numbers? Accept the responses.

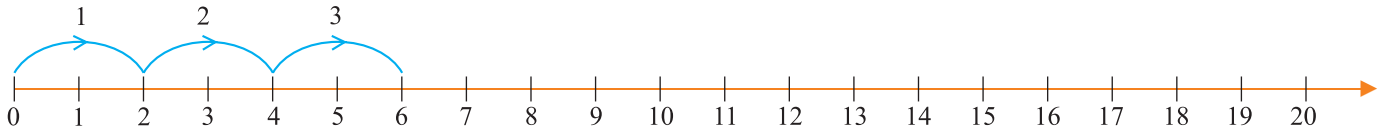
Similarly, it can be extended for 3, 6, 9, ..., 4, 8, 12, ... and 5, 10, 15, ... **[Experiential Learning]**

EXPLAIN

Explain to the students that repeated addition can be also represented as multiplication.

Write the skip counting in 2s, skip one number in between two numbers, as 2, 4, 6, 8, 10, 12, …, etc.

To show the skip counting in 2s on a number line, jump 2 numbers each time. As,



Start from 0. Jump on every second number by skipping the next number as shown in the above figure, and write the next number.

Similarly, discuss that for the skip counting of 3, 4, 5, 6. 7, 8, 9 and 10, we have jumped on and write every third, fourth, fifth, sixth, seventh, eighth, ninth and tenth numbers respectively. Further, link this skip counting to times table correspondingly by taking the references of pages 90 to 96 of the textbook. Motivate the students to learn them by writing in their notebooks.

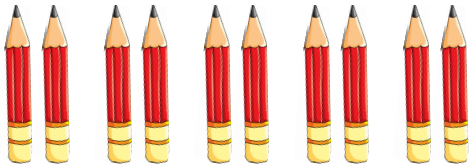
Next, discuss the 'properties of multiplication' as:

- Product of two numbers remains same even if we change the order of the numbers to be multiplied.
- If we multiply any number by 1, we get the same number.
- If we multiply any number by 0, we always get the product as 0.

Also, discuss 'double' means two times or twice of a number.

ELABORATE

Place 10 concrete objects like pencils on the table as follows:



Explain that here, we have 5 groups of 2 pencils each *i.e.*, $2 + 2 + 2 + 2 + 2 = 10 = 5 \times 2 = 10$

$5 \times 2 = 10$ is read as '5 into 2 is 10' or '5 multiplied by 2 is 10' or '5 times 2 is 10'.

$5 \times 2 = 10$ is called the multiplication fact or multiplication statement.

Here, '×' is the sign of multiplication. And the repeated addition is the multiplication.

Motivate the class to complete and read the times table of 2, 3, 4, 5, 6, 7, 8, 9 and 10 in chorus and remember it.

Further, demonstrate the multiplications on the number line by taking the reference and example given on pages 90 to 93. **[Experimental Learning]**

EVALUATE

Classwork: Instruct the class to do Q.1 of Practice Time 5A, Q.1, 2 and 3 of Practice Time 5B, and Q.1 of Practice Time 5C in the classwork.

Homework: Solve the rest of the questions of Practice Time 5A to 5C.

ENHANCE

- Ask to do the activities given in 'Maths Fun' on page 96 and 'Activity' on page 100.
- Discuss and ask to solve 'Think and Answer' given on page 99.

Periods: 6–10	Topic: Vertical multiplication, Multiplying a 2-digit number by a 1-digit number	Suggested extra teaching aids: Multiplication tables chart, Math Genius! 2, Pages 101–105

ENGAGE

In the beginning, put the chart of tables in front of students. So, that they can memories the tables. Then recall one-digit multiplication by using the multiplication table. As,

$5 \times 5 = 25$; $8 \times 7 = 56$; $9 \times 8 = 72$; $8 \times 8 = 64$ and so on.

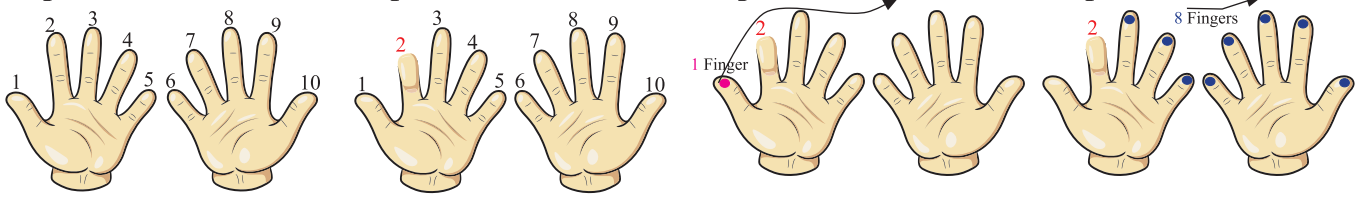
EXPLORE

The teacher can introduce a quick method of multiplication of any number by 9 using fingers as follows:

For example, to multiply 9 by 2,

Place your hands side by side, palms facing you. As 9 is multiplied by 2, bend the finger number 2. Next, count the number of fingers to the left of the folded finger (there is 1) and then the number of fingers to the right of the folded finger (there are 8). So, the result of multiplying 9×2 is 18.

Step 1: $9 \times 2 = ?$ **Step 2:** $9 \times 2 = ?$ **Step 3:** $9 \times 2 = 1$ **Step 4:** $9 \times 2 = 18$



[Experiential Learning]

EXPLAIN

Explain that vertical multiplication is another way to multiply the numbers. In this method, we write a number below another number. The number to be multiplied is called the multiplicand and the number by which it is multiplied is called the multiplier. The answer is called the product. Then start the explanation of multiplication of 2-digit numbers by 1-digit numbers without regrouping and then move to the multiplication of 2-digit numbers by 1-digit numbers with regrouping. Further, explain the process of multiplication with regrouping.

ELABORATE

First, make the students, revise their knowledge of multiplication by writing the question on the board 'multiply 6 by 2'.

Demonstrate on board that we multiply two numbers vertically as shown, the number to be multiplied is called the **multiplicand** and the number by which it is multiplied is called the **multiplier**. The answer is called the **product**.

	T	O	
		6	← Multiplicand
×		2	← Multiplier
	1	2	← Product

Demonstrate the method of solving the example and few question given in Practice Time 5D based on real life situation where we use multiplication to solve it, given on page 101 and 102 of the textbook. further, demonstrate the

Multiplication of 2-digit number by a 1-digit number as follows:

Write on board: Multiply 23 by 2.

Arrange the numbers in their place value columns on board.

- Multiply the ones by 2 and write the product at the ones place of the product.
- Multiply tens by 2 and write the product at the tens place of the product.

	T	O	
	2	3	← Multiplicand
×		2	← Multiplier
	4	6	← Product

Next, demonstrate the multiplication with regrouping, starting with regrouping ones. When we have more than 9 ones after multiplication, then we regroup the ones into tens and ones and carry over the tens to tens column.

Further, demonstrate when we have more than 9 tens, we regroup it to hundreds and tens and carry over the hundreds to the hundreds column.

Similarly, we can regroup both ones and tens. For elaborated explanation, use the method and examples given on pages 103–105 of the textbook. **[Conceptual Learning]**

	T	O
	(1)	
	2	6
×		3
	7	8

	H	T	O
	(1)		
		5	3
×			3
	1	5	9

	H	T	O
	(3)	(3)	
		6	7
×			5
	3	3	5

EVALUATE

Classwork: Ask the students to solve Q.1, (a), (b), Q.2 of Practice Time 5D, Q. 1 to 4 of Practice Time 5E and Q. 1 and 2 of Practice Time 5F in the classwork. If the students make any error while doing the multiplication, the teacher will correct it and explain.

Homework: Ask to solve the remaining questions of Practice Time 5D to 5F as homework assignment.

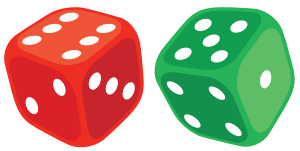
ENHANCE

- Ask to solve questions of 'Think and Answer sections given on pages 101 and 105.

Period: 11	Topic: Multiplication stories	Suggested extra teaching aids: Multiplication chart table, pair of dice, number grid chart, etc. Math Genius! 2, Pages 106–107

ENGAGE

Start the class by asking a question like: If you have to distribute 2 candies to each of your 8 friends, how many candies would you require? Accept the answers. Introduce the topic 'Multiplication stories'.



EXPLORE

Teacher will guide to perform an activity based on dice game for multiplication, to revise the multiplication.

Divide the class into group provide a pair of dice and a game board as shown here. Then instruct them as follows:

- Roll a pair of dice.
- Multiply both the numbers.
- Colour the product in the number grid.
- The group who colour 5 numbers in a row first will be the winner.

[Experimental Learning]

30	12	15	10	2
25	18	24	8	16
9	20	5	36	4
24	15	12	9	10
6	8	20	25	36
18	12	9	16	24

EXPLAIN
Discuss the way to extract the correct information from the given multiplication stories or word problems. Explain how to identify that which mathematical operation: addition, subtraction or multiplication is required to solve the problem. Write equations to represent word problems, and identify the method to solve the problem.

ELABORATE
Demonstrate on board the example and few questions of Practice Time 5G of the textbook.

[Conceptual Learning]

EVALUATE
Classwork: Ask to solve problems Q.1 (a), (b) and (c) and Q.2 (a) of Practice Time 5G. If the students make any error while solving the problems, the teacher will correct it and explain.
Homework: Ask the solve the remaining questions of Practice Time 5G as their homework assignment.

ENHANCE
- Download worksheets on the multiplication of a 2-digit number by a 1-digit Number, and from the internet with the help of parents and practice them.

Periods: 12–13	Topic: Revision (Chapter Assessment)	Suggested extra teaching aids: Textbook Math Genius! 2, Pages 108–110

ENGAGE
Make students comfortable, so they can ask any question on any previously taught topics in which they are confused. Clarify their doubts or queries and start the revision of the exercise.

EXPLORE
Guide them to perform the activity as suggested in 'Learning by Doing' section on page 110 in the classroom.

EXPLAIN
Start the revision of the exercise by using Life Skills, 'Mental Maths', 'Brain Sizzlers' and 'Chapter Assessment'.

ELABORATE
Discuss questions 1 to 4 of the Chapter Assessment and accept students answer. If they have any confusion or they are making errors, then explain and correct them. Discuss Brain Sizzlers and motivate students to solve Mental Math.

EVALUATE
Classwork: Discuss questions 1 to 4 of the Chapter Assessment in the classroom.
Homework: Ask to solve Q.5 to 7 of 'Chapter Assessment'.

ENHANCE
- Ask students to find the processes of multiplication other than those discussed in the book, with the use of the internet or with the help of friends, teachers and parents.
- Ask to watch video on multiplications on www.fullmarks.online.com.

ORANGE

ASSIGNMENT–9

Marks Obtained: _____

Student's Name: _____ Section: _____

Roll Number: _____ Date: _____

1. How many pencils are there in 5 groups of 3 pencils each?



(*a*) 9 (*b*) 12 (*c*) 15 (*d*) 14

2. How many fingers are there in 5 hands?



(*a*) 20 (*b*) 15 (*c*) 24 (*d*) 25

3. 6 times 4 is equal to _____

(*a*) 24 (*b*) 18 (*c*) 30 (*d*) 64

4. 7 groups of 6 is equal to _____.

(*a*) 42 (*b*) 45 (*c*) 38 (*d*) 48

5. Rajan reads 10 pages of a book in a day. How many pages does he read in a week?

(*a*) 60 (*b*) 65 (*c*) 70 (*d*) 80

6. Counting by 7's, the two missing numbers in 7, 14, 21, 28, 35, _____, _____, are

(*a*) 49, 56 (*b*) 42, 49 (*c*) 45, 38 (*d*) 42, 56

7. 3 + 12 = ____ × 3.

(*a*) 7 (*b*) 9 (*c*) 5 (*d*) 15

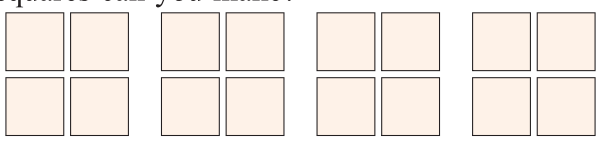
8. There are 6 shelves of books in an almirah. Each shelf has 8 books. How many total books are there in the almirah?

(*a*) 64 (*b*) 48 (*c*) 40 (*d*) 56

9. A tiger has four legs. How many legs do 17 tigers have?

(*a*) 68 (*b*) 100 (*c*) 102 (*d*) 85

10. How many groups of 2 squares can you make?



(*a*) 6 (*b*) 10 (*c*) 8 (*d*) 7

ORANGE

ASSIGNMENT–10

Marks Obtained: _____

Student's Name: _____ Section: _____

Roll Number: _____ Date: _____

A. Fill in the blanks.

1. 2 + 2 + 2 + 2 + 2 = ... × 2.
2. ..... groups of 6 = 30.
3. 15 × 0 is equal to .....
4. 12 × ..... = 6 × 10.
5. 7 groups of 9 means .....

B. Label True or False.

1. 5 + 5 + 5 + 5 + 5 + 5 means 30 + 6. .....
2. 4 more than 9 times 4 is 40. .....
3. 7 times 5 minus 5 is 6 × 5. .....
4. If 2 students can sit on a bench, then 36 students can sit on 13 such benches. .....
5. 15 packets of 6 dice each will have 90 dice in all. .....

C. Match the following.

Column I	Column II
1. 17 pairs of slippers	(*a*) 4 times 9
2. Number of wheels in 8 e-rickshaws	(*b*) 125
3. 9 groups of 4	(*c*) 100 – 16
4. 5 added to itself 25 times	(*d*) 8 × 3
5. 7 times 12	(*e*) 35

D. Utilise Your Brain.

Read the passage and answer the following questions.

Shyam takes 30 minutes to go to school from his home. While going to school he purchased 8 packets of crayons. Each packet has 10 crayons. He spends 6 hours in school and then again comes back home. It takes him 40 minutes to come back home. After having food Shyam studies 5 subjects for 30 minutes each. Then he plays cricket, video game and watch TV for 20 minutes each.

- How many crayons did Shyam purchase?
- How many minutes does he study at home?
- How long does he play and watch TV?



Division

Learning Objectives

After studying this chapter, students will be able to...

- understand the concept of division as equal sharing and grouping
- understand division by repeated subtraction
- divide a number on a number line
- understand the relation between multiplication and division
- know the terms associated with division
- divide a number using multiplication tables
- divide a number using long division method
- solve real life problems using division

LESSON PLAN

Suggested number of periods: 14

Suggested Teaching Aids: Book: Math Genius! 2, blackboard or whiteboard, some real-life objects like sketch pens, pens, pencils, number arrow cards. times table chart, bowl, etc.

Keywords: Grouping, Sharing, Distribution, Repeated Subtraction, Division fact, Dividend, Divisor, Quotient, Remainder.

Pre-requisite knowledge: Students must be familiar with the multiplication tables of 1 to 10, and sharing things equally among a certain number of groups.

NEP feature: The way of teaching provides experiential learning opportunities to the students and allows them to work with the support of each other which helps in their holistic development.

Periods: 1–5	Topics: Division as equal sharing, division by equal grouping, division by repeated subtraction	Suggested extra teaching aids: Some real-life objects Math Genius! 2, Pages 112–117

ENGAGE

Put some candies up to 10 on the teacher's table. Call any pair of students to divide the 10 candies among themselves equally. Repeat the same with different number of candies and different pairs of students. Accept the responses. Introduce the topic 'Division as equal sharing'.

Can take the situation given in 'Get Ready' and discuss its solution.

EXPLORE

Use the activity given on page 112 to introduce division to the class. **[Experiential Learning]**

EXPLAIN

If 10 candies are share among 2 friends, then each child will get 5 candies. We can write it as $10 \div 2 = 5$, this is called division statement or division fact. Take the reference of the real life example given on page 112 of the textbook to explain the division as equal sharing.

Explain that division can also express as equal grouping, by taking the reference of real life example given on page 114 of the textbook.

Further explain that repeated subtraction can also be used for division by taking the reference of example given on page 116.

Similarly, we can use the number line to represent the division as repeated subtraction. Use the example given on page 117 of the textbook for detailed explanation.

ELABORATE

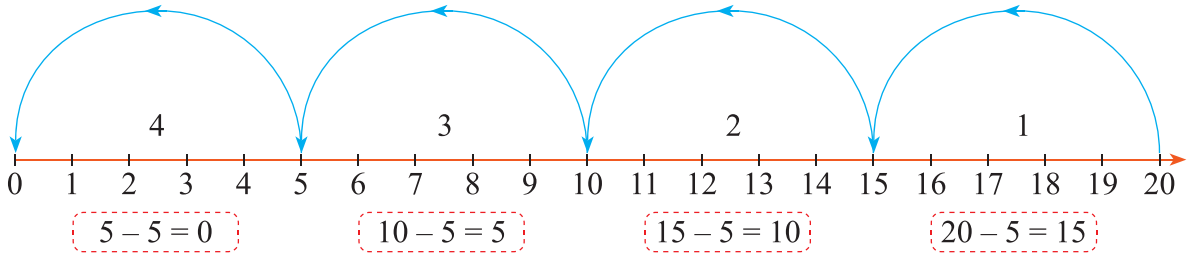
Call one boy/girl and give them few pencils. Instruct to share equally among the students of the class including themselves. Ask: How many pencils does each student get? Accept the responses. Now, instruct the class to write it as division sentence using division sign.

Next, divide the class into groups. Give them few different number of marbles to each group. Instruct to divide within the group equally. Ask: How many marbles does each get? Instruct them to write division sentence for the distribution of marbles.

Further, keep a jar on the teacher's table and fill with even number of candies. Instruct: Pick out 2 candies at a time and empty the jar. Ask: How many times did you pick it out? Accept the responses. Repeat with other numbers. Discuss division by repeated subtraction using examples on blackboard.

To demonstrate the division on number line, take students to playground. Make number line 0-20 by using chalk or sand. For example, to teach them division of 20 by 5. Instruct: Start from 20 and jump by skipping 5 numbers each time till you reach at 0.

Ask: How many times did you jump? Accept the responses. Demonstrate the same concept on the board as:



Thus, $20 \div 5 = 4$. **[Holistic Learning]**

EVALUATE

Classwork: Instruct the class to do Q.1 and 2 of Practice Time 6A, Q.1 and 2 of Practice Time 6B, and Q.1 of Practice Time 6C in the classwork.

Homework: Ask to solve the rest of the questions of Practice Time 6A, 6B and 6C in the homework as well.

ENHANCE

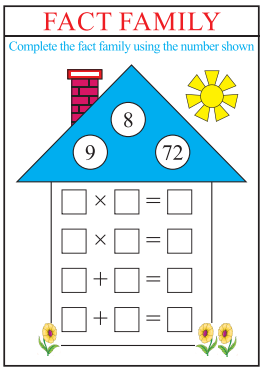
- Discuss and ask to solve 'Think and Answer' given on page 114.

Periods: 6–10	Topic: Relation between division and multiplication, Division using multiplication tables, Terms of a division statement, Long division method, Division with remainder	Suggested extra teaching aids: Multiplication table chart, some real life objects, some cards showing fact family, etc. Math Genius! 2, Pages 118–123

ENGAGE

Start the class by placing three bowls on the teacher's table. Put 2 erasers on each bowl. Ask: What is the total number of erasers? Accept the responses. Again ask the division statement and multiplication statement for this observation. Introduce the relation between division and multiplication.

EXPLORE

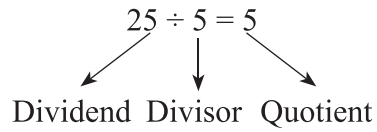


Divide the class into groups. Distribute fact family cards to each group for different numbers. Instruct them to write two division facts and corresponding two multiplication facts for the given numbers and submit it to teacher. The group who did it correctly in minimum time will be appreciated. **[Experimental Learning]**

EXPLAIN

Explain that for each division fact, there are two multiplication facts and viceversa.

Next, discuss how can we do the division sum using multiplication table. For example, to divide 25 by 5, recall the multiplication table of 5 and observe when 25 will occur in table of 5. As 25 occurs at 5 times 5, so, the division statement is $25 \div 5 = 5$.



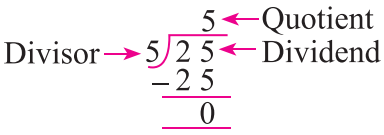
Further, explain the terms of a division statement as shown alongside.

Where, dividend is the number we divide, here 25 is the dividend.

The number by which we divide is the divisor, here 5 is the divisor.

The number we get as answer is the quotient. Here, second 5 is the quotient.

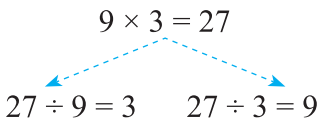
Next, explain the long division method by writing the statement $25 \div 5 = 5$ as shown alongside.



Further, explain the division with reminder by considering the real life situation given on pages 122 and 123.

ELABORATE

Demonstrate on board by taking the reference and examples given on page 118 that for each multiplication fact, we have two division facts. Like:



After demonstrating the division using the multiplication tables, demonstrate them some more examples and make them understand how to do long division with 0 remainder and non-zero remainder. Take the references and examples given on pages 118–123.

[Conceptual Learning]

EVALUATE

Classwork: Ask the students to do Q.1 (a), (b), (c) and Q.2 (a) to (f) of Practice Time 6D, Q.1 (a), (b) and Q.2 (a) to (d) of Practice Time 6E and Q.1 of Practice Time 6F. If the students make any error while doing the division, the teacher will correct it and explain.

Homework: Ask to solve the remaining questions of Practice Time 6D to 6F as homework assignment.

ENHANCE

- Ask to solve 'Think and Answer' given on page 119. **[Critical Thinking]**
- Discuss and ask to solve division problems given in 'Quick Check' on page 120.

Periods: 11–12	Topic: Properties of division, Division stories	Suggested extra teaching aids: Math Genius! 2, Pages 123–125

ENGAGE

Write some multiplication facts based on properties of multiplication on board, like: $5 \times 1 = 5$, and ask the corresponding division fact from the class. Accept the responses. Introduce that as $5 \times 1 = 5$; the corresponding division facts are $5 \div 5 = 1$ and $5 \div 1 = 5$ *i.e.*, when we divide a number by itself we get the quotient 1, similarly when we divide any number by 1, we get the same number as quotient, and so on.

EXPLORE

Use the activity given in 'Learning by Doing' section on page 128 to reinforce the concept of division without and with remainder. **[Experiential Learning]**

EXPLAIN

Discuss that division of '0' by any number will give the quotient '0', and explain that we cannot divide any number by '0'.

Write some more real-life problem based on division by 1-digit numbers on the board. Discuss the way to extract the correct information from the problem written on the board. After that devise a plan for how to solve the problem, then workout the solution and at last check the solution.

ELABORATE

Demonstrate on board the example and few questions of Practice Time 6H given on page 125 of the textbook. **[Conceptual Learning]**

EVALUATE

Classwork: Ask to solve few questions of Practice Time 6G and 6H. If the students make any error while solving the problems, the teacher will correct it and explain.

Homework: Ask to solve the remaining questions of Practice Time 6G and 6H as their homework assignment.

ENHANCE

- Discuss the content of 'Remember' and motivate the children to remember it.
- Discuss and ask to solve 'Think and Answer' and 'Maths Connect' given on pages 124 and 125, respectively.

Periods: 13–14	Topic: Revision (Chapter Assessment)	Suggested extra teaching aids: Math Genius! 2, Pages 126–127

ENGAGE

Make students comfortable, so they can ask any question on any previously taught topics in which they are confused. Clarify their doubts or queries and start the revision of the exercise.

EXPLAIN

Start the revision of the exercise by using 'Chapter Assessment', 'Mental Maths', and 'Brain Sizzlers'.

ELABORATE

Discuss questions 1 to 4 of the Chapter Assessment and accept students' answers. If they have any confusion or make any error, then explain and correct them. Discuss 'Brain Sizzlers' and motivate students to solve 'Mental Maths'.

EVALUATE

Classwork: Discuss questions 1 to 4 of the Chapter Assessment in the classroom.
Homework: Ask to solve Q.5 and 6 of 'Chapter Assessment' given on pages 126 and 127 of the textbook.

ENHANCE

- Ask to download worksheets from the internet with the help of friends, teachers and parents and practice it.
- Ask to watch video on division on www.fullmarks.online.com.

ORANGE

ASSIGNMENT–11

Marks Obtained: _____

Student's Name: _____ Section: _____

Roll Number: _____ Date: _____

1. How many groups of 6 pencils each can you make from 36 pencils?



(*a*) 9 (*b*) 12 (*c*) 5 (*d*) 6

2. There are 50 legs of hens and goats on a farm. If there are 15 hens, the number of goats is

(*a*) 20 (*b*) 10 (*c*) 5 (*d*) 4

3. When you divide 36 by 7, the remainder is .....

(*a*) 1 (*b*) 2 (*c*) 3 (*d*) 5

4. Which of the following facts is true for numbers 3, 9 and 27?

(*a*) $27 \times 3 = 9$ (*b*) $27 = 9 \times 3$ (*c*) $27 \div 9 = 3$ (*d*) Both (*b*) and (*c*)

5. Which number when divided by 8 gives answer 9?

(*a*) 64 (*b*) 63 (*c*) 72 (*d*) 80

6. How many times 5 can be subtracted from 22?

(*a*) 6 (*b*) 4 (*c*) 5 (*d*) Cannot say

7. 36 – 6 = ... × 5.

(*a*) 30 (*b*) 7 (*c*) 6 (*d*) 5

8. 90 crayons will be packed into ..... packets, if each packet holds 10 crayons.

(*a*) 9 (*b*) 10 (*c*) 15 (*d*) 6

9. Amit bought 7 notebooks for ₹105. What is the cost of each notebook?

(*a*) ₹112 (*b*) ₹98 (*c*) ₹735 (*d*) ₹15

10. Which of the following is different from others?

(*a*) $6 \div 1$ (*b*) $18 \div 3$ (*c*) $0 \div 8$ (*d*) 2×3

11. Which of the following will leave the greatest remainder?

(*a*) $37 \div 9$ (*b*) $28 \div 7$ (*c*) $48 \div 5$ (*d*) $31 \div 8$

12. What is the correct symbol to be used in the blank? 8 ..... 2 = 30 ÷ 5.

(*a*) + (*b*) – (*c*) ÷ (*d*) ×

13. If dividend is 62 and divisor is 3 then what will be the Remainder (R) and Quotient (Q)?

(*a*) R = 0, Q = 20 (*b*) R = 2, Q = 20 (*c*) R = 2, Q = 30 (*d*) R = 0, Q = 30

ORANGE

ASSIGNMENT–12

Marks Obtained: _____

Student's Name: _____ Section: _____

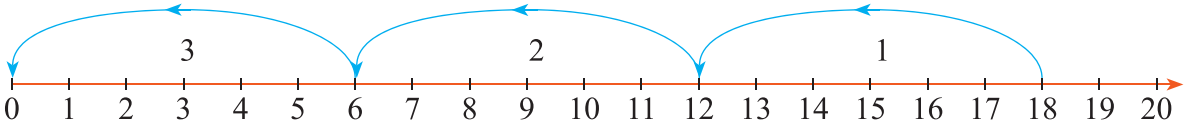
Roll Number: _____ Date: _____

A. Fill in the blanks.

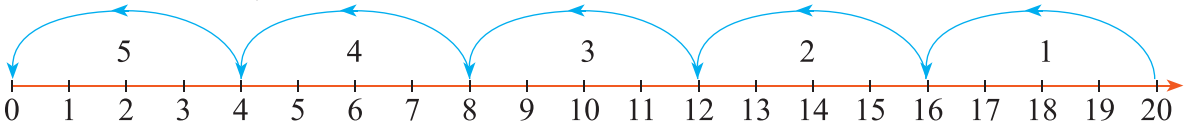
1. Any number divided by ..... gives the number itself.
2. If a school cab can carry 10 students, then ..... school cabs are needed to carry 80 students.
3. Any number divided by the number itself gives .....
4. The number that we are dividing by is called .....
5. The answer that is obtained in division is called .....

B. Label True or False

1. The number line shows 3 × 6. .....



2. From the number line, 20 ÷ 4 = 5. .....



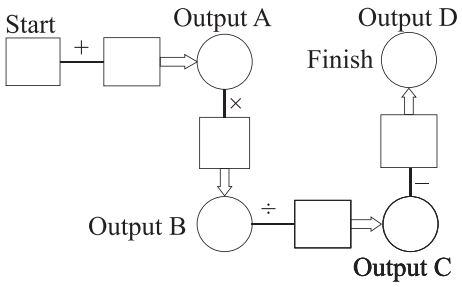
3. 72 – 8 – 8 – 8 – 8 – 8 – 8 – 8 – 8 – 8 = 0 means 72 ÷ 8 = 9. .....
4. 7 + 3, 10 × 1, 100 – 0 and 20 ÷ 2 have equal values. .....
5. 45 flowers are stringed in 3 garlands, so each garland has 15 flowers. .....

C. Utilise the given numbers to complete the table.

Numbers	Multiplication fact 1	Multiplication fact 2	Division fact 1	Division fact 2
1. 2, 5, 10	..... × 5 = 10	5 × 2 = ...	10 ÷ 2 = ...	..... ÷ 5 = 2
2. 3, 24, 8				
3. 9, 6, 54				
4. 84, 7, 12				
5. 11, 1, 11				

D. Utilise Your Brain

Insert numbers 1 to 5 in square boxes in such a way that you can get the maximum final output after doing the operations in every step correctly.





7 Fractions

Learning Objectives

After studying this chapter, students will be able to...

- understand about whole and its parts.
- understand a fraction as a part of a whole when divided into equal parts
- find half, one-third, one-fourth of a whole and differentiate between them
- understand fraction as a part of a collection

LESSON PLAN

Suggested number of periods: 8

Suggested Teaching Aids: Book: Math Genius! 2, blackboard or whiteboard, some real-life objects like sketch pens, pens, pencils, bowl, etc.

Keywords: Equal parts, Unequal parts, Fraction, Half (Plural; halves), One-third, One-fourth, Quarter, Three-fourths, Collection.

Pre-requisite knowledge: Students must be familiar with multiplication and division.

NEP feature: The way of teaching provides experiential learning opportunities to the students and allows them to work with the support of each other which helps in their holistic development.

Periods: 1–4	**Topics: Understanding fractions, Half or One-half, One-third, One fourth or Quarter, Three-fourths**	**Suggested extra teaching aids: Some real-life objects, transparent bowls, some sticky fraction notes, etc. Math Genius! 2, Pages 132–134**

ENGAGE

Introduce the topic in the classroom with some interesting activities. For this, talk about the real life situations where we need to use the fraction. For example,

- Aarti's mother gives her a guava and tells to share it with Swati, her younger sister. Can you say how will she share it?
- Mohit has brought a loaf of bread in the school. He would like to share it with his friends Divakar and Harsha during break. Can you help him in cutting the loaf of bread into equal pieces? How will you cut it?

Accept their responses and introduce the term 'fraction'.

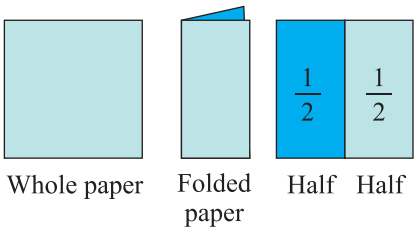
Teacher can discuss the concept given in 'Get Ready' section on page 131 of the textbook.

EXPLORE

Introduce: Division of a whole into two halves, three one-thirds and four one-fourths.

Divide the class into pairs. Give them a squared paper sheet. Instruct them to fold the square paper into equal halves, press the crease, and then unfold the sheet. Ask: How many equal divisions are made in the sheet? What does it call? Accept the responses.

Again, instruct them to fold that square sheet into three equal parts and then four equal parts, respectively, and unfold the sheet.



Whole paper Folded paper Half Half

Ask: How many equal divisions were made in the sheet in both cases? What do they call it? Accept the responses.

If children get stuck at any point, the teacher will help. **[Experiential Learning]**

EXPLAIN

We can divide a whole object into equal and unequal parts. When a whole object is divided into equal parts, each part is called a **fraction**.

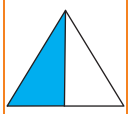
When we divide a whole thing into two equal parts, each part is called half or **one-half** of the whole and write it as $\frac{1}{2}$. Show that two halves make a whole by using a real life object like apple.

When we divide a whole thing into three equal parts, each part is called **one-third** of the whole and write it as $\frac{1}{3}$. Similarly, when we divide a whole thing into four equal parts, then each part is **one-fourth** of the whole. **One-fourth** is written as $\frac{1}{4}$. Further when we divide an object into four equal parts, then 3 parts together out of 4 equal parts is called **three-fourths** or three quarters. We write **three-fourths** as $\frac{3}{4}$.

ELABORATE

Divide the board in five columns and give the heading of columns as whole, One-half, One-third, One-fourth and Three-fourths as shown.

Distribute some fraction sticky (at least 3) note to each child and ask to paste them in the correct category.

Whole	One-half	One-third	One-fourth	Three-fourths
				

Also, demonstrate the references and examples given on pages 132–134. **[Experiential Learning]**

EVALUATE

Classwork: Instruct the class to do Q.1, 2 of Practice Time 7A and 7B in the classwork.

Homework: Ask to solve the rest of the questions of Practice Time 7A and 7B in the homework as well.

ENHANCE

- Discuss 'Knowledge Desk' and ask to solve 'Think and Answer' given on page 134.

Periods: 5–6	Topic: Fraction as a part of a collection	Suggested extra teaching aids: Some real life objects Math Genius! 2, Page 135

ENGAGE

First revise the concept of one-half, one-third, one-fourth and three-fourth.

Introduce the topic 'fraction as a part of a collection'.

EXPLORE

Show 12 pencils or erasers in the classroom. Call a child and ask him/her to distribute the 12 pencils/erasers into two equal groups. Now, ask the number of pencils/erasers he/she gives to each group and instruct to write it on board.

Further, call another child and ask him/her to distribute it into three equal groups and count the number of pencils/erasers given in each group and write it on board. Continue the process with different number of items till time permits. **[Experiential Learning]**

EXPLAIN

Explain that when we distribute 12 pencils into two equal groups, each group gets half $\left(\frac{1}{2}\right)$ of the collection.

So, $\frac{1}{2}$ of $12 = 12 \div 2 = 6$.

When we distribute 12 pencils into three equal groups, each group gets one-third $\left(\frac{1}{3}\right)$ of the collection.

So, $\frac{1}{3}$ of $12 = 12 \div 3 = 4$.

When we distribute 12 pencils into four equal groups, each group gets one-fourth $\left(\frac{1}{4}\right)$ of the collection.

So, $\frac{1}{4}$ of $12 = 12 \div 4 = 3$, and so on. **[Conceptual Learning]**

ELABORATE

Demonstrate on board some real-life examples by taking the reference given on page 135 of the textbook.

EVALUATE

Classwork: Discuss 'Quick Check' given on page 135 in the classwork. If the students make any error, the teacher will correct it and explain.

Homework: Ask to do the 'Activity' given on page 135 as homework assignment.

ENHANCE

- Discuss and ask to find the answers of question asked in 'Brain Sizzlers' given on page 136.

[Critical Thinking]

Periods: 7–8	Topic: Revision (Chapter Assessment)	Suggested extra teaching aids: Math Genius! 2, Pages 136–137

ENGAGE

Make students comfortable, so they can ask any question on any previously taught topics in which they are confused. Clarify their doubts or queries and start the revision exercise.

EXPLORE

Guide the students to do the activity given in 'Learning by Doing' section on page 137.

[Experiential and Collaborative Learning]

EXPLAIN

Start the revision exercise by using 'Mental Maths' and 'Chapter Assessment'.

ELABORATE

Discuss Q.2 of 'Mental Maths' and Q.1 and 2 of the Chapter Assessment, and accept students' answers. If they have any confusion or they make any error, then explain and correct them.

EVALUATE

Classwork: Ask to do Q.1 and 2 of the Chapter Assessment in the classroom.

Homework: Ask to do Q.1 of 'Mental Maths' and Q.3 and 4 of 'Chapter Assessment' as homework assignment.

ENHANCE

- Ask to watch video on fraction for grade 2 on www.fullmarks.online.com. **[Net Connect]**

ORANGE

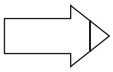
ASSIGNMENT–13

Marks Obtained: _____

Student's Name: _____ Section: _____

Roll Number: _____ Date: _____

1. Which of the following shapes has been divided into two equal parts?

(*a*)  (*b*)  (*c*)  (*d*) 

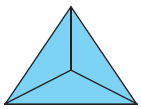
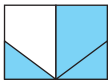
2. Which of the following shapes has not been divided into three equal parts?

(*a*)  (*b*)  (*c*)  (*d*) 

3. Which of the following shapes has not been divided into four equal parts?

(*a*)  (*b*)  (*c*)  (*d*) 

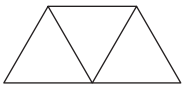
4. Which figure is shaded three-fourths?

(*a*)  (*b*)  (*c*)  (*d*) 

5. The given figure has been divided into

(*a*) halves (*b*) quarters

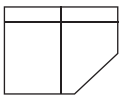
(*c*) thirds (*d*) none of these



6. The given figure has been divided into

(*a*) halves (*b*) quarters

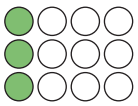
(*c*) thirds (*d*) none of these



7. How many are there in $\frac{1}{4}$ of a dozen?

(*a*) 3 (*b*) 4

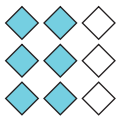
(*c*) 6 (*d*) 9



8. What part of the collection is not shaded?

(*a*) $\frac{1}{2}$ (*b*) $\frac{1}{3}$

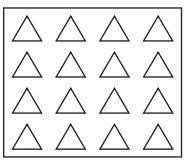
(*c*) $\frac{1}{4}$ (*d*) $\frac{2}{3}$



9. How many triangles have to be shaded to make it $\frac{1}{4}$ shaded?

(*a*) 5 (*b*) 7

(*c*) 3 (*d*) 4



ORANGE

ASSIGNMENT–14

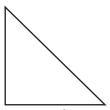
Marks Obtained: _____

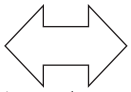
Student's Name: _____ Section: _____

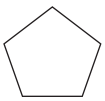
Roll Number: _____ Date: _____

A. Do as Directed.

1. Divide the shapes into

(*a*)  2 equal parts

(*b*)  4 equal parts

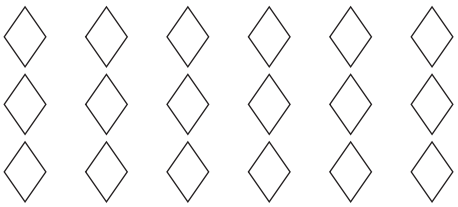
(*c*)  5 equal parts

(*d*)  3 equal parts

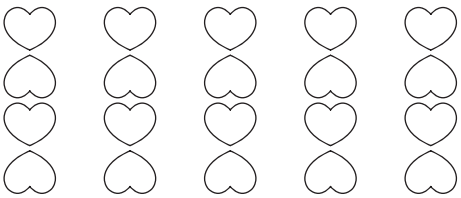
2. Shade one-half $\left(\frac{1}{2}\right)$ of the stars blue and remaining stars red.



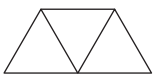
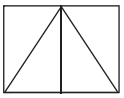
3. Shade one-third $\left(\frac{1}{3}\right)$ of the diamonds yellow and two-thirds $\left(\frac{2}{3}\right)$ of the diamonds purple.

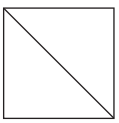
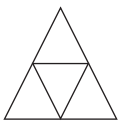
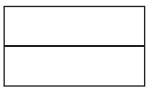


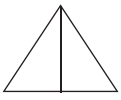
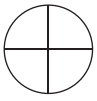
4. Shade one-fourth $\left(\frac{1}{4}\right)$ of the hearts pink and three-fourths $\left(\frac{3}{4}\right)$ of the hearts brown.



B. Colour one part of each shape and write fraction for the shaded part.

1.  **2.**  **3.** 

4.  **5.**  **6.** 

7.  **8.**  **9.** 

Now, group the shapes those represent the same fraction.



Shapes and Patterns

Learning Objectives

After studying this chapter, students will be able to...

- understand about the formation of shadows
- visualise plane or 2D shapes in the shadow of a solid or a 3D shape
- explore more about plane shapes
- identify different types of lines
- draw a straight line using a ruler
- understand the characteristics of solid or 3D shapes
- identify the nature of surface of a solid shape
- identify patterns and see different patterns in the surroundings

LESSON PLAN

Suggested number of periods: 13

Suggested Teaching Aids: Book: Math Genius! 2, blackboard or whiteboard, some real-life objects, torch, etc.

Keywords: Shadow, Vertex (Plural; vertices), Side, Edge, Plane shapes, Solid shapes, Rectangle, Triangle, Circle, Oval, Square, Straight lines, Curved lines, Cube, Cuboid, Cylinder, Cone, Sphere, Faces, Roll, Slide, etc.

Pre-requisite knowledge: Students must be familiar with plane shapes like: Rectangle, square, triangle, circle, and solid shapes like: Cube, cuboid, cylinder, cone and sphere.

NEP feature: The way of teaching provides experiential learning opportunities to the students and allows them to work with the support of each other which helps in their holistic development.

Period: 1	Topic: Fun with shadows	Suggested extra teaching aids: Some real-life objects, torch, etc. Math Genius! 2, Pages 138–139

ENGAGE

After greeting the students, ask few questions like:

- Have you seen your own shadow or the shadow of a tree, a dog, a cow or any other animal?
- Do you know how a shadow is formed?
- When do we see a shadow?
- When does a shadow vanish?

Accept the responses. Introduce the topic 'Fun with shadows'. Discuss the content of 'Get Ready' section.

EXPLORE

Divide the class into four groups (2–4 students per group).

Make the classroom darker and provide each group a torch and a set of small objects.

Instruct them to create different types of shadows using the torch and small objects. Encourage them to experiment with the distance between the object and the wall and the torch and the size and shape of the object.

Once they have created a variety of shadows, discuss about their shadow observation.

[Cross-curricular Learning]

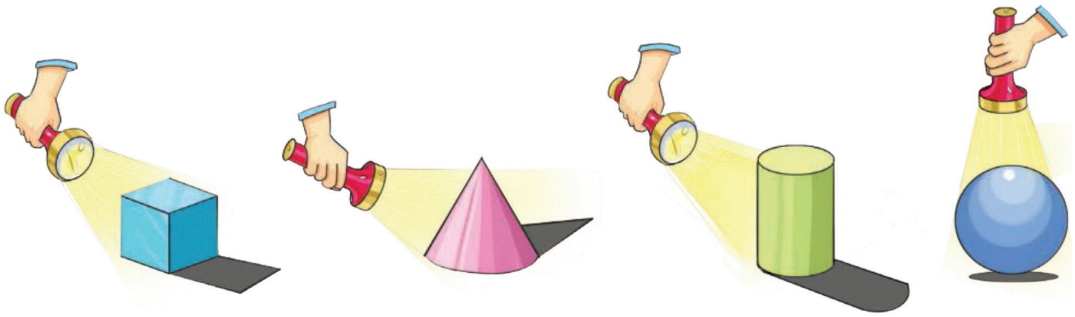
EXPLAIN

Introduce that when an object blocks a source of light, like bulb or torch or sunlight, etc. it creates a shadow.

Say: You can see the image and how the shadow of the man's hands can be seen on the wall because his hands are blocking the source of light.

ELABORATE

Demonstrate the following shadow formation in the classroom, that the shadow of a cube forms a square, a pyramid forms a triangle, a cylinder forms a rectangle and a sphere forms a circle.



Also discuss the correct identification of shadow formation with their name given on page 139 of the textbook.

[Experiential Learning]

EVALUATE

Classwork: Based on the topics covered in particular period discuss Q.1 and 2 of Practice Time 8A.

Homework: Ask to solve the following questions as homework assignment.

Tick (✓) the shape of the shadow formed by an object when the source of light is kept on its side.

1. The shadow of a rubik's cube formed is in the shape of a

   (*a*) circle ☐ (*b*) square ☐ (*c*) triangle ☐

2. The shadow of a birthday cap formed is in the shape of a

   (*a*) circle ☐ (*b*) rectangle ☐ (*c*) triangle ☐

3. The shadow formed by a ball is in the shape of a

   (*a*) circle ☐ (*b*) rectangle ☐ (*c*) triangle ☐

ENHANCE

- Discuss and ask to solve 'Think and Answer' given on page 139.
- Ask to write 5 lines on 'Togalu Gombeyaata' the puppetry art form practiced in Karnataka, from the internet with help of teacher and parents.

Periods: 2–5	Topic: Drawing plane shapes using objects, More about plane shapes, Straight and curved lines	Suggested extra teaching aids: Some real life objects Math Genius! 2, Pages 139–143

ENGAGE

After the greeting, start the class by engaging the children is an activity. Ask the class to trace the outline of base of the objects available with them. For example, eraser, chalk box, duster, sharpener, pencil box, book, bangle, etc. Instruct them to observe the drawn shape. Introduce the plane shapes.

EXPLORE

Divide the students into groups and give each group a list of different-shaped items (triangle, rectangle, square, circle) to find around in the classroom and school. The teacher can use clues to point them to the right item. For example, students can find something round that ticks or something rectangular with pages. Groups can write where they find each item or if possible, bring the item along. The group who can find maximum number of shapes with correct classification will be appreciated. **[Experimental and Collaborative Learning]**

EXPLAIN

Triangle, rectangle, square, circle and oval are plane shapes. A plane shape can have sides and corners. A corner of a plane figure is called its vertex. The plural of vertex is vertices. The straight lines forming a plane figure are called its sides. Further, explain the lines: Straight and curved, the types of straight lines by taking the reference and example given on pages 141 and 142.

ELABORATE

Ask the class to observe the board and identify its shape. Demonstrate its vertex and side, ask to observe the number of its vertices and sides and the relationship between the sides. Next, draw a square on board explain about its sides and vertices. Show that the number of vertices and sides in rectangle are same only the difference is that the opposite sides of a rectangle are equal, where all the sides of a square are equal. Further, demonstrate the triangle, circle and oval on board with its properties on sides and vertices. Teacher will take the reference from the page 140 of the textbook.

Next demonstrate the straight and curved lines by using the thread. Hence, discuss about the three types of straight lines: Horizontal line, vertical line and slanting line. The teacher can use ruler to explain this.
Further demonstrate drawing a straight line by taking the reference from the page 143 of the textbook.

[Conceptual Learning]

EVALUATE

Classwork: Ask the students to do Q.3 and 4 of Practice Time 8A, and Q.1 and 2 of Practice Time 8B in the classwork. If the students make any error, the teacher will correct it and explain.

Homework: Ask to solve the remaining questions of Practice Time 8A and 8B as homework assignment.

ENHANCE

- Discuss ‘Maths Connect’ given on page 142 of the textbook.

Periods: 6–9	Topic: Solid shapes, Surface of objects	Suggested extra teaching aids: Some real life objects, Math Genius! 2, Pages 144–146

ENGAGE

Start the class with an interaction. Show any object such as a duster or a dice to the class, ask about its shape. Also, teacher can ask number of its sides and vertices. Accept the responses. Let them know what the faces, edges and vertices of solid shapes are.

EXPLORE

Use the activity given on page 145 of the textbook to reinforce the concept of different solid shapes.

[Experiential Learning]

EXPLAIN

Recall the shape of cube, cuboid, cylinder and cone. Demonstrate that a cube has 6 faces, 12 edges and 8 vertices. Explain that all the edges of a cube are of the same length, and all its faces are of same size i.e., square. Similarly, a cuboid has 6 faces, 8 vertices and 12 edges. But only its opposite faces are equal. Further, demonstrate that a cylinder has 3 faces (1 curved and 2 plane) and 2 edges. Its opposite faces are equal. Next, demonstrate a cone and a sphere and tell that a cone has also two faces one plane and other curved, 1 vertex and 1 edge while a sphere has only a curved face, but it does not have any edge or vertex.

Further, discuss about nature of surface, i.e., flat or curved face. Explain that a solid can stalk, roll or slide depending upon its surfaces.

ELABORATE

Collect same objects having differnet shapes and size. Demonstrate the stalking, rolling and sliding of an object and discuss the reason behind it by taking the references given on page 146 of the textbook.

[Conceptual Learning]

EVALUATE

Classwork: Ask to solve Q.1 of Practice Time 8C and 8D. If the students make any error while solving the problems, the teacher will correct it and explain.

Homework: Ask to solve Q.2 of Practice Time 8C and 8D as their homework assignment.

ENHANCE

- Discuss and ask to solve 'Think and Answer' given on page 145 of the textbook.
- Ask to do the 'Project' given on page 147.

Periods: 10–11	Topic: Patterns	Suggested extra teaching aids: Some real life objects, some cut-outs of different shapes, etc. Math Genius! 2, Pages 147–149

ENGAGE

Start the class by showing some real-life objects like a sunflower, or design of a window and ask what they observe. Accept the responses. Introduce the topic 'Patterns'.

EXPLORE

Divide the class into pairs. Give them some cut-outs of different shapes.
Instruct them to make their own pattern using those cut-outs.

Ask from a student other than the pair to identify and tell the name of the next two cut-outs of the shapes to continue the pattern. Accept the responses.

Continue with other pairs and different cut-outs of shapes, numbers or letters.

EXPLAIN

A sequence of figures, shapes, letters or numbers that repeat itself is called a pattern.

We can find beautiful patterns on saris, carpets, rangolis, tiles, and in nature. Explain about pattern in shapes, pattern in numbers and pattern in letters.

ELABORATE

Demonstrate on board when three different shapes, colors, etc. are repeated over and over again, it is known as **ABC pattern**.

And the patterns in which one or more elements of the sequence or arrangement increases then it is known as **increasing pattern**. Increasing patterns should be both numerical and non- numerical.

Further, demonstrate the analogical pattern, pattern in numbers and letters by taking the references given on pages 147 and 148 of the textbook.

EVALUATE

Classwork: Discuss and ask to do Q.1 and 2 of Practice Time 8E. If students make any error, the teacher will correct it and explain.

Homework: Ask to solve Q.3 of Practice Time 8E as homework assignments.

ENHANCE

- Discuss and ask to do the activity given in 'Maths Fun' on page 148.

[Creative Thinking and Art Integration]

Periods: 12–13	Topic: Revision (Chapter Assessment)	Suggested extra teaching aids: Some real life objects, some cut-outs of different shapes, etc. Math Genius! 2, Pages 150–151

ENGAGE

Make students comfortable, so they can ask any question on any previously taught topics in which they are confused. Clarify their doubts or queries and start the revision of the exercise.

EXPLORE

Guide the students to do the activity given in 'Learning by Doing' section on page 151 in the classroom.

EXPLAIN

Start the revision of the exercise by using 'Mental Maths', 'Chapter Assessment' and 'Brain Sizzlers'.

ELABORATE

Discuss 'Mental Maths' and Q.1, 2, 3 of the Chapter Assessment and accept students' answers. If they have any confusion or they make any error, then explain and correct them.

EVALUATE

Classwork: Ask to solve Mental Maths and Q.1, 2, 3 of the Chapter Assessment.

Homework: Ask to solve Q.4 and 5 of Chapter Assessment.

ENHANCE

- Ask to watch video on shapes and patterns on 'www.fullmarks.online.com' link.
- Ask to solve the 'Brain Sizzlers' given on page 151.

ORANGE

ASSIGNMENT–15

Marks Obtained: _____

Student's Name: _____ Section: _____

Roll Number: _____ Date: _____

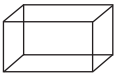
1. Which solid shape has 1 flat face and 1 curved face?

(*a*) Cone (*b*) Cuboid (*c*) Cylinder (*d*) Cube

2. Which solid shape has one more faces than its number of edges?

(*a*)  (*b*)  (*c*)  (*d*) All of these

3. Which of the following solid has a rectangular base?

(*a*)  (*b*)  (*c*)  (*d*) 

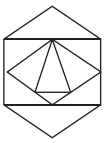
4. Which of the following is/are necessary for shadow formation?

(*a*) Light source (*b*) object (*c*) screen (*d*) All of these

5. What will you get if you trace the base of a die?

(*a*) Triangle (*b*) Rectangle (*c*) Square (*d*) Circle

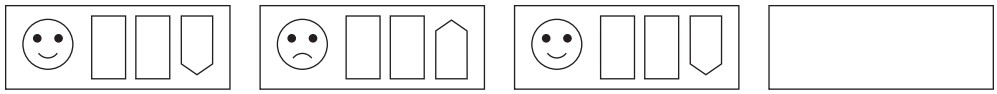
6. How many slanting lines are there in the given figure?

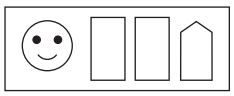
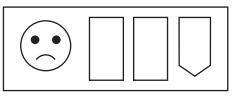
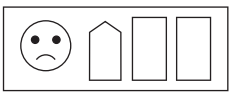
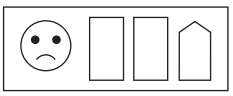
(*a*) 6 (*b*) 10 (*c*) 12 (*d*) Cannot say 

7. What will come next in the pattern?  _____ _____

(*a*)  (*b*)  (*c*)  (*d*) 

8. Choose the shape that completes the given pattern.



(*a*)  (*b*)  (*c*)  (*d*) 

9. The shape of a matchbox is a

(*a*) Cube (*b*) Cuboid (*c*) Cylinder (*d*) Sphere

10. A chess board has ..... black squares.

(*a*) 32 (*b*) 64 (*c*) 30 (*d*) 31

11. Which of the following can roll, slide and stalk?

(*a*)  (*b*)  (*c*)  (*d*) 

ORANGE

ASSIGNMENT–16

Marks Obtained: _____

Student's Name: _____ Section: _____

Roll Number: _____ Date: _____

A. Fill in the blanks.

1. A ..... shape can have sides and corners but no faces.
2. All the sides of a square are .....
3. A/An ..... is an egg-shaped figure which has neither ..... nor .....
4. A triangle has three ..... and ..... vertices.
5. A loosen thread is an example of a ..... line.

B. Label True or False.

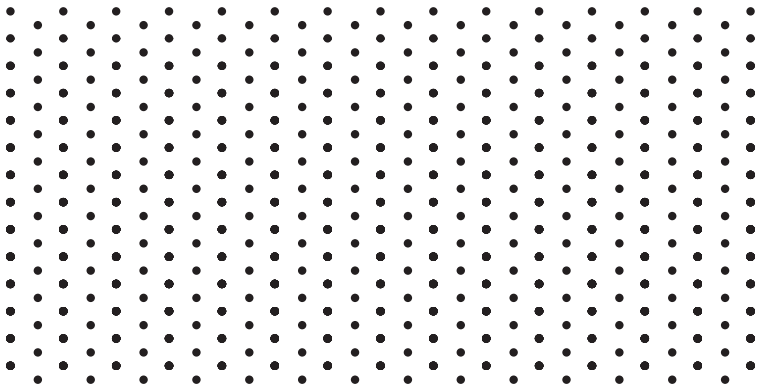
1. There are three types of straight lines. .....
2. At noon, the shadow formed is the longest. .....
3. It will give a circle if we trace the base of a carom coin on the paper. .....
4. A cube has 6 faces, 12 edges and 8 vertices. .....
5. A cylinder and a sphere are same as both have no corners. .....

C. Match the following.

Column I	Column II
1. 2, 5, 8, 11, ...	(*a*) X
2. 1, 2, 4, 8, ...	(*b*) 24
3. 54, 44, 34, ...	(*c*) 45
4. 5, 15, 25, 35, ...	(*d*) 16
5. A, C, E, G, ...	(*e*) 14
6. Z, A, Y, B, ...	(*f*) 1

D. Utilise Your Brain.

Create a *rangoli* pattern using straight and curved lines on the dotted sheet.





9 Measurement

Learning Objectives

After studying this chapter, students will be able to...

- explore the length, mass and capacity of objects available in the surrounding.
- understand measuring lengths using non-standard units such as body parts and other objects.
- understand about the standard units of length.
- add and subtract measures of length given in cm or m.
- understand about the standard units of weight.
- add and subtract measures of weight given in g or kg.
- understand about the standard units of capacity.
- add and subtract measures of capacity given in mL or L.
- apply the skills in handling real life problems based on measurements.

LESSON PLAN

Suggested number of periods: 14

Suggested Teaching Aids: Book: Math Genius! 2, blackboard or whiteboard, some chits on which different measurement are written, bowl, ruler, some weights, some container of different capacity, etc.

Keywords: Measurement, Length, Width, Height, Weight, Mass, Capacity, Volume, Units (standard and non-standard), Metre, Centimetre, Millimeter, Gram, Kilogram, Litre, Millilitre.

Pre-requisite knowledge: Students must be familiar with units of measurement, addition and subtraction of numbers.

NEP feature: The way of teaching provides experiential learning opportunities to the students and allows them to work with the support of each other which helps in their holistic development.

Periods: 1–4	Topics: Measurement of length, Addition and subtraction of length	Suggested extra teaching aids: Some real-life objects, Measuring tools, etc. Math Genius! 2, Pages 153–158

ENGAGE

After the greeting, instruct each student to measure the length of their desk, with handspan and with a ruler or a thread. Ask the measure. Accept the responses. Discuss why the measure of each is differ in handspan and same in ruler or thread. Also discuss the story given in 'Get Ready' and answer the questions.

EXPLORE

Divide the class into pairs. Give 2 pencils to each pair. Instruct to measure their lengths by using a ruler separately and then measure the combined length of both the pencils, and note them.

Ask: What is the length of each pencil? What is the combined length of both pencils? Accept the responses.

Next, give them a paper strip. Instruct to measure its length and then cut a piece from it and measure again.

Ask: What is the difference in the length of the strip in both cases? Accept the responses. Demonstrate the addition and subtraction of length on the blackboard to the class. **[Experimental Learning]**

EXPLAIN

Lengths can be measured by using non-standard units of measurement of length handspan, finger width, cubit, footspan and pace. But these are varying person to person. So, for accurate measurement, we use standard units of measurement of length, centimetres and metres. We write centimetre as **cm** and metre as **m**. Centimetre (cm) is used to measure the length of smaller objects, like the length of a pencil, width of desk, book. To measure shorter length, we use ruler. Further, explain the method of measuring length using a ruler.

Next, discuss that to measure bigger length like length/height of wardrobe, a person, we use the unit **metre (m)**.

Further, explain that to add two or more lengths in metres or centimetres, we simply add the numbers and write down the unit with the sum obtained.

Similarly, to subtract the given lengths, we simply subtract the smaller length (number) from the bigger length (number) and write down the unit with the difference obtained.

ELABORATE

Demonstrate measuring the length of an object like pencil, or a book by using ruler i.e., in centimetre (cm) and the objects like side of a wardrobe or door in metre (m) by taking the reference given on pages 154–155 of the textbook. **[Experiential Learning]**

EVALUATE

Classwork: Ask to solve Q.1 and 2 of Practice Time 9A and Q.1 (a), (b) and 3 of Practice Time 9B. If any student makes any error, the teacher will correct it and explain.

Homework: Ask to solve the remaining questions of Practice Time 9A and 9B as their homework assignment.

ENHANCE

- Ask to do the activity in 'Quick Check' given on page 154, 'Think and Answer' given on page 155 and 'Maths Fun' given on page 156. **[Holistic Learning]**
- Ask to watch the video on measurement on the link "www.fullmarks.online.com". **[Tech Connect]**

Periods: 5–8	Topic: Measurement of weight (mass), Addition and subtraction of weights	Suggested extra teaching aids: Some real life objects, weighing scale and some weights of 50 g, 100 g, 250 g, 500 g, etc. Math Genius! 2, Pages 158–163

ENGAGE

Put a few things like duster, pen, pencil, 1 banana, 1 orange, etc. on teacher's table. Call students one by one and ask to sort out the lightest and the heaviest among those. Arrange all the things in the increasing order of their weight.

Ask: How do you know which is light and which is heavy? Which objects have their weight in kg and g? Accept the responses.

EXPLORE

Divide the class into groups. Arrange the weighing machine and a few weights (50 g, 100 g, 250 g, …, etc.) for them and give them some objects (marbles, pebbles, notebooks, pencil box, their lunch box, etc.). Instruct to measure the weights of the given objects. Ask to record which object is lighter and which object is heavier. Accept the responses and discuss standard units of weight. **[Experimental Learning]**

EXPLAIN

Weights can be measured by using non-standard units of measurement of weight like cup, tablespoon, teaspoon, pinch, bowl, glass, etc. But the size of these may vary. So, for accurate measurement of weight, we use standard units of measurement of weight, gram and kilogram.

We write gram as **g** and kilogram as **kg**. Gram (g) is used to measure the weight of lighter objects, like the weight of a pencil, orange, soap, etc. And to measure heavier objects like weight of bags of vegetables, fruits, a person, we use kilogram (kg).

Further, explain that to add two or more weights in grams or kilograms, we simply add the numbers and write down the unit with the sum obtained.

Similarly, to subtract the given weights, we simply subtract the smaller weight (number) from the bigger weight (number) and write down the unit with the difference obtained.

ELABORATE

Demonstrate in the classroom on the weighing scale, that when we put 1000 g (100 g + 200 g + 200 g + 500 g) together, we get 1 kilogram. So, 1000 g = 1 kg.

Further, demonstrate the addition and subtraction of weights on board by taking the reference of examples given on page 162. **[Conceptual Learning]**

EVALUATE

Classwork: Ask to solve Q.1 and 2 of Practice Time 9C and Q.1 (a), (b) and 2 of Practice Time 9D. If students make any error, the teacher will correct it and explain.

Homework: Ask to solve the remaining questions of Practice Time 9C and 9D as homework assignments.

ENHANCE

- Encourage the students to do the Project work given on Page 160. **[Art Integration]**
- Ask to do 'Think and Answer' and 'Life Skills' given on pages 160 and 161, respectively. **[Logical Thinking]**

Periods: 9–12	Topic: Measurement of capacity, Addition and subtraction of capacity	Suggested extra teaching aids: Some containers of different measurements, some liquids for measurement. Math Genius! 2, Pages 163–167

ENGAGE

Put three bottles of different sizes on the table. Call one student to fill them with water. Ask from class, which of the bottles has maximum water and which has minimum water. Accept the responses. Further, ask which can store more water, a bottle or a bucket? Accept the responses. Introduce 'measurement of capacity'.

EXPLORE

Arrange some containers on various sizes like four 100 mL bottles, two 250 mL bottles, four 500 mL bowls, two 1000 mL mugs, one 2 L bottle, one 5 L can without marking (for capacity) on teacher's table. Call students one by one and ask them to

- arrange containers in ascending /descending order by estimating its capacity.
- select containers whose capacity is equal to 2 L.
- select containers whose capacity is equal to 5 L, and so on.

If students have any confusion, teacher will help them. **[Experiential Learning]**

EXPLAIN

The quantity of a liquid that a container or vessel can hold is called its capacity. Cup, glass, spoon, etc. are non-standard units of measurement of capacity. So, for accurate measurement of capacity, we use standard units of measurement of capacity, litres and millilitres.

To measure small quantities of any liquid, we use millilitres (mL), and to measure large quantities of any liquid, we use litres (L).

Further, explain that to add the capacity of two or more containers in litres and millilitres, we simply add the numbers and write down the unit with the sum obtained.

Similarly, to subtract the capacity of two containers, we simply subtract the smaller capacity (number) from the bigger capacity (number) and write down the unit with the difference obtained.

ELABORATE

Vessels of different sizes are used to measure different quantities of liquid. To measure the capacity of a small quantity of liquid mL is used, while 'litre' is used to measure the capacity of a large amount of liquid. There are 1000 mL in 1 L, *i.e.*, 1 L = 1000 mL.

Demonstrate with the help of book page 164, that small quantities of liquids are measured in millilitre. It is denoted by 'mL'. Like:

		
200 mL	5 mL	150 mL

Large quantities of liquids are measured in litres. It is denoted by 'L'. Like:

		
20 L	150 L	225 L

Further, demonstrate addition and subtraction of capacity on board by taking the reference of examples given on page 166.

EVALUATE

Classwork: Instruct to solve Q1 and 2 of Practice Time 9E and Q1 (a) and (b) and 2 of Practice Time 9F in the classroom.

Homework: Ask to solve the remaining questions of Practice Time 9E and 9F as homework assignments.

ENHANCE

- Ask students to perform the 'Activity' given on page 164 and do the question of 'Quick Check' given on page 165.
- Discuss and do the question of 'Math Connect' given on page 167.

Periods: 13–14	Topic: Revision (Chapter Assessment)	Suggested extra teaching aids: Math Genius! 2, Pages 168–169

ENGAGE

Make students comfortable, so they can ask any question on any previously taught topics in which they are confused. Clarify their doubts or queries and start the revision of the exercise.

EXPLORE

Guide the students to perform the activity given in 'Learning by Doing' on page 169.

[Experiential Learning]

EXPLAIN

Start the revision of the exercise by using 'Chapter Assessment', 'Brain Sizzlers' and 'Mental Maths' of the chapter.

ELABORATE

Discuss 'Mental Maths', 'Brain Sizzlers' in the classroom, Q1 to 3 of the 'Chapter Assessment' and accept students' answers. If they have any confusion or they make any error, then explain and correct them.

EVALUATE

Classwork: Discuss questions 1 to 3 of the Chapter Assessment in the classroom.

Homework: Ask to solve Q4 to 5 of the 'Chapter Assessment' given on page 168 as homework assignment.

ENHANCE

- Ask to solve worksheets on the measurement given on the "www.fullmarksonline.com".

[Tech Connect]

ORANGE

ASSIGNMENT–17

Marks Obtained: _____

Student's Name: _____ Section: _____

Roll Number: _____ Date: _____

1. Which of the following is used to measure length?

(*a*) Ruler (*b*) Balance (*c*) Metre tape (*d*) Both (*a*) and (*c*)

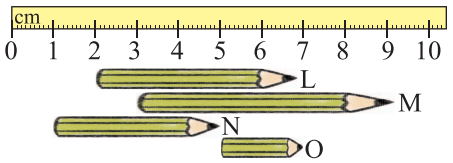
2. What unit can we use to measure the weight of a duster?

(*a*) L (*b*) kg (*c*) g (*d*) m

3. The capacity of a bowl can be measured in

(*a*) cm (*b*) g (*c*) L (*d*) mL

4. What is the length of the longest pencil?



(*a*) 5 cm (*b*) 6 cm

(*c*) 7 cm (*d*) 9 cm

5. If we can fill 4 glasses of water from 1 litre water, then we can fill ..... glasses of water from 3 litres water.

(*a*) 6 (*b*) 7 (*c*) 9 (*d*) 12

6. The total weight of fruits is _____ kg and vegetables is _____ kg.



1 kg 2 kg 5 kg 2 kg 2 kg 4 kg 4 kg

(*a*) 14, 6 (*b*) 12, 7 (*c*) 11, 9 (*d*) 14, 5

7. Which container holds less than  of liquid if one  = 1 L liquid?

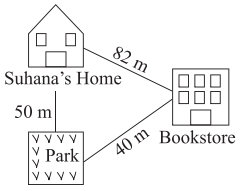
Barrel Bucket Bottle Vase



15 litres 10 litre 2 litre 5 litre

(*a*) Barrel (*b*) Bucket (*c*) Bottle (*d*) Vase

8. Suhana walked from her home to park and then to bookstore. How much distance did she cover?



(*a*) 82 m (*b*) 132 m

(*c*) 122 m (*d*) 90 m

9. Ramu bought 46 litres of paint. He used 29 litres of paint for his house. How much paint is left with him?

(*a*) 75 litres (*b*) 17 litres (*c*) 25 litres (*d*) 16 litres

ORANGE

ASSIGNMENT–18

Marks Obtained: _____

Student's Name: _____ Section: _____

Roll Number: _____ Date: _____

A. Fill in the blanks.

1. If  +  +  = 300 g, then  = ...
2. Handspan, finger width, cubit, footspan and pace used to measure ..... are ..... units of length.
3. There are ..... centimetres in 1 metre.
4. Scientists and chemists use measuring cylinders, beakers and flasks for measuring ..... of chemicals in laboratory.
5. If we put 1000 grams together, we get 1 .....

B. Choose the best estimate.

1. The weight of a flour bag is about 5 g/5 kg/50 g. .....
2. A ladle can hold about 20 mL/20 L/200 mL liquid. .....
3. The height of a table is about 10 cm/100 cm/5 m. .....
4. The length of your bed is about 2 m/20 cm/20 m. .....
5. The weight of a banana is about 150 g/15 g/150 kg. .....

C. Match the following.

Column I	Column II
1. The standard units for measuring lengths	(*a*) 200 millilitres
2. Non-standard units of mass (weight)	(*b*) grams and kilograms
3. The capacity of a cup	(*c*) litres and millilitres
4. The standard units of mass (weight)	(*d*) cup, spoon, pebbles, blocks
5. The standard units for measuring capacity	(*e*) centimetres and metres

D. Utilise Your Brain.

A building is 60 m tall. A tree near the building is 21 m shorter than the building. What is the height of the tree? A bird has weaved her nest on the tree at a height of 15 m from the ground. How much lower is the nest from the top of tree?



Time

Learning Objectives

After studying this chapter, students will be able to...

- read time on a clock in complete hour, half past hour and quarter of the hour.
- understand the order of the days of a week and the months of a year.
- explore the calendar.
- understand about the cycle of seasons
- understand the directions—east, west, north and south.

LESSON PLAN

Suggested number of periods: 14

Suggested Teaching Aids: Book: Math Genius! 2, blackboard or whiteboard, wall clock/table clock, calendar, charts on seasons, etc.

Keywords: Clock, Dial, Hour hand, Minute hand, Ante meridiem (A.M.), Post meridiem (P.M.), Minutes, seconds, Quarter past, Quarter to, Leap year, East, West, North, South, Season, Spring, Winter, Summer, Autumn.

Pre-requisite knowledge: Students must be familiar with time of a day-morning, noon, evening and night; Clock–minute hand, hour hand, reading time when minute hand is at 12; days of a week, months of a year and main season of a year, etc.

NEP feature: The way of teaching provides experiential learning opportunities to the students and allows them to work with the support of each other which helps in their holistic development.

Periods: 1–5	Topic: Clock	Suggested extra teaching aids: Wall clock or table clock. Math Genius! 2 Pages 171–175

ENGAGE

Start the class with an interaction by asking about some activities those are done in different time of a day. For example, walking, working, cooking, playing, studying, sleeping, etc. Further, ask some questions like: At what time do you wake up? At what time do you come to school? At what time do you leave the school? At what time do you sleep? Accept the responses.

Discuss the concepts given in "Get Ready" section on page 170.

EXPLORE

Divide the class into two groups A and B. Give a cardboard clock with the minute and the hour hands to them. Instruct group A to display the time in hours and the group B will read the time. If group B identifies the time

shown on the clock correctly, then group B will get 1 point. In the similar way, there will be five rounds for each group. Group who will identify the more correct time will win the game. **[Experimental Learning]**

EXPLAIN

A clock has two hands; one is shorter than the other. The shorter hand is the hour hand and the longer hand is the minute hand. These hands move in a clockwise direction. The dial of the clock is divided into 12 big divisions, numbered from 1 to 12. There are 60 small divisions on the whole dial. The minute hand (longer hand) moves from one small division to the next small division in 1 minute. It goes once around the dial in 1 hour. So, the minute hand covers 60 small divisions in 1 hour.

So, 1 hour = 60 minutes.

The hour hand moves from one number to the next number in 1 hour.

So, it takes 12 hours to complete one round. The hour hand takes 2 complete rounds in a day.

So, 1 day = 24 hours.

To differentiate the timing of morning and evening we use a.m. (Ante-meridiem) and p.m. (Post-meridiem).

The time is in full hours when the minute hand is at twelve. The time is half an hour when it is on 6, quarter past the hour when it is on 3, and quarter to the hour when it is on 9.

The minute hand moves from one number to the next number in 5 minutes.

Any time can be read and written using 'past the hour' as well as 'to the next hour'.

- When the minute hand is in the left half, the time is read as to.
- When the minute hand is in the right half, the time is read as past.

ELABORATE

Demonstrate that the hour hand is on 9 and the minute hand is on 12.

So, the time is 9:00 or 9 o'clock. If it is in morning, we write it as 9 a.m.;

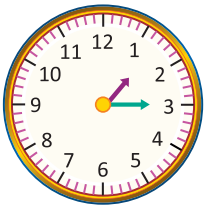
and if it is in night, we write it as 9 p.m.



Again, demonstrate half past hour on the clock. As in the given clock, the hour hand is between 2 and 3 and the minute hand is on 6. So, the time is 2:30 or half past 2.



Similarly, demonstrate the time in quarter past and quarter to in the clock. As, the minute hand in the clock is at 3. It shows 15 minutes, as 3 × 5 = 15. The hour hand is slightly past 1. The time shown by the clock is 'quarter past one' or 1:15.

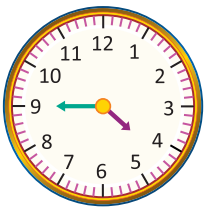


Again, show a quarter to an hour. As in the given clock,

the hour hand is near 5, and the minute hand is on 9.

so, the time is 4:45 or quarter to 5.

The teacher can also take the references and examples given on pages 171 to 174.



[Experiential Learning]

EVALUATE

Classwork: Ask to solve Q.1 of Practice Time 10A, Q.2 of Practice Time 10B and Q.1, 2 of Practice Time 10C. If any student makes any error, the teacher will correct it and explain.

Homework: Ask to solve the remaining questions of Practice Time 10A and 10B as their homework assignment.

ENHANCE

- Discuss 'Think and Answer' given on page 173. **[Logical Thinking]**
- Ask to watch the video on 'Time' on the link "www.fullmarks.online.com". **[Tech Connect]**

Periods: 6–9	Topic: Days of a week, Today, yesterday and tomorrow, Calendar	Suggested extra teaching aids: Calendar of current year, etc. Math Genius! 2, Pages 175–179

ENGAGE

Ask from students what day is today? What day was yesterday? At what day of a week, the school is closed? Tell the name of the days of the week. Accept the responses. Teacher can also discuss the story given on page 175.

EXPLORE

Hang a calendar on the board.

Instruct students to come one by one and mark their birthday on calendar.

Ask from the other students of the class to identify month and day of birthday? Accept the responses.

[Experimental Learning]

EXPLAIN

Monday is the 1st day, Tuesday is the 2nd day, and in the same way, Sunday is the 7th day of the week. For present day we use the word 'Today', and yesterday for the day before present day and tomorrow for the day after the present day.

A calendar is a chart, which shows days, dates, weeks and months in a year. One year has twelve months and 365 days. January is the first month and December is the last month. There are 7 months which have 31 days each and 4 months which have 30 days each. February is the shortest month of the year with 28 days. Once in 4 years, February has 29 days. Such a year is known as a leap year. **[Conceptual Learning]**

ELABORATE

Demonstrate on board the references and examples in detail as given on pages 175 to 179 of textbook. **[Conceptual Learning]**

EVALUATE

Classwork: Ask to solve Q.1, 2 of Practice Time 10D, Q.3, 4 of Practice Time 10E and Q.2 of Practice Time 10F. If any student makes any error, the teacher will correct it and explain.

Homework: Ask to solve the remaining questions of Practice Time 10D, 10E and 10F as their homework assignment.

ENHANCE

- Discuss 'Think and Answer's given on pages 176 and 178. **[Logical Thinking]**
- Ask to do the project given in 'Maths Fun' on page 176. **[Cross Curricular Learning]**
- Discuss 'Quick Check' given on page 178 of textbook.

Periods: 10–12	Topic: Seasons, Directions	Suggested extra teaching aids: A chart having cut-out/images of presenting some seasons, some seasonal objects, etc. Math Genius! 2, Pages 180–182

ENGAGE

After the greeting, start the class by asking few questions like:

- Which season is going on?
- In which season do we feel cold? What would you like to wear in this season?
- In which season do we feel hot? What would you like to eat or drink in this season?

Accept the responses. Start the topic 'Season'.

EXPLORE

Divide the class into groups. Put a variety of seasonal objects and pictures that show the five different seasons on the teacher's table.

Write the word 'summer' on the board, call one group in front of class and instruct to write some words describing the season and select the objects and pictures related to the season with the help of each other.

Do the same for 'winter', and the other seasons with other groups. The group who write more words and find more objects and pictures related to the season will be appreciated. **[Holistic Learning]**

EXPLAIN

Tell the class that in our country, there are five seasons in a year, winter, spring, summer, rainy or monsoon and autumn. As winter is cold, spring is pleasant (neither hot not cold), summer is hot, it rains in rainy season and we observe leaves fall on the ground in autumn season.

Further, explain that if you are standing facing the rising sun which is in the east, the direction towards the right is south, the left is north and behind you is west.

Take the references and examples given on pages 180 to 182 of the textbook. **[Conceptual Learning]**

ELABORATE

Ask students to read the rhyme given on page 182 of the textbook in chorus, and ask some students to act on it in front of the class. Use this rhyme to demonstrate the concept of directions to the class.

[Experiential Learning]

EVALUATE

Classwork: Ask to solve Q.1 and 3 of Practice Time 10G and 10H in the classroom. If any student makes any error, the teacher will correct and explain.

Homework: Ask to solve Q.2, 4 of Practice Time 10G and 10H as homework assignment.

ENHANCE

- Ask to write a poem on season/direction on a colourful chart paper with the help of friends, parents and teachers. **[Holistic Learning]**

Periods: 13–14	Topic: Revision (Chapter Assessment)	Suggested extra teaching aids: Math Genius! 2, Pages 183–184

ENGAGE

Make students comfortable, so they can ask any question on any previously taught topics in which they are confused. Clarify their doubts or queries and start the revision of the exercise.

EXPLORE

Guide the students to do the activity as suggested in 'Learning by Doing' section on page 184 of the textbook.

[Cross Curricular Learning]

EXPLAIN

Start the revision of the exercise by using 'Mental Maths', 'Chapter Assessment', and 'Brain Sizzlers' of the chapter.

ELABORATE

Discuss questions 1 to 4 in the Chapter Assessment and accept students answer. If they have any confusion or they make any error, then explain and correct them. Discuss and motivate students to solve 'Mental Maths', and guide them to do the 'Activity' given on page 179 of the textbook.

EVALUATE

Classwork: Discuss questions 1 to 4 of the 'Chapter Assessment' in the classroom.

Homework: Ask to solve Q.5 to 7 of 'Chapter Assessment' as homework assignment.

ENHANCE

- Ask to watch the video on 'Time' for grade 2 on "www.fullmarksonline.com".

ORANGE

ASSIGNMENT–19

Marks Obtained: _____

Student's Name: _____ Section: _____

Roll Number: _____ Date: _____

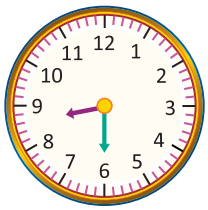
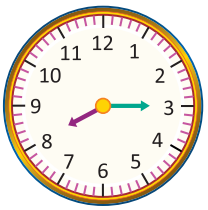
1. The clock alongside indicates the time when Manish goes to bed.
At what time does Manish go to bed?



(*a*) Half past 9 in the morning (*b*) 9:30 pm

(*c*) Quarter to 6 in the evening (*d*) Both (*a*) and (*c*)

2. Which clock shows quarter past 8?

(*a*)  (*b*)  (*c*)  (*d*) 

3. Which month comes just after August?

(*a*) October (*b*) January (*c*) September (*d*) July

4. How many months have 30 days?

(*a*) 4 (*b*) 5 (*c*) 6 (*d*) 7

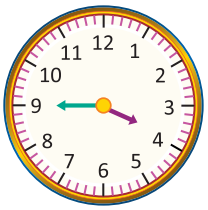
5. If yesterday was Friday, then today is _____ and tomorrow will be _____ .

(*a*) Sunday, Monday (*b*) Saturday, Sunday (*c*) Monday, Tuesday (*d*) Saturday, Monday

6. Which month has least number of days?

(*a*) August (*b*) May (*c*) February (*d*) April

7. The time shown on the clock is



(*a*) 4 o'clock (*b*) Quarter to 4

(*c*) 9:20 (*d*) 9 o'clock

8. Weight of 1 doll is 150 g. What is the weight of 2 such dolls?

(*a*) 150 g (*b*) 200 g (*c*) 300 g (*d*) 400 g

9. 60 minutes is equal to __

(*a*) one hour (*b*) two hours (*c*) half an hour (*d*) one and half hours

10. Today is Sunday. Ravi is having a maths class test after 3 days. On which day will his test be?

(*a*) Tuesday (*b*) Wednesday (*c*) Friday (*d*) Thursday

11. How many days are there in a leap year?

(*a*) 365 days (*b*) 366 days (*c*) 266 days (*d*) 326 days

12. Today is 15 November and Harsh's birthday was 6 days ago. His birthday was on _____.

(*a*) 4 November (*b*) 9 November (*c*) 10 November (*d*) 21 November

ORANGE

ASSIGNMENT–20

Marks Obtained: _____

Student's Name: _____ Section: _____

Roll Number: _____ Date: _____

A. Fill in the blanks.

1. If the month after the next month will be February, then this month is .....
2. In ..... season, we wear light-coloured cotton clothes and enjoy cold drinks, ice cream etc.
3. The sun sets in the ..... direction.
4. In ..... season, we observe leaves fall on the ground, temperature is moderate and pleasant winds blow.
5. If today is Monday, then it was ..... on day before yesterday.

B. Label True or False.

1. There are 14 days in 2 weeks. .....
2. Quarter to four means 4:15. .....
3. 30 minutes past 7 is also read as half past seven. .....
4. In the rainy season, we use umbrellas or raincoats when we go outside. .....
5. Spring season begins with a cheer, blooms of flowers and singing of birds. .....

C. Match the following.

Column I	Column II
1. Having breakfast	(*a*) 9:30
2. Returning home from school	(*b*) 8:45
3. Playing with friends	(*c*) 7:15
4. Having dinner	(*d*) 5:00
5. Going to bed	(*e*) 1:30

D. Utilise Your Brain.

Sashank and his friends decided to go for an Adventure Camp last weekend. One day before, Sashank forgot to set his alarm for the next morning. As a result, he was not able to wake up early and missed the camp. He got upset and started crying. As an elder brother/sister, how would you convince your younger brother?



Money

Learning Objectives

After studying this chapter, students will be able to...

- understand the use of money
- count money of different denominations
- exchange notes or coins for a note or coin of a bigger value
- understand the combination of notes and coins to make a certain amount
- add and subtract money and apply the concept in shopping

LESSON PLAN

Suggested number of periods: 12

Suggested Teaching Aids: Book: Math Genius! 2, blackboard or whiteboard, some dummy notes and coins of different denominations.

Keywords: Currency, Notes, Coins, Rupees, Paise, Addition, Subtraction, Total amount, Balance.

Pre-requisite knowledge: Students must be familiar with what currencies are used for, Indian currencies and its symbol, coins and notes in use, counting of money, addition and subtraction of numbers, etc.

NEP feature: The way of teaching provides experiential learning opportunities to the students and allows them to work with the support of each other which helps in their holistic development.

Periods: 1–5	Topics: Money, Counting Money, Change of Money	Suggested extra teaching aids: Some dummy notes and coins of different denominations, Math Genius! 2, Pages 185–188

ENGAGE

Show currency notes and coins of different denominations in the classroom. Instruct to identify them and tell their values. Accept the responses. Discuss the concepts given in 'Get Ready' section on pages 185–186. Guide them to solve the questions given in it.

EXPLORE

Divide the class into groups. Give them some dummy currency notes. Arrange a buffet of objects on the table with a price tag on each. Keep price under ₹100. Instruct the group to act as a buyer and buy things using dummy currency. Repeat with all students. Observe them and help them if any group wants it.

[Experimental Learning]

EXPLAIN

We use money to buy things and pay for services. Indian currencies are available in the form of notes and coins. The symbol '₹' is used for rupees and 'p' for paise. 100 paise is equal to ₹1.

Further, explain the topic Counting of Money. To count money, we start from biggest amount.

Further, explain how to change a note or coin of greater value with many notes or coins of a smaller value.

ELABORATE

Demonstrate in class the different Indian coins and notes either by dummy currencies or taking references of images given on page 186 of the textbook.

Demonstrate some notes and coins and ask for the total amount one by one.

Also demonstrate the change of money like:



OR



Take the references given on pages 186 to 188 for detailed explanation. **[Conceptual Learning]**

EVALUATE

Classwork: Ask to solve few questions of Practice Time 11A and 11B in the classwork.

Homework: Ask to solve the remaining questions of Practice Time 11A and 11B as their homework assignment.

ENHANCE

- Discuss 'Think and Answer' given on page 187 of the textbook. **[Critical Thinking]**
- Ask to do the activity given in 'Maths Fun' on page 188 of textbook. **[Logical Thinking]**

Periods: 6–10	Topic: Addition and Subtraction of Money	Suggested extra teaching aids: Some dummy currency notes and some coins. Math Genius! 2, Pages 189–191

ENGAGE

Show two toys or any two objects in the class with price tag under ₹100. Ask: If you want to buy any two of them, how much amount you must have? Accept the responses.

Introduce 'Addition and subtraction of money'.

EXPLORE

Divide the class into groups. Take some objects and put price tags on them. Give dummy currency to them. Choose any group and instruct to play the game of shopping. Ask to buy more than 1 thing and pay the total amount of money to the shopkeeper (the teacher can play the role of shopkeeper).

Further, ask what amount will left if you bought items worth ₹ 75 and you give a ₹ 100 note to the shopkeeper? Accept the response. **[Experimental Learning]**

EXPLAIN

Addition and subtraction of money are carried out as usual addition and subtraction of numbers.

ELABORATE

Demonstrate on board examples based on 'addition and subtraction of money' by taking references given on pages 189 and 190. Discuss how to solve the story problems given on page 191. **[Conceptual Learning]**

EVALUATE

Classwork: Ask to solve Q.1 and 3 (a), (d) of Practice Time 11C in the classroom. If students make any error, teacher will correct them and explain.

Homework: Ask to solve remaining questions of Practice Time 11C as homework assignment.

ENHANCE

- Discuss and motivate to solve the questions of 'Maths Connect' given on page 190 of the textbook.

Periods: 11–12	Topic: Revision (Chapter Assessment)	Suggested extra teaching aids: Math Genius! 2, Pages 192–193

ENGAGE

Make students comfortable, so they can ask any question on any previously taught topics in which they are confused. Clarify their doubts or queries and start the revision of the exercise.

EXPLORE

Ask and guide students to do activity given on 'Learning by Doing' given on page 193.

[Experiential and Collaborative Learning]

EXPLAIN

Start the revision of the exercise by using 'Chapter Assessment', 'Mental Maths' and 'Brain Sizzlers'.

ELABORATE

Ask to solve questions 1 and 2 of the Chapter Assessment and accept students' answers. If they have any confusion or they make any error, then explain and correct them. Discuss and motivate students to solve Mental Maths. Guide them to solve Brain Sizzlers given on page 192.

EVALUATE

Classwork: Ask to solve Q.1 and 2 of the Chapter Assessment in the classroom.

Homework: Ask to solve Q.3 and 4 of Chapter Assessment and 'Mental Maths' as homework assignment.

ORANGE

ASSIGNMENT–21

Marks Obtained: _____

Student's Name: _____ Section: _____

Roll Number: _____ Date: _____

1. One ₹10 coin can be changed for _____ ₹2 coins.

(*a*) 5 (*b*) 3 (*c*) 2 (*d*) 4

2. The price of a cake is ₹250 and a papaya is ₹50. What is the total cost of the cake and papaya?

(*a*) ₹270 (*b*) ₹400 (*c*) ₹300 (*d*) ₹350

3. What is the total sum of the following notes and coin?



(*a*) ₹285 (*b*) ₹485 (*c*) ₹355 (*d*) ₹385

4. 

(*a*) ₹800 (*b*) ₹752 (*c*) ₹901 (*d*) ₹275

5. Sanju had ₹110. He bought a toy for ₹86. How much money is left with him?

(*a*) ₹36 (*b*) ₹52 (*c*) ₹196 (*d*) ₹24

6. ₹10.50 is equivalent to

(*a*) 

(*b*) 

(*c*) 

(*d*) 

7. Rani bought a teddy of ₹130 and a pencil box of ₹55. How much would she pay and how much get back if she gave a ₹200 note?

(*a*) ₹130, ₹70 (*b*) ₹185, ₹15 (*c*) ₹175, ₹25 (*d*) ₹165, ₹35

8. Which is the greatest amount of money?

(*a*) 

(*b*) 

(*c*) 

(*d*) 

ORANGE

ASSIGNMENT–22

Marks Obtained: _____

Student's Name: _____ Section: _____

Roll Number: _____ Date: _____

A. Fill in the blanks.

1. ..... is used to buy things and pay for services.
2. Indian currencies are available in the form of ..... and .....
3. ₹..... note/coin is the largest denomination of Indian currency in the circulation.
4. ₹50 note can be exchanged with a ₹20 note and three ..... notes/coins.
5. After paying ₹65 for a chocolate, Neha will get back ₹..... from a ₹100 note.

B. Label True or False.











1. Parul needs to pay ₹100 to buy a cold drink and a burger. .....
2. Rohan needs to pay ₹100 to buy a cold drink and a slice of pizza. .....
3. Ankita needs to pay ₹63 to buy an apple and a burger. .....
4. Kishan needs to pay ₹83 to buy an ice cream and a slice of pizza. .....
5. Ravi needs to pay ₹95 to buy an apple, an ice cream and a burger. .....

C. Circle the notes/coins to pay for the following items.

	Items	Money to pay
1.	An eraser ₹4	
2.	A bottle ₹28	
3.	A geometry box ₹63	
4.	A school bag ₹240	
5.	A fountain pen ₹130	

D. Utilise Your Brain.

The price of a colour box is ₹160 and a bag is ₹540. If there is sale of half- price in a shop, how much money is needed to purchase a bag and a colour box?



Data Handling

Learning Objectives

After studying this chapter, students will be able to...

- sort the things using one or two attributes.
- understand how to make a list of the required items.
- represent the information in tables and charts.
- read the information from the given table and charts.

LESSON PLAN

Suggested number of periods: 12

Suggested Teaching Aids: Book: Math Genius! 2, blackboard or whiteboard, etc.

Keywords: Data, Information, Collection, Sorting, Listing, Organising.

Pre-requisite knowledge: Students must be familiar with sorting things, data and its collection and representation.

NEP feature: The way of teaching provides experiential learning opportunities to the students and allows them to work with the support of each other which helps in their holistic development.

Periods: 1–4	Topics: Sorting	Suggested extra teaching aids: Some colour pencils or crayons, etc. Math Genius! 2, Pages 194–197

ENGAGE

Discuss the concept given in "Get Ready" section and instruct to write the answers of the given questions.

EXPLORE

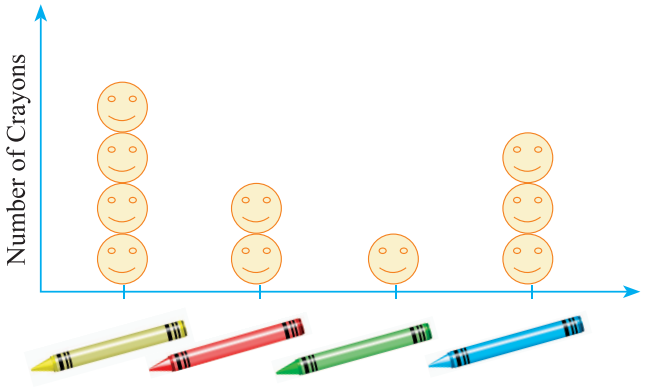
Divide the class into groups. Give them a box having crayons/pencils of mixed colours. Instruct to separate red, yellow, blue, and green coloured crayons/pencils and make table for this.

Ask: How many total blue crayons/pencils are there? How many greens crayons/pencils are there? Which colour of crayons/pencils is the maximum in number? Which colour of crayons/pencils is the minimum in number? How many crayons/pencils are there in total? Accept the responses. **[Experimental Learning]**

EXPLAIN

Collection of information in the form of numbers, words, people or things is called data. Data can be displayed through a table or chart.

Organising the data means presenting it in such a manner so that it becomes meaningful at a glance.
For example, we can represent the sorting of crayons/pencils in the chart also as shown here.



Each = 1 Crayon/pencil

ELABORATE

Demonstrate the topic 'sorting' by taking the reference and example given on pages 195 and 196 of the textbook and ask to complete the chart given on page 195. Discuss and help in writing the answer of given questions by observing the chart. **[Experiential Learning]**

EVALUATE

Classwork: Ask to solve Q.1 of Practice Time 12A in their classwork. If any student make any error, the teacher will correct him/her and explain.

Homework: Ask to solve Q.2 of Practice Time 12A as homework assignment.

ENHANCE

- Discuss 'Think and Answer' given on page 196.
- Ask to do the given activity and fill the data given in 'Maths Fun' on page 197.

Periods: 5–8	Topic: Listing Things	Suggested extra teaching aids: Math Genius! 2, Pages 198–199

ENGAGE

After the greeting, ask some general questions from the class like:

- When you are arranging your school bags, name the items you put in your bags.

Accept the responses. Introduce the topic 'Listing Things'.

EXPLORE

Distribute A4 sheet to the class. Teacher will write some options on board like as follows and ask the class to make a list on any of the following:

- Name of friends you want to invite
- Party games
- Party foods
- Gift items, etc.

Instruct the class to prepare a list for the celebration of their birthday party as per their choice.

[Experimental Learning]

EXPLAIN

A list helps us to organise information about important things. For any occasion and activity, we will prepare a list in advance.

ELABORATE

Demonstrate examples of 'Listing Things' by taking the reference given on page 198. Then ask the class to make a list for 'Project' given on page 198 of the textbook. **[Conceptual Learning]**

EVALUATE

Classwork: Discuss Q.2 of Practice Time 12B in their classwork notebook. If students make any error, teacher will correct it and explain.

Homework: Ask to solve Q.1 of Practice Time 12B as homework assignment.

ENHANCE

- Ask to observe the situation given in 'Mental Maths' and answer the given questions

[Critical Thinking]

Periods: 9–10	Topic: Revision (Chapter Assessment)	Suggested extra teaching aids: Math Genius! 2, Pages 200–201

ENGAGE

Make students comfortable, so they can ask any question on any previously taught topics in which they are confused. Clarify their doubts or queries and start the revision of the exercise.

EXPLORE

Guide the students to do the activity given in 'Learning by Doing' section in the classroom.

[Experiential Learning]

EXPLAIN

Start the revision of the exercise by using 'Chapter Assessment' and 'Maths Connect'.

ELABORATE

Discuss and help to solve the question given in 'Chapter Assessment'.

EVALUATE

Classwork: Discuss the question given in Chapter Assessment.

Homework: Ask to solve the questions of 'Brain Sizzlers' given on page 201 of the textbook.

ENHANCE

- Discuss and motivate to answer 'Maths Connect' given on page 200. **[Cross curricular Learning]**
- Ask to watch the video on data handling on "www.fullmarksonline.com". **[Tech Connect]**

ORANGE

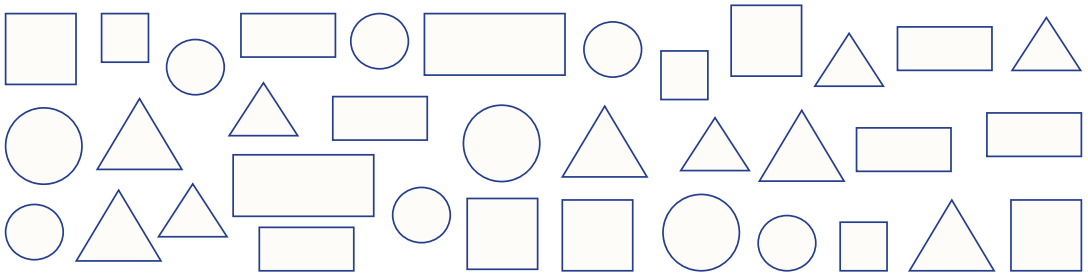
ASSIGNMENT–23

Marks Obtained: _____

Student's Name: _____ Section: _____

Roll Number: _____ Date: _____

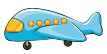
Direction: Look at the following collection and answer Q.1–5.



1. The number of circles in the collection is
   (*a*) 5 (*b*) 7 (*c*) 9 (*d*) 12
2. Into which two groups can these shapes be categorised?
   (*a*) Shapes made with curved lines; shapes made with straight lines
   (*b*) Shapes made with four lines only; shapes made with 3 lines
   (*c*) Both (*a*) and (*b*) (*d*) cannot say
3. Which shapes are equal in number?
   (*a*) square and rectangle (*b*) square and triangle (*c*) triangle and rectangle (*d*) square and circle
4. Number of shapes having slanting lines is
   (*a*) 8 (*b*) 7 (*c*) 9 (*d*) 10
5. Which type of lines are maximum in number?
   (*a*) Curved line (*b*) Horizontal line (*c*) Vertical line (*d*) Slanting line

Direction: Look at the following collection and answer Q6 – 10.



6. Which of the following is the same as  in number?
   (*a*)  (*b*)  (*c*)  (*d*) 
7. Number of toys which can float on water is
   (*a*) 5 (*b*) 7 (*c*) 6 (*d*) 4
8. Number of toys which can fly in the air is
   (*a*) 11 (*b*) 8 (*c*) 10 (*d*) 12

ORANGE

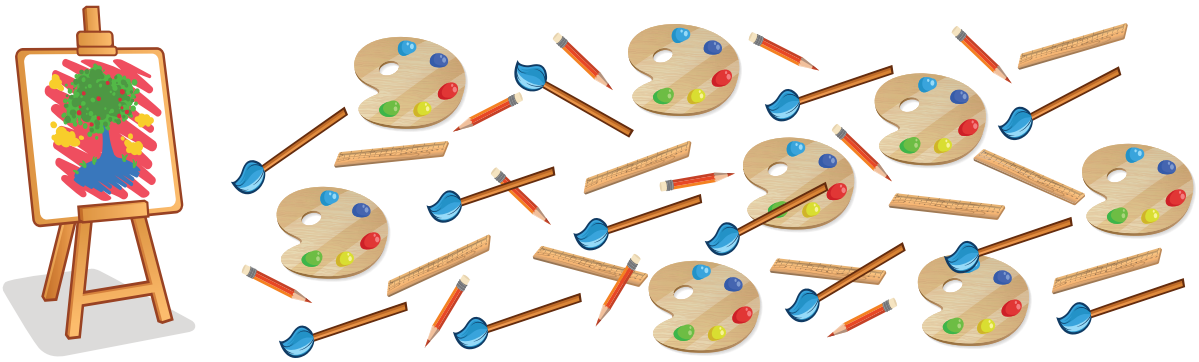
ASSIGNMENT–24

Marks Obtained: _____

Student's Name: _____ Section: _____

Roll Number: _____ Date: _____

A. The art teacher supplied the following items for group activity.

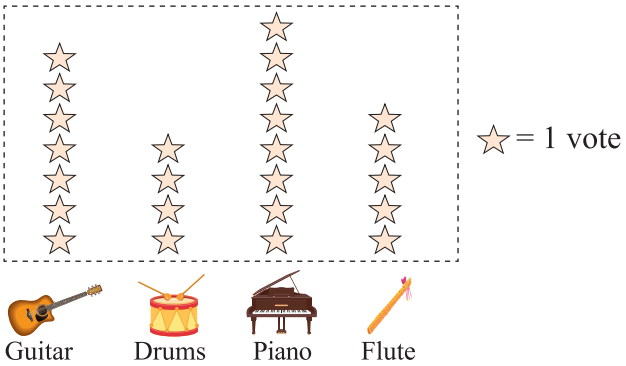


Observe the items provided and complete the following statements.

1. There are ..... paint brushes in the collection.
2. The number rulers is ..... less than the number of pencils.
3. The number of paint-trays and ..... together is same as the number of ..... and ..... together.
4. The total number of items in the collection is .....
5. If the items are distributed among 5 groups equally, then each group will get ..... items.

B. Label True or False.

A group of kids voted for their favorite musical instrument.



1. Piano is the least popular musical instrument. .....
2. Five children voted for flute. .....
3. 2 more children voted for guitar than the drum. .....
4. There were more than 20 children in the group. .....

ANSWERS OF THE ASSIGNMENTS

ASSIGNMENT-1

1. (*c*) **2.** (*a*) **3.** (*b*) **4.** (*b*) **5.** (*d*)
6. (*b*) **7.** (*d*) **8.** (*d*) **9.** (*a*) **10.** (*b*)
11. (*a*) **12.** (*a*) **13.** (*c*) **14.** (*b*) **15.** (*c*)

ASSIGNMENT-2

A. 1. even **2.** odd **3.** odd **4.** odd **5.** C
6. E
B. 1. False **2.** False **3.** False **4.** True **5.** False
6. True
C. 1. (*c*) **2.** (*d*) **3.** (*a*) **4.** (*f*) **5.** (*b*)
6. (*e*)
D. Piece 2

ASSIGNMENT-3

1. (*a*) **2.** (*b*) **3.** (*a*) **4.** (*a*) **5.** (*b*)
6. (*c*) **7.** (*c*) **8.** (*b*) **9.** (*d*) **10.** (*a*)
11. (*d*) **12.** (*b*)

ASSIGNMENT-4

A. 1. 448 **2.** 499 **3.** 489 **4.** 458 **5.** 947
B. Total, Add, More, Plus, Addend, Sum
C. 1. (*c*) **2.** (*a*) **3.** (*j*) **4.** (*e*) **5.** (*d*)
6. (*h*) **7.** (*f*) **8.** (*g*) **9.** (*b*) **10.** (*i*)
D. 170

ASSIGNMENT-5

1. (*b*) **2.** (*c*) **3.** (*b*) **4.** (*c*) **5.** (*b*)
6. (*b*) **7.** (*d*) **8.** (*d*) **9.** (*a*) **10.** (*b*)
11. (*c*) **12.** (*b*) **13.** (*d*) **14.** (*a*)

ASSIGNMENT-6

A. 1. minuend **2.** subtrahend
3. difference **4.** zero **5.** predecessor
6. number itself **7.** bigger number, smaller number
B. 1. True **2.** True **3.** True **4.** True **5.** False
6. True
C. 1. (*c*) **2.** (*a*) **3.** (*b*)
D.

90	–	10	=	80
–	■	–	■	–
15	–	8	=	7
=	■	=	■	=
75	–	2	=	73

ASSIGNMENT-7

1. (*d*) **2.** (*a*) **3.** (*a*) **4.** (*b*) **5.** (*b*)
6. (*a*) **7.** (*c*) **8.** (*d*) **9.** (*a*) **10.** (*c*)
11. (*b*) **12.** (*d*)

ASSIGNMENT-8

A. 1. 5 **2.** 8 **3.** 6 **4.** 13 **5.** 14
6. 12 **7.** 6 **8.** 5 **9.** 8 **10.** 11
B. 1. False **2.** True **3.** True **4.** True **5.** False
6. False **7.** False **8.** False **9.** True
C. 1. B (*e*) **2.** A (*d*) **3.** E (*b*) **4.** D (*c*) **5.** C (*f*)
6. F (*a*)
D. 10, 39, 32

ASSIGNMENT-9

1. (*c*) **2.** (*d*) **3.** (*a*) **4.** (*a*) **5.** (*c*)
6. (*b*) **7.** (*c*) **8.** (*b*) **9.** (*a*) **10.** (*c*)

ASSIGNMENT-10

A. 1. 5 **2.** 5 **3.** 0 **4.** 5 **5.** 63
B. 1. False **2.** True **3.** True **4.** False **5.** True
C. 1. (*e*) **2.** (*d*) **3.** (*a*) **4.** (*b*) **5.** (*c*)
D. • $10 \times 8 = 80$ crayons, • $5 \times 30 = 150$ minutes
• $3 \times 20 = 60$ minutes

ASSIGNMENT-11

1. (*d*) **2.** (*c*) **3.** (*a*) **4.** (*d*) **5.** (*d*)
6. (*b*) **7.** (*c*) **8.** (*a*) **9.** (*d*) **10.** (*c*)
11. (*d*) **12.** (*b*) **13.** (*b*)

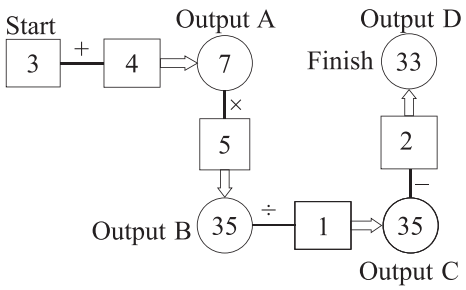
ASSIGNMENT-12

A. 1. 1 **2.** 8 **3.** 1 **4.** the division
5. the quotient
B. 1. False **2.** True **3.** True **4.** False
5. True

C.

	Multiplication fact 1	Multiplication fact 2	Division fact 1	Division fact 2
1.	**2** × 5 = 10	5 × 2 = **10**	10 ÷ 2 = **5**	**10** ÷ 5 = 2
2.	3 × 8 = 24	8 × 3 = 24	24 ÷ 3 = 8	24 ÷ 8 = 3
3.	6 × 9 = 54	9 × 6 = 54	54 ÷ 6 = 9	54 ÷ 9 = 6
4.	7 × 12 = 84	12 × 7 = 84	84 ÷ 7 = 12	84 ÷ 12 = 7
5.	1 × 11 = 11	11 × 1 = 11	11 ÷ 1 = 11	11 ÷ 11 = 1

D.



ASSIGNMENT-13

1. (*d*) **2.** (*b*) **3.** (*a*) **4.** (*d*) **5.** (*c*)
6. (*d*) **7.** (*a*) **8.** (*b*) **9.** (*d*)

ASSIGNMENT-14

A.

1. (*a*)  (*b*)  (*c*)  (*d*) 

2. 7 blue stars, 7 red stars

3. 6 yellow diamonds, 12 purple diamonds

4. 5 pink hearts, 15 brown hearts

B.

1. $\frac{1}{3}$  **2.** $\frac{1}{3}$  **3.** $\frac{1}{4}$ 

4. $\frac{1}{2}$  **5.** $\frac{1}{4}$  **6.** $\frac{1}{2}$ 

7. $\frac{1}{3}$  **8.** $\frac{1}{2}$  **9.** $\frac{1}{4}$ 

1, 2, 7; 3, 5, 9; 4, 6, 8

ASSIGNMENT-15

1. (*a*) **2.** (*d*) **3.** (*b*) **4.** (*d*) **5.** (*c*)
6. (*b*) **7.** (*c*) **8.** (*d*) **9.** (*b*) **10.** (*a*)
11. (*d*)

ASSIGNMENT-16

A. 1. two dimensional or plane **2.** equal in length
3. oval, side, corner
4. sides, three **5.** curved

B. 1. True **2.** False **3.** True **4.** True **5.** False

C. 1. (*e*) **2.** (*d*) **3.** (*b*) **4.** (*c*) **5.** (*f*)
6. (*a*)

ASSIGNMENT-17

1. (*d*) **2.** (*c*) **3.** (*d*) **4.** (*b*) **5.** (*d*)
6. (*c*) **7.** (*c*) **8.** (*d*) **9.** (*b*)

ASSIGNMENT-18

A. 1. 100 g **2.** length, non-standard **4.** volumes
5. kg

B. 1. 5 kg **2.** 200 mL **3.** 100 cm **4.** 2 m **5.** 150 g

C. 1. (*e*) **2.** (*d*) **3.** (*a*) **4.** (*b*) **5.** (*c*)

D. The height of the tree = 60 m – 21 m = 39 m.
The distance of nest from the top of the tree
= 39 m – 15 m = 24 m
So, the nest is 24 m lower from the top of the tree.

ASSIGNMENT-19

1. (*b*) **2.** (*d*) **3.** (*c*) **4.** (*a*) **5.** (*b*)
6. (*c*) **7.** (*b*) **8.** (*c*) **9.** (*a*) **10.** (*b*)
11. (*b*) **12.** (*b*)

ASSIGNMENT-20

A. 1. December **2.** Summer **3.** West 4. Autumn
5. Saturday

B. 1. True **2.** False **3.** True **4.** True **5.** True

C. 1. (*c*) **2.** (*e*) **3.** (*d*) **4.** (*b*) **5.** (*a*)

ASSIGNMENT-21

1. (*a*) **2.** (*c*) **3.** (*d*) **4.** (*b*) **5.** (*d*)
6. (*d*) **7.** (*b*) **8.** (*b*)

ASSIGNMENT-22

A. 1. Money **2.** notes, coins **3.** 500
4. ₹10 **5.** 35

B. 1. True **2.** False **3.** False **4.** True **5.** False

D. Half price of the box = ₹160 ÷ 2 = ₹80
Half price of the bag = ₹540 ÷ 2 = ₹270
∴ Total money needed = ₹80 + ₹270 = ₹350

ASSIGNMENT-23

1. (*c*) **2.** (*a*) **3.** (*a*) **4.** (*d*) **5.** (*b*)
6. (*b*) **7.** (*b*) **8.** (*a*)

ASSIGNMENT-24

A. 1. 12 **2.** 2 **3.** paint brushes, rulers, pencils
4. 40 **5.** 8

B. 1. False **2.** True **3.** False **4.** True

DETAILED SOLUTIONS

CHAPTER 1 : NUMBERS UP TO 999

Get Ready

1. 86 – Eighty-six.
2. There are 6 balls in one over.
   Number of balls in 10 overs = 10 × 6 = 60 balls
   Therefore, team B has to achieve the target of 87 runs in 60 balls.
3. 87 is just after 86 or 87 is the successor of 86.

Life Skills

Service	Contact No.
Fire	101
Ambulance	102
Management Disaster	108
Traffic Police	191
Indian Railway Security helpline	182

101 : One hundred one
102 : One hundred two
108 : One hundred eight
191 : One hundred ninety-one
182 : One hundred eighty-two

Practice Time 1A

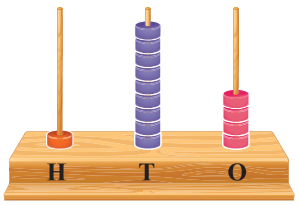
1. (*a*) 154: one hundred fifty-four
   (*b*) 146: one hundred forty-six
   (*c*) 170: one hundred seventy
2. (*a*) 189: one hundred eighty-nine
   (*b*) 152: one hundred fifty-two
   (*c*) 166: one hundred sixty-six
   (*d*) 132: one hundred thirty-two
   (*e*) 145: one hundred forty-five
   (*f*) 198: one hundred ninety-eight
3. (*a*) 167 (*b*) 126 (*c*) 152
   (*d*) 175 (*e*) 103 (*f*) 114
4. 118; 104; 194; 123; 181
5. 136; 110; 174; 167; 121
6. 168; 199; 116;161; 127; 176

Practice Time 1B

1. (*a*) 3 hundreds + 3 tens + 7 ones = 300 + 30 + 7 = 337
   337 is read as: Three hundred thirty-seven
   (*b*) 8 hundreds + 5 tens + 8 ones = 800 + 50 + 8 = 858
   858 is read as: Eight hundred fifty-eight
2. Do it yourself
3. (*a*) Two hundred forty-five: 245
   (*b*) Three hundred nine: 309
   (*c*) Six hundred fifty-nine: 659
   (*d*) Two hundred four: 204
   (*e*) Eight hundred fifty-five: 855
   (*f*) Four hundred twelve: 412
   (*g*) Five hundred thirty-six: 536
   (*h*) Nine hundred eighty-one: 981
4. (*a*) 381: Three hundred eighty-one
   (*b*) 457: Four hundred fifty-seven
   (*c*) 789: Seven hundred eighty-nine
   (*d*) 534: Five hundred thirty-four
   (*e*) 888: Eight hundred eighty-eight
   (*f*) 999: Nine hundred ninety-nine
   (*g*) 504: Five hundred four
   (*h*) 716: Seven hundred sixteen
5. (*a*) 367 368 (*b*) 538 539 (*c*) 571 572
   (*d*) 623 624 (*e*) 240 241 (*f*) 794 795
6. (*a*) 284 285 (*b*) 348 349 (*c*) 639 640
   (*d*) 697 698 (*e*) 712 713 (*f*) 888 889
7. (*a*) 616 617 618 (*b*) 549 550 551
   (*c*) 711 712 713 (*d*) 491 492 493
   (*e*) 799 800 801 (*f*) 871 872 873

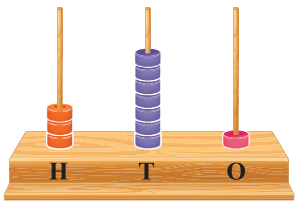
Practice Time 1C

1. (*a*) 243 (*b*) 650
   (*c*) 706 (*d*) 895
2. (*a*)



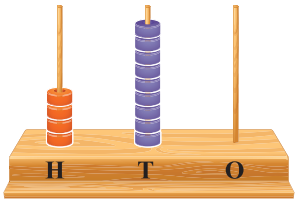
194

(*b*)



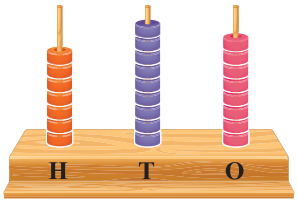
371

(*c*)



490

(*d*)



798

Think and Answers (Page 17)

1. Number of buttons in 1 packet of 100 buttons:
1 hundred = 1 × 100 = 100
Number of buttons in 5 packets of 10 buttons:
5 tens = 5 × 10 = 50
Number of buttons in 4 loose buttons:
4 ones = 4 × 1 = 4
Total number of buttons = 100 + 50 + 4 = 154
In words: One hundred fifty-four.

2. Number of shirts in 10 packets of 10 shirts:
10 tens = 1 hundred = 100
Number of jeans in 6 packets of 10 jeans:
6 tens = 6 × 10 = 60
Number of clothes = 100 + 60 = 160
Therefore, they brought 160 clothes in all.

Practice Time 1D

1. (*a*) Place value = 60 (*b*) Place value = 800
(*c*) Place value = 4

2.

	Number	Digit	Place Value	Face Value
(*a*)	215	2	200	2
		1	10	1
		5	5	5
(*b*)	709	7	700	7
		0	0	0
		9	9	9

3. (*a*) 9 4 7
7
40
900

(*b*) 7 2 7
7
20
700

(*c*) 5 0 3
3
0
500

4. (*a*) 142 = 1 hundred + 4 tens + 2 ones = 100 + 40 + 2
(*b*) 227 = 2 hundreds + 2 tens + 7 ones = 200 + 20 + 7
(*c*) 945 = 9 hundreds + 4 tens + 5 ones = 900 + 40 + 5
(*d*) 480 = 4 hundreds + 8 tens + 0 ones = 400 + 80 + 0

5. (*a*) 700 + 50 + 9 = 759 (*b*) 200 + 30 + 1 = 231
(*c*) 300 + 30 + 3 = 333

6. (*a*) 2 hundreds + 3 tens + 0 ones = 230
(*b*) 4 hundreds + 6 tens + 5 ones = 465
(*c*) 5 hundreds + 0 tens + 7 ones = 507
(*d*) 7 hundreds + 2 tens + 9 ones = 729

Practice Time 1E

1. (*a*) 603 < 615 (*b*) 123 > 61
(*c*) 41 < 313 (*d*) 605 > 405
(*e*) 720 = 720 (*f*) 914 = 914
(*g*) 726 > 626 (*h*) 524 < 534

2. 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211

3. 8; 992, 993, 994, 995, 996, 997, 998, 999

4. (*a*) 301, 312, (734) (*b*) 269, (612), 420
(*c*) 317, 402, (499)

5. (*a*) 341, 356, (313) (*b*) 643, 352, (256)
(*c*) 416, (148), 342

Practice Time 1F

1. (*a*) 75, 87, 120, 163, 266
(*b*) 45, 142, 182, 215, 276
(*c*) 110, 112, 180, 243, 271
(*d*) 113, 119, 145, 172, 190
(*e*) 146, 201, 259, 263, 297

2. (*a*) 272, 230, 211, 98, 47
(*b*) 239, 218, 205, 152, 44
(*c*) 298, 280, 260, 245, 241
(*d*) 265, 200, 195, 183, 141
(*e*) 298, 250, 241, 187, 136

3. **Ascending order:** 567, 576, 657, 675, 756, 765
Descending order: 765, 756, 675, 657, 576, 567

4.

	Predecessor (Number – 1)	Number	Successor (Number + 1)
(*a*)	104	105	106
(*b*)	749	750	751
(*c*)	890	891	892
(*d*)	844	845	846
(*e*)	622	623	624

5.

Number	Predecessor	Successor
Greatest = 910	909	911
Smallest = 109	108	110

Practice Time 1G

1. (*a*) 11 pencils; odd (*b*) 10 toffees; even
(*c*) 12 flowers; even (*d*) 9 apples; odd

2.

11	(12)	13	(14)	15	(16)	17	(18)	19	(20)
21	(22)	23	(24)	25	(26)	27	(28)	29	(30)

3.

26	(27)	28	(29)	30	(31)	32	(33)	34	(35)
36	(37)	38	(39)	40	(41)	42	(43)	44	(45)

4. (*a*) 32, 34, 36, 38 (*b*) 62, 64, 66, 68, 70, 72

5. (*a*) 51, 53, 55, 57, 59 (*b*) 81, 83, 85, 87, 89

Practice Time 1H

1. (*a*) Irfan is at the seventh place.
(*b*) Bunty is at the fourth place.
(*c*) Tia is at the ninth place.
(*d*) Raman is at the first place.
(*e*) Ria is at second place.
(*f*) Bindia is at the fifth place.
(*g*) Akhil is at the sixth place.
(*h*) Tony is at the tenth place.
(*i*) Sunny is at the third place.
(*j*) Rohit is at the eighth place.

2. (*a*) C is the 10th letter in MATHEMATICS.
(*b*) R is the 5th letter in HUNDRED.
(*c*) A is the 6th letter in FOOTBALL.
(*d*) L is the 3rd letter in DELHI.

3. (*a*) Green colur dice; 2nd, 7th, 13th, 17th
(*b*) Blue colour dice; 5th, 9th, 11th, 16th
(*c*) 6th ⇒ Red, 12th ⇒ Purple, 15th ⇒ Red, 18th ⇒ Black.

Mental Maths (Page 30)

1. (*a*) 98 is the greatest 2-digit even number.
(*b*) 11 is the smallest 2-digit odd number.
(*c*) 101 is the smallest 3-digit odd number.
(*d*) 888 is the greatest 3-digit even number whose each digit is the same.

2. (*a*) Store 3 (*b*) Store 2

Chapter Assessment

1. (*b*) 100 + 40 + 5 = 145

2. (*c*) Place value of 8 is 80 in 680

3. (*a*) The greatest 3-digit number formed with different digit is 987

4. (*a*) 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279
(*b*) 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368

5. (*a*) 747, 748, 749 (*b*) 688, 689, 690

6. (*a*) 371 = 300 + 70 + 1 (*b*) 719 = 700 + 10 + 9
(*c*) 538 = 500 + 30 + 8

7. (*a*) 100 + 50 + 7 = 157
(*b*) 9 tens + 9 ones = 90 + 9 = 99
(*c*) 60 + 5 = 65
(*d*) 2 hundreds + 5 tens = 200 + 50 = 250

8.

	Ascending order	Descending order
(*a*)	118, 132, 140, 172	172, 140, 132, 118
(*b*)	128, 153, 164, 174	174, 164, 153, 128
(*c*)	213, 217, 222, 240	240, 222, 217, 213
(*d*)	148, 238, 284, 298	298, 284, 238, 148

9. Do yourself.

Brain Sizzlers (Page 32)

Mystery number 1 = 999; Mystery number 2 = 978

CHAPTER 2 : ADDITION

Get Ready

Total number of apples and oranges = 38

Think and Answer (Page 35)

6 + 8 = 14 (∵ Potato = 6; Tomato = 8)

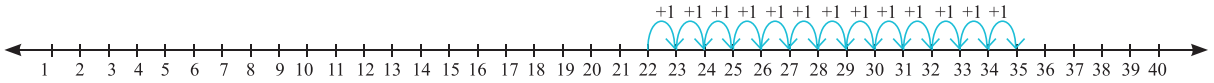
Maths Fun (Page 37)

Team A's score: Nobita (7) + Gian (5) + Dorami (5) + Dekisugi (7) = 24
Team B's score: Doraemon (6) + Shizuka (2) + Jaiko (6) + Suneo (8) = 22
∵ 24 > 22
Team A is the winner.

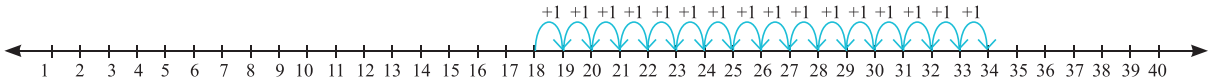
Practice Time 2A

1. (*a*) 32 + 0 = 32 (*b*) 48 + 0 = 48
(*c*) 64 + 1 = 65

2. (*a*) 22 + 13 = 35



(*b*) 18 + 16 = 34



3. (*b*)

	T	O
	6	4
+	1	5
	7	9

(*c*)

	T	O
	5	2
+	3	3
	8	5

(*d*)

	T	O
	2	6
+	4	0
	6	6

Practice Time 2B

1.

	T	O
	1	1
	1	4
+	3	2
	5	7

2.

	T	O
	6	7
	2	0
+	1	2
	9	9

3.

	T	O
	2	2
	2	0
+	2	6
	6	8

4.

	T	O
	1	5
	5	1
+	1	2
	7	8

5.

	T	O
	5	4
	1	2
+	1	1
	7	7

6.

	T	O
	4	1
	2	0
+	2	6
	8	7

7.

	T	O
	2	4
	3	2
+	1	3
	6	9

8.

	T	O
	6	4
	1	2
+	1	3
	8	9

Practice Time 2C

1. (*a*) 44 ones = 4 tens + 4 ones

(*b*) 57 ones = 5 tens + 7 ones

(*c*) 70 ones = 7 tens + 0 ones

(*d*) 81 ones = 8 tens + 1 one

2. (*a*) 5 tens + 16 ones = 5 tens + 10 ones + 6 ones
= 5 tens + 1 ten + 6 ones
= 6 tens + 6 ones

(*b*) 4 tens + 25 ones = 4 tens + 20 ones + 5 ones
= 4 tens + 2 tens + 5 ones
= 6 tens + 5 ones

(*c*) 7 tens + 27 ones = 7 tens + 20 ones + 7 ones
= 7 tens + 2 tens + 7 ones
= 9 tens + 7 ones

(*d*) 4 tens + 35 ones = 4 tens + 30 ones + 5 ones
= 4 tens + 3 tens + 5 ones
= 7 tens + 5 ones

(*e*) 1 ten + 55 ones = 1 ten + 50 ones + 5 ones
= 1 ten + 5 tens + 5 ones
= 6 tens + 5 ones

Practice Time 2D

1. (*a*)

	T	O
	①	
	2	1
+		9
	3	0

(*b*)

	T	O
	①	
	1	3
+		7
	2	0

(*c*)

	T	O
	①	
	3	4
+		6
	4	0

(*d*)

	T	O
	①	
	1	2
+	5	8
	7	0

2. (*a*)

	T	O
	①	
	1	8
+	5	2
	7	0

(*b*)

	T	O
	①	
	3	2
+	4	8
	8	0

(*c*)

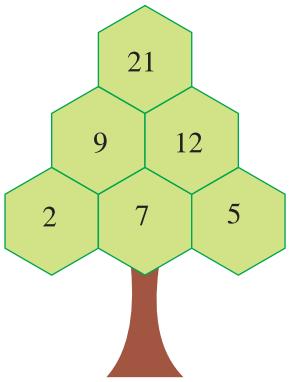
	T	O
	①	
	2	6
+	6	4
	9	0

(*d*)

	T	O
	①	
	4	9
+	3	1
	8	0

Think and Answer (Page 43)

1.



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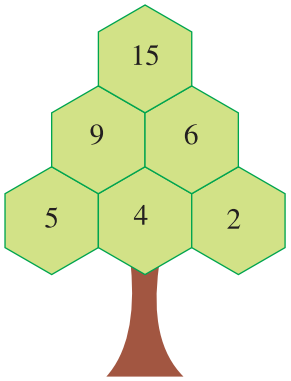

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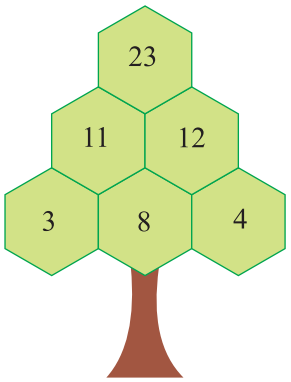


Practice Time 2E

1. (*a*)

	T	O
	①	
	2	8
+		5
	3	3

(*b*)

	T	O
	①	
		6
+	4	8
	5	4

(*c*)

	T	O
	①	
		7
+	3	5
	4	2

(*d*)

	T	O
	①	
	1	9
+		7
	2	6

(*e*)

	T	O
	①	
	2	2
+	3	9
	6	1

(*f*)

	T	O
	①	
	6	4
+	1	9
	8	3

(*g*)

	T	O
	①	
	5	5
+	3	6
	9	1

(*h*)

	T	O
	①	
	6	8
+	2	8
	9	6

2. (*a*)

	T	O
	①	
	3	9
+		8
	4	7

(*b*)

	T	O
	①	
	5	4
+		7
	6	1

(*c*)

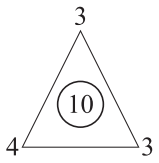
	T	O
	①	
	4	6
+	2	5
	7	1

(*d*)

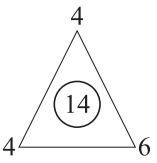
	T	O
	①	
	6	3
+	1	9
	8	2

Think and Answer (Page 45)

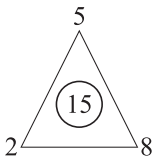
1.



2.



3.



Practice Time 2F

1. (*a*)

	T	O
		⑥
		3
+		④
	1	3

(*b*)

	T	O
		4
		⑤
+		⑤
	1	4

(*c*)

	T	O
		⑨
		5
+		①
	1	5

(*d*)

	T	O
		③
		5
+		⑦
	1	5

2. (*a*)

	T	O
	①	
		4
		2
+		7
	1	3

Check

	T	O
	①	
		2
		4
+		7
	1	3

(*b*)

	T	O
	①	
		6
		3
+		8
	1	7

Check

	T	O
	①	
		3
		6
+		8
	1	7

3. (*a*)

	T	O
		4
		3
+		4

+8→

	T	O
	①	
		4
		3 $\boxed{8 + 3 = 11}$
+		4
	1	1

Thus, 4 + 3 + 4 = 11

(*b*)

	T	O
		5
		5
+		7

+10→

	T	O
	①	
		5
		7 $\boxed{10 + 7 = 17}$
+		5
	1	7

(*c*)

	T	O
	①	8
		3
+		3
	1	4

(*d*)

	T	O
		6
		3
+		6
	1	5

(Same as above part (*a*) and (*b*))

Practice Time 2G

1.

	T	O
	①	6
	1	2
+		8
	2	6

Checking ↔ Same

	T	O
	①	
		8
+	1	2
		6
	2	6

The answer is correct.

2.

	T	O
	①	
	1	7
		3
+	1	4
	3	4

Checking ↔ Same

	T	O
	①	
	1	4
		3
+	1	7
	3	4

The answer is correct.

3.

	T	O
	①	
	1	2
	3	9
+	4	1
	9	2

Checking ↔ Same

	T	O
	①	
	4	1
	3	9
+	1	2
	9	2

The answer is correct.

4.

	T	O
	②	
	2	6
+	2	8
	7	2

Checking ↔ Same

T	O
②	
2	8
1	8
+ 2	6
7	2

The answer is correct.

5.

	T	O
	①	
	1	7
	2	6
+	4	3
	8	6

Checking ↔ Same

T	O
①	
4	3
2	6
+ 1	7
8	6

The answer is correct.

6.

	T	O
	②	
	2	7
	3	6
+	2	8
	9	1

Checking ↔ Same

T	O
②	
2	8
3	6
+ 2	7
9	1

The answer is correct.

Practice Time 2H

1.

		T	O
		①	
Number of marbles Priya has	=	2	5
Number of marbles her sister has	= +	2	6
Total number of marbles	=	5	1

Thus, they together have 51 marbles.

2.

		T	O
Number of white beads	=	3	0
Number of pink beads	=	1	5
Number of yellow beads	= +	2	2
Total number of beads	=	6	7

Thus, Anjali used 67 beads in all to make the necklace.

3.

	T	O
Marks obtained by Harish in Maths =	4	2
Marks obtained by Harish in EVS =	3	4
Marks obtained by Harish in English = +	2	3
Total marks obtained by Harish =	9	9

Thus, marks obtained by Harish in three subjects is 99.

4.

	T	O
	①	
Number of red balloons bought =	2	5
Number of green balloons bought =	1	4
Number of yellow balloons bought = +	3	3
Total number of balloons bought =	7	2

Thus, 72 balloons were bought by Rahul for sister's birthday party.

5. Number of seashells founded by class

	T	O
	①	
Before lunch =	4	5
After lunch = +	3	7
Total number of seashells =	8	2

Thus, the class found 82 seashells.

6.

	T	O
Number of birds sitting in the first tree	2	2
Number of birds sitting in the second tree =	3	5
Number of birds sitting in the third tree = +	4	0
Total number of birds =	9	7

Thus, 97 birds are sitting in three trees.

Mental Maths (Page 48)

1. 55 + 2 = 57, 75 + 2 = 77, 47 + 8 = 55, 67 + 8 = 75, 87 + 8 = 95, 49 + 9 = 58, 59 + 9 = 68, 89 + 9 = 98.

2. 1 + 8 = 9, 3 + 6 = 9, 4 + 5 = 9

Chapter Assessment

1. (*b*) 31, 36, 41

2. (*a*) 37, 38 (∵ 37 + 38 = 75)

3. (*a*)

T	O
①	
2	6
+	8
3	4

(*b*)

T	O
①	
3	6
+	4
4	0

(*c*)

T	O
3	8
+ 2	0
5	8

(*d*)

T	O
①	
5	2
+ 1	9
7	1

4. (*a*)

T	O
	3
5	3
+ 3	1
8	7

Checking ↔ Same

T	O
3	1
5	3
+	3
8	7

(*b*)

T	O
①	
	2
3	6
+	8
4	6

Checking ↔ Same

T	O
①	
	8
3	6
+	2
4	6

(*c*)

T	O
①	
4	3
1	5
+ 2	4
8	2

Checking ↔ Same

T	O
①	
2	4
1	5
+ 4	3
8	2

5.

		T	O
		①	
Number of ribbons Madhuri has	=	2	6
Number of ribbons Surabhi has	=	2	4
Number of ribbons Sangeeta has	= +	1	8
Total number of ribbons	=	6	8

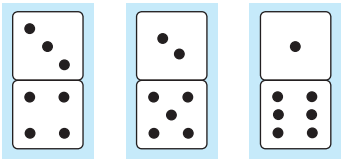
Thus, they together have 68 ribbons.

6.

		T	O
		①	
Number of boys in the class	=	2	8
Number of girls in the class	= +	1	7
Total number of children	=	4	5

Thus, the total number of children in the class is 45.

Brain Sizzlers (Page 50)



4 dots + 2 dots + 6 dots = 12 dots

CHAPTER 3 : SUBTRACTION

Get Ready

1. Total rakhis for sale = 21 + 69 = 90.

2. 90 – 10 = 80 rakhis were sold on that day.

Maths Connect (Page 53)

6 – 1 = 5, going up; 17 – 0 = 17 going up; 16 – 9 = 7, going up; 21 – 10 = 11 going up; and 15 – 15 = 0, coming down.

Thus, the number of kites going up = 4, and coming down = 1.

Life Skills (Page 53)

1. 20 – 10 = 10 fingers

2. 8 – 4 = 4 limbs

3. 30 – 29 = 1 nose

4. 19 – 9 = 10 toes

5. 5 – 3 = 2 elbows

6. 33 – 31 = 2 eyes

Quick Check (Page 54)

1. 22

2. 41

Practice Time 3A

1. (*a*) 22 – 0 = 22

(*b*) 31 – 0 = 31

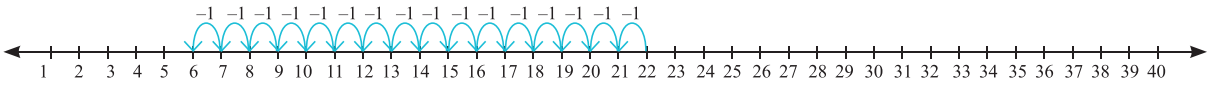
(*c*) 67 – 67 = 0

(*d*) 93 – 93 = 0

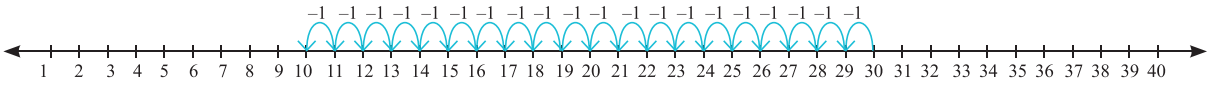
(*e*) 57 – 1 = 56

(*f*) 88 – 1 = 87

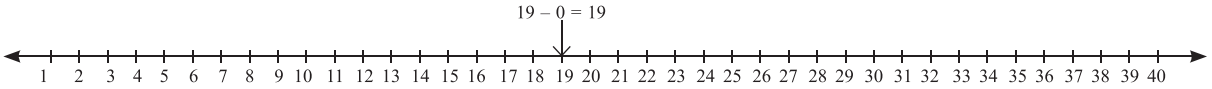
2. (*a*) 22 – 16 = 6



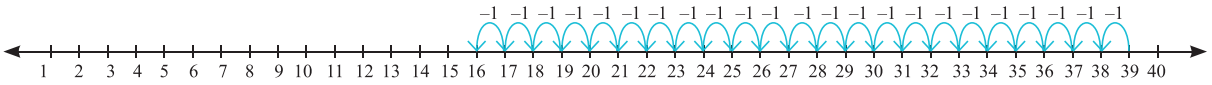
(*b*) 30 – 20 = 10



(*c*) 19 – 0 = 19



(*d*) 39 – 23 = 16



Think and Answer (Page 55)

1. 1 ten + 3 ones = 10 ones + 3 ones = 13 ones

2. 1 ten + 5 ones = 10 ones + 5 ones = 15 ones

Practice Time 3B

1. (*a*) 3 tens + 0 one = 2 tens + 1 ten + 0 one
= 2 tens + 10 ones + 0 one
= 2 tens + 10 ones

(*b*) 5 tens + 1 one = 4 tens + 1 ten +1 one
= 4 tens + 10 ones + 1 one
= 4 tens + 11 ones

2. (*a*) 4 tens + 3 ones = 3 tens + 1 ten + 3 ones
= 3 tens + 10 ones + 3 ones
= 3 tens + 13 ones

(*b*) 3 tens + 0 ones = 2 tens + 1 ten + 0 one
= 2 tens + 10 ones + 0 one
= 2 tens + 10 ones

(*c*) 5 tens + 2 ones = 4 tens + 1 ten + 2 ones
= 4 tens + 10 ones + 2 ones
= 4 tens + 12 ones

3. (*a*) 57 = 5 tens + 7 ones
= 4 tens + 1 ten + 7 ones
= 4 tens + 10 ones + 7 ones
= 4 tens + 17 ones

(*b*) 63 = 6 tens + 3 ones
= 5 tens + 1 ten + 3 ones
= 5 tens + 10 ones + 3 ones
= 5 tens + 13 ones

(*c*) 44 = 4 tens + 4 ones
= 3 tens + 1 ten + 4 ones
= 3 tens + 10 ones + 4 ones
= 3 tens + 14 ones

Think and Answer (Page 58)

1. 70 ones = 7 tens

7 tens – 3 tens = 4 tens = 40

2. 95 – 52 = 43

∴ Number = 43 + 1 = 44

Practice Time 3C

1. (*a*)

	T	O
	(3)	(15)
	~~4~~	~~5~~
–		8
	3	7

(*b*)

	T	O
	(2)	(10)
	~~3~~	~~0~~
–		4
	2	6

(*c*)

	T	O
	(1)	(17)
	~~2~~	~~7~~
–		9
	1	8

(*d*)

	T	O
	(3)	(10)
	~~4~~	~~0~~
–		5
	3	5

2. (*a*)

T	O
(5)	(10)
~~6~~	~~0~~
2	5
3	5

(*b*)

T	O
(5)	(11)
~~6~~	~~1~~
4	4
1	7

(*c*)

T	O
(3)	(10)
~~4~~	~~0~~
1	8
2	2

(*d*)

T	O
(8)	(10)
~~9~~	~~0~~
2	1
6	9

(*e*)

T	O
(1)	(15)
~~2~~	~~5~~
1	6
0	9

(*f*)

T	O
(4)	(11)
~~5~~	~~1~~
1	7
3	4

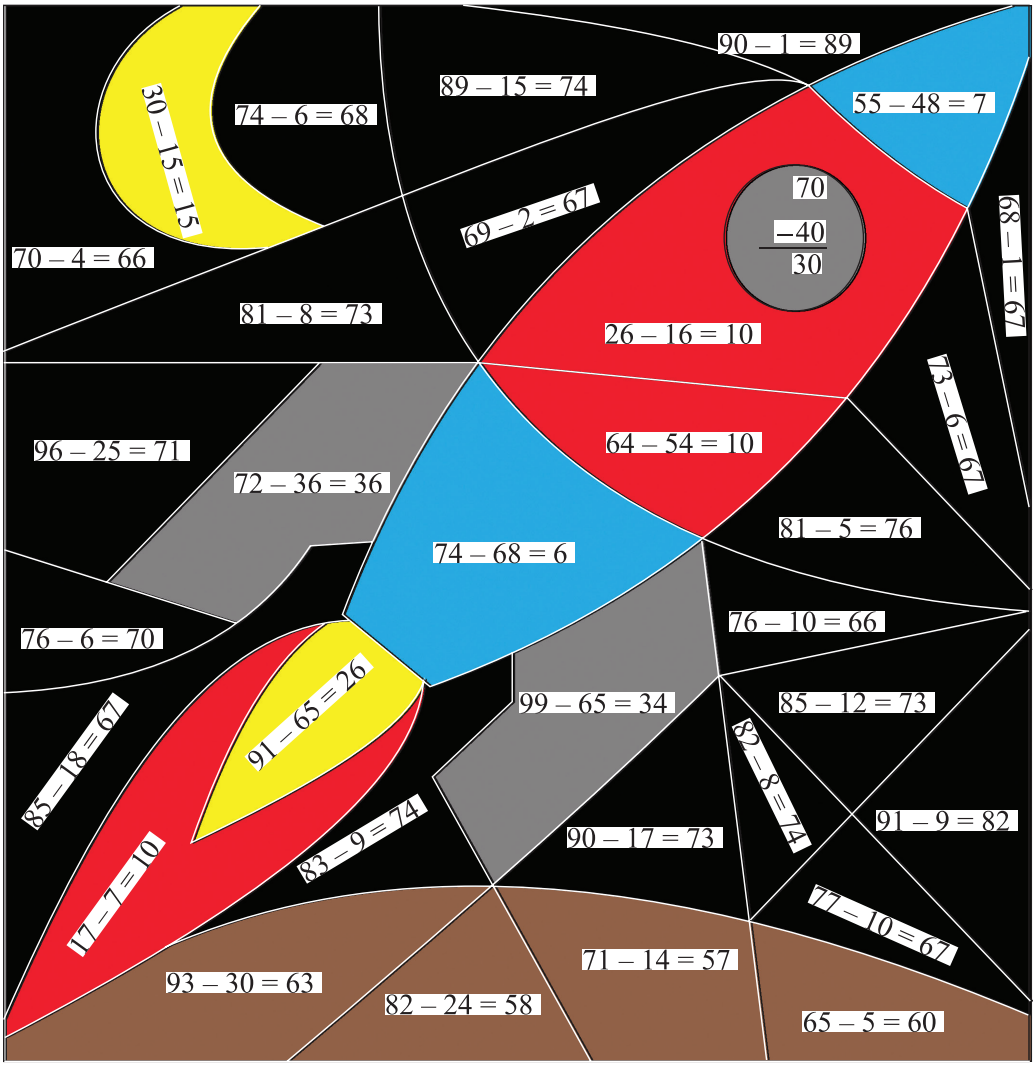
(*g*)

T	O
(4)	(12)
~~5~~	~~2~~
2	8
2	4

(*h*)

T	O
(6)	(12)
~~7~~	~~2~~
2	4
4	8

Maths Fun (Page 59)



Thus, Rocket is used for travel into space.

Brain Sizzlers (Page 59)

1. ☺ + ☺ = 22 (Given)

∴ ☺ = 11

☺ – ★ = 5

11 – ★ = 5

∴ ★ = 6

Thus, ☺ = 11 and ★ = 6

2. After subtraction, the number we get is greater than 16, i.e., the difference should be either 17, 18 or 19

∵ 19 – 17 = 2 is an even number, and 19 – 18 = 1 is an odd number.

∴ The number is 1.

Practice Time 3D

1.

T	O	
3	7	← Minuend
– 1	2	← Subtrahend
2	5	← Difference

Checking

T	O
2	5
+ 1	2
3	7

We get the minuend. So the answer is correct.

2.

T	O	
2	9	← Minuend
– 1	9	← Subtrahend
1	0	← Difference

Checking

T	O
1	0
+ 1	9
2	9

We get the minuend. So the answer is correct.

3.

T	O
~~5~~ (4)	~~1~~ (11)
– 2	7
2	4

Checking

T	O
(1)	
2	4
+ 2	7
5	1

Thus, the answer is correct.

4.

T	O
~~6~~ (5)	~~0~~ (10)
– 4	9
1	1

Checking

T	O
(1)	
1	1
+ 4	9
6	0

Thus, the answer is correct.

5.

T	O
5	0
– 3	0
2	0

Checking

T	O
2	0
+ 3	0
5	0

Thus, the answer is correct.

6.

T	O
(4)	(16)
~~5~~	~~6~~
– 3	8
1	8

Checking

T	O
1	8
+ 3	8
5	6

Thus, the answer is correct.

Practice Time 3E

1. 5 + 6 = 11, 6 + 5 = 11, 11 – 5 = 6, 11 – 6 = 5

2. 9 + 12 = 21, 12 + 9 = 21, 21 – 9 = 12, 21 – 12 = 9

3. 17 + 21 = 38, 21 + 17 = 38, 38 – 21 = 17, 38 – 17 = 21

Practice Time 3F

1. (*a*) 9 + 5 = 14 (*b*) 7 + 6 = 13
(*c*) 11 + 6 = 17 (*d*) 14 + 3 = 17
(*e*) 6 + 8 = 14 (*f*) 22 + 14 = 36

2. (*a*) 9 – 3 = 6 (*b*) 17 – 8 = 9
(*c*) 24 – 10 = 14 (*d*) 21 – 8 = 13
(*e*) 13 – 4 = 9 (*f*) 43 – 19 = 24

3. (*a*) 17 – 8 = 9 (*b*) 13 – 5 = 8
(*c*) 14 – 4 = 10 (*d*) 20 – 8 = 12
(*e*) 28 – 7 = 21 (*f*) 26 – 7 = 19

Practice Time 3G

1.

		T	O
Number of balls in the big box	=	2	9
Number of balls in the small box	= –	1	4
Difference	=	1	5

Thus, there are 15 more balls in the big box than small box.

2.

		T	O
Total number of students	=	2	6
Number of students who like cartoon shows	= –	1	5
Number of students who do not like cartoon shows	=	1	1

Thus, number of students who do not like cartoon shows is 11.

3.

	T	O
	①	⑱
Total number of books in the shelf =	~~2~~	~~8~~
Number of storybooks = –		9
Number of other types of books =	1	9

Thus, the other types of books are 19.

4.

	T	O
	④	⑯
Number of stamps Pooja has =	~~5~~	~~6~~
Number of stamps Sony has = –	4	8
Difference in the numbers of stamps =	0	8

Thus, Pooja has 8 more stamps than Sony.

5. Same as above Q3.

6.

	T	O
	⑥	⑮
Total number of balloons bought by Vinod =	~~7~~	~~5~~
Number of balloons used = –	6	6
The number of balloons left unused =	0	9

Thus, 9 balloons are left unused.

Mental Maths (Page 64)

1. Largest 1-digit number = 9
Smallest 2-digit number = 10
Difference = 10 – 9 = 1

2. Subtract 94 from 94 to get 0.
∴ The answer is 94.

3.

	T	O
Number of bananas Tina had = 2 dozen =	2	4
Number of bananas distributed = –	2	0
Number of bananas left =	0	4

Thus, 4 bananas are left with her.

4.

	T	O
Smallest 2-digit odd number = 11	9	8
Greatest 2-digit even number = 98 –	1	1
Subtract 98 from 11 as 98 – 11 = 87	8	7

5.

	T	O
	⑥	⑩
Place value of 7 in the number 79 =	~~7~~	~~0~~
Face value of 7 in the number 79 = –		7
Difference =	6	3

Chapter Assessment

1. (*c*) Numbers less than 14 are: 13, 12, ...
Take 13 → 13 + 13 = 26 > 25
Take 12 → 12 + 12 = 24 < 25
Thus, the number is 13.

2.

	T	O
Total number of students in class 2 =	5	4
Number of students absent on Friday = –	1	2
Number of students, present on that day =	4	2

Thus, 42 students were present on that day.

3. (*a*)

	T	O
	6	9
–	4	9
	2	0

(*b*)

	T	O
	⑥	⑫
	~~7~~	~~2~~
–	4	7
	2	5

(*c*)

	T	O
	⑦	⑯
	~~8~~	~~6~~
–	3	8
	4	8

(*d*)

	T	O
	⑥	⑩
	~~7~~	~~0~~
–	2	9
	4	1

4. (*a*)

	T	O
	3	6
–	1	2
	2	4

Checking

	T	O
	2	4
+	1	2
	3	6

The answer is correct.

(*b*)

	T	O
	③	⑮
	~~4~~	~~5~~
–	3	8
	0	7

Checking

	T	O
	①	
	0	7
+	3	8
	4	5

The answer is correct.

5. (*a*)

–10	Number	+10
46	56	56
54	64	74
19	29	39
68	78	88
45	55	65

(*b*)

–20	Number	+20
13	33	53
28	48	68
11	31	51
4	24	44
58	78	98

(*c*)

–30	Number	+30
22	52	82
09	39	69
20	50	80
33	68	98
15	45	75

6. Total number of marbles Jiya had = 27
Total number of marbles she gave to Piyush and Mala = 10 + 4 = 14
(*a*) After giving the marbles, Jiya has left = 27 – 14 = 13 marbles
(*b*) Jiya has 13 marbles, Piyush has 10 marbles.
Difference = 13 – 10 = 3 marbles.
Therefore, Jiya has 3 more marbles than Piyush.

CHAPTER 4 : ADDITION AND SUBTRACTION

Get Ready

1. Total number of plants bought by Ajay
= 15 (daisy) + 13 (lily) + 25 (rose) = 53 plants
2. Total number of plants taken by Madhu
= 18 (hibiscus) + 24 (dahlia) = 42 plants
3. ∵ Ajay bought 42 plants and Madhu bought 11 plants.
53 – 42 = 11
∴ Ajay bought 11 more plants.

Think and Answer (Page 69)

1. 98 + 6 = 104 runs
2. The smaller number less than 50 is 49
When we add, 49 + 49 = 98 < 99
So, we cannot get a number greater than 100 by adding two numbers smaller than 50.
3. Greatest 2-digit number is 99.
So, 99 + 99 = 198

Maths Connect (Page 70)

A's score = 16 + 18 + 19 = 53
B's score = 15 + 12 + 15 = 42
C's score = 14 + 9 + 11 = 34
D's score =16 + 20 + 16 = 52
Hence, A is the winner

Practice Time 4A

1. (*a*) **Step 1.** First, add the ones.
2 ones + 5 ones = 7 ones
Write 7 at ones place.
Step 2. Add the tens and regroup.
4 tens + 8 tens = 12 tens
= 1 hundred + 2 tens
Write 2 tens at the tens column and carry over 1 hundred to the hundreds column.
Thus, we get 42 + 85 = 127.

	H	T	O
		4	2
+		8	5
			7

	H	T	O
	(1)		
		4	2
+		8	5
	1	2	7

(*b*) **Step 1.** First, add the ones. 3 ones + 2 ones = 5 ones
Step 2. Add the tens and regroup.
7 tens + 6 tens = 13 tens
= 10 tens + 3 tens
= 1 hundred + 3 tens
Write 3 tens at the tens column and carry over 1 hundred to the hundreds column.
Thus, we get 73 + 62 = 135.

	H	T	O
		7	3
+		6	2
			5

	H	T	O
	(1)		
		7	3
+		6	2
	1	3	5

(*c*)

	H	T	O
	(1)		
		5	5
+		5	4
	1	0	9

(*d*)

	H	T	O
	(1)		
		6	2
+		7	7
	1	3	9

Explanation: Same as (*a*) and (*b*)

2. (*a*) **Step 1.** Add the ones and regroup.

9 ones + 2 ones = 11 ones

= 1 ten + 1 one

Step 2. Add the tens and regroup

1 ten + 2 tens + 9 tens = 12 tens

= 1 hundred + 2 tens

	T	O
	(1)	
	2	9
+	9	2
		1

	H	T	O
	(1)	(1)	
		2	9
+		9	2
	1	2	1

Thus, 29 + 92 = 121

(*b*)

	H	T	O
	(1)	(1)	
		6	6
+		6	6
	1	3	2

(*c*)

	H	T	O
	(1)	(1)	
		6	9
+		8	4
	1	5	3

(*d*)

	H	T	O
	(1)	(1)	
		7	7
+		5	8
	1	3	5

Explanation: Same as (*a*).

3. (*a*) **Step 1.** Add the ones and regroup.

5 ones + 2 ones + 4 ones = 11 ones

= 1 ten + 1 one

	H	T	O
		(1)	
		1	5
		5	2
+		7	4
			1

Step 2. Add the tens and regroup.

1 ten + 1 ten + 5 tens + 7 tens

= 14 tens

= 1 hundred + 4 tens

	H	T	O
	(1)	(1)	
		1	5
		5	2
+		7	4
	1	4	1

Thus, 15 + 52 + 74 = 141

(*b*)

	H	T	O
	(1)	(1)	
		6	4
		7	3
+		3	9
	1	7	6

(*c*)

	H	T	O
	(1)	(1)	
		8	6
		7	3
+		2	9
	1	8	8

(*d*)

	H	T	O
	(1)	(1)	
		8	9
		6	0
+		4	2
	1	9	1

Explanation: Same as (*a*).

Activity (Page 71)

1. 30 + 80 = 110 **2.** 63 + 82 = 145

3. 27 + 76 = 103 **4.** 50 + 93 = 143

5. 82 + 82 = 164 **6.** 79 + 78 = 157

7. 59 + 44 = 103 **8.** 59 + 72 + 33 = 164

9. 24 + 66 + 95 = 185 **10.** 76 + 54 + 27 = 157

Practice Time 4B

1. (*a*) **Step 1.** Add the ones.

5 ones + 2 ones = 7 ones

Step 2. Add the tens.

3 ten + 4 ten = 7 tens

Step 3. Add the hundreds.

3 hundreds + 3 hundreds = 6 hundreds

	H	T	O
	3	3	5
+	3	4	2
	6	7	7

(*b*)

	H	T	O
	6	1	3
+	1	3	6
	7	4	9

(*c*)

	H	T	O
	4	0	4
+	5	8	0
	9	8	4

(*d*)

	H	T	O
	3	0	0
+	2	5	0
	5	5	0

(*e*)

	H	T	O
	2	6	7
		3	2
+	4	0	0
	6	9	9

(*f*)

	H	T	O
	3	2	4
		4	3
+	3	2	1
	6	8	8

(*g*)

	H	T	O
			9
		5	0
+	6	2	0
	6	7	9

(*h*)

	H	T	O
		7	5
	1	2	3
+			1
	1	9	9

Explanation: Same as (*a*).

2. (*a*) 400 + 9

	H	T	O
	4	0	0
+			9
	4	0	9

(*b*) 126 + 52

	H	T	O
	1	2	6
+		5	2
	1	7	8

(*c*) 273 + 103 + 2

	H	T	O
	2	7	3
	1	0	3
+			2
	3	7	8

(*d*) 260 + 14 + 5

	H	T	O
	2	6	0
		1	4
+			5
	2	7	9

Quick Check (Page 74)

1.

	H	T	O
	7	6	2
+	1	6	7
	9	2	9

Regrouping at tens place.

2.

	H	T	O
	5	3	9
+	4	5	3
	9	9	2

Regrouping at ones place.

3.

	H	T	O
	2	6	8
+	2	8	7
	5	5	5

Regrouping at ones and tens places.

Practice Time 4C

1. **Step 1.** Add the ones and regroup.
4 + 8 = 12 ones
= 1 ten + 2 ones
Step 2. Add the tens.
1 + 2 + 5 = 8 tens
Step 3. Add the hundreds.
6 + 1 = 7 hundreds

	H	T	O
		(1)	
	6	2	4
+	1	5	8
	7	8	2

2.

	H	T	O
		(1)	
	5	1	8
+	3	5	5
	8	7	3

3.

	H	T	O
	(1)		
	2	8	5
+	3	4	4
	6	2	9

4.

	H	T	O
	(1)		
	5	6	2
+	3	7	5
	9	3	7

5.

	H	T	O
	(1)	(1)	
	4	3	7
+	2	9	3
	7	3	0

6.

	H	T	O
		(1)	
	3	3	4
+	4	2	7
	7	6	1

7.

	H	T	O
	(1)	(1)	
	1	9	7
+	7	9	4
	9	9	1

8.

	H	T	O
	(1)		
	3	9	6
+	2	4	2
	6	3	8

Explanation: Same as (*a*).

Practice Time 4D

1.

		H	T	O
		(1)	(1)	
Number of cows in the field	=		8	5
Number of new cows joined	= +		2	8
Total number of cows in the field	=	1	1	3

Thus, the total number of cows in the field is 113.

2.

Number of pages read on:

	H	T	O
	(1)	(1)	
Saturday =		4	5
Sunday = +		5	9
Both days =	1	0	4

Thus, the total number of pages read over the weekend is 104.

3.

	H	T	O
Number of boys visited =	6	2	0
Number of girls visited = +	2	2	0
Total number of students visited =	8	4	0

Thus, the total number of students visited the book fair is 840.

4.

	H	T	O
	(1)		
Number of mango trees =		9	3
Number of coconut trees = +	1	6	4
Total number of trees =	2	5	7

Thus, 257 trees are there in all.

5.

Number of stamps Sumita has = 582

Number of stamps Beena has = 355 + 582

Thus, Beena has 937 stamps.

	H	T	O
	(1)		
	5	8	2
+	3	5	5
	9	3	7

Brain Sizzlers (Page 76)

Number of Cherry candies = 317

Number of guava candies = 317 + 211 = 528

Total number of candies = 528 + 317 = 845

Practice Time 4E

1. **Step 1.** Subtract the ones.

6 ones – 4 ones

= 2 ones

	H	T	O
	8	5	6
–	6	3	4
			2

Step 2. Subtract the tens.

5 tens – 3 tens

= 2 tens

	H	T	O
	8	5	6
–	6	3	4
		2	2

Step 3. Subtract the hundreds.

8 hundreds – 6 hundreds

= 2 hundreds

Thus, 856 – 634 = 222

	H	T	O
	8	5	6
–	6	3	4
	2	2	2

(*b*)

	H	T	O
	6	9	0
–	4	9	0
	2	0	0

(*c*)

	H	T	O
	3	4	3
–	2	3	3
	1	1	0

(*d*)

	H	T	O
	6	7	9
–	4	7	5
	2	0	4

2. (*a*) 537 – 105

	H	T	O
	5	3	7
–	1	0	5
	4	3	2

(*b*) 753 – 20

	H	T	O
	7	5	3
–		2	0
	7	3	3

(*c*) 234 – 4

	H	T	O
	2	3	4
–			4
	2	3	0

(*d*) 814 – 14

	H	T	O
	8	1	4
–		1	4
	8	0	0

Think and Answer (Page 79)

1.

	H	T	O
		(4)	(16)
	7	~~5~~	~~6~~
–	5	2	7
	2	2	9

2.

	H	T	O
	(3)	(12)	
	~~4~~	~~2~~	8
–	2	3	5
	1	9	3

Brain Sizzlers (Page 80)

Total number of passengers in the metro train = 431

The passengers get off at the first stop = 110

∴ Number of passengers left = 431 – 110 = 321

The passengers get off at the second stop = 216

∴ Number of passengers left after second stop

= 321 – 216 = 105 passengers

Thus, 105 passengers are there on the train now.

Maths Fun (Page 81)

The runs required by India to win after the:

Over – 10

		H	T	O
Target	=	3	5	8
India	= –		5	2
To win	=	3	0	6

Over – 15

		H	T	O
Target	=	3	5	8
India	= –	1	2	2
To win	=	2	3	6

Over – 20

		H	T	O
		(2)	(15)	
Target	=	~~3~~	~~5~~	8
India	= –	1	8	5
To win	=	1	7	3

Over – 40

		H	T	O
		(2)	(15)	
Target	=	~~3~~	~~5~~	8
India	= –	2	6	0
To win	=	0	9	8

Over – 49

		H	T	O
Target	=	3	5	8
India	= –	3	5	8
To win	=	0	0	0

Practice Time 4F

1. **Step 1.** Subtract the ones.

Since, 1 < 9,

so regroup.

6 tens + 1 one

= 5 tens + 11 ones

Now, 11 ones – 9 ones

= 2 ones.

	H	T	O
		(5)	(11)
	7	~~6~~	~~1~~
–	3	4	9
			2

Step 2. Subtract the tens.

5 tens are left.

So, 5 tens – 4 tens

= 1 ten

	H	T	O
		(5)	(11)
	7	~~6~~	~~1~~
–	3	4	9
		1	2

Step 3. Now, subtract the hundreds.

7 – 3 = 4 hundreds

Thus, 761 – 349 = 412.

	H	T	O
		(5)	(11)
	7	~~6~~	~~1~~
–	3	4	9
	4	1	2

(*b*)

	H	T	O
		(3)	(16)
	5	~~4~~	~~6~~
–	2	0	9
	3	3	7

(*c*)

	H	T	O
	(6)	(13)	
	~~7~~	~~3~~	4
–	4	6	0
	2	7	4

(*d*)

	H	T	O
	(6)	(12)	
	~~7~~	~~2~~	9
–	6	5	6
	0	7	3

(*e*)

	H	T	O
	(2)	(11)	(17)
	~~3~~	~~2~~	~~7~~
–	1	9	8
	1	2	9

(*f*)

	H	T	O
	(4)	(12)	(10)
	~~5~~	~~3~~	~~0~~
–	3	5	6
	1	7	4

(*g*)

	H	T	O
	(5)	(10)	(14)
	~~6~~	~~1~~	~~4~~
–	4	5	6
	1	5	8

(*h*)

	H	T	O
	(8)	(9)	(10)
	~~9~~	~~0~~	~~0~~
–	6	3	4
	2	6	6

Explanation: same as (*a*).

2. (*a*) 935 – 86

First write the numbers in columns according to the place value and then subtract.

Step 1. Subtract the ones.

Since, 5 < 6,
so regroup.
3 tens + 5 ones
= 2 tens + 15 ones
Now, 15 – 6
= 9 ones

	H	T	O
		(2)	(15)
	9	~~3~~	~~5~~
–		8	6
			9

Step 2. Subtract the tens.

2 tens are left.
Since, 2 < 8,
so regroup
9 hundreds + 2 tens
= 8 hundreds + 12 tens
Now, 12 tens – 8 tens = 4 tens

	H	T	O
	(8)	(12)	(15)
	~~9~~	~~3~~	~~5~~
–		8	6
		4	9

Step 3. Now, subtract the hundreds.

8 – 0 = 8 hundreds
Thus, 935 – 86 = 849

	H	T	O
	(8)	(12)	(15)
	~~9~~	~~3~~	~~5~~
–		8	6
	8	4	9

(*b*) 576 – 487

First write the numbers in columns according to the place value and then subtract.

	H	T	O
	(4)	(16)	(16)
	~~5~~	~~7~~	~~6~~
–	4	8	7
	0	8	9

(*c*)

	H	T	O
	(2)	(11)	(11)
	~~3~~	~~2~~	~~1~~
–	1	9	5
	1	2	6

(*d*)

	H	T	O
	(3)	(11)	(16)
	~~4~~	~~2~~	~~6~~
–	2	7	7
	1	4	9

(*e*)

	H	T	O
	(4)	(15)	(13)
	~~5~~	~~6~~	~~3~~
–	2	7	5
	2	8	8

(*f*)

	H	T	O
	(5)	(12)	(10)
	~~6~~	~~3~~	~~0~~
–	4	8	2
	1	4	8

(*g*)

	H	T	O
	(3)	(12)	(14)
	~~4~~	~~3~~	~~4~~
–		7	9
	3	5	5

(*h*)

	H	T	O
	(4)	(9)	(10)
	~~5~~	~~0~~	~~0~~
–	2	0	7
	2	9	3

Explanation: same as (*a*).

Practice Time 4G

1.

	H	T	O
	(0)	(15)	
Total number of carrots in the basket =	~~1~~	~~5~~	2
Carrots eaten = –		8	0
Carrots left =	0	7	2

Thus, 72 carrots were left.

2.

	H	T	O
Number of children went for the picnic =	5	6	8
Number of girls went for the picnic = –	3	2	1
Number of boys went there in the picnic =	2	4	7

Thus, 247 boys were there in the picnic.

3.

	H	T	O
	(6)	(10)	(11)
The soft-drink bottles bought by the vendor =	~~7~~	~~1~~	~~1~~
Soft drink bottles sold = –	2	1	7
Soft drink bottles not sold =	4	9	4

Thus, 494 bottles were not sold.

4.

	H	T	O
		(4)	(10)
Number of sweets bought =	3	~~5~~	~~0~~
Number of sweets distributed = –	3	1	3
Number of sweets left =	0	3	7

Thus, 37 sweets were left.

5.

	H	T	O
Runs scored by Team A =	3	8	9
Runs scored by Team B = –	2	8	5
Difference in scores =	1	0	4

Thus, team A scored 104 runs more than team B.

Life Skills (Page 83)

1. Total number of packets at the beginning
= 347 + 168 = 515 packets

	H	T	O
	(1)	(1)	
	3	4	7
+	1	6	8
	5	1	5

Practice Time 4H

1. (*a*)

	H	T	O
		(1)	(14)
	7	~~2~~	~~4~~
–	5	1	8
	2	0	6

	H	T	O
		(1)	
	2	0	6
+	5	1	8
	7	2	4

The answer is correct.

(*b*)

	H	T	O
	(7)	(13)	
	~~8~~	~~3~~	6
–	4	9	2
	3	4	4

	H	T	O
	(1)		
	3	4	4
+	4	9	2
	8	3	6

The answer is correct.

(*c*)

	H	T	O
	(6)	(9)	(10)
	7	~~0~~	~~0~~
–	1	9	8
	5	0	2

	H	T	O
	(1)	(1)	
	5	0	2
+	1	9	8
	7	0	0

The answer is correct.

(*d*)

	H	T	O
		(6)	(13)
	2	~~7~~	~~3~~
–	1	3	6
	1	3	7

	H	T	O
		(1)	
	1	3	7
+	1	3	6
	2	7	3

The answer is correct.

2. (*b*)

Add

	H	T	O	
	(1)	(1)		
	2	6	8	km
+	1	4	7	km
	4	1	5	km

Subtract

	H	T	O	
	2	6	8	km
–	1	4	7	km
	1	2	1	km

(*c*) **Subtract**

	H	T	O	
		(7)	(13)	
	6	~~8~~	~~3~~	eggs
–	2	1	6	eggs
	4	6	7	eggs

Chapter Assessment

1. (*a*)

	H	T	O
	(1)		
		2	6
+		9	0
	1	1	6

Hence, option (*a*) is correct.

2. (*b*)

	H	T	O
	(2)	(12)	
	~~3~~	~~2~~	8
–	2	3	4
	0	9	4

Hence, option (*b*) is incorrect

3. (*a*)

	H	T	O
	6	9	5
–		1	5
	6	8	0

(*b*)

	H	T	O
	3	1	0
+		4	8
	3	5	8

(*c*)

	H	T	O
	(1)	(1)	
	5	0	7
+	3	9	8
	9	0	5

(*d*)

	H	T	O
	(7)	(11)	(14)
	~~8~~	~~2~~	~~4~~
–	7	9	8
	0	2	6

4. (*a*) Toys sold on Monday = 248
Toys sold on Tuesday = 356
Total toys sold in the two days
= 248 + 356 = 604 toys

	H	T	O
	(1)	(1)	
	2	4	8
+	3	5	6
	6	0	4

(*b*) ∵ 356 > 248
So, the shopkeeper sold more toys on Tuesday than Monday

		H	T	O
			(4)	(16)
Toys sold on Tuesday	=	3	~~5~~	~~6~~
Toys sold on Monday	= –	2	4	8
Difference	=	1	0	8

Thus, the shopkeeper sold 108 more toys on Tuesday than on Monday.

5. Number of pages read by Preeti on Saturday = 108

∵ She read 78 more than Saturday on Sunday.

∴ Number of pages read by her on Sunday = 108 + 78 = 186.

Therefore, Preeti read 186 pages on Sunday.

	H	T	O
		(1)	
=	1	0	8
= +		7	8
=	1	8	6

Mental Maths (Page 86)

1. Raghav's age = 15 years

Raghav's sister age = 1 decade + 15 years

= 10 years + 15 years

(∵ 1 decade = 10 years)

= 25 years

2. (*a*)

	H	T	O
	(1)	(1)	
		5	3
+		8	7
	1	4	0

(*b*)

	H	T	O
		(7)	(13)
	3	8	3
–		5	9
	3	2	4

(*c*)

	H	T	O
	(1)	(1)	
	3	5	2
+	1	9	8
	5	5	0

(*d*)

	H	T	O
	(8)	(12)	(10)
	9	3	0
–	2	8	8
	6	4	2

CHAPTER 5 : MULTIPLICATION

Get Ready

1. A rabbit covers 2 m distance in one hop.

The distance covered by the rabbit in 6 hops = 2 m added 6 times = 2 + 2 + 2 + 2 + 2 + 2 = 12 m

Therefore, a rabbit will hop 12 m in 6 hops.

2. Since the child covers 1 m in one hop, the distance covered by the child in 10 hops is:

1 m added 10 times = 1 + 1 + 1 + 1 + 1 + 1 + 1 + 1 + 1 + 1 = 10 m

Practice Time 5A

1. (*a*) 6 + 6 + 6 = [18] or 3 × 6 = [18]

(*b*) 2 + 2 + 2 + 2 = [8] or 4 × 2 = [8]

(*c*) 5 + 5 + 5 + 5 + 5 = [25] or 5 × 5 = [25]

2. (*a*) 6 + 6 + 6 + 6 = 4 × 6

(*b*) 5 + 5 + 5 + 5 + 5 + 5 = [6] × [5]

(*c*) 10 + 10 = [2] × [10]

(*d*) 8 + 8 + 8 = [3] × [8]

(*e*) 6 + 6 + 6 + 6 + 6 = [5] × [6]

(*f*) 3 + 3 + 3 + 3 + 3 + 3 = [6] × [3]

3. (*a*) 4 × 8 = 8 + 8 + 8 + 8

(*b*) 7 × 5 = 5 + 5 + 5 + 5 + 5 + 5 + 5

(*c*) 4 × 9 = 9 + 9 + 9 + 9

(*d*) 3 × 6 = 6 + 6 + 6

(*e*) 5 × 7 = 7 + 7 + 7 + 7 + 7

(*f*) 6 × 4 = 4 + 4 + 4 + 4 + 4 + 4

Practice Time 5B

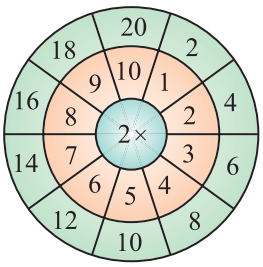
1. (*a*) There are 3 groups of two-candles.

3 × 2 = 6

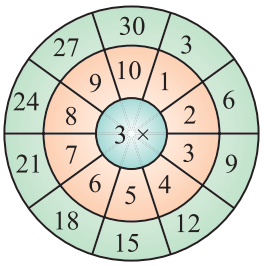
(*b*) There are 2 groups of eight-ice-creams.

2 × 8 = 16

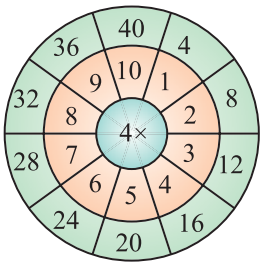
2. (*a*)



(*b*)

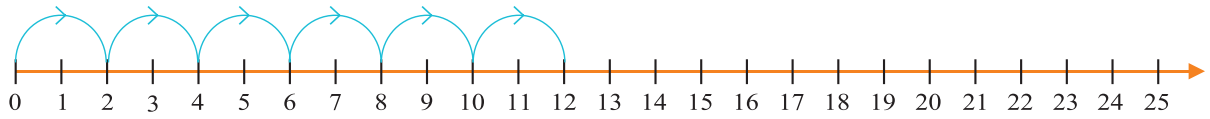


(*c*)



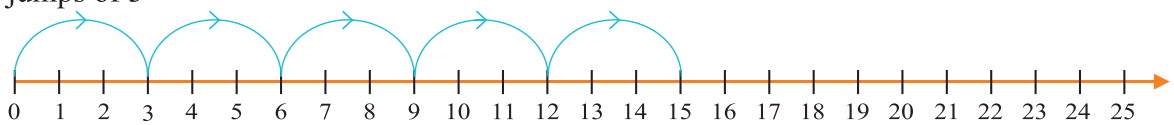
3. Do it yourself

4. (*a*) 6 jumps of 2



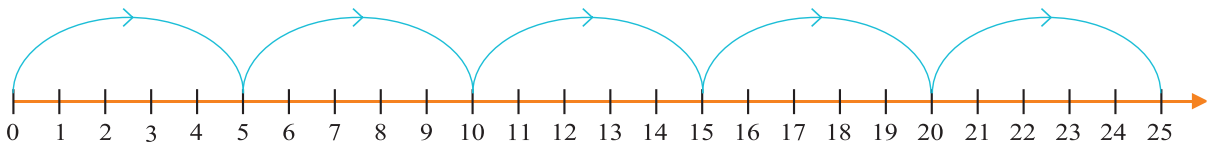
6 × 2 = 12

(*b*) 5 jumps of 3



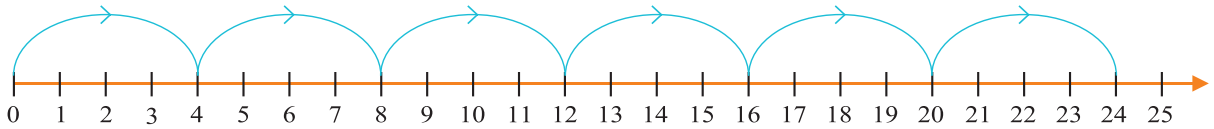
5 × 3 = 15

(*c*) 5 jumps of 5



5 × 5 = 25

(*d*) 6 jumps of 4



6 × 4 = 24

5. (*a*) 2 × 4 = 8 (*b*) 5 × 4 = 20
(*c*) 4 × 6 = 24 (*d*) 9 × 3 = 27
(*e*) 2 × 10 = 20 (*f*) 6 × 7 = 42
(*g*) 8 × 5 = 40 (*h*) 3 × 10 = 30
(*i*) 7 × 2 = 14 (*j*) 6 × 3 = 18
(*k*) 8 × 6 = 48 (*l*) 9 × 10 = 90

Think and Answer (Page 99)

1. Yes, the rows and the columns are interchanged in the arrangement of Laddoos.

2. In the pictures it is shown that 2 groups of sevens is the same as 7 groups of twos. So, in the pictures it is illustrated that, if we change the order in the multiplication, the result will be unchanged.

3. No.
7 twos = 7 × 2 = 14 and 2 fives = 2 × 5 = 10
14 ≠ 10
Thus, given statement is incorrect.

Practice Time 5C

1. (*a*) 1 × 2 = 2 (*b*) 1 × 5 = 5
(*c*) 5 × 1 = 5 (*d*) 1 × 8 = 8
(*e*) 9 × 0 = 0 (*f*) 7 × 1 = 7
(*g*) 1 × 1 = 1 (*h*) 0 × 3 = 0
(*i*) 3 × 2 = 6

2. (*a*) 3 × 4 = 4 × 3 (*b*) 5 × 6 = 6 × 5
(*c*) 2 × 5 = 5 × 2 (*d*) 4 × 5 = 5 × 4
(*e*) 3 × 7 = 7 × 3 (*f*) 2 × 6 = 6 × 2
(*g*) 2 × 8 = 8 × 2 (*h*) 7 × 4 = 4 × 7
(*i*) 8 × 5 = 5 × 8

3. (*a*) Double of 7 = 7 × 2 = 14
(*b*) Double of 6 = 6 × 2 = 12
(*c*) Double of 8 = 8 × 2 = 16

(*d*) Double of 9 = 9 × 2 = 18

(*e*) Double of 10 = 10 × 2 = 20

(*f*) Double of 1 = 1 × 2 = 2

Practice Time 5D

1. (*a*)

	T	O
		8
×		5
	4	0

(*b*)

	T	O
		9
×		5
	4	5

(*c*)

	T	O
		6
×		4
	2	4

(*d*)

	T	O
		7
×		3
	2	1

(*e*)

	T	O
		6
×		5
	3	0

(*f*)

	T	O
		7
×		4
	2	8

(*g*)

	T	O
		5
×		2
	1	0

(*h*)

	T	O
		6
×		3
	1	8

(*i*)

	T	O
		3
×		2
		6

(*j*)

	T	O
		5
×		5
	2	5

2. (*a*) 5 × 4 = 20

	T	O
		5
×		4
	2	0

(*b*) 6 × 2 = 12

	T	O
		6
×		2
	1	2

Same as above (*a*) and (*b*)

(*c*) 2 × 6 = 12 (*d*) 9 × 3 = 27

(*e*) 3 × 9 = 27 (*f*) 9 × 10 = 90

(*g*) 2 × 5 = 10 (*h*) 4 × 4 = 16

(*i*) 7 × 9 = 63 (*j*) 8 × 8 = 64

3. (*a*) Number of legs in one chair = 4

Number of legs in 9 chairs = 9 × 4 = 36 legs

	T	O
		9
×		4
	3	6

(*b*)

	T	O
Number of swings in the park =		6
Number of children on each swing = ×		2
Number of children in all =	1	2

Thus, there are 12 children in all.

(*c*)

	T	O
Number of flowers each child has =		2
Number of children = ×		9
Number of flowers 9 children have =	1	8

So, 9 children have 18 flowers.

(*d*)

	T	O
Number of see-saws in the park =		3
Number of children on each sea-saw = ×		4
Number of children in all =	1	2

Thus, there are 12 children in all.

(*e*)

	T	O
Total number of children =		5
Number of sweets each child has = ×		6
Number of sweets in all =	3	0

Thus, there are 30 sweets in all.

Practice Time 5E

1.

	T	O
	1	2
×		4
	4	8

2.

	T	O
	3	2
×		2
	6	4

3.

	T	O
	2	2
×		3
	6	6

4.

	T	O
	3	3
×		2
	6	6

5.

	T	O
	2	1
×		4
	8	4

6.

	T	O
	4	0
×		2
	8	0

7.

	T	O
	3	3
×		3
	9	9

8.

	T	O
	1	1
×		6
	6	6

Think and Answer (Page 105)

1.

	T	O
		6
×		6
	3	6

2.

	T	O
	(4)	
	1	8
×		5
	9	0

3.

	H	T	O
		(2)	
		5	5
×			5
	2	7	5

Practice Time 5F

1. (*a*)

	T	O
	(1)	
	2	4
×		3
	7	2

(*b*)

	T	O
	(2)	
	1	5
×		5
	7	5

(*c*)

	T	O
	(4)	
	1	9
×		5
	9	5

(*d*)

	T	O
	(1)	
	2	6
×		2
	5	2

2. (*a*)

	H	T	O
	(1)		
		6	3
×			3
	1	8	9

(*b*)

	H	T	O
	(3)		
		8	2
×			4
	3	2	8

(*c*)

	H	T	O
	(7)		
		9	1
×			8
	7	2	8

(*d*)

	H	T	O
	(4)		
		7	0
×			7
	4	9	0

3. (*a*)

	H	T	O
	(1)	(1)	
		4	5
×			3
	1	3	5

(*b*)

	H	T	O
	(1)	(3)	
		4	8
×			4
	1	9	2

(*c*)

	H	T	O
	(6)	(6)	
		6	7
×			9
	6	0	3

(*d*)

	H	T	O
	(6)	(4)	
		7	6
×			8
	6	0	8

(*e*)

	H	T	O
	(8)		
		9	1
×			9
	8	1	9

(*f*)

	H	T	O
	(3)	(1)	
		6	2
×			6
	3	7	2

(*g*)

	H	T	O
	(4)	(4)	
		9	8
×			5
	4	9	0

(*h*)

	H	T	O
	(4)	(5)	
		6	8
×			7
	4	7	6

Practice Time 5G

1. (*a*)

	H	T	O
	(2)		
Number of crayons in one packet =		4	0
Number of crayons in 5 packets = ×			5
Total number of crayons =	2	0	0

Thus, the total number of crayons is 200.

(*b*)

	H	T	O
	(1)	(2)	
Number of students in one row =		2	4
Number of rows = ×			5
Number of students in 5 rows =	1	2	0

Thus, there are 120 students in 5 rows.

(*c*)

	H	T	O
Number of bags of wheat each shop has =	(3)	(2)	
		7	5
Number of shops in the village = ×			4
Total number of bags of the wheat in the shops =	3	0	0

Thus, there are 300 bags of wheat in all.

(*d*)

	H	T	O
	(1)	(1)	
Number of pencils in one packet =		1	2
Number of packets = ×			9
Number of pencils in 9 packets =	1	0	8

Thus, there are 108 pencils in the 9 packets.

(*e*)

	H	T	O
	(1)	(1)	
Number of books in one rack =		2	2
Number of racks = ×			8
Number of books in 8 racks =	1	7	6

Thus, there are 176 books in 8 racks.

2. (*a*) To find the difference between number of red and blue balloons, you need to use subtraction.

	H	T	O
Number of red balloons =	2	4	2
Number of blue balloons = –	1	6	0
Difference =	0	8	2

Thus, there were 82 more red balloons than blue balloons.

(*b*) To find the total number of people visited the book fair on both days, you need to do addition.

Number of people visited the book fair:

	H	T	O
On Monday =	3	6	2
On Tuesday = +	2	1	0
On both days =	5	7	2

Thus, 572 people visited the book fair on both days.

(*c*) Total number of slices of one pizza is given. To fund find the total number of slices of 15 such pizzas, you need to do multiplication.
Number of slices in one pizza = 4
Number of pizzas = 15
Number of slices in 15 pizzas
= 15 × 4 = 60 slices.

(*d*) The number of trophies in one section of a showcase is given. To find the total number of trophies in 5 such sections, we need to do multiplication.

	H	T	O
	(1)		
Number of trophies in one section =		3	0
Number of sections = ×			5
Number of trophies in 5 sections =	1	5	0

Thus, there are 150 trophies in 5 sections of the showcase.

Life Skills (Page 108)

Total friends = 6		
Item	**Each got**	**Total items**
ICE cream	2	2 × 6 = 12
Chocolate	4	4 × 6 = 24
Pastry	3	3 × 6 = 18
Lollipop	6	6 × 6 = 36
Candies	10	10 × 6 = 60

Mental Maths (Page 108)

1. Number of wheels in 4 tricycles = 4 × 3 = 12 wheels.

2. There are 42 days in 6 weeks. (∵ 6 × 7 = 42)

3. Do it yourself.

4.

	T	O
Number of pages read by Rahul in one day =	1	0
Number of days in one week = ×		7
Number of pages in one week =	7	0

Thus, Rahul will be able to read 70 pages in a week.

5.

	T	O
	(1)	
Total number of dice =		4
Number of dots on each die = ×		4
Number of dots in all =	1	6

Thus, 16 dots were there in all.

Brain Sizzlers (Page 108)

1.

1	×	2	=	2	4	×	5	=	20
			×		×				
3	×	1	=	3	3	×	6	=	18
			=		=				
		2	×	6	=	12			

2. Kiran's age = 8 years.
Kiran father's age = 34
By trial method using the given options, we see that after 5 years, Kiran's age = 8 + 5 = 13 years.
Kiran's father age = 34 + 5 = 39 years
13 × 3 = 39
Therefore, the correct answer is option (*c*).

Chapter Assessment

1. (*a*) All of these
2. (*c*) 4 + 5 = 20 ($\because$ 4 + 5 = 9, 4 + 5 ≠ 20)
3. (*b*) 3 × 6 = 18
4. (*b*) 4 × 9 = 36, 9 × 4 = 36
(*c*) 6 × 3 = 18, 3 × 6 = 18
(*d*) 10 × 5 = 50, 5 × 10 = 50

5. (*a*)

	H	T	O
	(1)	(1)	
		6	6
×			3
	1	9	8

(*b*)

	H	T	O
	(3)		
		8	2
×			4
	3	2	8

(*c*)

	H	T	O
	(1)		
		2	1
×			8
	1	6	8

(*d*)

	H	T	O
	(4)	(5)	
		6	9
×			6
	4	1	4

6.

	H	T	O
	(1)	(4)	
Number of balls in one box =		1	5
Number of boxes = ×			9
Number of balls in 9 boxes =	1	3	5

Thus, there are 135 balls in 9 such boxes.

7.

	H	T	O
	(1)	(3)	
Number of chairs in one row =		3	6
Number of rows = ×			5
Number of chairs in 5 rows =	1	8	0

Thus, there are 180 chairs in 5 rows.

CHAPTER 6 : DIVISION

Get Ready

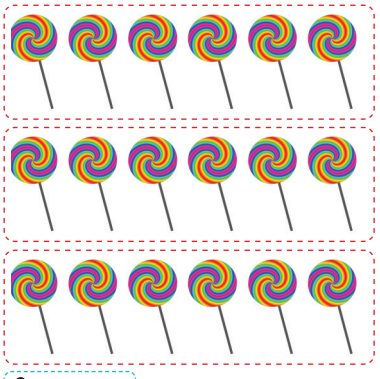
Number of pastries = 8
Number of members = 4
Number of pastries each member gets = 8 ÷ 4 = 2
Thus, each member will get 2 pastries.

Practice Time 6A

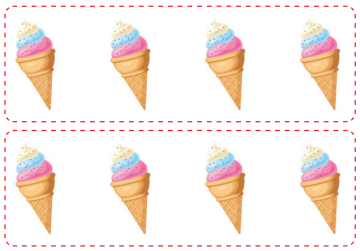
1. Observe the given picture. 15 balloons can be shared equally among 3 children by dividing the balloons into groups of 5. Therefore, each child gets [5] balloons. So, 15 ÷ 3 = [5].
2. Similarly as explained above.
Each monkey gets [4] bananas.
So, 16 ÷ 4 = [4]
3. Each parrot gets [10] chillies.
So, [30] ÷ 3 = [10]
4. (*a*) Number of students in the class = 30
Number of teams = 6
Number of students in each team = 30 ÷ 6 = 5
So, there are 5 students in each team.
(*b*) 30 ÷ 6 = 5

Practice Time 6B

1. (*a*)



[3 groups]
[18] divided by [6] equals [3]
So, [18] ÷ [6] = [3]

(*b*) 

2 groups

8 divided by 4 equals 2

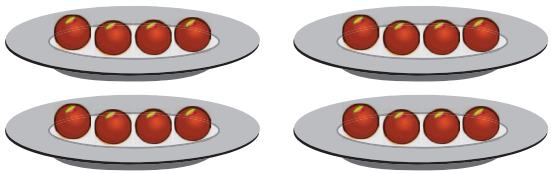
So, 8 ÷ 4 = 2

2. (*b*) 2 groups, 6 strawberries in each group.
Division facts: 12 ÷ 6 = 2 and 12 ÷ 2 = 6.

(*c*) 5 groups, 4 bananas in each groups.
Division facts: 20 ÷ 4 = 5 and 20 ÷ 5 = 4.

(*d*) 3 groups, 8 grapes in each group.
Division facts: 24 ÷ 8 = 3 and 24 ÷ 3 = 8.

3. Number of gulabjamuns = 16
Number plates = 4
Division facts: 16 ÷ 4 = 4.



Practice Time 6C

1. (*a*) To divide 14 erasers among 7 children, subtract 7 from 14 until you get 0.
14 – 7 – 7 = 0 (7 is subtracted 2 times)
Therefore, each child gets 2 erasers.

Similarly,

(*b*) 12 – 3 – 3 – 3 – 3 = 0 (3 is subtracted 4 times)
∴ Each girl gets 4 balls.

(*c*) 36 – 6 – 6 – 6 – 6 – 6 – 6 = 0 (6 is subtracted 6 times)
∴ Each boy gets 6 kites.

(*d*) 20 – 5 – 5 – 5 – 5 = 0 (5 is subtracted 4 times)
∴ Each student gets 4 pencils.

2. (*a*) Repeated Subtraction
10 – 5 = 5, 5 – 5 = 0, so, 10 – 5 – 5 = 0
∴ 10 ÷ 5 = 2

(*b*) Repeated Subtraction
18 – 6 = 12, 12 – 6 = 6, 6 – 6 = 0
So, 18 – 6 – 6 – 6 = 0
∴ 18 ÷ 6 = 3

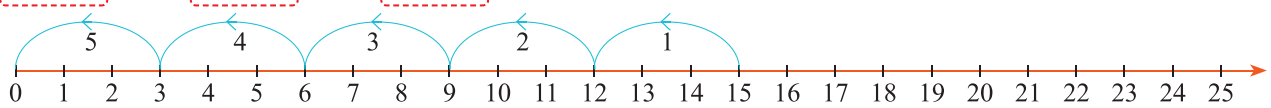
(*c*) Repeated Subtraction
25 – 5 = 20, 20 – 5 = 15, 15 – 5 = 10,
10 – 5 = 5, 5 – 5 = 0
So, 25 – 5 – 5 – 5 – 5 – 5 = 0
∴ 25 ÷ 5 = 5

(*d*) Repeated Subtraction 16 – 8 = 8, 8 – 8 = 0
∴ 16 ÷ 8 = 2

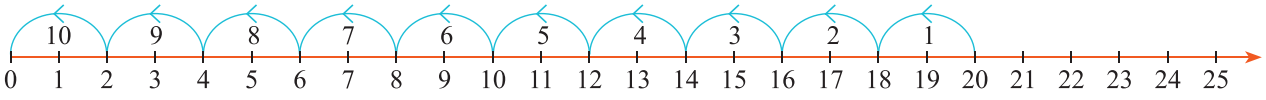
(*e*) Repeated Subtraction
24 – 4 = 20, 20 – 4 = 16, 16 – 4 = 12, 12 – 4 = 8, 8 – 4 = 4, 4 – 4 = 0
∴ 24 ÷ 4 = 6

(*f*) Same as above. 30 ÷ 6 = 5

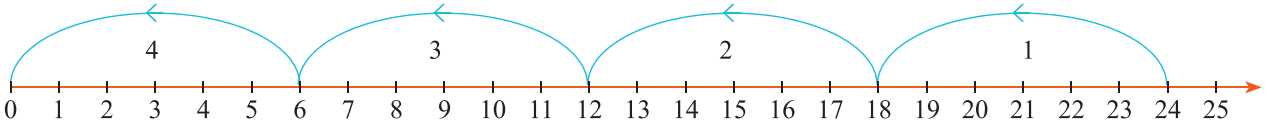
3. (*a*) 15 ÷ 3 = 5



(*b*) 20 ÷ 2 = 10



(*c*) 24 ÷ 6 = 4



Think and Answer (Page 119)

1. Division fact: $25 \div 5 = 5$

So, you will get one division fact.

2.

Multiplication Facts						Corresponding Division Facts				
(*a*)	7	×	6	=	42	→ 42 ÷ 7 = 6				
(*b*)	6	×	7	=	42	→ 42 ÷ 6 = 7				
(*c*)	6	×	5	=	30	→ 30 ÷ 5 = 6				
(*d*)	5	×	6	=	30	→ 30 ÷ 6 = 5				
(*e*)	10	×	8	=	80	→ 80 ÷ 8 = 10				
(*f*)	8	×	10	=	80	→ 80 ÷ 10 = 8				

Practice Time 6D

1. (*b*) Division Facts: $18 \div 9 = 2$, $18 \div 2 = 9$

(*c*) Division Facts: $32 \div 4 = 8$, $32 \div 8 = 4$

(*d*) Division Facts: $42 \div 6 = 7$, $42 \div 7 = 6$

(*e*) Division Facts: $48 \div 6 = 8$, $48 \div 8 = 6$

(*f*) Division Facts: $20 \div 4 = 5$, $20 \div 5 = 4$

2. (*a*) Recall the multiplication table of 3.

$1 \times 3 = 3$, $2 \times 3 = 6$, $3 \times 3 = 9$, $4 \times 3 = 12$,

$5 \times 3 = 15$, $6 \times 3 = 18$, $7 \times 3 = 21$,

$8 \times 3 = 24$ (Stop here)

Using the relation between division and multiplication, we find that $24 \div 3 = 8$

(*b*) Recall the multiplication table of 7.

$1 \times 7 = 7$, $2 \times 7 = 14$, $3 \times 7 = 21$ (Stop here)

Using the relation between division and multiplication, we find that $21 \div 7 = 3$

(*c*) Recall the multiplication table of 10.

$1 \times 10 = 10$, $2 \times 10 = 20$,

$3 \times 10 = 30$ (Stop here)

Using the relation between division and multiplication, we find that $30 \div 10 = 3$

(*d*) to (*l*) Same as above.

Practice Time 6E

1. (*a*) Dividend = 18, Divisor = 2, Quotient = 9

(*b*) Dividend = 24, Divisor = 8, Quotient = 3

(*c*) Dividend = 36, Divisor = 4, Quotient = 9

(*d*) Dividend = 40, Divisor = 5, Quotient = 8

(*e*) Dividend = 54, Divisor = 6, Quotient = 9

2. (*b*)
$$\begin{array}{r} 8 \\ 4\overline{)\,3\,2} \\ -\,3\,2 \\ \hline 0 \end{array}$$

(*c*)
$$\begin{array}{r} 6 \\ 6\overline{)\,3\,6} \\ -\,3\,6 \\ \hline 0 \end{array}$$

(*d*)
$$\begin{array}{r} 9 \\ 5\overline{)\,4\,5} \\ -\,4\,5 \\ \hline 0 \end{array}$$

(*e*)
$$\begin{array}{r} 9 \\ 6\overline{)\,5\,4} \\ -\,5\,4 \\ \hline 0 \end{array}$$

(*f*)
$$\begin{array}{r} 6 \\ 10\overline{)\,6\,0} \\ -\,6\,0 \\ \hline 0 \end{array}$$

(*g*)
$$\begin{array}{r} 6 \\ 8\overline{)\,4\,8} \\ -\,4\,8 \\ \hline 0 \end{array}$$

(*h*)
$$\begin{array}{r} 7 \\ 9\overline{)\,6\,3} \\ -\,6\,3 \\ \hline 0 \end{array}$$

Practice Time 6F

1. (*a*)
$$\begin{array}{r} 6 \leftarrow \text{Quotient} \\ \text{Divisor} \rightarrow 4\overline{)\,2\,5} \leftarrow \text{Dividend} \\ -\,2\,4 \\ \hline 0\,1 \leftarrow \text{Remainder} \end{array}$$

Q = 6, R = 1

(*b*)
$$\begin{array}{r} 6 \leftarrow \text{Q} \\ 5\overline{)\,3\,2} \\ -\,3\,0 \\ \hline 0\,2 \leftarrow \text{R} \end{array}$$

Q = 6, R = 2

(*c*)
$$\begin{array}{r} 5 \leftarrow \text{Q} \\ 8\overline{)\,4\,7} \\ -\,4\,0 \\ \hline 0\,7 \leftarrow \text{R} \end{array}$$

Q = 5, R = 7

(*d*)
$$\begin{array}{r} 8 \leftarrow \text{Q} \\ 9\overline{)\,7\,5} \\ -\,7\,2 \\ \hline 0\,3 \leftarrow \text{R} \end{array}$$

Q = 8, R = 3

2. Do it yourself.

Practice Time 6G

1. $8 \div 8 = 1$
2. $9 \div 1 = 9$
3. $5 \div 0$ = not possible
4. $0 \div 1 = 0$
5. $0 \div 7 = 0$
6. $6 \div 0$ = not possible
7. $7 \div 7 = 1$
8. $4 \div 4 = 1$
9. $10 \div 10 = 1$
10. $0 \div 10 = 0$
11. $2 \div 1 = 2$
12. $1 \div 0$ = not possible

Practice Time 6H

1. Total score = 45 runs
   5 players scored the same runs to make a total of 45 runs.
   To find the runs scored by each player, we need to divide 45 by 5.
   $45 \div 5 = 9$
   Therefore, each player scored 9 runs.
2. Total pages to be coloured in 3 days = 6
   To find the number of pages to be coloured everyday, you need to divide 6 by 3.
   $6 \div 3 = 2$
   Therefore, Anjana should colour 2 pages everyday.
3. Total number of candies = 40
   The total number of friends = 8
   To find the share of each friends, we need to divide 40 by 8.
   $40 \div 8 = 5$
   Therefore, each friend will get 5 candies.
4. The cost of 5 chocolates = ₹50
   The cost of 1 chocolates = ₹50 ÷ 5 = ₹10
   Thus, the cost of one chocolate is ₹10.
5. 6 balls are packed in one box.
   To find the required number of boxes to pack 36 balls, we need to divide 36 by 6.
   $36 \div 6 = 6$
   Therefore, 6 boxes are used to pack all the balls.

Chapter Assessment

1. (*a*) $20 \div 5 = 4$
2. (*c*) $20 \div 5 = 4$
3. (*b*) $72 \div 9 = 8$
4. (*a*) $14 \div 7 = 2$ (*b*) $27 \div 9 = 3$
5. (*a*)
$$\begin{array}{r} 6 \leftarrow Q \\ 3\overline{)\,1\;8} \\ -\,1\;8 \\ \hline 0 \leftarrow R \end{array}$$
Q = 6, R = 0

(*b*)
$$\begin{array}{r} 4 \leftarrow Q \\ 5\overline{)\,2\;1} \\ -\,2\;0 \\ \hline 0\;1 \leftarrow R \end{array}$$
Q = 4, R = 1

(*c*)
$$\begin{array}{r} 4 \leftarrow Q \\ 8\overline{)\,3\;6} \\ -\,3\;2 \\ \hline 0\;4 \leftarrow R \end{array}$$
Q = 4, R = 4

(*d*)
$$\begin{array}{r} 6 \leftarrow Q \\ 7\overline{)\,4\;5} \\ -\,4\;2 \\ \hline 0\;3 \leftarrow R \end{array}$$
Q = 6, R = 3

6. (*a*) Total toffees = 28
   To divide 40 toffees equally among 4 boys,
   divide 28 by 4, $28 \div 4 = 7$
   Thus, each boy will get 7 toffees.
$$\begin{array}{r} 7 \leftarrow Q \\ 4\overline{)\,2\;8} \\ -\,2\;8 \\ \hline 0 \leftarrow R \end{array}$$
   (*b*) Total mangoes = 20
   Each plate contains 2 mangoes
   To get the required number of plates, divide 20 by 2. $20 \div 2 = 10$
   Thus, 10 plates will contain 20 mangoes.
$$\begin{array}{r} 10 \leftarrow Q \\ 2\overline{)\,2\;0} \\ -\,2\;0 \\ \hline 0 \leftarrow R \end{array}$$
   (*c*) Total boys = 50
   10 boys stand in one row
   Divide 50 by 10. $50 \div 10 = 5$
   Thus, 50 boys can stand in 10 rows.

Mental Maths (Page 127)

1. Pairs of earrings = $16 \div 2 = 8$ pairs
2. Number of wheels = 20
   Number of wheels in one car = 4
   Divide 20 by 4. $20 \div 4 = 5$
   Thus, required number of cars = 5
3. $12 \div 3 = 4$ groups.
4. $6 \times 6 = 36$. So, there are six 6s in 36.
5. Number of days = 56
   1 week = 7 days.
   $56 \div 7 = 8$.
   $\therefore$ There are 8 weeks in 56 days.
6. $30 \div 10 = 3$
   $\therefore$ Required number = 30

Brain Sizzlers (Page 127)

1. Distance covered in one hop = 4 m
   Number of hops to cover 40 m can be find as $40 \div 4 = 10$ m.
   Thus, 10 hops are required to cover 40 m.

2. Total number of buttons for stitching shirts = 50
Number of buttons used in one shirt = 6
To find the number of shirts, we divide 50 by 6.
Thus, he can stitch 8 shirts and 2 buttons will be leftover.

$$\begin{array}{r} 8 \\ 6\overline{)\,5\,0} \\ -\,4\,8 \\ \hline 0\,2 \end{array}$$

MODEL TEST PAPER – 1

1. (*d*) 623
2. (*c*) The least number among 709, 790, 907, and 970 is 709
3. (*c*) 800 – 100 = 700
4. (*c*) 700 – 250 = 450
5. (*c*) 10 as 10 × 10 = 100
6. (*c*) 2 × 25 = 50
7. (*b*) 50 + 65 = 115
8. (*c*) 2 groups of 3 dots each make 6.
9. (*c*) The least value is 20 ÷ 5 = 4
10. (*b*) 40 ÷ 8 = 5
11. (*a*) 70 tens + 2 ones = 700 + 2 = 702 ≠ 72
Hence, the statement is false.
(*b*) 1 hundred + 0 ones + 3 tens = 100 + 0 + 30 = 130 ≠ 103
Hence, the statement is false.
(*c*) 312 is greater than 213 = True
(*d*) 38 – 25 = 13 True
(*e*) 24 ÷ 6 = 4. False
12. Given numbers is 143, 816, 206, 265, 818, 230
Ascending order = 143, 206, 230, 265, 816, 818
Descending order = 818, 816, 265, 230, 206, 143
13. Seema has 95 sells and Nena has 120 sells.
Neha gives 15 shells to Seema, so number of shells left with Neha = 120 – 15 = 105 and number of shells with Seema = 95 + 15 = 110.
Thus, Seema has more number of shells.

14.

	Expanded Form	Short Form
(*a*)	7 hundred + 0 tens + 9 ones	709
(*b*)	900 + 80 + 7	987
(*c*)	900 + 50 + 7	957

15. (*a*) Total number of animals on the farm
= 45 cows + 47 goats = 92
(*b*) 45 cows = 45 × 4 legs = 180 legs
47 goats = 47 × 4 legs = 188 legs
Total legs = (180 + 188) legs = 368 legs
16. Total chocolates = 84
To distribute 84 chocolates equally among 7 children, we divide 84 by 7.
Thus, each child will get 12 chocolates.

$$\begin{array}{r} 12 \\ 7\overline{)\,8\,4} \\ -\,7\downarrow \\ \hline 1\,4 \\ -\,1\,4 \\ \hline 0 \end{array}$$

CHAPTER 7 : FRACTION

Practice Time 7A

1. (*a*), (*c*) and (*e*)
2. Do by yourself
3. Do by yourself
4. Do by yourself

Practice Time 7B

3. (*a*) Green; $\frac{1}{4}$ (*b*) Red; $\frac{3}{4}$

Mental Maths (Page 134)

2. Full bunch of bananas = 4 times ($\frac{1}{4}$ of the bunch)
∴ Total bananas in the bunch
= 4 times (2 bananas) = 4 × 2 = 8 bananas.

Quick Check (Page 135)

1. $\frac{1}{2}$ of 10 balls = $\frac{1}{2}$ × 10 = 5 balls.
2. $\frac{1}{3}$ of 12 toffees = $\frac{1}{3}$ × 12 = 4 toffees
3. $\frac{1}{4}$ of 8 toy cars = $\frac{1}{4}$ × 8 = 2 toy cars.

Chapter Assessment

1. (*c*) **2.** (*c*) **3.** (*b*)
4. (*a*) $\frac{1}{4}$ (*b*) $\frac{1}{2}$ (*c*) $\frac{3}{4}$
(*d*) $\frac{1}{3}$ (*e*) $\frac{1}{4}$ (*f*) $\frac{1}{4}$
(*g*) $\frac{1}{2}$ (*h*) $\frac{1}{3}$

Brain Sizzlers (Page 136)

Fraction of biscuits received by each = $\frac{3}{9} = \frac{1}{3}$
Each one received 3 biscuits.

CHAPTER 8 : SHAPES AND PATTERNS

Get Ready

1. (*d*) **2.** (*c*)
3. (*a*) **4.** (*b*)

Practice Time 8A

1. When light falls on an opaque object its shadow is farmed on the other side on a screen.
2. Under the shadow of a tree.
3. Do it yourself.
4. Circles = 5, squares = 2, Rectangles = 13, Triangles = 5
5. (*a*) A square has 4 sides and 4 vertices.
(*b*) All the sides of a square are equal.
(*c*) A triangle has 3 sides and 3 vertices.
(*d*) A rectangle has 4 sides and 4 vertices.
(*e*) A circle has no sides and no corners.

Practice Time 8B

1. Do it yourself.
2. Horizontal lines: 2 Vertical lines: 1
Slanting lines: 4
3. (*i*) Test-tube (*ii*) Chair

Think and Answer (Page 145)

1. No corners: Ball, coin
2. 1 corner: Birthday cap, ice-cream cone
3. 2 edges: Juice can, glass
4. 6 faces: Matchbox, almirah.

Practice Time 8C

1. (*a*) One Cubical object: Dice
(*b*) One Spherical object: Tomato
(*c*) One Cylindrical object: Bottle
(*d*) One Cuboidal object: Geometry box

2.

Solid Shape	Cube	Cuboid	Cone	Cylinder	Sphere
Faces	6	6	2	3	1
Vertices	8	8	1	0	0
Edges	12	12	1	2	0

Practice Time 8D

2. (*a*) Cube, Cuboid (*b*) Sphere
(*c*) Cylinder

Think and Answer (Page 148)

AB BC AB BC AB BC

Practice Time 8E

1. and **2.** Do it yourself.
3. (*a*) 6 8 10 12 14 16 18
(next number = previous number + 2)
(*b*) 15 18 21 24 27 30 33
(next number = previous number + 3)
(*c*) 10 20 30 40 50 60 70
(next number = previous number + 10)
(*d*) AB EF IJ MN QR UV YZ
(*e*) Z X V T R P N

Mental Maths (Page 149)

1. Cube **2.** Sphere
3. Rectangle **4.** 7

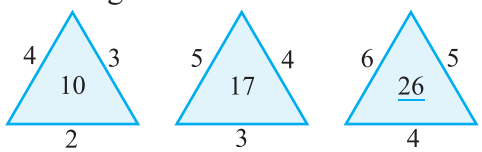
Chapter Assessment

1. (*a*) I am a plane shape. I have three sides. I am a Triangle.
(*b*) I am a plane shape. I have four equal sides. I am a square.
(*c*) I am a solid shape. I have one plane face and one curved face. I am a cone.
(*d*) I am a solid shape. I have two plane faces and one curved face. I am a cylinder.
2. to **4.** Do it yourself.
5. (*a*) 1, 3, 5, 7, 9, 11, 13, 15
(*b*) 5, 10, 15, 20, 25, 30, 35
(*c*) A, AB, ABC, ABCD, ABCDE, ABCDEF, ABCDEFG
(*d*) Aa, Bb, Cc, Dd, Ee, Ff, Gg

Brain Sizzlers (Page: 151)

1. 9 rectangles

2.



(∵ $6 \times 5 - 4 = 30 - 4 = 26$)

CHAPTER 9 : MEASUREMENT

Think and Answer (Page 155)

1. Length of a toothbrush in cm
2. Height of a boy in cm

3. Length of a shoe lace in cm
4. Height of a building in m

Practice Time 9A

1. Do it yourself.
2. (*a*), (*b*) and (*e*)

Practice Time 9B

1. (*a*)

	①		
	5	9	cm
+	3	3	cm
	9	2	cm

(*b*)

	①	①		
		5	6	cm
		2	8	cm
+		2	0	cm
	1	0	4	cm

(*c*)

	①	8	2	m
		4	5	m
+		1	1	m
	1	3	8	m

2. (*a*)

	7	3	cm
–	5	0	cm
	2	3	cm

(*b*)

	⑦	⑰		
	~~8~~	~~7~~		cm
–	6	8		cm
	1	9		cm

(*c*)

		⑧	⑮	
	4	~~9~~	~~5~~	m
–	1	3	6	m
	3	5	9	m

5. (*a*) Length of red ribbon = 24 cm
Length of blue ribbon = 43 cm
Total length of two ribbons = 24 + 43 = 67 cm
Thus, total length of two ribbons is 67 cm.

	2	4	cm
+	4	3	cm
	6	7	cm

(*b*) Length of first piece of rope = 58 m
Length of second piece of rope = 14 m
Total length of two pieces = 58 m + 14 m = 72 m
Thus, length of the two pieces of rope is 72 m.

	①		
	5	8	m
+	1	4	m
	7	2	m

(*c*) Cloth sold on Monday = 225 m
Cloth sold on Tuesday = 465 m
Difference = 465 – 225 = 240 m
∵ 465 > 225, the man sold 240 m more cloth on Tuesday.

(*d*) Length of first rope = 285 cm
Length of the other rope = 66 cm
Difference of two ropes = 285 – 66 = 219 cm
Thus, difference of two ropes is 219 cm.

		⑦	⑮	
	2	~~8~~	~~5~~	cm
–		6	6	cm
	2	1	9	cm

Practice Time 9C

1. (*a*) A Watermelon (*b*) A pair of litchi
2. Do it yourself.
3. (*a*) kg (*b*) g
(*c*) kg (*d*) g
4. (*a*) 70 g (*b*) 40 g (*c*) 80 g
5. Do it yourself.

Practice Time 9D

1. (*a*)

	①			
	4	6	kg	
+	3	4	kg	
	8	0	kg	

(*b*)

	3	0	0	g
+	2	0	0	g
	5	0	0	g

(*c*)

	①	①		
	1	0	5	kg
+		9	5	kg
	2	0	0	kg

2. (*a*)

	3	4	0	g
–	2	0	0	g
	1	4	0	g

(*b*)

		①	⑭	
	6	~~2~~	~~4~~	g
–	3	1	5	g
	3	0	9	g

(*c*)

	⓪	⑫	⑮	
	~~1~~	~~3~~	~~5~~	kg
–		4	8	kg
	0	8	7	kg

3. (*b*) Weight of Preeti = 27 kg
Weight of Mona is 5 kg less than Preeti
Weight of Mona = 27 – 5 = 22 kg
Thus, Mona's weight is 22 kg.

	2	7	kg
–	0	5	kg
	2	2	kg

(*c*) Total weight = 75 kg + 80 kg + 45 kg = 200 kg
Thus, the total weight is 200 kg

		①	
	7	5	kg
	8	0	kg
+	4	5	kg
	2	0	0 kg

(*d*) Weight of first dry-fruit = 400 g
Weight of second dry-fruit = 250 g
Difference in the weights = 150 g
Thus, the difference of weight of two dry-fruits is 150 g.

③	⑩		
~~4~~	~~0~~	0	g
2	5	0	g
1	5	0	g

Quick Check (Page 165)

2. L **3.** mL

4. L **5.** mL

Practice Time 9E

1. (*a*) A bottle of water (*b*) A tanker of water

3. (*a*) and (*c*)

4. (*a*) 500 mL (*b*) 300 mL

(*c*) 750 mL (*d*) 900 mL

Practice Time 9F

1. (*a*)

	①		
	4	3	L
+	3	7	L
	8	0	L

(*b*)

	①	①		
		5	6	L
+		4	5	L
	1	0	1	L

(*c*)

	①	①		
	3	7	6	mL
+	2	6	8	mL
	6	4	4	mL

2. (*a*)

	①	⑯	
	2	6	L
−	1	8	L
	0	8	L

(*b*)

	⑥	⑩	
	7	0	mL
−	1	9	mL
	5	1	mL

(*c*)

		⑦	⑩	
	3	~~8~~	~~0~~	mL
−	2	6	5	mL
	1	1	5	mL

3. (*b*) First tetra pack of kesar-badam milk = 300 mL
Another pack of kesar-badam milk = 500 mL
Both tetra pack of kesar-badam milk = 800 mL
Thus, both tetra packs of kesar-badam milk hold 800 mL.

(*c*) Capacity of the fuel tank of the car = 12 L + 8 L = 20 L

	1	2	L
	0	8	L
	2	0	L

Thus, capacity of the fuel take of the car is 20 L.

Chapter Assessment

1. (*a*) **2.** (*a*) and (*b*) **3.** (*c*)

4. (*a*) (*iv*) metre (*b*) (*vi*) millilitre
(*c*) (*v*) centimetre (*d*) (*iii*) gram
(*e*) (*ii*) kilogram (*f*) (*i*) litre

5. (*a*)

	7	5	cm
+	1	2	cm
	8	7	cm

(*b*)

	3	8	kg
−	2	4	kg
	1	4	kg

(*c*)

		⑬		
	④	③	⑩	
	5	4	0	mL
−	2	7	2	mL
	2	6	8	mL

(*d*)

	①			
	1	2	0	m
+		8	5	m
	2	0	5	m

Brain Sizzlers (Page 168)

1. Shyam bought 8 apples.

Weight of each apple = 150 g

Total weight of apples = (150 × 8) g = 1200 g

Yes, it is more than 1 kg.

2. Distance travelled from house to factory = 400 m

Distance travelled from factory to house = 400 m

Total distance travelled in one day

= 400 + 400 = 800 m

∴ Total distance travelled in 5 days

= 5 × 800 = 4000 m

Mental Maths (Page 169)

1. (*a*) 1 m = 100 cm

(*b*) 100 cm + 100 cm = 200 cm = 2 m

(*c*) 1 kg = 1000 g

(*d*) $\frac{1}{2}$ kg = $\frac{1}{2}$ × 1000 g = 500 g

(*e*) $\frac{1}{4}$ L = $\frac{1}{4}$ × 1000 mL = 250 mL

(*f*) $\frac{1}{2}$ L = $\frac{1}{2}$ × 1000 mL = 500 mL

4. 2 metres = 200 cm

CHAPTER 10 : TIME

Practice Time 10A

1. (*a*) 3 O'clock, 3:00 (*b*) 4 O'clock, 4:00
(*c*) 1 O'clock, 1:00 (*d*) 10 O'clock, 10:00

2. (*a*) 6:00 a.m. (*b*) 7:00 a.m.
(*c*) 1:00 p.m. (*d*) 5:00 p.m.
(*e*) 8:00 p.m. (*f*) 9:00 p.m.

Practice Time 10B

1. (*a*) Half past 7, 7:30 (*b*) Half past 9, 9:30
(*c*) Half past 4, 4:30 (*d*) Half past 1, 1:30

3. (*b*) Half past 5 (*c*) Half past 6
(*d*) Half past 11

Practice Time 10C

1. (*a*) 6:45 (*b*) 1:15
(*c*) 5:45 (*d*) 11:15

Practice Time 10D

1. (*a*) Sonu rides a cycle on Thursday.
(*b*) The day after Tuesday, Sonu goes for swimming
(*c*) On Friday, Sonu plays football.
(*d*) The day before Sunday, Sonu works in the garden.
(*e*) On Monday, Sonu plays Cricket.
(*f*) Sonu enjoys picnic on Sunday.

2. Saturday and Sunday

3. (*a*) Thursday (*b*) Monday
(*c*) Sunday (*d*) Tuesday

4. (*a*) Saturday (*b*) Tuesday
(*c*) Friday (*d*) Monday

Practice Time 10E

1. (*a*) Friday (*b*) Tuesday
(*c*) Saturday (*d*) Tuesday
(*e*) Friday

2. Friday **3.** 21 days

Quick Check (Page 178)

1. April, June, September and November

2. January, March, May, July, August, October and December

Think and Answer (Page 178)

1. June, August **2.** Yes

Practice Time 10F

1. (*a*) after February March
(*b*) after March April
(*c*) after November December
(*d*) before May April
(*e*) before August July
(*f*) before April March
(*g*) in between May and July June.

2. (*a*) Thursday (*b*) Tuesday
(*c*) 4 (*d*) 25th May
(*e*) 4

Brain Sizzlers (Page 180)

1. (*a*) 10:30 (*b*) 12:00 (*c*) 9:15

2. (*a*) SPRING (*b*) SUMMER
(*c*) WINTER (*d*) AUTUMN

Practice Time 10G

1. (*a*) Rainy Season (*b*) Winter Season

(*c*) Summer Season (*d*) Autumn Season

2. (*a*) In Summer season, we go to the beach. The weather is hot.

(*b*) In Winter season, it snows. The weather is cold.

(**c**) In rainy season, it rains. We use umbrella.

(*d*) Falling of leaves from the trees can be seen in autumn.

(**e**) A variety of flowers bloom in spring season.

3. and **4.** Do it yourself

Chapter Assessment

1. (*b*) **2.** (*c*) Monday

3.(*b*) 31 days **4.** (*b*) West

5. (*a*) 2:30 (*b*) 9:15

(*c*) 6:45 (*d*) 12:30

6. Do it yourself.

7. (*a*) Month of July comes after June.

(*b*) The day two days before Monday is Saturday.

(*c*) There are 7 months which have 31 days.

(*d*) Our Independence Day is celebrated in the month of August.

CHAPTER 11 : MONEY

Get Ready

1. ₹200 + ₹350 + ₹400 = ₹950

2. ₹200 + ₹200 + ₹100 = ₹500

3. ₹500 – ₹50 = ₹450

Think and Answer (Page 187)

2. ₹110 = ₹50 + ₹50 + ₹10

3. ₹147 = ₹50 + ₹50 + ₹20 + ₹20 + ₹5 + ₹2

Practice Time 11A

1. (*a*) ₹100 + ₹50 + ₹20 + ₹20 + ₹2 = ₹192

(*b*) ₹50 + ₹50 + ₹50 + ₹200 + ₹5 + ₹10 + ₹10 = ₹375

(*c*) ₹500 + ₹100 + ₹100 + ₹100 + ₹5 + ₹5 + ₹5 + ₹5 = ₹820

2. (*a*) ₹50 + ₹20 + ₹10 + ₹5 + ₹2 = ₹87

(*b*) ₹20 + ₹10 + ₹10 + ₹5 = ₹45

(*c*) ₹10 + ₹10 + ₹2 + ₹2 = ₹24

Practice Time 11B

1. (*b*) We can exchange a 100-rupee not for ten 10-rupee notes.

(*c*) We can exchange a 100-rupee note for five 20-rupee notes.

(*d*) We can exchange a 200-rupee note for four 50-rupee notes.

2. (*a*) ₹12 = ₹5 + ₹5 + ₹2, ₹5 + ₹5 + ₹1 + ₹1, ₹5 + ₹2 + ₹2 + ₹2 + ₹1, ₹2 + ₹2 + ₹2 + ₹2 + ₹2 + ₹2

(*b*) ₹15 = ₹5 + ₹5 + ₹5, ₹5 + ₹5 + ₹2 + ₹2 + ₹1, ₹5 + ₹2 + ₹2 + ₹2 + ₹2 + ₹2, ₹5 + ₹5 + ₹2 + ₹1 + ₹1 + ₹1

Practice Time 11C

1. (*a*) ₹189 + ₹50 = ₹239

		(1)		
	₹	1	8	9
+	₹		5	0
	₹	2	3	9

(*b*) ₹110 + ₹68 + ₹22 = ₹200

		(1)	(1)	
	₹	1	1	0
	₹		6	8
+	₹		2	2
	₹	2	0	0

2. (*b*)

		(9)		
		(2)	10	(10)
	₹	~~3~~	~~0~~	~~0~~
–	₹	2	7	5
	₹	0	2	5

(*c*)

			(4)	(10)
	₹	1	~~5~~	0
–	₹	1	4	8
	₹	0	0	2

3. (*a*)

		①		
Cost of pen	=	₹	2	2
Cost of notebook	=	₹	3	5
Cost of textbook	= +	₹	9	0
Total cost of these items	=	₹	1	4	7

Thus, Lata paid ₹147 in all.

(*b*)

		⑥	⑮	
Cost of water bottle	=	₹	~~7~~	~~5~~
Amount of money Anjali has	= –	₹	4	6
Required money	=	₹	2	9

Thus, Anjali needs ₹29 more to buy the water bottle.

(*c*)

		①	①		
Cost of sweets	=	₹	1	2	0
Cost of crackers	=	₹		8	4
Cost of candles	= +	₹		3	6
Total cost of these items	=	₹	2	4	0

Thus, Nisha spent ₹240 in all.

(*d*)

		⑦	⑩	
Amount of money Rohit has	=	₹	8	0
Cost of joker cap	= –	₹	5	5
Money left	=	₹	2	5

Thus, ₹25 was left with Rohit.

Chapter Assessment

1. (*a*) ₹5 × 3 = ₹15 **2.** (*d*) ₹10 × 20 = ₹200

3. (*c*) ₹20 + ₹10 + ₹1 + ₹1 = ₹32

4. (*a*)

Total

		①		
	₹	1	7	0
+	₹		6	0
	₹	2	3	0

Difference

	₹	1	7	0
–	₹		6	0
	₹	1	1	0

(*b*)

Total

	₹	1	5	4
+	₹	2	2	5
	₹	3	7	9

Difference

		①	⑫	
	₹	~~2~~	~~2~~	5
–	₹	1	5	4
	₹	0	7	1

Mental Maths (Page 193)

1.

Drawing book	=	₹	3	0
Eraser	= +	₹		5
Total	=	₹	3	5

2. Fevicols = 2 × ₹25 = ₹50

3. Pencil box = ₹55,
Water colours = ₹80,
Fevicol = ₹25
Total = ₹55 + ₹80 + ₹25
= ₹160

		①	①	
	₹		5	5
	₹		8	0
+	₹		2	5
	₹	1	6	0

CHAPTER 12 : DATA HANDLING

Get Ready

1. 12 **2.** 8 – 3 = 5

3. 6 + 5 = 11

Practice Time 12A

2. (*a*) Least number of eggs = 70 = Thursday
(*b*) Most number of eggs = 200 = Saturday
(*c*) Same number of eggs = 180 = Monday and Sunday.

Practice Time 12B

1.

Frocks	Shirts/T-shirts	Sweaters	Jackets	Pants/ Skirts
2	8	3	5	5

2.

Drawing	Dancing	Reading	Watching TV	Playing
5	8	6	10	12

(*a*) Playing (*b*) Drawing (*c*) 8

Chapter Assessment

1. Grey **2.** White

3. $8 + 9 + 10 + 6 + 12 = 45$

4. $8 - 6 = 2$

Brain Sizzlers (Page 201)

1. 15 crayons × 2 = 30 crayons

2. $30 - 10 + 5 = 25$

3. $2 \times 15 - 10 = 20$

4. $15 + 30 + 20 + 25 = 90$

MODEL TEST PAPER – 2

1. (*b*) June **2.** (*c*) 9:00

3. (*a*) 35, 34, 33, 32, 31, 30

4. (*b*) The month of February has 28 days in a year.

5. (*b*) Blanket

6. (*b*) 1 mug = 3 glasses of water

10 mugs = (3 × 10) glasses of water = 30

7. (*b*) Triangle **8.** (*b*) $\frac{1}{3}$

9. (*c*) 8 **10.** (*b*) ₹5 × 4 = ₹20

11. $\frac{1}{4}$ **12.** Do it yourself

13. (*a*) Sides = 3, corners = 3

(*b*) Sides = 4, corners = 4

(*c*) Sides = 4, corners = 4

14.

Cost of Candy =	₹		3	0
Cost of toy =	+ ₹		4	5
Total cost of both items =	₹		7	5

			(9)	
		(0)	~~(10)~~	(10)
Money left =	₹	~~1~~	~~0~~	~~0~~
	− ₹		7	5
Thus, ₹25 was left with him.	₹		2	5

15. (*a*) $12 + 4 + 5 + 6 + 3 = 30$

(*b*) Bus; 12 (*c*) Car; 3

16. Do it yourself.

Notes