Vande Mataram

Vande Mataram!

Sujalam, suphalam, malayaja shitalam,

Shasyashyamalam, Mataram!

Vande Mataram!

Shubhrajyotsna pulakitayaminim,

Phullakusumita drumadala shobhinim,

Suhasinim sumadhura bhashinim,

Sukhadam varadam, Mataram!

Vande Mataram, Vande Mataram!

- Bankimchandra Chatterji

వందే మాతరం

వందే మాతరం వందే మాతరం

సుజలాం సుఫలాం మలయజ శీతలాం

సస్యశ్యామలాం మాతరం వందే మాతరం

శుభ్రజ్యోత్స్నాపులకిత యామినీం

ఫుల్లకుసుమిత ద్రుమదళ శోభినీం

సుహాసినీం సుమధుర భాషిణీం

సుఖదాం వరదాం మాతరం వందే మాతరం.

– బంకించంద్ర ఛటర్జీ

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Our National Anthem | జాతీయ గీతం

Jana-gana-mana-adhinayaka jaya he
Bharata-bhagya-vidhata
Panjaba-Sindhu-Gujarata-Maratha
Dravida-Utkala-Banga
Vindhya-Himachala-Yamuna-Ganga
uchchala-jaladhi-taranga
Tava Subha name jage,
tava subha asisa mage,
gahe tava jaya-gatha.
Jana-gana-mangala-dayaka jaya he
Bharata-bhagya-vidhata.
Jaya he, Jaya he, Jaya he,
jaya jaya jaya jaya he.

- Rabindranath Tagore

జనగణమన అధినాయక జయహే!
భారత భాగ్యవిధాతా!
పంజాబ, సింధు, గుజరాత, మరాఠా,
ద్రావిడ, ఉత్కళ, వంగా!
వింధ్య, హిమాచల, యమునా, గంగా!
ఉచ్చల జలధి తరంగా!
తవ శుభనామే జాగే!
తవ శుభ ఆశిష మాగే
గాహే తవ జయగాథా!
జనగణ మంగళదాయక జయహే!
భారత భాగ్య విధాతా!
జయహే! జయహే! జయహే!
జయ జయ జయ జయహే!!

– రవీంద్రనాథ్ ఠాగూర్

Printed in India
at the A.P. Govt., Textbook Press.
Amaravati, Andhra Pradesh.

Pledge | ప్రతిజ్ఞ

India is my country. All Indians are my brothers and sisters.
I love my country and I am proud of its rich and varied heritage.
I shall always strive to be worthy of it.
I shall give my parents, teachers and all elders respect,
and treat everyone with courtesy. I shall be kind to animals.
To my country and my people, I pledge my devotion.
In their well-being and prosperity alone lies my happiness.

- Pydimarri Venkata Subba Rao

భారతదేశం నా మాతృభూమి. భారతీయులందరూ నా సహోదరులు.
నేను నా దేశాన్ని ప్రేమిస్తున్నాను. సుసంపన్నమైన, బహువిధమైన నా దేశ వారసత్వ సంపద నాకు గర్వకారణం.
దీనికి అర్హత పొందడానికై సర్వదా నేను కృషి చేస్తాను.
నా తల్లిదండ్రుల్ని, ఉపాధ్యాయుల్ని, పెద్దలందర్ని గౌరవిస్తాను. ప్రతివారితోను మర్యాదగా నడుచుకొంటాను.
జంతువులపట్ల దయతో ఉంటాను.
నా దేశంపట్ల, నా ప్రజలపట్ల సేవానిరతితో ఉంటానని ప్రతిజ్ఞ చేస్తున్నాను.
వారి శ్రేయోభివృద్ధిలే నా ఆనందానికి మూలం.

– పైడిమర్రి వెంకట సుబ్బారావు

National Education Policy 2020

This textbook is designed in alignment with the National Education Policy (NEP) 2020 and the National Curriculum Framework for School Education (NCF-SE) 2023, highlighting the vision and goals of Mathematics education. "Mathematics is the study of numbers, shapes, patterns and relationships that help us understand the world around us. We use Mathematics in our daily life while counting, shopping, cooking, playing games and observing nature. As envisioned in NEP 2020, Mathematics education focuses on developing basic numeracy, logical thinking, problem-solving skills and mathematical intuition. It encourages children to observe patterns, think clearly, explain their ideas, and make correct decisions. When Mathematics is taught in a joyful and activity-based way, it creates curiosity, wonder and confidence in children and helps them develop a lifelong love for learning and applying Mathematics in real-life situations.

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Curricular Goals and Competencies

As per NCF-SE 2023, learning at the Middle Stage builds on concepts from the Preparatory Stage and gradually moves towards abstraction for wider application. At this stage, learners deepen their understanding of the number system, geometry, and patterns. These areas are explored through activities that support conceptual clarity and mathematical thinking. The table below presents the aligned Curricular Goals and Competencies for the Middle Stage as a reference for classroom teaching and learning.

CG-1 Understands numbers (counting numbers and fractions), represents whole numbers using the Indian place value system, understands and carries out the four basic operations with whole numbers, and discovers and recognises patterns in number sequences	C-1.1 Represents numbers using the place value structure of the Indian number system, compares whole numbers, and knows and can read the names of very large numbers C-1.2 Represents and compares commonly used fractions in daily life (such as ½, ¼) as parts of unit wholes, as locations on number lines and as divisions of whole numbers C-1.3 Understands and visualises arithmetic operations and the relationships among them, knows addition and multiplication tables at least up to 10 × 10 (*Pahade*) and applies the four basic operations on whole numbers to solve daily life problems C-1.4 Recognises, describes, and extends simple number patterns such as odd numbers, even numbers, square numbers, cubes, powers of 2, powers of 10, and Virahanka–Fibonacci numbers.
CG-4 Develops problem-solving skills with procedural fluency to solve mathematical puzzles as well as daily-life problems, and as a step towards developing computational thinking	C-4.1 Solves puzzles and daily-life problems involving one or more operations on whole numbers (including word puzzles and puzzles from 'recreational' areas, such as the construction of magic squares) C-4.2 Learns to systematically count and list all possible permutations or combination given a constraint, in simple situations (e.g., how to make a committee of two people from a group of five people) C-4.3 Selects appropriate methods and tools for computing with whole numbers, such as mental computation, estimation, or paper-pencil calculation, in accordance with the context
CG-5 Knows and appreciates the development in India of the decimal place value system that is used around the world today	C-5.1 Understands the development of zero in India and the Indian place value system for writing numerals, the history of its transmission to the world, and its modern impact on our lives and in all technology.

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Maths Magic

గణితంతో గమ్మత్తు

Class (తరగతి) - 4

Semester (సెమిస్టర్) - 1

Unit No. అధ్యాయం సంఖ్య	Name of the Unit అధ్యాయం పేరు	Month నెల	Pages పేజీలు
	Readiness *(Refer to Readiness book)* సంసిద్ధత	**June** జూన్	
1.	**Large Numbers** పెద్ద సంఖ్యలు	**July** జులై	2-43
2.	**Addition** కూడిక	**August** ఆగష్టు	44-69
3.	**Subtraction** తీసివేత	**August - September** ఆగష్టు - సెప్టెంబరు	70-103
4.	**Multiplication** గుణకారం	**October** అక్టోబరు	104-133
	Mind Map		134

R5A7Q1

Teacher corner

B9I5U6

Student corner

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UNIT - 1

Large Numbers

I3E2D2

Learner will be able to

- Read and write 5-digit number.(CG-1)
- Determine face and place value of digits in 5-digit number.(CG-1)
- Write expanded and short forms of 5-digit numbers.(CG-1)
- Order 5-digit numbers by comparing their place values.(CG-1)
- Use 5-digit number in daily life.(CG-4)
- Read and write Roman numbers.(CG-5)

1.0 Introduction

Observe the following picture. Have you seen people in your village doing these works? Potter, Blacksmith, Cobbler, Farmer, Drummer, Washerman, Tailor, Shepherd, Poultry worker and Agriculture labourers. They are professionals to help us in doing the things.



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Can we do all the above jobs on our own? No, we can't. They help us a lot. Have you ever thought of their daily income / earnings? Their monthly income is not fixed. It depends on the work they do.

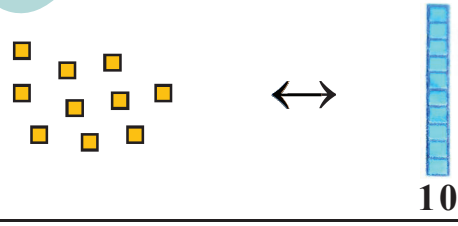
John wanted to know how much they earn. He met these people and enquired about their monthly income. He noted the information and his findings are as follows.

Write the monthly incomes (numbers) in words in the given table.

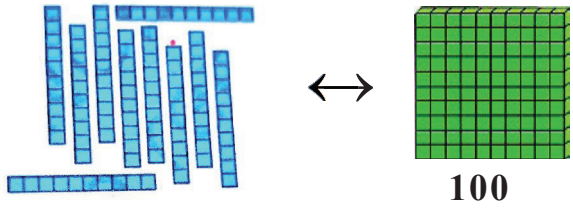
Professions	Daily income (₹)	Monthly income/ 30 days (₹)	Number in Words
Potter	290	8,700	Eight thousand seven hundred.
Blacksmith	300	9,000	
Cobbler	250	7,500	
Washer man	315	9,450	
Drummer	275	8,250	
Tailor	325	9,750	
Shepherd	270	8,100	
Poultry worker	275	8,250	
Agricultural labour	280	8,400	

1.1 Formation of Large Numbers.

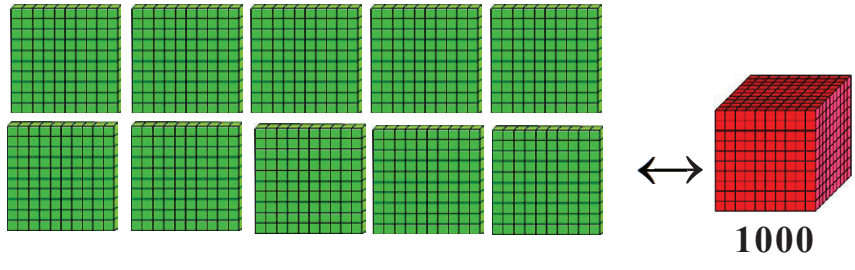
10 Ones = 1 Ten



10 Tens = 1 Hundred



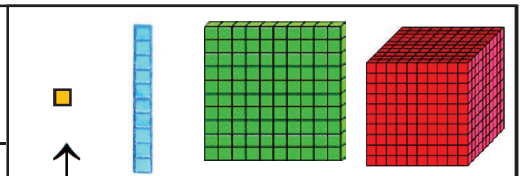
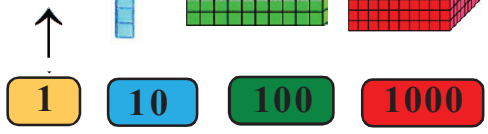
10 Hundreds = 1 Thousand

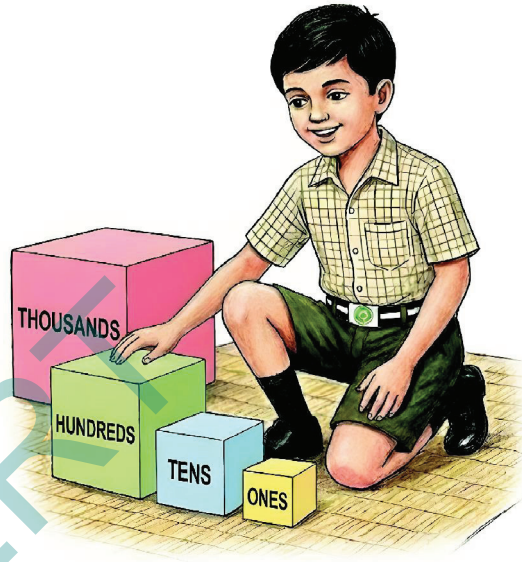


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We observe that :	**10 Ones**	**= 1 Ten**	**= 10**
	10 Tens	**= 1 Hundred**	**= 100**
	10 Hundreds	**= 1 Thousand**	**= 1000**

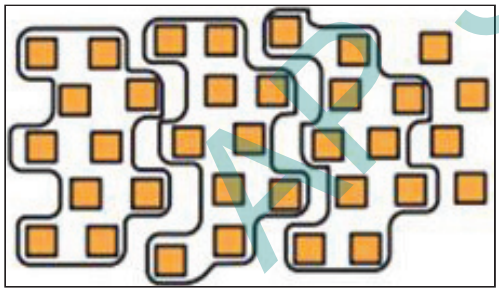
Now visualize One (1), Ten (10), Hundred (100) and Thousand (1000) using Blocks, Tokens and Arrow Cards.

Blocks	
Tokens	
Arrow Cards	



Look at the pictures below. Circle as many groups of 10 Ones or 10 Tens as possible. Write the final number against the following pictures.

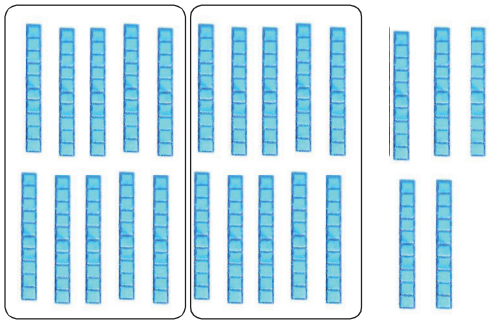
1. **34 Ones**



34 Ones
30 Ones + 4 Ones
=3 Tens + 4 Ones

Hundreds	**Tens**	**Ones**
0	3	4
34		

2.

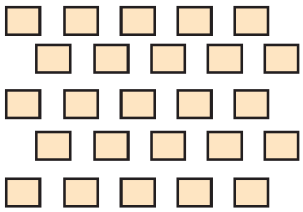


25 Tens
20 Tens + 5 Tens + 0 Ones
=2 Hundreds + 5 Tens + 0 Ones

Hundreds	**Tens**	**Ones**
2	**5**	**0**
250		

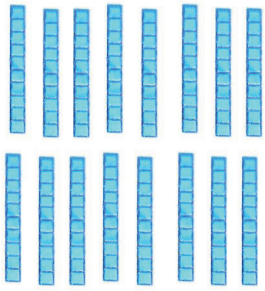
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3. Circle 10s and write the final number in the blanks.



___ Ones
___ Ones + ___ Ones
=___ Tens + ___Ones

Hundreds	Tens	Ones
___	___	___
___		



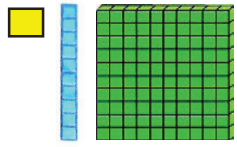
___ Tens
__ Tens + ___ Tens + __Ones
=__ Hundreds + __ Tens + __Ones

Hundreds	Tens	Ones
___	___	___
___		

Do these

Identify and write the numbers for each of the following in your note book. Draw the pictures like these if needed.

a) 12 Ones b) 17 Ones c) 39 Ones



d) 35 Tens e) 86 Tens

We also make groups to the given numbers in the following way.



Observe the following.

1) 1 Ten and 27 Ones

= 1 Ten + 20 Ones + 7 Ones
= 1 Ten + 2 Tens + 7 Ones
= 3 Tens + 7 Ones
= 37

2) 10 Tens and 6 Ones

= 10 Tens + 6 Ones
= 1 Hundred + 0 Tens + 6 Ones
= 106

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3) 2 Hundreds , 13 Tens and 7 Ones

= 2 Hundreds + 10 Tens + 3 Tens + 7 Ones

= 2 Hundreds + 1 Hundred + 3 Tens + 7 Ones

= 3 Hundreds + 3 Tens + 7 Ones

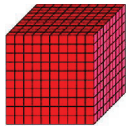
= 337

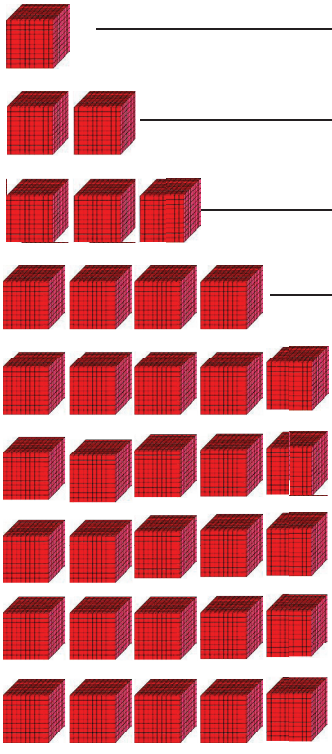
Do these Identify and write the numbers for each of the following

a) 11 Tens and 14 Ones

b) 34 Tens and 12 Ones

c) 5 Hundreds, 24 Tens and 6 Ones

If one block  represents one thousand (1000) then



1,000 - one thousand.

2,000 - _____

3,000 - _____

4,000 - _____

5,000 - _____

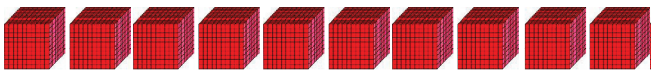
6,000 - _____

7,000 - _____

8,000 - _____

9,000 - _____

How to write the number for 10 blocks? It is ten thousand. This is the smallest 5-digit number. It can be written as 10,000.



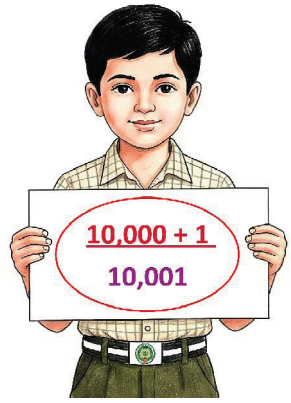
10,000 - _____

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Now observe the following.

$9 + 1 = 10$
$99 + 1 = 100$
$999 + 1 = 1000$
$9999 + 1 = 10000$

$10 + 1 = 11$
$100 + 1 = 101$
$1000 + 1 = 1001$
$10000 + 1 = 10001$

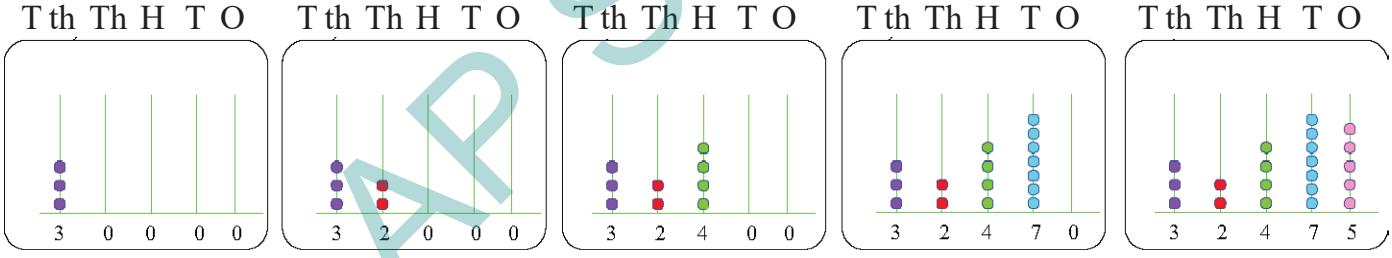


Can you write the next numbers?

10,000 + 1 10,001	10,000 + 2 10,002	10,000 + 3 10,003	10,000 + 4 10,004
Ten Thousand One	Ten Thousand Two	Ten Thousand Three	Ten Thousand Four
10,000 + 5 10,005			

1.2. Let us represent the numbers on the Spike Abacus

Observe the numbers represented as per the beads on Spike Abacus.

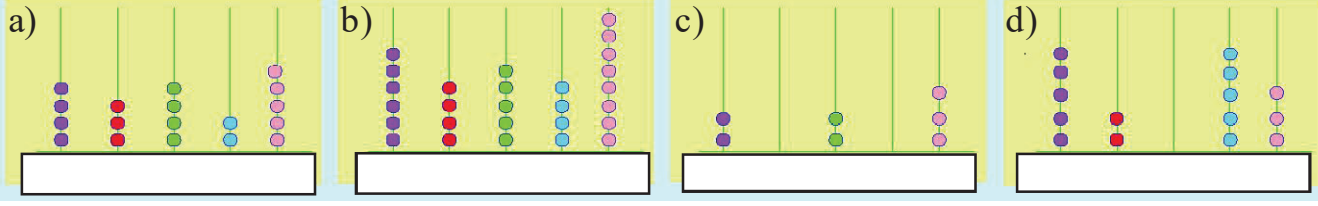


Do these

1. Represent the given numbers with beads on the Spike Abacus.

a) 5 5 5 5 5 b) 6 0 0 0 8 c) 7 0 3 0 4 d) 8 7 3 4 2

2. Write numbers by reading the beads on the Spike Abacus.



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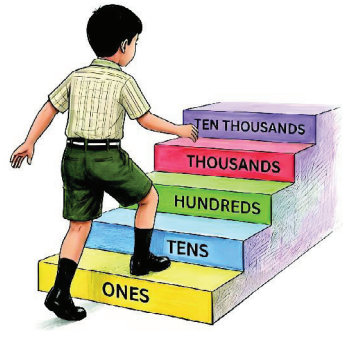
3. Represent the following numbers on spike abacus.

a) 60060 b) 60600 c) 66000

1.3 Numbers beyond Ten thousand

According to places, the 5-digit numbers can be tabulated as follows.

Number	Place				
	Ten thousands	Thousands	Hundreds	Tens	Ones
23246	2	3	2	4	6
62487	6	2	4	8	7
83809	8	3	8	0	9



Let us observe how to write the numbers according to the place values by using commas. In our Hindu - Arabic system of numeration, we use ones, tens, hundreds, thousands, ten thousands etc. The 'comma' comes after hundreds place (i.e., 3-digits from the right side). We read next to digits as thousands. Commas help us in reading and writing large numbers easily.

Complete the following table.

Number	Number with commas	Number in words
12635	12,635	Twelve thousand six hundred and thirty five.
23809	23,809	
40210	40,210	
74845	74,845	
95026	95,026	

Do these

1. Place commas to the given numbers and then write in words.
   a) 16372 b) 29450 c) 86004
2. Write the following numbers in words.
   a) 32,896 b) 46,900 c) 92,006

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1.4 Face value and Place value of a digit in a number

Face value

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

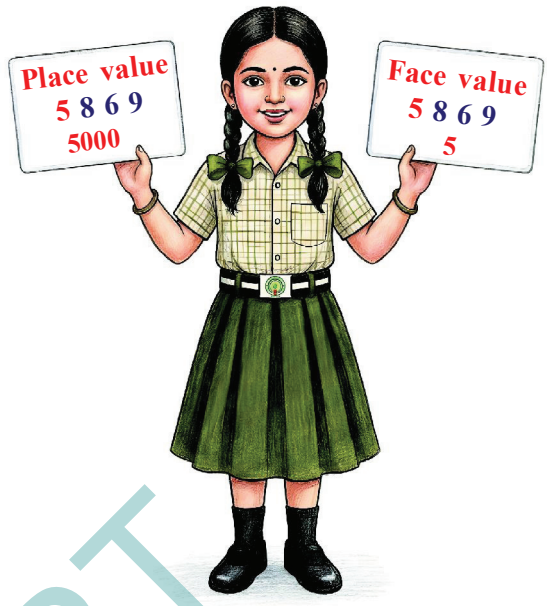
In the number 5 8 6 9.

the face value of 9 is 9

the face value of 6 is 6

the face value of 8 is 8

the face value of 5 is 5



Place value

The Place value of a digit in the number depends on its place.

Observe the Arrow Cards, arranged in the table below according to the places of digits of 36452.

10000 Ten Thousands	1000 Thousands	100 Hundreds	10 Tens	1 Ones
3	6	4	5	2
10000 10000 10000	1000 1000 1000 1000 1000 1000	100 100 100 100	10 10 10 10 10	1 1
Place value of 3 = 3 x 10000 = 30000	Place value of 6 = 6 x 1000 = 6000	Place value of 4 = 4 x 100 = 400	Place value of 5 = 5 x 10 = 50	Place value of 2 = 2 x 1 = 2

1.5 Expanded form and Short form of a number

Expanded form

Now we observe the expanded form of the number **36,452.**

36,452 = 3 Ten thousands + 6 Thousands + 4 Hundreds + 5 Tens + 2 Ones

= 3 x 10000 + 6 x 1000 + 4 x 100 + 5 x 10 + 2 x 1

= 30000 + 6000 + 400 + 50 + 2

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Write the expanded form of 52,374.

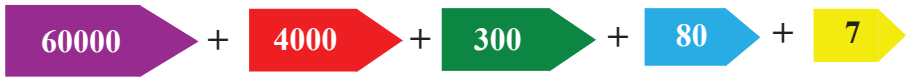
52,374 = —— Ten thousands + —- Thousands + —— Hundreds + —— Tens + — Ones

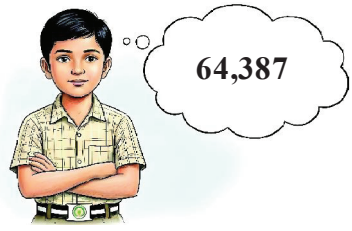
= — x ———— + — x ——— + — x ———— + — x —— + — x ———

= ———————— + ———————— + ———————— + ——— + ————————

Short form

Observe short form of the given number.





Short form :

TTh	Th	H	T	O
6	4	3	8	7

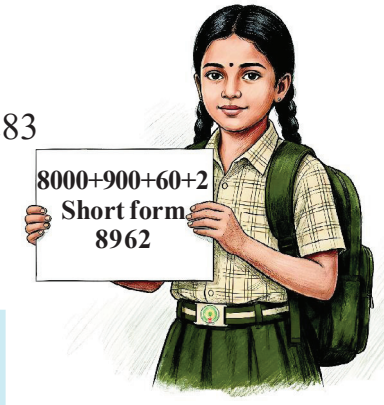
= 64,387

Example-1 : Short form of 8000 + 900 + 60 + 2 = 8,962

Th	H	T	O
8	9	6	2

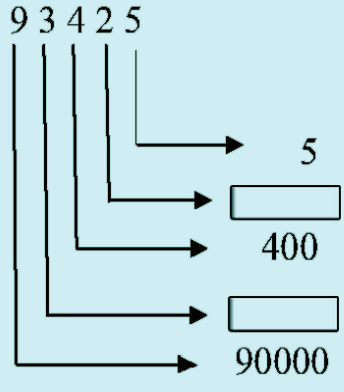
Example-2 : Short form of 90000 + 6000 + 200 + 80 + 3 = 96,283

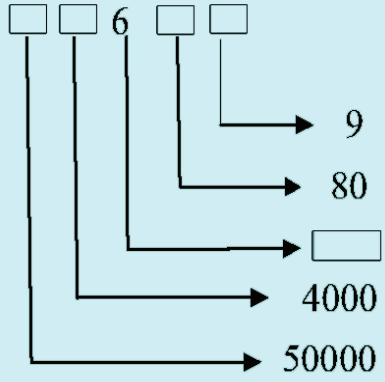
T Th	Th	H	T	O
9	6	2	8	3



Do these

1. Write the expanded form of the following numbers.
   a) 15,387 b) 42,609 c) 67,892 d) 98,205
2. Write the short form of the following.
   a) 80000 + 6000 + 900 + 20 + 8 b) 90000 + 20 + 4
3. Write the place values of the given digits and digits for the given place values.





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4. Siri uses each of the number cards below exactly once to make the greatest possible four digit number.

7	5	4	9

What is the place value of the digit 5 in that number? [ ]

A) 5 B) 50 C) 500 D) 5000

Do you know?

If a digit moves to the left, its value increases 10 times than its previous place value.

Number	T th	Th	H	T	O	Place value of 6
6					6	6
65				6	5	60
638			6	3	8	600
6954		6	9	5	4	6000
63847	6	3	8	4	7	60000

AP SCERT

Math lab Acitivity

Make the place value slider . Children can take turns to increase or decrease the number as told.

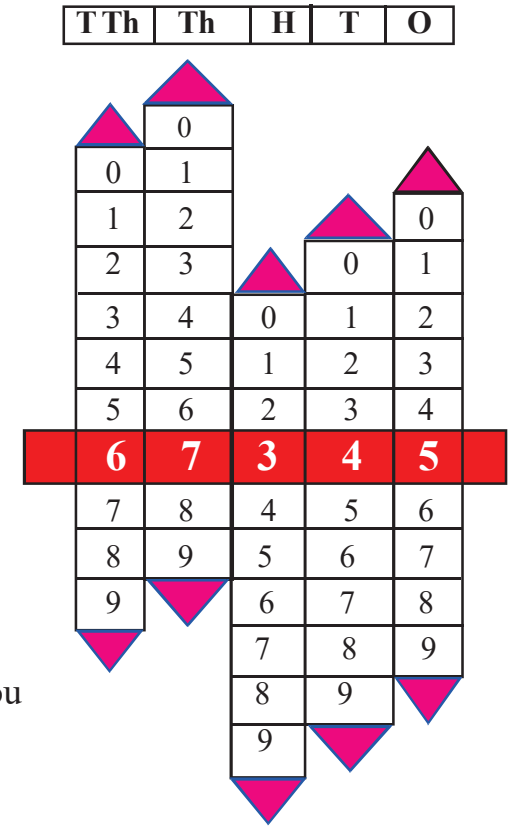
a) 67345 - Increase the number by 3

b) 67345 - Increase the number by 50

c) 67345 - Decrease the number by 200

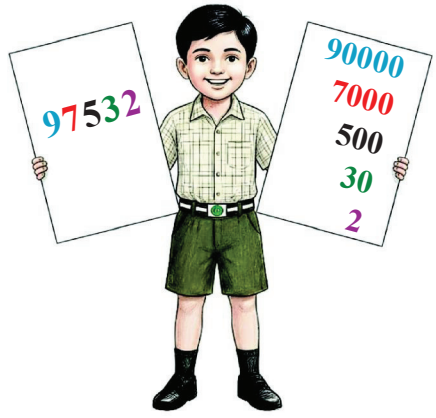
d) 67345 - Increase the number by 2000

e) 67345 - Decrease the number by 30000



Example -7 : If you increase the number 200 in 67345, you move the ribbon in the hundreds place up by two steps

EXERCISE-1



1. Write the following numbers in words.

   a) 25,250 b) 41,415 c) 72,300

2. Write the numeral for the following number names.

   a) Thirty three thousand eight hundred and fifteen.

   b) Ninety two thousand and eighty five.

3. Write the numbers as per the instructions.

   a) 1 ten thousand + 9 thousands + 4 hundreds + 5 tens + 8 ones = ☐

   b) 3 ones + 2 tens + 6 hundreds + 7 thousand + 4 ten thousands = ☐

4. What is the place value of 4 in each of the following numbers. One is done for you.

   a) 95,403 - 4 hundreds / 400

   b) 4,327……

   c) 48,932……

5. Write the expanded form of the following.

   a) 5,642 = ……+ ……. + ……. + ……

   b) 24,926 = ……. +…… + ……. + …… + …….

6. Write the short form of the following.

   a) 90000 + 3000 + 400 + 70 + 6

   b) 40000 + 6

7. Which of the following numbers does the digit 5 have a place value of five thousand. ( )

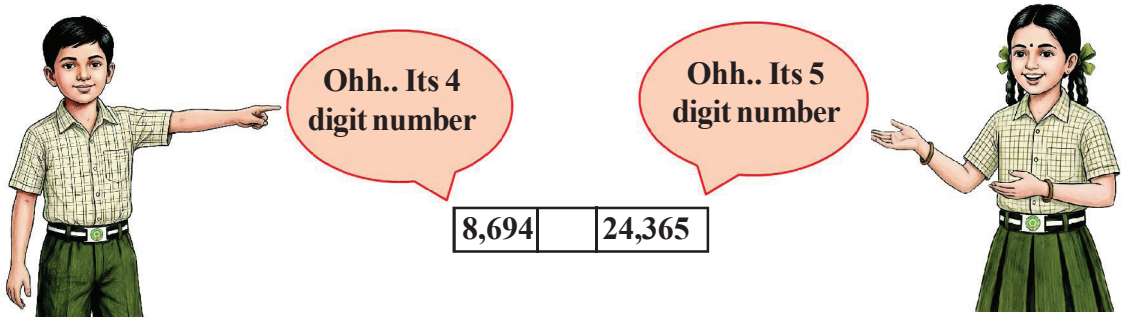
   A) 7,500 B) 15,000 C) 26,500 D) 50,010

AP SCERT

1.6 Comparison of numbers

To compare two numbers follow below rules.

Case 1: Compare 8,694 and 24,365.



8,694		24,365

Which is big? **24,365**

Why? **24,365** has more digits than **8,694.**

So, **8,694 < 24,365**

Case 2: Compare **76,392** and **62,425.**

76,392		62,425

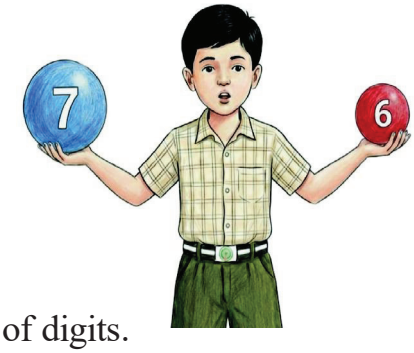
Arrange the numbers in the following tables as per places of digits.

T Th	Th	H	T	O
7	6	3	9	2

T Th	Th	H	T	O
6	2	4	2	5

Compare highest place value (or) left most digits to the given numbers. 7 > 6

So **76392 > 62425**



Case 3: Compare 34251 and 36879.

34251		36879

Arrange the numbers in the following tables as per places of digits.

T Th	Th	H	T	O
3	4	2	5	1

T Th	Th	H	T	O
3	6	8	7	9

Compare left most digits from the two numbers.

3 = 3

If it is equal, compare the next digits (or) next higher place value and so on.....

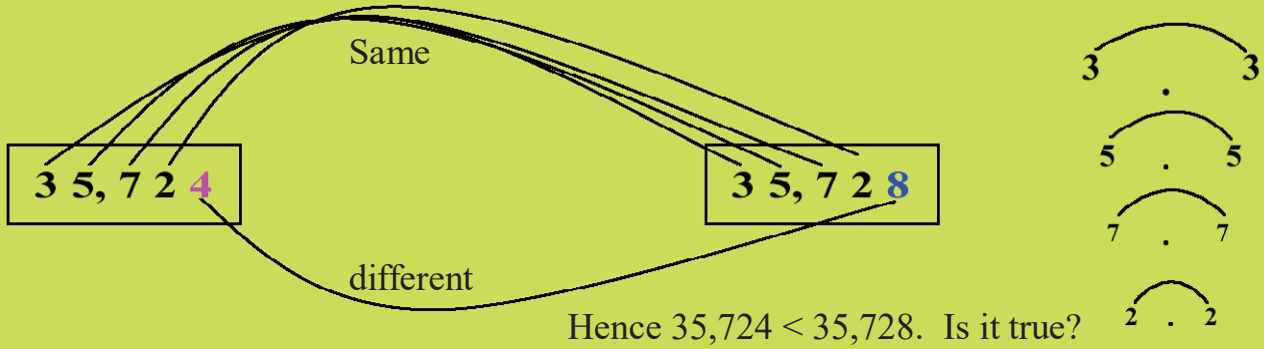
4 < 6

So, **34251 < 36879**



ARSCERT

Think and Discuss



Do these

Put the correct symbol < , > or = in the boxes given below.

a) 43,004 ☐ 42,004 b) 72,549 ☐ 72,549 c) 52,927 ☐ 64,327

1.7 Ordering of Numbers

Scores of some of the Indian Cricketers in One day Internationals (ODIs) upto October 2025 are given in the table.

S.No	Name of the Cricketer	Batsman / All-rounder/Bowler	Runs scored
1	Shubhman Gill	Batsman	2818
2	Virat Kohli	Batsman	14255
3	Bhumrah	Bowler	91
4	Axar Patel	All-rounder	858
5	Ravi Bishnoi	Bowler	4

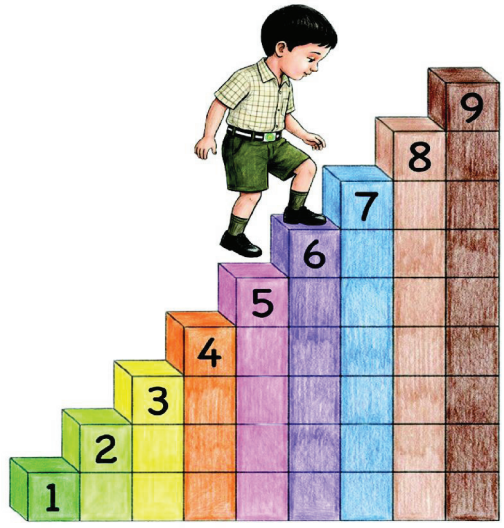
Observe the numbers given in the above table and arrange them as per places of the digits.

Which is the smallest number? 4

Which is the largest number? 14255

Write the numbers from smallest to largest, we get

4 **91** **858** **2818** **14255**

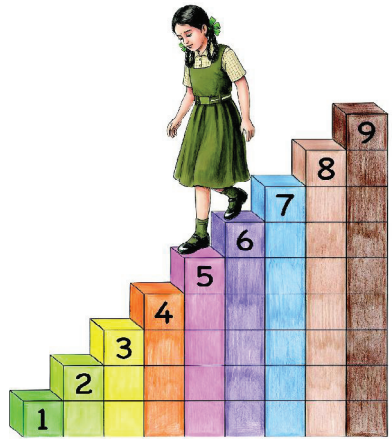


Do you know the name of the arrangement?

The arrangement of the numbers in the order from smallest to largest is known as Ascending order

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Now by writing the above numbers from largest to smallest , we will get Descending order.



Descending order:

14,255	2,818	858	91	4

Remember:

The arrangement of the numbers in the order from largest to smallest is known as Descending order

Example -3: Here are some Helpline numbers in the table below. Write the numbers in Ascending and Descending order.

S.No	Purpose	Helpline number
1	Public Grievance Cell Telecom Circle HQs	12727
2	Corruption Grievances	14400
3	Grievances of School Education	14417
4	Grievances of Legal service Organisation	15100
5	Grievances of Sand , Alcohol	14500

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Ascending order:

Descending order:



Do these

Arrange the following numbers in Ascending and Descending order.

a) 16256, 20380, 96465, 30856, 56492

b) 27438, 5682, 38648, 97294, 56642

Do you know ?

The greatest 1-digit number is	9
The greatest 2-digit number is	99
The greatest 3-digit number is	999
The greatest 4-digit number is	9999
The greatest 5-digit number is	99999



1.8 Formation of different numerals with the given digits (without repeating the digits)

Example 4 : Write all the possible 2-digit numbers with 6 and 8.

Solution: They are 68 and 86

Example 5 : Write all the possible 3-digit numbers with the digits 2, 6 and 9.

Solution : 2 6 9 6 2 9 9 2 6 2 9 6 6 9 2 9 6 2

They are 269 296 629 692 926 962.

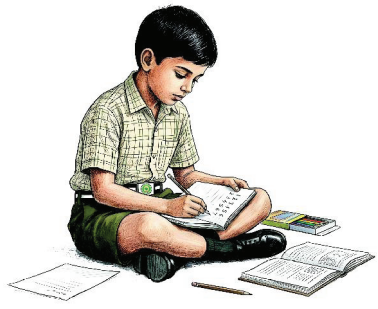
Largest number : 962 (digits are arranged in descending order.)

Smallest number : 269 (digits are arranged in ascending order.)

Do these

a) Write all the possible 2-digit numbers formed by the digits with 5 and 4.

b) Write all the possible 3-digit numbers formed by the digits with 4, 7 and 2.



c) Write all the possible 4-digit numbers formed by the digits 2,4,8 and 1 with out repeating. How many are there?

d) Guru wrote 0189 is the smallest from using the digits 9,0,8,1 is it correct? Justify the answer.

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Do these

Using the given digits, write the largest and the smallest numbers without repeating any digit.

S.No.	Digits	Largest Number	Smallest Number
1.	7, 2, 8, 3, 9		
2.	3, 7, 0, 4, 6		
3.	2, 9, 5, 9, 4		

1.9. Formation of 5 - digits numbers

4 3 2 9 6

Arrange these digits in descending order to form the largest 5-digit number 9 6 4 3 2. Can you write a number greater than this number using the same digits?

No, so to form the largest number we arrange these digits in descending order. Then we get 9 6 4 3 2

Therefore the largest number is 96,432

Arrange these digits in ascending order to form the smallest 5- digit number 2 3 4 6 9

Can you write a number less than this using the same digits?

No. So to form the smallest number, we arrange these digits in ascending order. Then we get 2 3 4 6 9

Therefore the smallest number is 23,469.

Example : 6

Write the largest and the smallest 5-digit numbers using the digits 9, 0, 5, 2, 3.

Solution: To form the largest 5-digit number arrange the digits in the descending order.

That is 9, 5, 3, 2, 0.

Therefore, the largest number is 95,320.

To form the smallest 5- digit number arrange the digits in the ascending order. If one of the given digits is '0', then we write the smallest digit other than zero in the highest place. We write '0' next to it.

Write the rest of the digits in ascending order. Therefore the smallest 5-digit number is 20,359.

AP SCERT

1.10 Predecessor and Successor

To get the very next number of a given number we add 1 to that number. This number is called the Successor of the given number. In other words, **the number that comes immediately after a number is its successor.**

Successor of 25630 is 25630 + 1 = 25631

To get the previous number we subtract 1 from the given number. This number is called the Predecessor of the given number. In other words, **the number that comes immediately before a number is its predecessor.**

Predecessor of 64351 is 64351 – 1 = 64350.

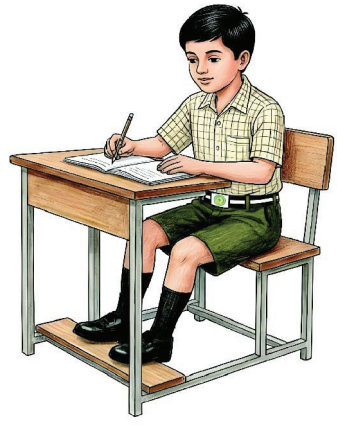
Do these

a) Write the successor of 24564. ____

b) Write the predecessor of 34323. ____

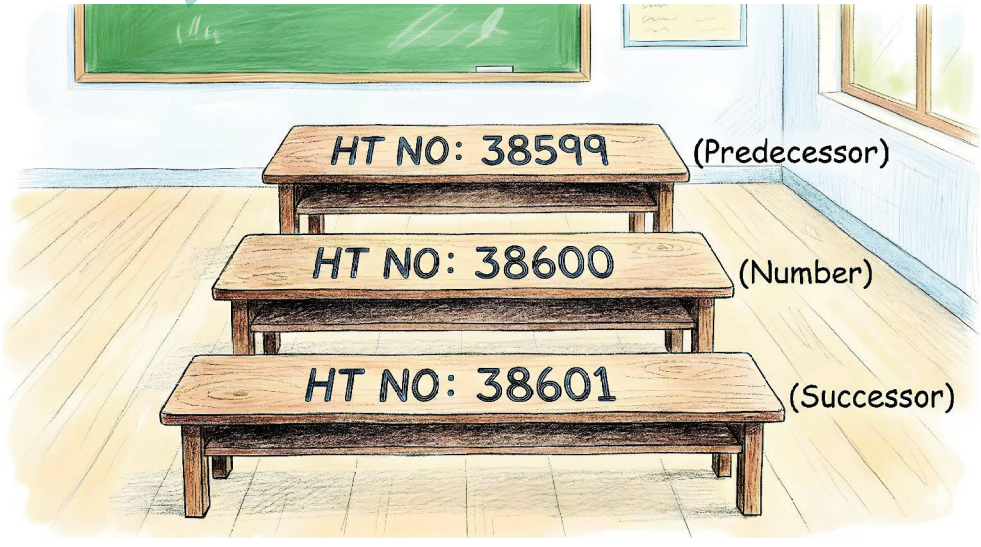
c) Complete the following table.

Number	Predecessor	Successor
42,356		
38,600		
25,999		



d) What is the predecessor of 1206 + 160? [ ]

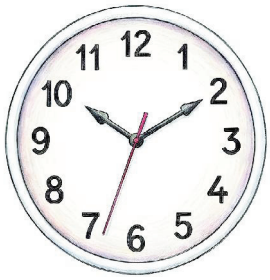
A) 1370 B) 1367 C) 1366 D) 1365

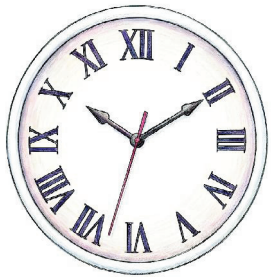


AP SCERT

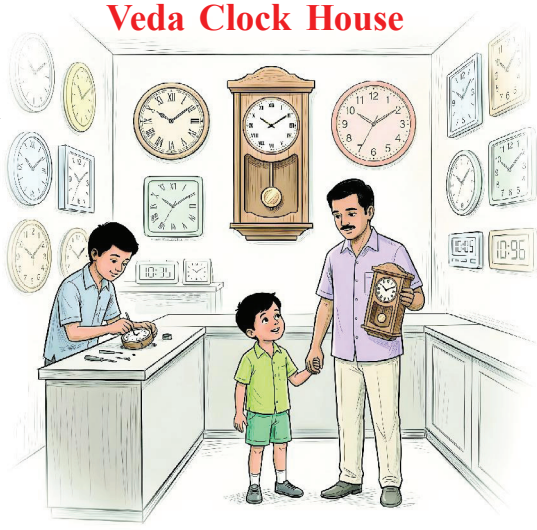
Roman numbers:

Jai went to the Clock shop in Kaviti with his father to purchase a clock. They observe and discuss the clocks in the shop. The conversation between Jai and his father went like this.





Veda Clock House



Father : Jai, observe these 2 clocks, which is good?

Jai : Second one, but I don't know about the numbers on its. I can't tell the time on that clock. What are the numbers?

Father : They are Roman numbers. Let's buy this clock. After that I will explain about the numbers.

They bought a clock first and went back to their home and the conversation continued….

We use 7 letters for Roman numbers to represent numerical values. Now I explain about I, V, X only, the remaining will be learnt later.

Roman numbers	Hindu - Arabic numbers
I	1
V	5
X	10

These values are added or subtracted to make a number based on how these symbols are arranged. Here we follow some rules to make Roman numbers

Rule 1: **Add numerals together when they are repeated in a row.**

Example - 7 : II = 1+1 = 2
III = 1+1+1 = 3
XX = 10 + 10 = 20

Rule 2: **Add numerals together when a smaller value is placed after a larger one**

Example - 8 : VI = 5+1 = 6
VII = 5+1+1 = 7
XII = 10 + 1 + 1 = 12

Rule 3: **Subtract a smaller value from a larger one when it's placed before the larger value**

Example - 9 : IV = 5-1 = 4
IX = 10 – 1 = 9

Rule 4: **A symbol cannot be repeated more than 3 times in a row.**

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Example - 10: 3 is written as III
but four is IV and not IIII
In the same way, 30 is XXX but 40 is not XXXX.

Example -11 : Now we write the Hindu - Arabic Numbers for Roman Numbers .
XIX = 10 + 9 = 19
XXIV = 10 + 10 + 4 = 24



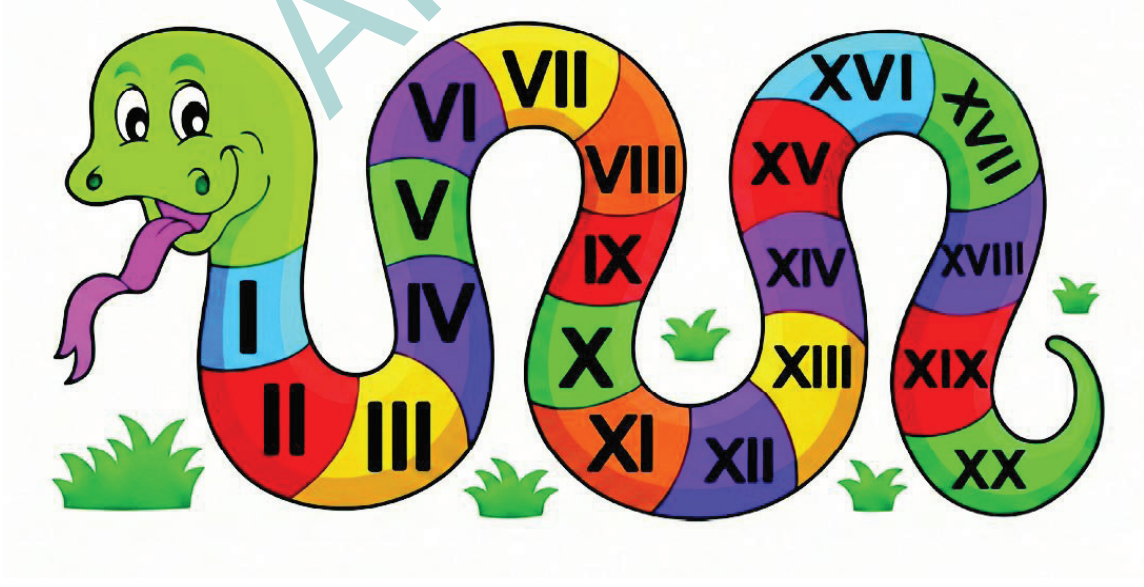
Do These

1. Write the Hindu - Arabic numbers for Roman numbers given .
   (a) VIII = _____ (b) XVIII = _____ (c) XXIX = _____
2. Write the Roman numbers for Hindu - Arabic numbers.
   (a) 25 = _____ (b) 14 = _____ (c) 17 = _____

3. Write the Roman numbers to the Hindu - Arabic numbers and Hindu - Arabic number to Roman numbers in the blanks given below.

S.No.	Name of the game	Number of players in the each team (Hindu - Arabic numbers)	Number of players in the each team (Roman numbers)
1	Kabaddi		VII
2	Cricket	11	
3	Kho Kho		IX
4	Volley Ball		VI
5	Football	11	

4. Write the numbers in order on the snake.



AP SCERT

EXERCISE-2

Do you know ?

* The length of blood vessels of our human body is nearly 97,000 kilometres.
* The total land border of India is 15,200 kilometres.



1. Circle the smallest number given below.

   a) 28,828 b) 82,988 c) 63,215 d) 24,321

2. Circle the greatest number given below.

   a) 80,081 b) 80,801 c) 80,180 d) 80,108

3. Write the predecessor of the given number.

   a) ……. 46,250 b) …… 72,579 c) ……38,205

4. Write the predecessor and successor of the following numbers.

   a) 43,565 b) 40,000

5. Fill in the blanks with " >, < or = " .

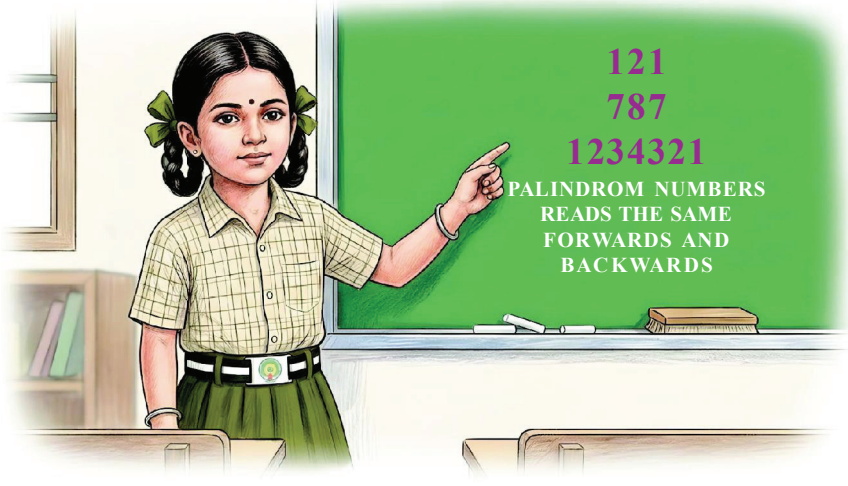
   a) 8,154 ___8,514 b) 59,260___ 59,260

6. The number of people who visited an exhibition in four days are 1826, 1493, 1630 and 1863 respectively. Arrange these numbers in the ascending order.

7. The hall ticket number of Lasya, who is appearing for Jawahar Navodaya Vidyalaya Entrance Exam is 42384. Write the hall ticket numbers of students sitting behind and infront of her?

8. Devika has 13 hundred rupee notes, 24 ten rupee notes and 19 one rupee coins. How much total amount she has? ( )

   a) 1343 b) 1359 c) 1559 d) 1543

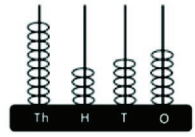


AP SCERT

Improve your Learning

1. Narendra had 23 hundred, 12 ten rupee notes, 18 one rupee coins. Tarun had 22 hundred, 32 ten rupee notes, 16 one rupee coins.
   a) How much amount did Narendra and Tarun have?
   b) Who had the more money?

2. How many beads should be removed from the thousands place of the abacus, if it has to represent the number between 5000 and 6000? ( )



   a) 1 b) 2 c) 3 d) 4

3. Some number cards are given below ( )

35678	35761	35562	35697	35964

   If these cards are arranged from small to big, which of the following numbers comes just before 35697?

   a) 35964 b) 35562 c) 35761 d) 35678

4. Two students wrote the expanded form of 5037.
   Student - 1: 5000 + 300 + 7 Student - 2: 5000 + 30 + 7
   Who is correct? ( )
   a) Only student 1 is correct. b) Only student 2 is correct.
   c) Both are correct. d) Neither is correct.

5. If X is the successor of 9,999 and the predecessor of 10,001, what is the value of X ?

6. I am a 5-digit number.
   - The digit in my ten-thousands place is 7.
   - The digit in my hundreds place is half of 8.
   - The digit in my ones place is the smallest odd number.
   - The other two places are filled with 0.

   What number am I?

AP SCERT

UNIT - 2

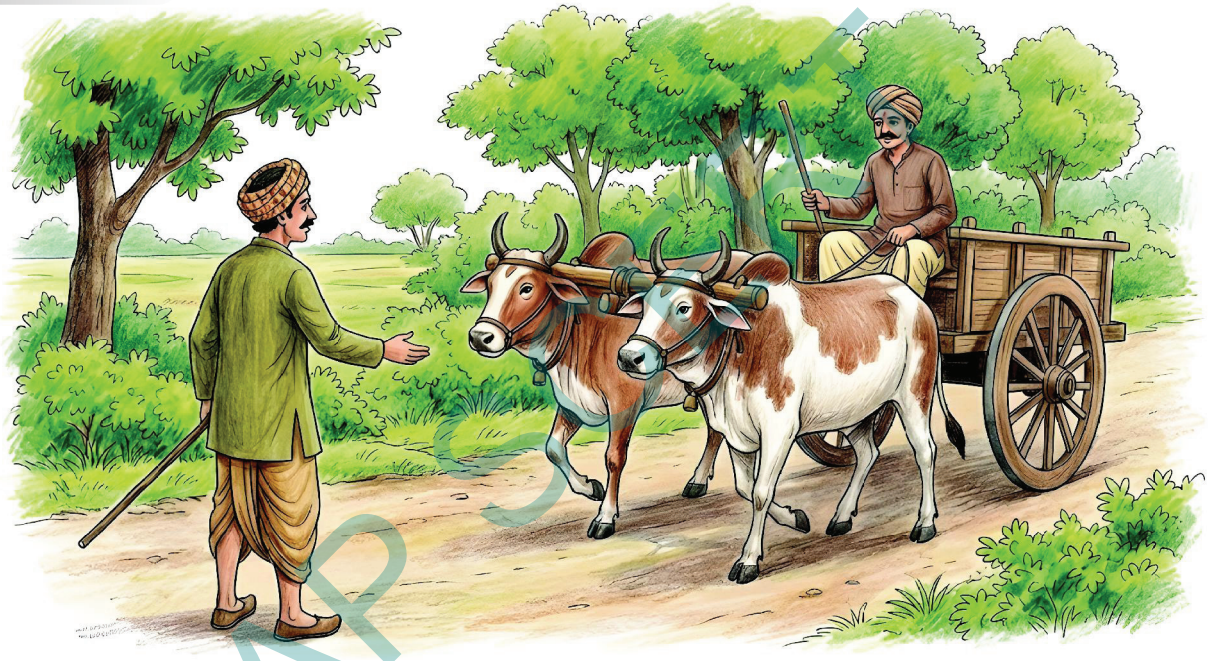
Addition

R2X9A7

Learner will be able to

- Do additions with 4-digit numbers.(CG-1)
- Estimate the sums of two 4-digit numbers.(CG-4)
- Solve the problems in daily life with the use of additions.(CG-4)
- Do oral additions.(CG-4)

2.0 Addition (Without carrying)



Ramaiah and Venkaiah are good friends. They helped each other in cultivation. One day Ramayya sold tomatoes and potatoes, and bought groceries for his home. After purchasing groceries, he went back to home on bullock cart. He met Venkaiah on the road.

Their conversation is given below.

Venkaiah : Hi, Ramaiah ! Why are you looking so happy?
Ramaiah : I sold all the tomatoes and potatoes in the market.

Venkaiah : How much did you earn on tomatoes?
Ramaiah : **₹ 7145**

Venkaiah : How much did you earn on potatoes?
Ramaiah : **₹ 2513**

Children, have you followed the conversation?

Let's find the total amount earned by Ramaiah.

Money earned by Ramaiah on Tomatoes = 7 1 4 5

Money earned by Ramaiah on Potatoes = + 2 5 1 3

Total amount earned by Ramaiah = ₹ 9 6 5 8

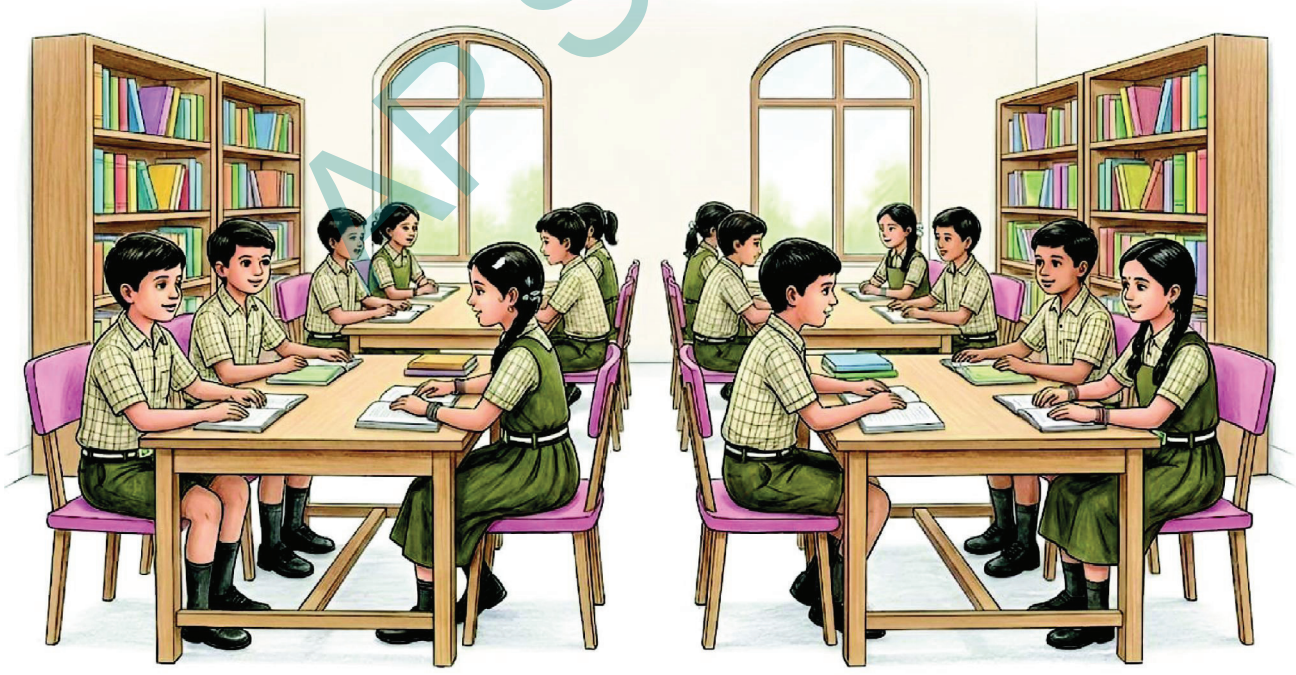
Process of addition



Th	H	T	O
7	1	4	5
2	5	1	3
9	6	5	8

Ones Place	5 + 3	=	8
Tens Place	40 + 10	=	50
Hundreds Place	100 + 500	=	600
Thousands Place	7000 + 2000	=	9000
			9658

2.1 Addition (With carrying)



There is a big library in ZPH School, Saravakota. There are 2857 books in Telugu and 1496 books in English in the library.

AP SCERT

How many books are available in the library?

To find the total books in the library, we have to add 2857 and 1496 .

		Th	H	T	O
		(1)	(1)	(1)	
Number of books in Telugu	=	2	8	5	7
Number of books in English	=	1	4	9	6
Total number of books available in the library	=	4	3	5	3

Observe another process for Addition.

2857 = 2 Thousands + 8 Hundreds + 5 Tens + 7 Ones

1496 = 1 Thousand + 4 Hundreds + 9 Tens + 6 Ones

Total = 3 Thousands + 12 Hundreds + 14 Tens + 13 Ones

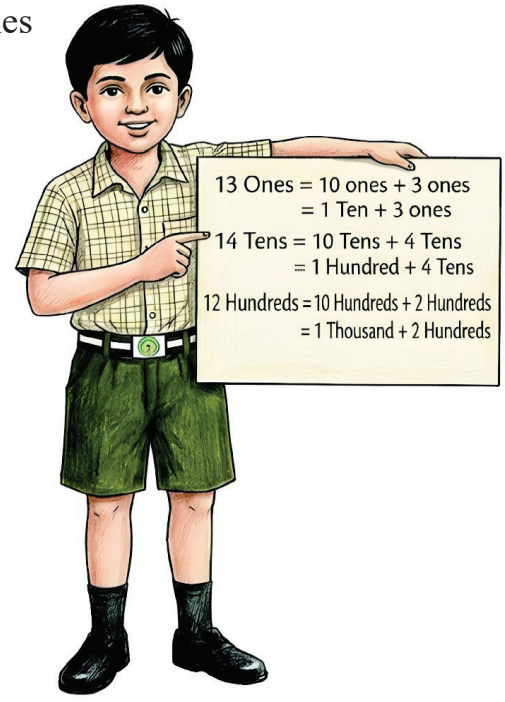
= 3 Thousands + (10+2) Hundreds + (10+4) Tens + (10+3) Ones

= (3+1) Thousands + (2+1) Hundreds + (4+1) Tens + 3 Ones

= 4 Thousands + 3 Hundreds + 5 Tens + 3 Ones

= 4000 + 300 + 50 + 3

= 4353

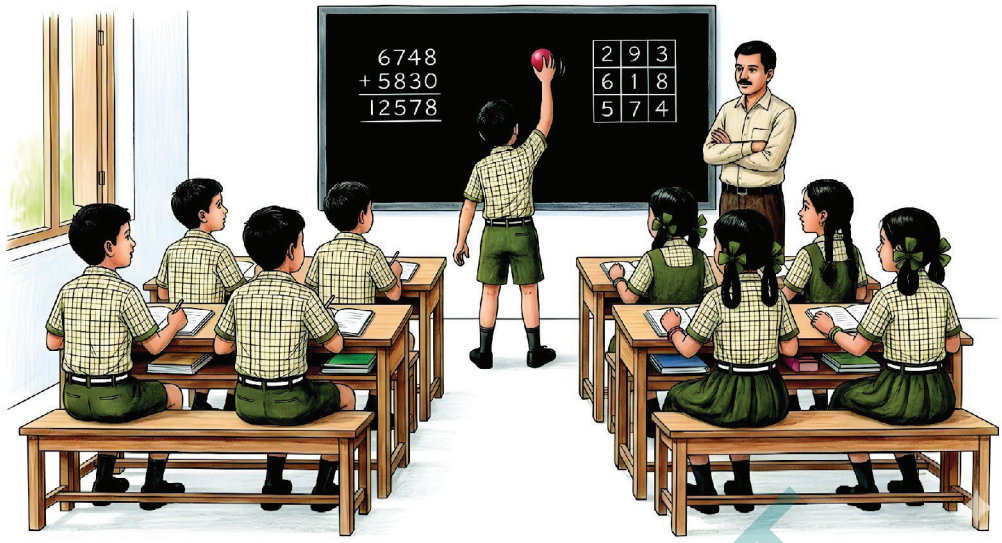


Example -1 In the same way, we add 8956 and 6487.

	Tth	Th	H	T	O
		(1)	(1)	(1)	◯
		8	9	5	6
(+)		6	4	8	7
	1	5	4	4	3

APSCERT

Addition Game:



1. **Prepare the Board:** Draw a large 3x3 square on the blackboard and fill it with the numbers 1 to 9 as shown in the picture.
2. **Form Teams:** Divide the class into groups of two (partners).
3. **Throw the Ball:** The first student throws a ball at the board. They should try to hit a number.

2	9	3
6	1	8
5	7	4

4. **Record the Hits:**
   a) If the ball hits a number, write that number down.
   b) If the ball misses all the numbers, write down a "0".
5. **Create a 4-Digit Number :** Each student throws the ball four times. After four throws, write the numbers together to create a 4-digit number (for example: 2, 9, 1, and 5 becomes 2,915).
6. **Partner's Turn :** The second student in the group does the same thing and create their own 4-digit number.
7. **Add the Scores :** They add their two 4-digit numbers together in their notebooks to get a "Group Total."
8. **Find the Winner :** The group with the highest total sum is winner of the game.

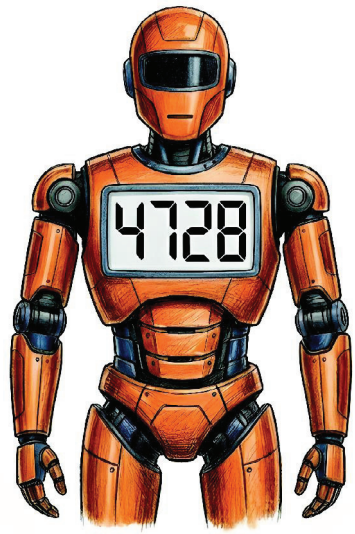
Group-1				
	5	4	9	3
(+)	7	8	2	6
1	3	3	1	9

Group-2				
(+)				

Group-3				
(+)				

AP SCERT

2. 2 AI Addition Machine



This is an Addition machine. It has a fixed 4-digit number 4728. If you place any 4-digit number in the machine, it is added to 4728 and the sum is displayed on the screen. You should place a 4-digit number of your choice and find the number displayed by the machine.

1.	2.	3.	4.	5.
2 8 9 6	_____	_____	_____	_____
(+) 4 7 2 8	(+) 4 7 2 8	(+) 4 7 2 8	(+) 4 7 2 8	(+) 4 7 2 8
7 6 2 4	_____	_____	_____	_____

Do these

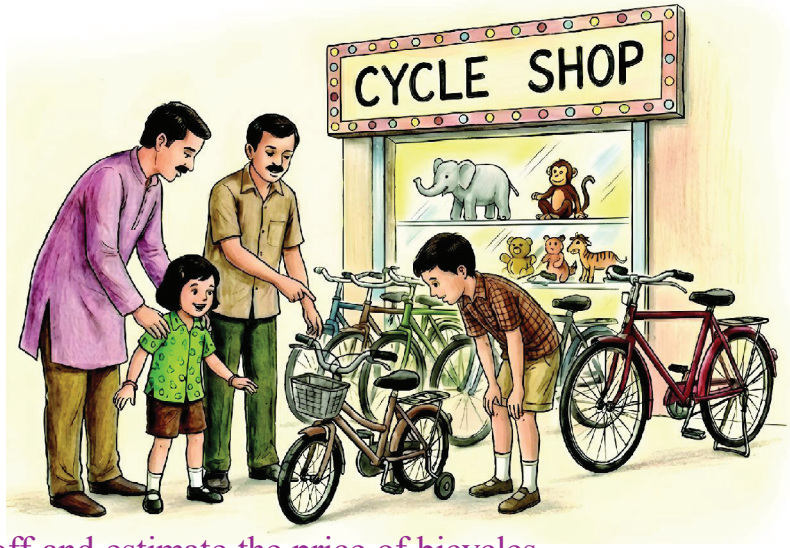
1. Add the following.

1 3 6 5	7 9 8 9	4 6 0 9	9 9 9 9
(+) 7 6 3 5	(+) 1 1 1 1	(+) 3 8 8 4	(+) 7 2 4
_____	_____	_____	_____

2. Add 4789 and 2946

3. Find 7645 + 5895

2.3 Addition by Estimation



Sanjay, Mokshitha and their father Ravi went to purchase bicycles. The shop keeper said the big cycle costs ₹ 5100 and the small cycle costs ₹ 3850. Ravi had ₹ 10000 with him. He was doubtful whether the amount would be sufficient or not to purchase two bicycles.

Ravi wants to round nearest values off and estimate the price of bicycles.

AP SCERT

How to round off the 4-digit number?

Rule 1 : If the digit in hundred place is 5 or greater, add 1 to the thousands digit.

Rule 2 : If the digit in hundred place is less than 5, keep the thousands digit the same.

Change all the digits to the right of the thousands place (hundreds, tens and ones) to 0.

Let's help Ravi in guessing the sum.

If we rounded off 5100 to its nearest thousands then we get = 5000

If we rounded off 3850 to its nearest thousands then we get = 4000

The sum of 5100 and 3850 is now nearer to 5000 + 4000 = 9000

So, the estimated amount is ₹ 9000.

The amount is sufficient to purchase two bicycles.

Example - 2

In another shop there are two types of bicycles, namely, gear bicycles and small bicycles. Now you find out the two bicycles whose cost would be less than ₹ 10000 and fill the table. The cost of each bicycle is given in boxes.

GEAR BICYCLES



₹ 7150



₹ 5100



₹ 8150

SMALL BICYCLES



₹ 1800



₹ 2670



₹ 3850

S.No.	Cost of Gear bicycle	Cost of small bicycle	Cost of Gear bicycle rounded to thousand	Cost of small bicycle rounded to thousand	Total Cost
1	₹ 7150	₹ 1800	₹ 7000	₹ 2000	₹ 9000
2					
3					
4					

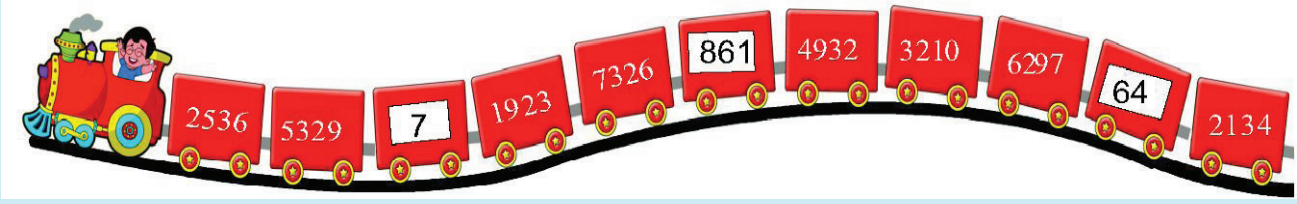
Do these

1. Estimate the sum in each case and tick (✓) on the correct estimation which is rounded of thousands.

1	1686 + 3250	4000	5000	6000	7000
2	2432 + 2980	4000	5000	6000	7000
3	3480 + 5700	6000	7000	8000	9000
4	1984 + 5680	6000	7000	8000	9000
5	4830 + 987	6000	7000	8000	9000

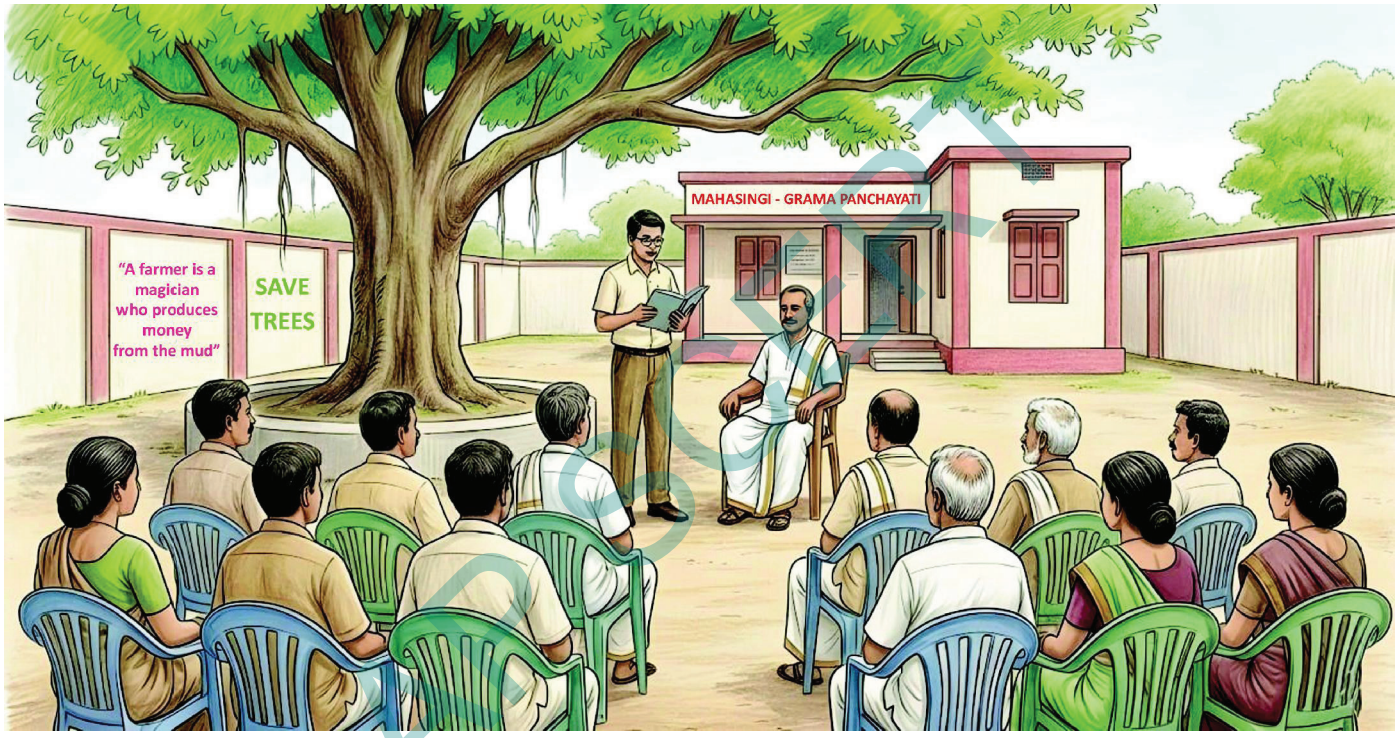
AP SCERT

2. Estimate the Sum.



There is a kids train. All the compartments have numbers on them. Estimate the pairs of compartments whose sum is greater than 8000.

GRAMA SABHA



In Mahasingi panchayat, the village secretary collected ₹ 5960 towards House Tax, ₹ 2398 towards water tax and ₹ 895 towards other cess. Find the total amount collected?

Help the Secretary in finding the total amount.

			Th	H	T	O
			(2)	(2)	(1)	
Amount collected towards House tax	=		5	9	6	0
Amount collected towards Water tax	=		2	3	9	8
Amount collected towards other cess	=			8	9	5
Total amount collected by the Secretary	=	₹	9	2	5	3

Example- 3

Total expenditure of Anuradha's family in a month is ₹ 9385.
If she saves ₹7895, what is her income in the month?

Solution:

Expenditure of Anuradha's family =
Money saved = (+)
Her income in the month =

TTh	Th	H	T	O
	(1)	(1)	(1)	
	9	3	8	5
	7	8	9	5
1	7	2	8	0

Example- 4

There are 1786 scooters in a parking place. The number of bikes is 396 more than the number of scooters. Find the number of bikes in the parking place?



Solution: Total number of bikes in parking place = number of scooters + number of bikes more than scooters.

Number of Scooters in the parking place =
Number of bikes more than the scooters = (+)
Total number of bikes in the parking place =

Th	H	T	O
(1)	(1)	(1)	
1	7	8	6
	3	9	6
2	1	8	2

Do these

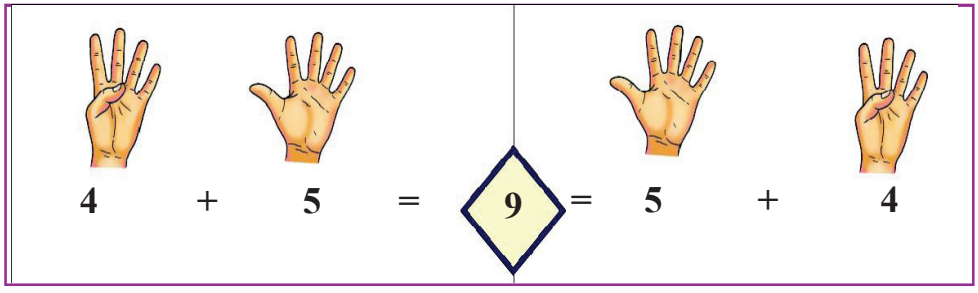
1. A water tank supplies drinking water to two villages. They supplied 3870 liters of water to first village and 5295 liters of water to second village. How many buckets of water in total are supplied to both the villages?
2. On Vanamahotshavam, in a mandal 7365 saplings were planted in schools and 2859 saplings were planted in offices. How many saplings were planted in total?

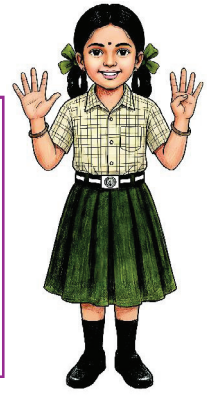




Observe the following additions.







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Find the sum of 3265 and 2678.

Pavan added like this:

$$\begin{array}{cccc} & \textcircled{1} & \textcircled{1} & \\ 3 & 2 & 6 & 5 \\ 2 & 6 & 7 & 8 \\ \hline 5 & 9 & 4 & 3 \end{array}$$

3265 + 2678 = 5943

Charan added like this:

$$\begin{array}{cccc} \textcircled{1} & \textcircled{1} & & \\ 2 & 6 & 7 & 8 \\ 3 & 2 & 6 & 5 \\ \hline 5 & 9 & 4 & 3 \end{array}$$

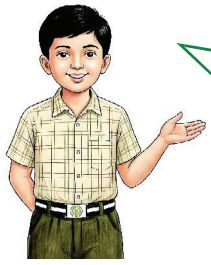
2678 + 3265 = 5943

Conclusion: 3265 + 2678 = 2678 + 3265

If two numbers are added in any order we always get the same sum.

Making a word problem

Example - 5 2568 + 3890 = ? Make a word problem.



In Ramapuram village, there were 2568 male and 3890 female population. What is the total population of the village?

Srinu has ₹ 2568 and Seshu has ₹ 3890. What is the total amount they both have?



Try these

Make word problems for the following.

a) 6854 + 3521 b) 5340 + 3564 c) 4563 + 8520

2.4 Addition in expanded form

Example - 6 234 + 425

We can add numbers in another way. Observe the following procedure.

We add 234 and 425 using expanded form.

	200	30	4
400 +	600		
20 +		50	
5			9

= 600 + 50 + 9

= 659

234 = 200 + 30 + 4

425 = 400 + 20 + 5

659 = 600 + 50 + 9

AP SCERT

2.5 Oral Addition

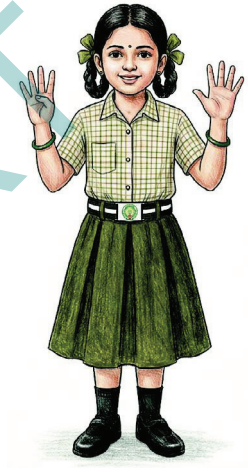
Now let's discuss on Oral Addition. The basic idea is to add in parts, such as tens and ones separately.

For example, to find 7+8 in an easy way ,7 is close to 10 and less by 3, So we write 8 as 3+5.

So, $7 + 8 = 7 + 3 + 5$ $(8 = 3 + 5)$ (or) $7 + 8 = 5 + 2 + 8$ $(7 = 5 + 2)$

$= 10 + 5 = 15$ $= 5 + 10 = 15$

Example- 7 Add 386 + 9



Solution: We rewrite the above in the following way.

$386 + 9 = 386 + 4 + 5$ $(9=4+5)$

$= 390 + 5$

$= 395$

Example- 8 Find the sum by suitable regrouping.

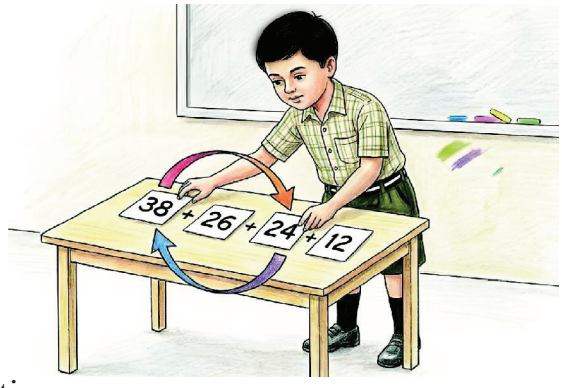
38 + 2 6 + 24 + 12

Solution: We have to regroup the above numbers for easy addition as

$38 + 12 + 26 + 24$

$= 50 + 50$

$= 100$



Example- 9 Find the sum by suitable regrouping.

47 + 584 + 416 + 953

Solution: Regroup the given numbers for easy adition.

584 + 416 + 953 + 47

= 1000 + 1000

= 2000

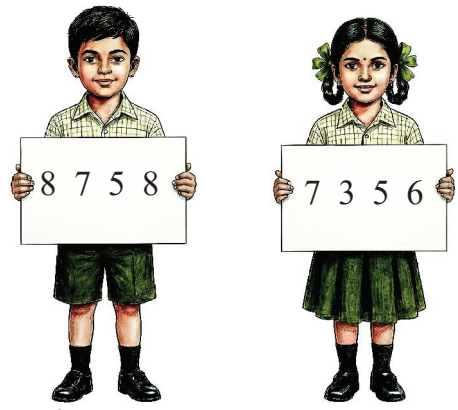
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Try this

1. Fill the boxes with suitable digits.

a) 7 3 □ □
(+) 1 3 6 5
8 7 5 8

b) 4 7 □ 9
(+) 2 □ 8 7
7 3 5 6



2. Find the sum by suitable regrouping.
   a) 740 + 320 + 260 + 2680
   b) 5986 + 2976 + 14 + 24
   c) 4893 + 894 + 106 + 107

EXERCISE-1

1. Add the following.

a) 6 9 7 6
(+) 3 4 6 8
_____

b) 8 0 7 9
(+) 4 8 9 8
_____

c) 5 3 7 9
(+) 8 9 6 5
_____

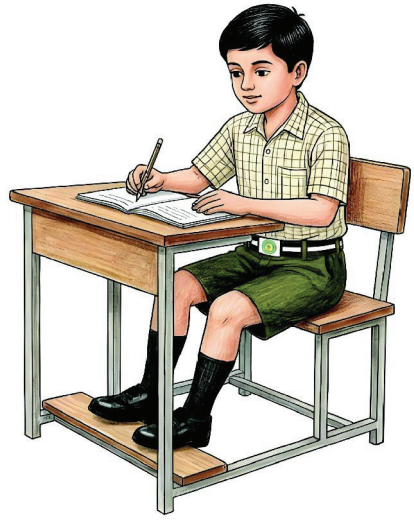
d) 6 4 3 5
9 8 7
(+) 7 6
_____

2. Observe whether the following additions are correct or not. Correct them if it is wrong.

a) 3 6 4 8
(+) 4 8 2 6
7 4 6 4

b) 5 0 1 7
(+) 3 9 7 7
9 0 9 4

c) 3 8 9 7
(+) 4 0 6 9
7 8 5 6



3. Write word problems for the following additions.
   a) 3268 + 5634 = ?
   b) 6240 + 5425 = ?

4. Fill in the blanks.
   a) 632 + 984 = 984 + _____
   b) 2735 + _____ = 2569 + 2735

5. A number is 6897 more than 5478. Find that number ?

6. Veeraiah sold maize for ₹ 5397 and pearl millets for ₹ 3849 in a village fair. How much amount did he get?

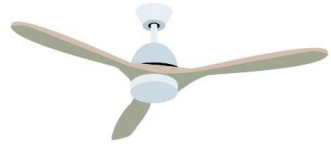
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7. Madhav produced 3985 watermelons in his field. Vijayendar produced 854 more than Madhav's. What is the number of watermelons produced by Vijayendar?
8. In an electronics store, the prices of four fans are shown below.


Fan 1: ₹ 7200


Fan 2 : ₹ 5800


Fan 3 : ₹ 4650


Fan 4 : ₹ 3900

Find the two fans whose total cost is ₹ 13,000? [ ]

A) Fan 1 and Fan 2 B) Fan 2 and Fan 4

C) Fan 3 and Fan 4 D) Fan 1 and Fan 3

9. Which pair of numbers adds up to 400? [ ]

A) 120 and 270 B) 199 and 199

C) 150 and 190 D) 198 and 203

Project Work

Collect your village information from the Panchayat Secretary and fill the information in the given table.

Village Name :

	Population	Literates	Illiterates	Voters
Male				
Female				

Answer the following question.

1. What is the total population of your village?
2. What is the sum of the total literates and illiterates?
3. Compare the male and female literates.
4. Is the sum of voters equal the total population? What do you observe?

AP SCERT

Improve your Learning

1. The figure is called a Magic square because the sum of the numbers along every row, column and diagonal the same.

4	9	2
3	5	7
15 8	1	6

15

For example, 4 + 3 + 8 = 15. Also 6 + 1 + 8 + 15.

Now here is another magic square.

12	7	8
5	9	13
■	●	6

What are the values of ■ and ● ?

2. A machine adds 4728 to the number that is put in.
If the final output is 6000, what number was entered?



3. Rafi has to add two numbers 354 and 462. But he adds 354 + 452 = 806.
Later he identifies his mistake. What should be done to correct his mistake? ( )
a) Add 10 b) Subtract 10 c) Add 1 d) Subtract 1

4. Nagamma placed weight stones on both pans of a weighing balance as shown in the picture. If she lifts the weighing balance, which of the following statements about the balance would be true? ( )
a) Pan A would go down.
b) Pan B would go down.
c) Both pans would stay at the same level.
d) Pan A would go down because, it has more number of stones.



5. In a village there are 2525 males. The number of females is 250 more than the number of males. What is the total population of the village?

6. You are a shopkeeper. Create a receipt for three items where the total equals exactly ₹ 9246. One item must cost ₹ 5397.

AP SCERT

UNIT - 3

Subtraction

Q8X3E5

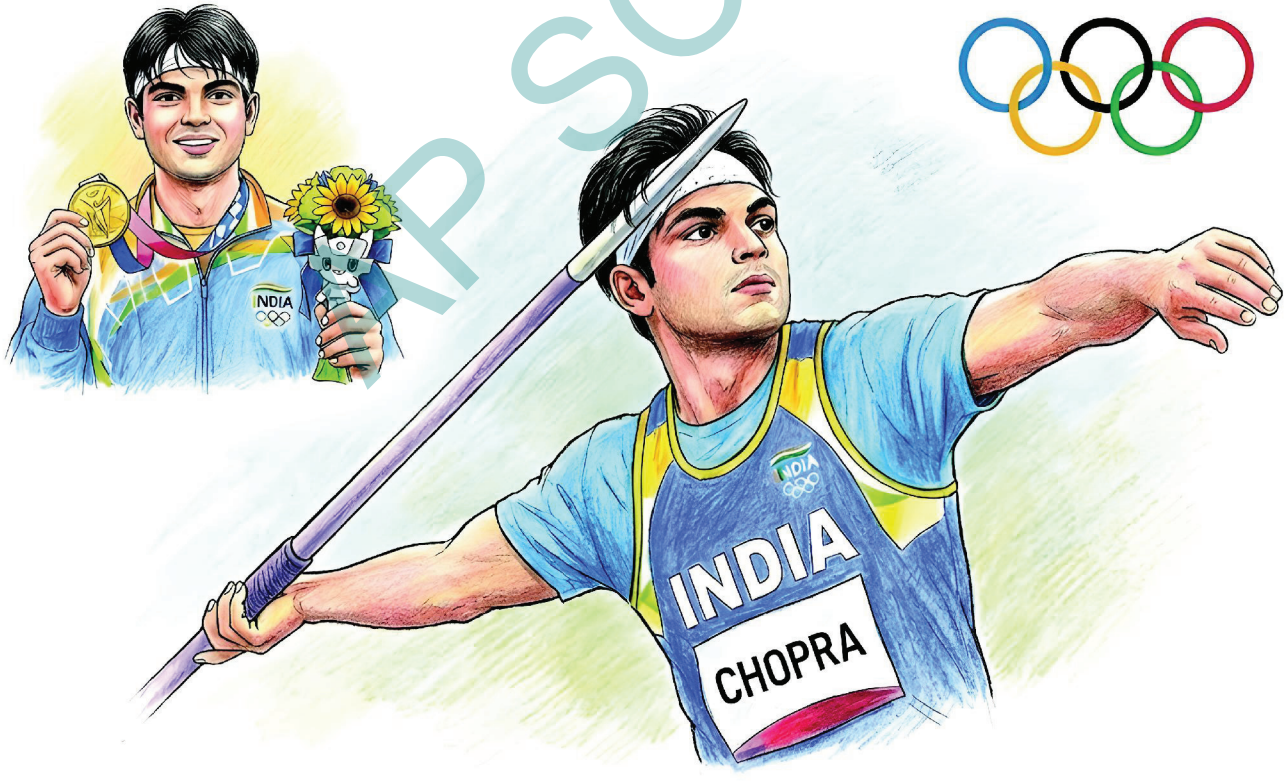
Learner will be able to

- Do subtractions without regrouping.(CG1)
- Do subtractions with regrouping.(CG1)
- Estimate the difference between two 4-digit numbers.(CG4)
- Solve daily life problems using subtraction.(CG4)
- Correct the mistakes in subtractions and give reasons.(CG4)
- Say the profit or loss in daily life situations.(CG1)

3.0 Subtraction without regrouping

Neeraj Chopra is an Indian javelin thrower. He was born into a agriculture family on December 24, 1997. His father Satish Kumar is a farmer and his mother Saroj Devi is a homemaker.

From his humble beginnings in a small village, Haryana to winning India's firstever Olympic gold in athletics in 2021, Chopra's journey is nothing short of inspirational.



Chopra's coaching under Klaus Bartonietz, from 2019 to 2024, resulted in several wins, titles and gold medals. Some of the wins are given in the table .

KP SCERT

Year	Tournament	Venue	Position	Result
2018	Commonwealth Games	Gold Coast, Australia	First	8647 cm
2021	Olympic Games	Tokyo, Japan	First	8758 cm
2023	World Champions	Budapest , Hungary	First	8817 cm
2024	Olympic Games	Paris , France	Second	8945 cm

Observe the above table .

1. How far did Neeraj Chopra throw the javelin in the 2021 Olympics?

Ans. 8758 Centimeters.

2. How far did Neeraj Chopra throw the javelin in the 2018 Commonwealth games?

Ans. 8647 Centimeters.

3. What is the difference between the distances Neeraj threw the javelin at the 2021 Olympics and the 2018 Commonwealth Games?

We find the difference between the numbers 8758 and 8647(hint).

4. How can we find the difference between the numbers 8758 and 8647?

5. What is the mathematical process required to find difference ?

Yes, subtract smaller value from the bigger value. We get the difference.

The difference is 8758-8647.

Now we find the difference between 8758 and 8647.

	Th	H	T	O
	8	7	5	8
(-)	8	6	4	7
	0	1	1	1



Explanation:

Subtracting Ones : 8 Ones – 7 Ones = 1 One (Write 1 under Ones column)

Subtracting Tens : 5 Tens – 4 Tens = 1 Ten (Write 1 under Tens column)

Subtracting Hundreds : 7 Hundreds – 6 Hundreds = 1 Hundred

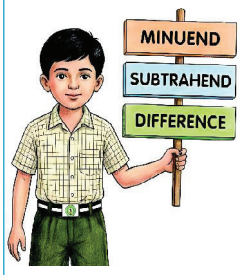
(Write 1 under Hundreds column)

Subtracting Thousands: 8 Thousands – 8 Thousands = 0 Thousands.

AP SCERT

Example -1: Subtract 4235 from 9467.

Solution: Arrange the given numbers in columns and subtract.



9467 (Minuend)
(-) **4235 (Subtrahend)**
5232 (Difference)

	Th	H	T	O	
	9	4	6	7	(Minuend)
(-)	4	2	3	5	(Subtrahend)
	5	2	3	2	(Difference)

Do these

1. Subtract 2461 from 8975.



2. One study table costs ₹200 less than another. Which pair of prices is correct? ( )

   A) 3,250 and 3,270 B) 4,920 and 4,720

   C) 5,630 and 7,630 D) 5,140 and 5,142

3. Ramesh subtracts 1530 instead of 1532 from 4532 and gets 3000. How can he correct his answer without redoing the subtraction? ( )

   A) Add 1 B) Add 2 C) Subtract 1 D) Subtract 2

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3.1 Subtraction by regrouping

The Riverview Park is situated on the bank of Nagavali river in Srikakulam. On a Sunday 3264 persons visited the park. Out of these, 1896 were adults and the remaining were children. How many children visited the park on Sunday?



To know the number of children who visited the park, we have to subtract the number of adults (1896) from the total number of persons who visited the park (3264).

Th	H	T	O
(2)	(11) 1 ✓	(15) 5 ✓	(14)
3 ✓	2 ✓	6 ✓	4 ✓
1	8	9	6
1	3	6	8

Number of persons who visited the park =
Number of adults visited the park = (-)
Number of children who visited the park =

Explanation :

Step -1 : Subtracting Ones

We want to subtract 6 from 4 . But, 6 > 4

So, bring 1 ten from 6 tens and change it into 10 ones, then 5 tens remain in tens place.

Now 1 ten + 4 ones = 10 ones + 4 ones = 14 ones.

14 ones - 6 ones = 8 ones

write 8 under ones place.

Th	H	T	O
3	2	(5) 6 ✓	(14) 4 ✓
1	8	9	6
			8

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Step - 2: Subtracting Tens

Observe the digits in tens column they are 5 and 9. (why?)

We want to subtract 9 from 5. But, 9 > 5

So, from the Hundreds column, bring one hundred from 2 hundreds and change 1 Hundred into 10 tens, then 1 hundred remain in hundred's place.

1 Hundred + 5 Tens = 10 Tens + 5 Tens = 15 Tens

15 Tens – 9 Tens = 6 Tens (write 6 under Tens place)

Th	H	T	O
	1	(15) 5	(14)
3	2	6	4
1	8	9	6
		6	8

Step - 3: Subtracting Hundreds

We want to subtract 8 from 1. But, 8 > 1.

So, from the thousands column, bring 1 thousand from 3 thousands and change 1 thousand into 10 hundreds. then 2 Thousands remain in thousands place.

1 Thousand + 1 Hundred = 10 Hundreds + 1 Hundred

= 11 Hundreds

11 Hundreds – 8 Hundreds = 3 Hundreds

write 3 under Hundreds place

Th	H	T	O
2	(11) 1	(15) 5	(14)
3	2	6	4
1	8	9	6
	3	6	8

Step - 4: Subtracting Thousands

2 Thousands – 1 Thousand = 1 Thousand

write 1 under Thousands place

Thus 3264 - 1896 = 1368

Th	H	T	O
(2)	(11) 1	(15) 5	(14)
3	2	6	4
1	8	9	6
1	3	6	8

Note: **We can check the answer in the following way. If we add the answer to the smaller number, we should get the bigger number.**

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In the above case:

Smaller number = 1 8 9 6 (Subtrahend)

Answer obtained = (+) 1 3 6 8 (Difference)

= 3 2 6 4 (Minuend)

Hence the answer is correct.

Do you know?

Minuend = Subtrahend + Difference

Do these

1. a) 8 4 5 7
(-) 5 8 9 7

b) 9 0 4 0
(-) 3 6 2 7

c) 5 0 0 0
(-) 2 8 2 9

2. Subtract 4385 from 9230.

Word Problems:



Example - 2

Balaraju made 8450 bricks in his brick yard. After selling some bricks, 4852 bricks were left in the yard. How many bricks were sold?

Solution:

The number of bricks sold = Number of bricks made - Number of bricks left

		Th	H	T	O
		(7)	(13) 3	(14) 4	(10)
Number of bricks made	=	8	4	5	0
Number of bricks available now	= (-)	4	8	5	2
Number of bricks sold	=	3	5	9	8

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Example - 3 Rajani bought a saree for ₹ 9000 and Ramani bought another saree for ₹ 6895. How much money did Rajani pay more than Ramani?

Solution:

Cost of the saree purchased by Rajani = ₹

Cost of the saree purchased by Ramani = (–) ₹

Money paid by Rajani more than Ramani = ₹

Th	H	T	O
(8)	(9) 10	(9) 10	(10)
~~9~~	~~0~~	~~0~~	~~0~~
6	8	9	5
2	1	0	5

Do these

1. Sri krishna had ₹ 9213 in his bank account. He withdrawn ₹ 7435. How much money was left in his account?
2. Nanaji wanted to buy a sprayer of cost ₹ 9500. Government provided a subsidy of ₹ 2500. Then how much money should he pay ?

3. 2 Subtraction by Estimation

Leela collects *Addakulu* from the forest at Araku. She sold the leaves of 50 bundles for ₹ 9230 one day. She purchased some household items for ₹5890. How much money did she have now? Can you guess? Estimate the answer.



Solution:

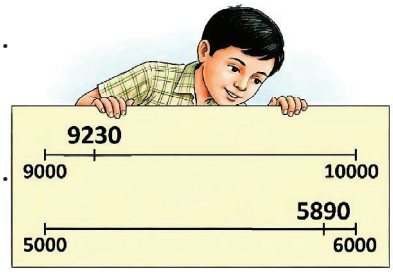
Money earned by selling the leaves = ₹ 9230

If 9230 is rounded off to its nearest thousands then we get 9000.

Money spent for purchasing household items = ₹ 5890

If 5890 is rounded off to its nearest thousands then we get 6000.

Money left with her approximately = 9000 - 6000 = ₹ 3000



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Do these

1. In a Village, there are 8142 trees. Out of these 3780 trees fell down due to Hudhud cyclone. The number of trees remaining is……. (approximately)

   a) 3000 b) 4000 c) 5000 d) 6000

2. The sum of two numbers is 7152. One of these number is 5200. The other number rounded to thousand is _____

3. Write correct symbol of (<, >, or =) in boxes by estimating the difference.

   a) 2300 – 800 ◯ 2950 – 1100

   b) 4100 – 1800 ◯ 8005 – 6200

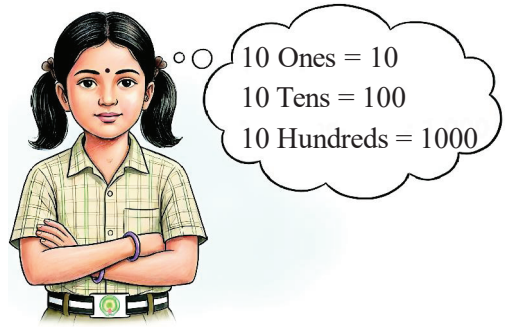
   c) 3900 – 890 ◯ 7020 – 5630

Try these

1. Correct the following subtractions.

   a)
   ```
     8 10
     5 9 2 0
   (-) 3 4 8 6
   ---------
     2 4 2 6
   ```

   b)
   ```
     9 9
   5 10 10 10
   6 0 0 0
   (-) 3 9 8 4
   -----------
   2 1 2 6
   ```



3.3 : Addition and Subtraction facts

Kalpana wanted to go to Vizag with her daughter Ridhi by train. They boarded the train. Indira was also going to Vizag. Train fare from Srikakulam road to Vizag was ₹ 80 for a child and ₹ 120 for an adult. Both gave ₹ 200 each for their tickets. How much money would be returned to Indira ?

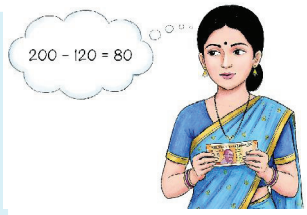


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Train fare for Kalpana	=	₹ 120
Train fare for Ridhi	=	(+) ₹ 80
Total train fare for them	=	₹ 200

The amount given by Indira	=	₹ 200
Train fare for Indira	=	₹ 120
The amount to be returned to her	=	200 - 120
	=	₹ 80



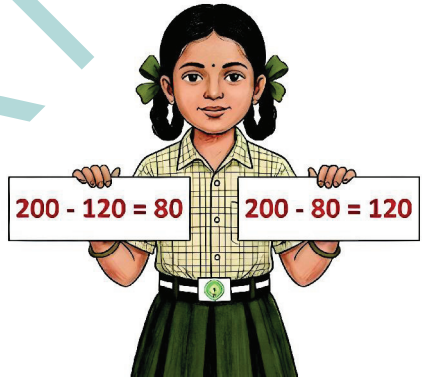
So, we have

80 + 120 = 200

200 - 80 = 120

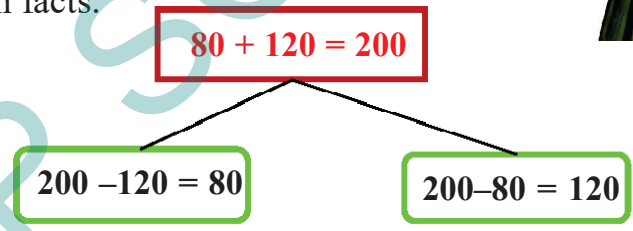
We write subtraction fact from addition fact.

Children, observe this 200 - 80 = 120.

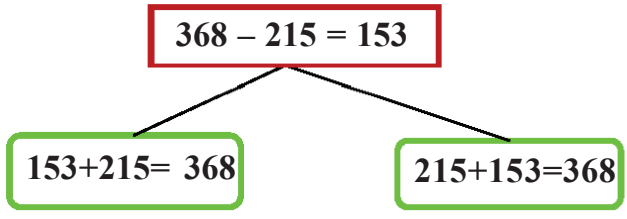


So for the addition fact 80 + 120 = 200 we have two subtraction facts.

They are



In the same way we write addition fact from a subtraction fact.



3.4 : Oral Subtraction

You are already familiar with skip counting in tens.

Let us recall it.

Consider the pattern : 90, 80, 70,---- , ---- , ---- , ----

Clearly, the above pattern may be completed as: 90, 80, 70, 60, 50, 40, 30

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Observe the another pattern 86, 76, 66, 56, 46, 36, 26
(Skip counting in tens is based either on adding or subtracting 10)
Let us use this principle to carry out subtractions orally or mentally.

Example - 4 Subtract 23 from 96.

Solution : Clearly 23 is 20 and 3. i.e. 20+3

So, first we subtract 20 from 96 and then we subtract 3 from the difference we obtain the answer.

Now, 96 – 20 = 76

And 76 – 3 = 73

So, 96 – 23 = 73

To subtract orally, we split the number to be subtracted into tens and ones.

Example -5 Subtract 32 from 54.

Solution : Clearly 32 is 30 + 2

54 – 30 = 24 and 24 – 2 = 22

Do these

1. Subtract orally.
   a) 95 - 21 b) 88 - 55 c) 68 - 47 d) 52 - 26 e) 73 - 37
2. Write subtraction facts from the given addition facts.
   a) 734 + 268 = 1002
   b) 3140 + 2869 = 6009
3. Write addition facts from the given subtraction facts.
   a) 480 – 320 = 160
   b) 5286 – 3812 = 1474



EXERCISE-1



1. Do the following.

a)	b)	c)	d)
5 8 8 9	8 9 2 6	9 6 0 0	8 0 0 0
(-) 3 6 4 3	(-) 2 6 3 4	(-) 2 7 8 0	(-) 3 6 7 5
_____	_____	_____	_____
_____	_____	_____	_____

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2. Subtract 7425 from 9015.
3. Take away 3086 from 8415.
4. How much is 3189 more than 2883?
5. Estimate the difference by rounding each number to the nearest thousand.

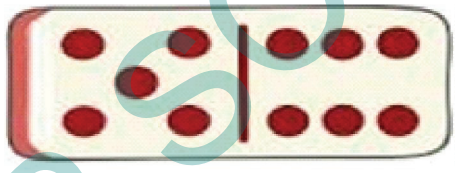
   5742 – 4265 = ...
6. Do a quick estimate to check which of the following is more than 4000.

   a) 5555 – 1266 b) 9885 – 7657
7. Fill the with (<, > or =) symbols.

   a) 5000 – 1200 3600 – 2400

   b) 9200 – 4020 7680 – 2118
8. In a school, the children collected ₹ 8562 for CM Relief fund. The staff donated ₹ 2892 less than the amount donated by children. How much money did the staff collect?
9. Diksha portal was viewed by 9125 people on its first day, by 6532 people on the second day. How many more people viewed the app on the first day than on the second day?

Domino Game



Each student has to take 2 Domino's and arrange as it is in the picture given. And write down a 4 digits from the selected 2 Domino's. Make the largest and smallest 4-digit number using the obtained 4-digits.

Subtract a smaller number from bigger number.

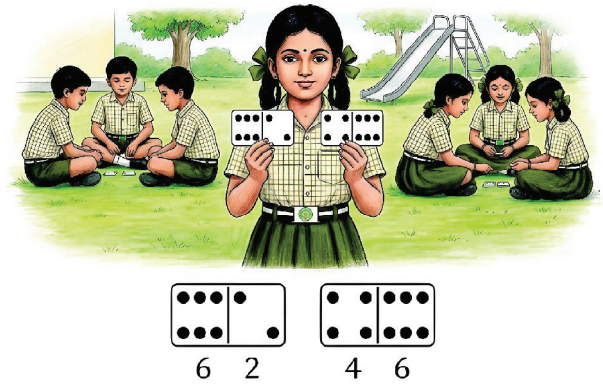
Suma got digits of 6,2,4,6 by selecting 2 dominos.

Largest 4-digit number = 6642

Smallest 4-digit number = 2466

Biggest number – Smallest number = Difference.

6642 - 2466 = 4176



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Subtract the smallest number from the biggest number formed by the digits 4 , 1 , 7 , 6.

Biggest number – Smallest number = Difference

7641 – 1467 = 6174

Now, subtract the smallest number from the biggest number formed by the digits 6 , 1 , 7 , 4.

Biggest number – Smallest number = Difference

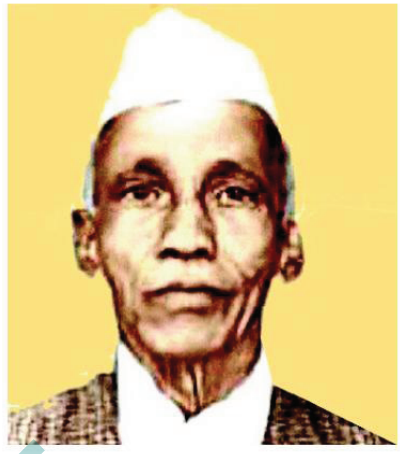
7641 – 1467 = 6174

Observe that this activity stops at 6174.

Select another 4– digit number. Continue the game in the same way.

Observe whether you get the same number 6174 or not.

The number 6174 is known as Kaprekar Constant.



Dattatreya Ramachandra Kaprekar

Dattatreya Ramachandra Kaprekar (1905 – 1986) An Indian Mathematician. Continuing as a school teacher, he worked on recreational properties of numbers . His findings include Harshad numbers, Self numbers and Demlo numbers. He discovered the special nature of the number 6174 which was named after him as Kaprekar Constant.

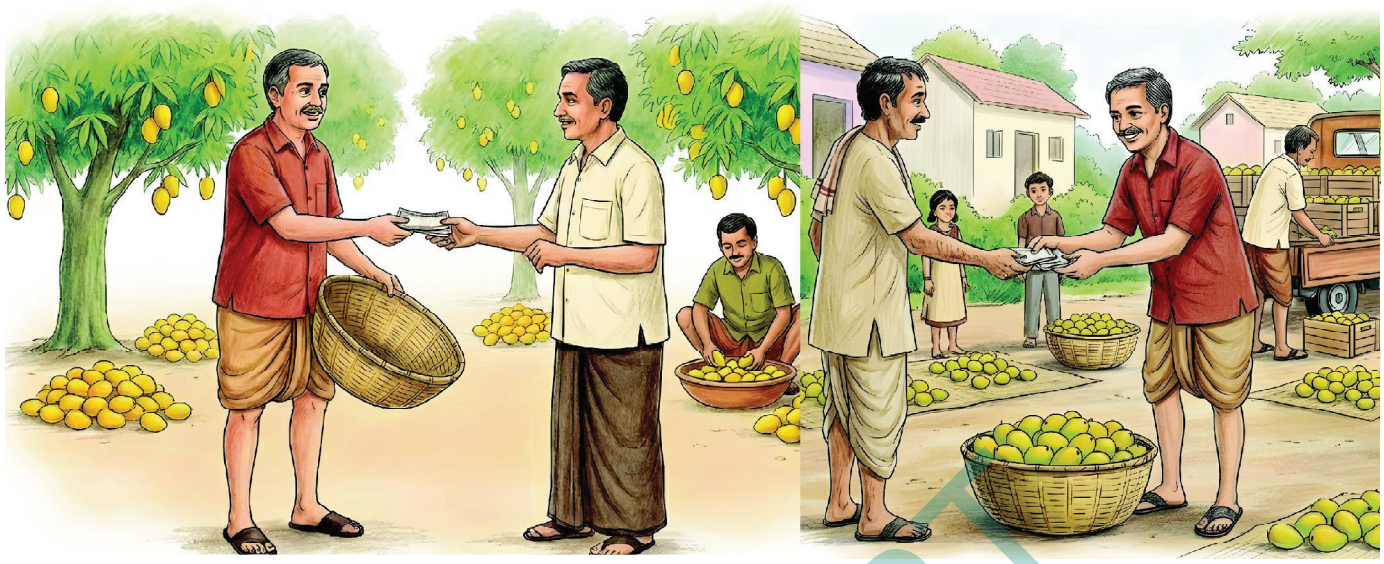
PROJECT WORK

Collect the information from your Head master the attendance details of students for a month and complete the table.

Serial number	Day	Number of students in primary classes in the Mandal	Number of students present	Number of students absent
1.	Monday			
2.	Tuesday			
3.	Wednesday			
4.	Thursday			
5.	Friday			
6.	Saturday			

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3.5 Application of Subtraction



Rangayya bought some mangoes for ₹ 200 from a farmer and he sold them for ₹ 250 in the market.





Do you know!
The amount of money which we pay to buy an article is its Cost Price (C.P.).

Do you know!
The amount which we receive from a customer by selling an article is its Selling Price (S.P.).



As Rangayya paid ₹200 for mangoes at the garden.
Cost price of the mangoes = ₹ 200

As Rangayya received ₹ 250 by selling mangoes at the market.
Selling Price of the mangoes = ₹ 250

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Do these

Write the Cost Price and Selling Price from the following contexts.

a) Seetha bought lemons for ₹ 600 and sold them for ₹ 850.

b) Lakshmi bought flowers for ₹ 1500 and sold them for ₹ 1350.

c) Veerayya sold bananas for ₹ 2450 and previously he bought for ₹ 1940.

d) Adilakshmi bought leafy vegetables for ₹ 150 and sold them for ₹ 120.

Complete the table:

Context	Cost Price (C.P)	Selling Price (S.P)	Which is more? (C.P/S.P)	Which is less? (C.P/S.P)
Mohan bought one quintal of Dal for ₹5800 and sold it for ₹ 5580.				
Gopal bought a bicycle for ₹ 8860 and sold it for ₹ 9210.				
Gowri bought one quintal of millets for ₹ 3250 and sold it for ₹ 3780.				
Akbar bought flowers for ₹ 980 and sold for ₹ 900.				

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Ranjith bought a rice bag for ₹ 1540 and sold it for ₹ 1860. After selling the bag he wanted to find out whether he got more (or) less money than what he paid for it?



Cost Price of the Rice bag = ₹ 1540

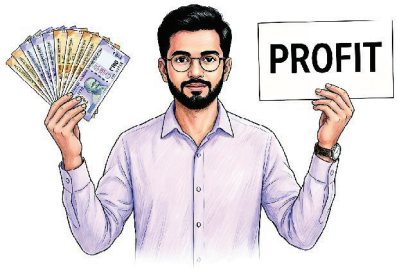
Selling Price of the Rice bag = ₹ 1860

1540 < 1860

Clearly he observed that Cost Price < Selling Price

The extra amount is called "Profit"

Profit = Selling price - Cost price.



Do You Know !

When the selling price (S.P.) of an article is more than its Cost Price (C.P.), Profit is made

Thus Ranjit got profit.

Keerthi bought a mobile phone for ₹ 8550 and sold it for ₹ 7800.

Did she make a profit?

Cost Price of a mobile = ₹ 8550

Selling Price of a mobile = ₹ 7800

8550 > 7800

Cost Price > Selling Price

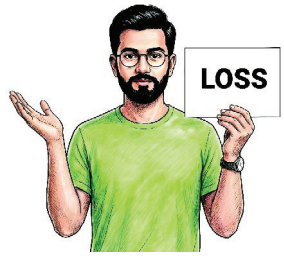


Keerthi got some amount less than she bought by selling it. This amount is called "loss".

Loss = Cost price - Selling price.

Do you know ?

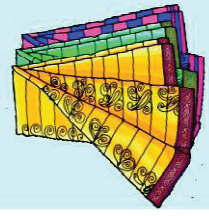
When the Selling Price (S.P.) of an article is less than its Cost Price (C.P.) a Loss is made.



So, Keerthi got loss.

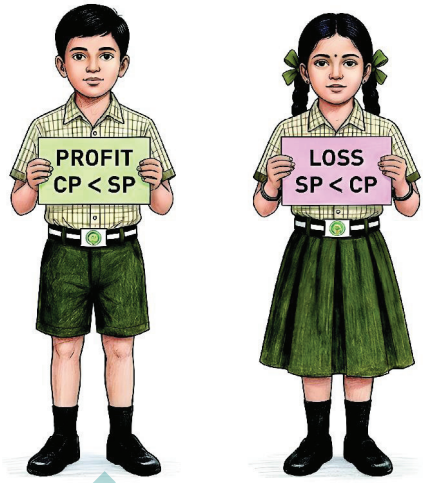
Do these

1. Say whether profit or loss made in each of the following cases.
   a) Cost Price = ₹ 3100 Selling Price = ₹ 2950
   b) Cost Price = ₹ 2505 Selling Price = ₹ 3160
2. Padmaja bought a saree for ₹ 7500 and sold it to Rupa for ₹ 5850. Say whether Padmaja made profit or loss.



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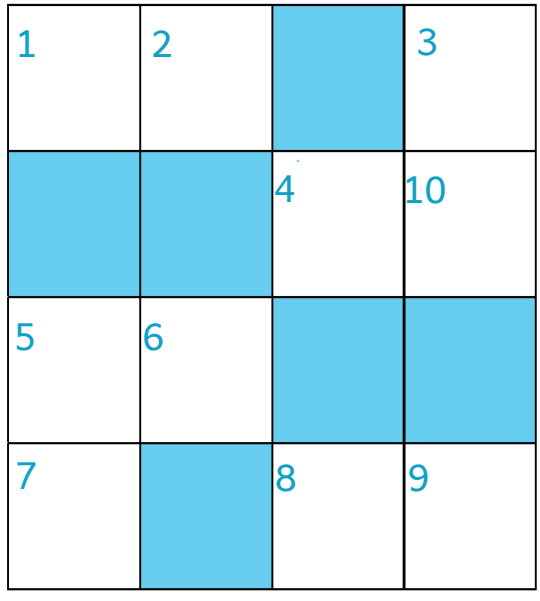
EXERCISE-2



1. Write 'P' for Profit and 'L' for Loss in the given brackets.
   a) CP = ₹ 420 SP = ₹ 390 ( )
   b) CP = ₹ 920 SP = ₹ 990 ( )
   c) CP = ₹ 4860 SP = ₹ 5002 ( )
   d) CP = ₹ 3140 SP = ₹ 2849 ( )
   e) CP = ₹ 2195 SP = ₹ 3000 ( )
2. A shop keeper bought a bag of sugar for ₹ 1650 and sold it for ₹ 90 more. Find whether he made profit or loss.
3. Kumar bought oranges for ₹ 1520 and sold them for ₹ 150 less. Find whether he made profit or loss.
4. Rahim bought umbrellas for ₹ 2100 and sold them for ₹1950. Find whether he made profit or loss.
5. Salman bought a goat for ₹ 7850 and sold it for ₹ 8325. Find whether he made profit or loss.

Solve Puzzle:

Horizontal	Vertical
1) 9 + 9	1) 8 – 7
3) 7 – 6	2) 13 – 5
4) 7 + 8	3) 9 + 6
5) 9 + 7	4) 1 + 0
6) 8 – 2	5) 8 + 8
8) 5 + 7	6) 12 – 6
10) 9 – 4	8) 3 – 2
	9) 9 – 7



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Improve Your Learning

1. There were some books in a school. After distributing 297 books, 1,390 books remained. Ravi says that the library originally had 1,687 books.

   Do you agree with Ravi? Explain your answer using the relationship between addition and subtraction.

2. A vendor purchased 4260 mangoes from a garden. While transporting them from the garden to the shop, 52 mangoes were damaged. Afterwards, the vendor sold 2548 mangoes. Determine the number of mangoes that the vendor still has.

3. A customer's electricity bill shows the following meter readings:

Reading	Units (kw/h)
Previous Reading	29381
Present Reading	30122

How many units of electricity were used between the previous and present readings?

4. Meena had 40 more stickers than Sreeja. Later, Sreeja gave 15 stickers to Meena. Now, by how many stickers did Meena's collection exceed Sreeja's?

5. Identify the correct mathematical statement: ( )

   a) 4000 - 1500 > 6000 - 3000 b) 8500 - 2000 = 9500 - 3000

   c) 7200 - 1200 < 5000 - 500 d) 3000 - 500 = 2000 + 500

6. Eswar bought watermelons for ₹ 2550. He sold them for ₹ 3100.

   a) What is the cost price of watermelons?

   b) What is the selling price of watermelons ?

   c) Has Eswar made a profit or loss ? Find the answer.

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UNIT-4

Multiplication

Z5L2S4

Learner will be able to

- Do the multiplication with 100s.(CG1)
- Do the multiplications with 3-digit by 2-digit numbers.(CG1)
- Prepare big tables (more than 20 table).(CG1)
- Solve the real life problems involving multiplications.(CG4)
- Write the multiples of given numbers.(CG1)

4.0 Introduction



Ramya along with her brother Yaswanth and their uncle Giri went to an exhibition. The entry fee was ₹ 60 for each.

Observe the Conversation below.

Giri : How much should we pay for our 3 tickets?

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Yaswanth : 60+60+60 = ₹180

Ramya : 3 × 60 = ₹ 180

Both are calculating in different methods, but the answer is same.Why ?

Meanwhile, in the queue, their neighbors Amar and his friends a total of 12 members came to exhibition. How much did they pay for 12 tickets?



Yaswanth's method:

60+60+60+60+…..+60 (12 times)

It will take so much time.

So I can't do this.

Ramya's method:

60×12 = ₹ 720.

I can do easily.

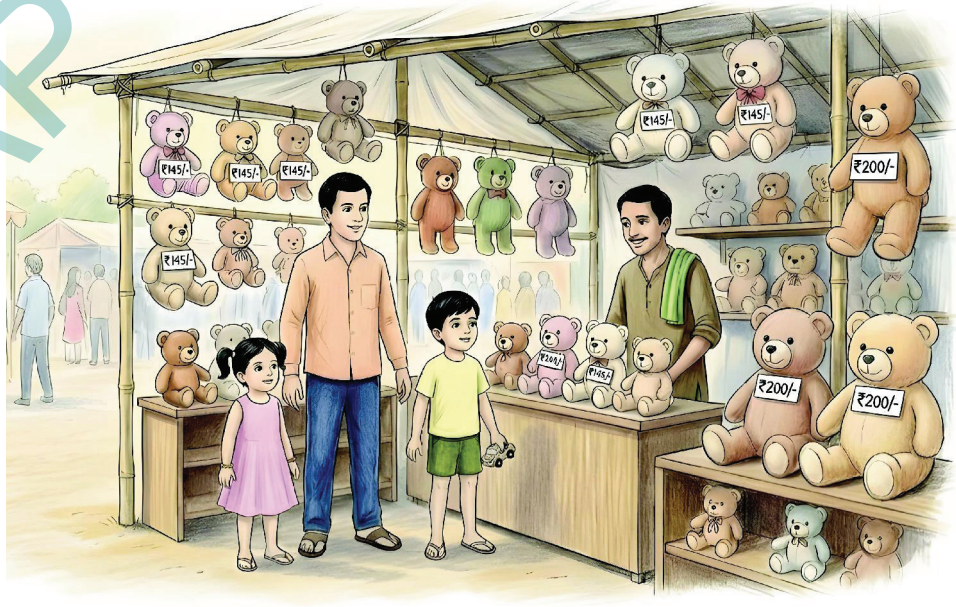


Ramya did this calculation quickly and easily. So let us learn how to multiply big numbers using Ramya's method.

4.1 Multiplication of 3-digit number by 1-digit number

Ramya,Yaswanth and their uncle went to a toy stall. They bought 3 teddy bears at a price of ₹145 each. The shopkeeper sold 3 teddy bears. How much money did shop keeper get?

Can you help him to calculate?



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Ramya did as follows.

Step - 1 Cost of one teddybear is = ₹ 145

Cost of 3 teddybears is = ?

Step - 2



In 145, multiply which is 5 in ones place by 3, the product is 15. 5 × 3 = 15 ones. Write 5 in 15 under ones place and 1 above the 4 in tens place.

Hundreds	Tens	Ones
	(1)	
1	4	(5)
	×	3
		5

Step - 3



In 145, multiply which is 4 in tens place by 3, the product is 12 then add 1, we get 13 tens. 4 × 3 = 12 and 12 + 1 = 13 tens. Write 3 in 13 under tens place and 1 above the 1 in hundreds place .

Hundreds	Tens	Ones
(1)	(1)	
1	4	5
	×	3
	3	5

Step - 4



In 145, multiply which is 1 in hundreds place by 3, the product is 3. Then add 1, we get 4 hundreds, 1 × 3 = 3 and 3 +1=4 hundreds. Write 4 under hundreds place. Now the product is 435.

Hundreds	Tens	Ones
(1)	(1)	
1	4	5
	×	3
4	3	5

H T O

①①

145 × 3 = 1 4 5 × 3

4 3 5



What do you observe from the above?

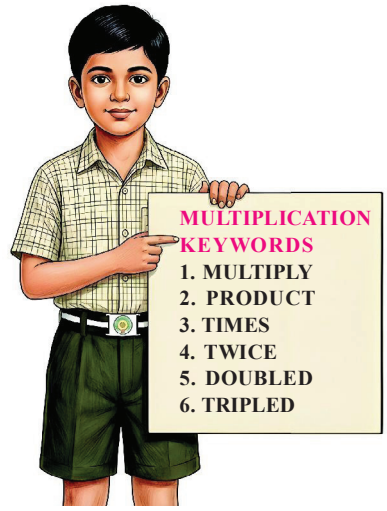
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Uncle worked out this in the following way.

Cost of one teddy bear = ₹ 145

Cost of three teddy bears = 145 ×3

Expanded form of 145 = 100+40+5



145×3

100	**40**	**5**	×
300	**120**	**15**	**3**

300 + 120 + 15 = 435

₹ 435 has to pay the shop keeper.

Do these

1. Find the products using the above method and observe the answers.
   a) 164 × 2 b) 246 × 3 c) 209 × 4
2. Verify the following and correct them wherever necessary.
   a) 264 × 2 = 4128 b) 342 × 3 = 1026 c) 213 × 4 = 8412

Try these

1. In Inapuru school, there are 156 pupils. The teacher asked them to plant 4 saplings for each student in the village. How many saplings did they plant?
2. If a box contains 164 mangoes, how many mangoes will be there in 5 such boxes?
3. Ramayya went to agriculture work for 2 days. If his wage was ₹ 425 per day, what was the total wage for 2 days?

Multiplication with 100's

They went to the "Giant wheel" stall. The entry fee was ₹100 per each person. "How much would they pay for 3 tickets?"

Number of persons = 3

Cost for each person = ₹100

Total cost = 3×100 = ₹300



Mean while Amar and his friends also came to ride Jaint wheel. How much would it cost for 12 members?

Number of persons = 12

Cost for each person = ₹ 100

Total cost for 12 members = _____

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What did you observe?

When a number is multiplied by 100, two zeros are added to the right side of the number for the result.

Do these

Write the products for the following by observing the above statement.

1) 4× 100 = _____ 100 × 4 = _____

2) 6× 100 = _____ 100 × 6 = _____

3) 12 × 100 = _____ 100 × 12 = _____

4) 14 × 100 = _____ 100 × 14 = _____

What do you observe from this?
13× 100 =1300
100 × 13= 1300

What do you observes?

If two numbers are multiplied in any order the product is always the same number.

Maths Lab Activity

Multiplication using straws.

423 = 4 hundreds + 2 tens + 3 ones

Objective : Multiplication with straws.

Material : Take 3 different coloured straws each about 10 in number. (blue-ones, red-tens green-hundreds)

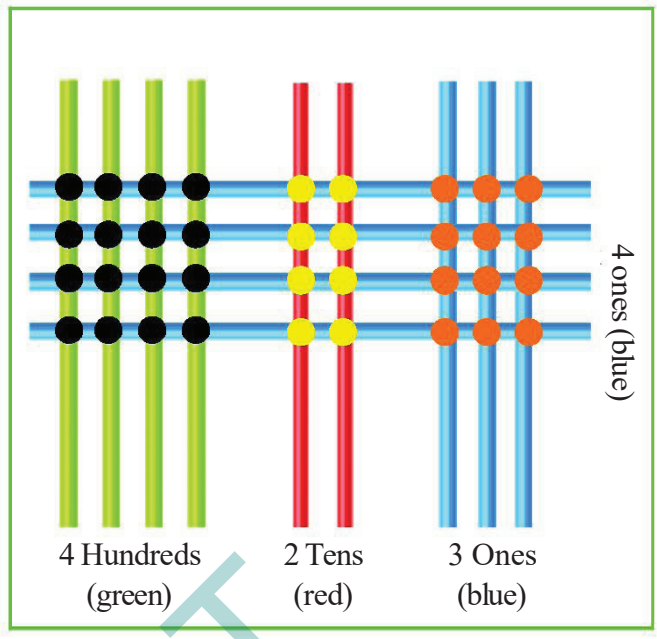
Procedure : Write the problem on the board.

Ex : Multiply 423 by 4.

The teacher writes the expanded form of the number 423. The students use the three different coloured straws for hundreds, tens and ones. So they have to take 4 green, 2 red and 3 blue straws and place them as shown below. Alternately you can draw four green lines, two red lines and three blue lines with colour chalks.

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The straws for the number 4 placed across the straws with the help of pins/ drawing pins. In 423×4, the straws which are in vertical position represent the multiplicand (423), similarly the horizontal straws represent the multiplier (4). Count the number of common points on the horizontal and vertical straws. There are 16 such points in hundreds place, 8 such common points in tens place, 12 such points in ones place.



The result is 16 hundreds + 8 tens + 12 ones

= 16 hundreds + 8 tens + (one ten + 2 ones)

= 16 hundreds + (8 tens + one ten)+ 2 ones

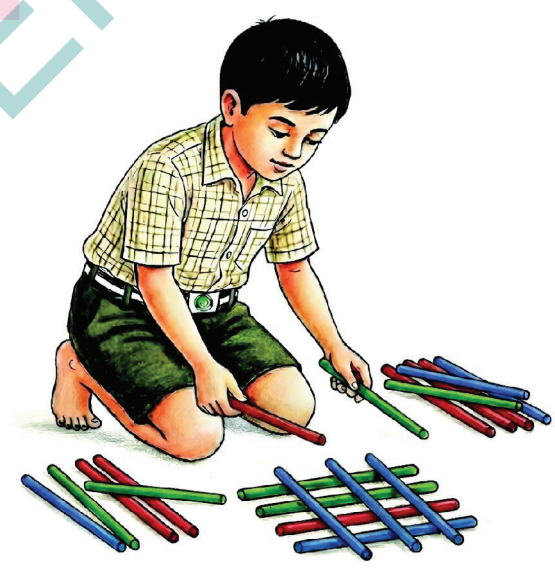
= 16 hundreds + 9 tens + 2 ones

= 1600 + 90 + 2

= 1692

Therefore, the product of 423 and 4 is 1692

423 × 4 = 1,692



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Do these

Do the following by above method.

a) 114 × 3 = _____

b) 314 × 4 = _____

c) 213 × 5 = _____

d) 134 × 6 = _____

e) 243 × 5 = _____

f) 126 × 7 = _____

4.2 Multiplication of 3-digit number by 2-digit number



On her birthday, Sita decided to donate blankets to the poor people on the road side. Her father appreciated her decision and took her to cloth store.

The shopkeeper appreciated her kindness and offered a blanket at ₹295 which actually cost ₹ 350. She bought 14 blankets. Sita's father asked the shopkeeper, "How much do we need to pay?"

The shopkeeper did the multiplication as follows…..

The amount paid by Sita's father to the shopkeeper was ₹ 4,130.

$295 \times 14 =$

$$\begin{array}{r} 2\,9\,5 \\ \times\ 1\,4 \\ \hline 1\,1\,8\,0 \quad (295 \times 4) \\ +\ 2\,9\,5 \quad\ (295 \times 1) \\ \hline 4\,1\,3\,0 \end{array}$$

The next day, teacher explained another method to do the same multiplication.

Step - 1

Thousands	Hundreds	Tens	Ones
	2	9	5
	x	1	4
1	1	8	0

$(14 = 10 + 4)$

(295×4)

First multiply 295 by 4 and write down the result.

Thousands	Hundreds	Tens	Ones	
	2	9	5	
	x	1	4	← (14=10+4)
1	1	8	0	← 295×4
2	9	5	0	← 295×10

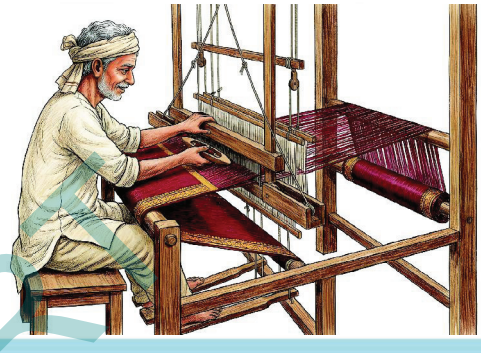
Now multiply 295 with 10 and write down the result.

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Thousands	Hundreds	Tens	Ones	
	2	9	5	
	x	1	4	(14=10+4)
1	1	8	0	295×4
2	9	5	0	295×10
4	1	3	0	

Add both the results, write down as shown in the table.

Example -1 : A weaver's family made 23 sarees. They sold each saree in the market at ₹ 385. Calculate the money they earned.

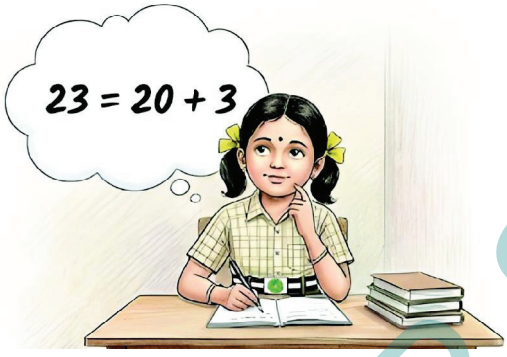


Solution:

Cost of each saree = ₹ 385

Number of sarees sold = 23

Total money earned = 385 x 23



385 × 23 =

$$\begin{array}{r} 385 \\ \times\ 23 \\ \hline 1155 \quad (385 \times 3) \\ +\ 7700 \quad (385 \times 20) \\ \hline 8855 \end{array}$$

Amount of the weaver's family earned = ₹ 8,855

(Note: 23 = 20 + 3)

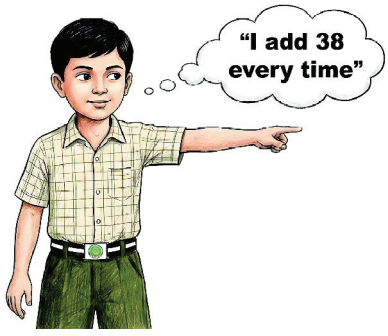
Do these

1. Do the following multiplications
   a) 342 × 15 b) 423 × 21 c) 233 × 26
2. How many trees are there in the garden, if there are 124 rows and each row contains 65 trees?
3. The owner of a dairy farm sold 496 milk packets in 15 days. If each packet was sold at ₹ 25, how much money did he earn?

APSCERT

Prepare Multiplication tables for big numbers.

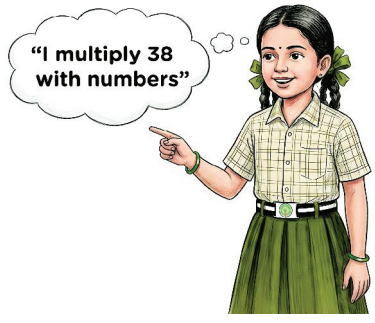
John and Mary prepared 38 table as follows.Observe the following.



38 → 1
+38
76 → 2
+38
114 → 3
+38
152 → 4
+38
190 → 5
+38
228 → 6
+38
266 → 7
+38
304 → 8
+38
342 → 9
+38
380 → 10

38 × 1 = 38
38 × 2 = 76
38 × 3 = 114
38 × 4 = 152
38 × 5 = 190
38 × 6 = 228
38 × 7 = 266
38 × 8 = 304
38 × 9 = 342
38 × 10 = 380

38 x 1 = 38
38 x 2 = 76
38 x 3 = 114
38 x 4 = 152
38 x 5 = 190
38 x 6 = 228
38 x 7 = 266
38 x 8 = 304
38 x 9 = 342
38 x 10 = 380



Children, let us prepare 56 and 74 tables.

4. 3 Fun with multiplication

a) 23×64 = 1472 — 32×46 =1472
b) 13×93 = _____ — 31×39 =_____
c) 26×93 =_____ — 62×39 =_____
d) 42×36 =_____ — 24×63 =_____

Can you find such other pairs?

37×3 = 111
37×6 = 222
37×9 = 333
37×12 =
37×15 = _____
- - - - - -
- - - - - -

Multiply and add
1×9 + 2 = 11
12×9 +3 = 111
123×9+4 =1111
- - - - - - - - - - - -
- - - - - - - - - - - -
- - - - - - - - - - - -

AP SCERT

EXERCISE-1

1. Multiply
   a) 348 × 37 b) 456 × 48
2. The cost of a chair is ₹ 375 .What is the cost of 18 such chairs?
3. Raju delivers 157 newspapers each morning. How many newspapers does he deliver in 31 days?



4. 42 children in a class planned a picnic. If each child contributes ₹ 168, how much money was collected?
5. Arjun buys 65 crates of mangoes at ₹ 285 per crate. How much money does Arjun pay?
6. A hostel needs 145kg of rice everyday. How many kilograms of rice are required for the month of August? ( )
   a) 4895 kg b) 4595 kg c) 4945 kg d) 4495 kg
7. How many minutes a day? (1 hour = 60 minutes, 1 day = 24 hours) ( )
   a) 3600 minutes b) 1440 minutes c) 60 minutes d) 21600 minutes

Project work

Collect the prices of the following commodities from your nearest groceries shop and complete the table.

S.No	Commodity	Price per 1kg (in ₹)	Quantity (in kgs)	Total cost (in ₹)
1	Rice		120 kg	
2	Black-gram		45 kg	
3	Green-gram		35 kg	
4	Red-gram		43 kg	
5	Bengal-gram		40 kg	
6	Sugar		26 kg	
	Total	-	-	

How much money is required to buy the above commodities? _____

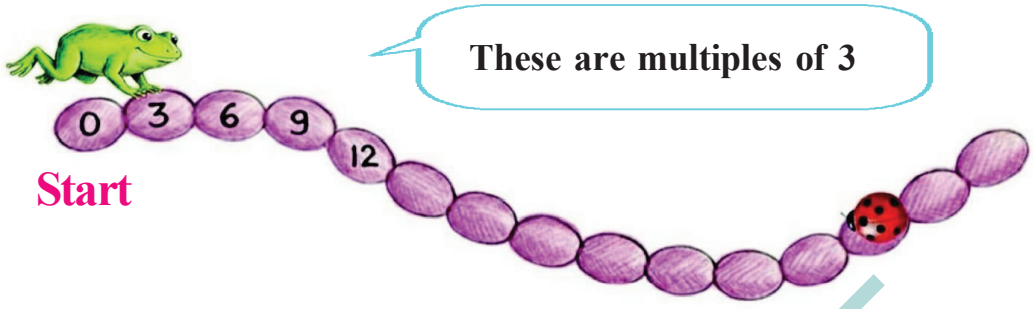
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Introduction of Multiples

Animal Jumps

Find how many jumps the animal needs to take to reach its food.
Fill in the blank spaces with the appropriate numbers.

1. The frog jumps 3 steps at a time.Which numbers will the frog touch?



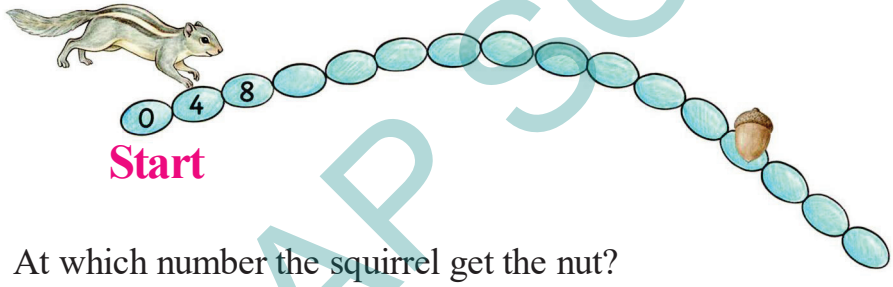
a) At which number frog catch the bee?

b) Which number will the frog reach on it's 10th jump?

c) Write the multiples of 3?

_____, _____, _____, _____, _____, _____, _____, _____, _____, _____

2. The squirrel jumps 4 steps at a time. Which numbers will the squirrel touch?



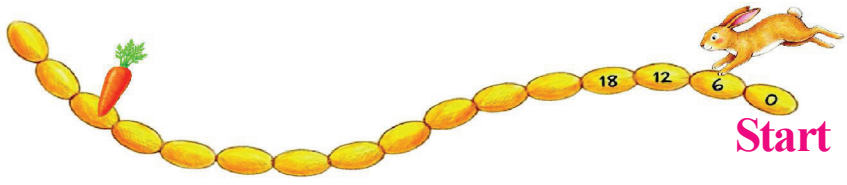
a) At which number the squirrel get the nut?

b) Which number the squirrel reach after 12th jump?

c) Write the multiples of 4 ?

_____, _____, _____, _____, _____, _____, _____, _____, _____, _____

3. The rabbit jumps 6 steps at a time. Which numbers will the rabbit touch?



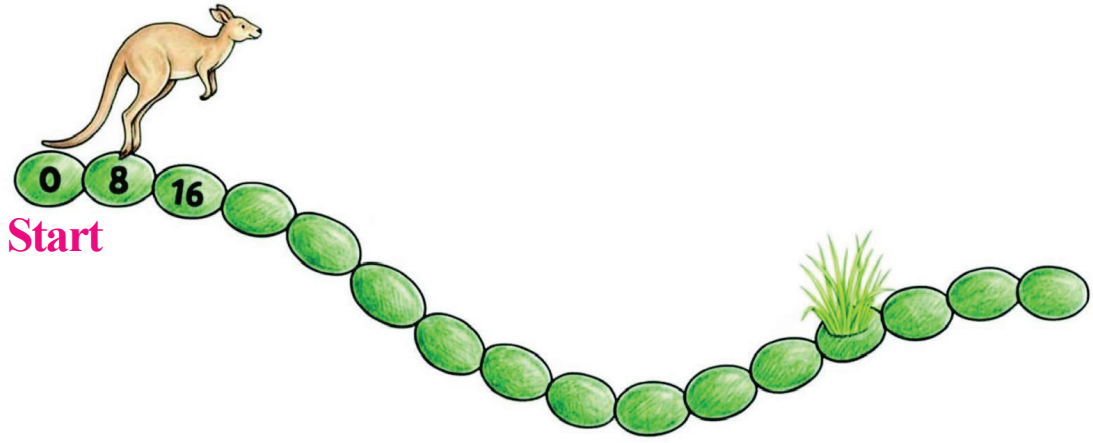
a) At which number is the carrot placed ?

b) Write the multiples of 6 ?

_____, _____, _____, _____, _____, _____, _____, _____, _____, _____

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4.The Kangaroo jumps 8 steps at a time. Which numbers will the kangaroo touch?



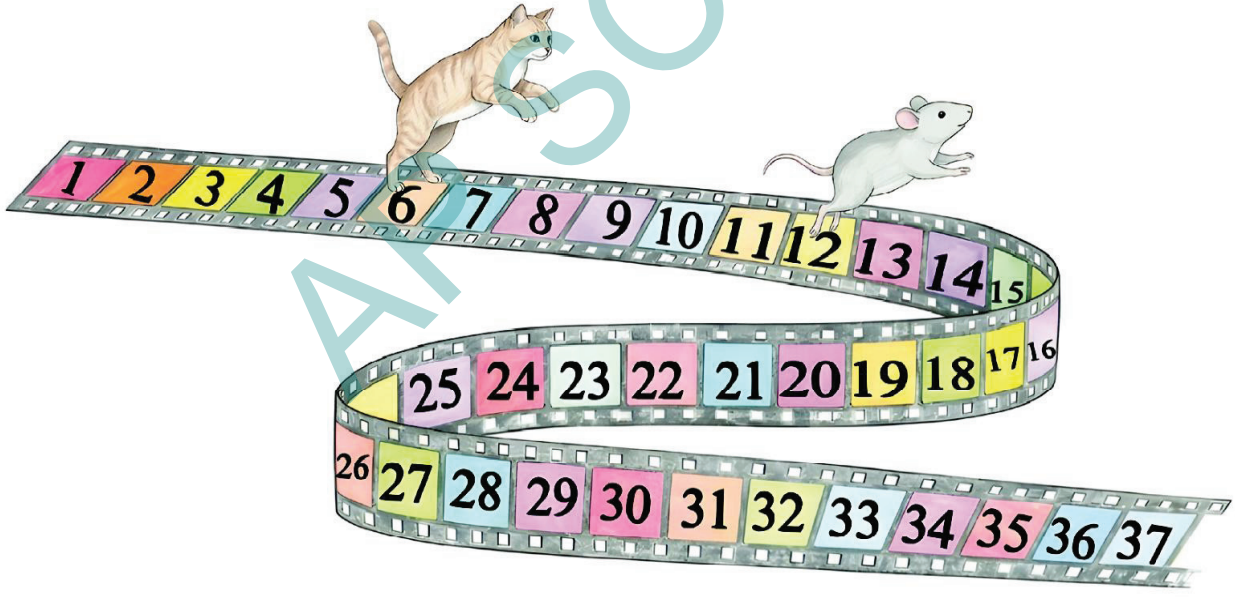
a) These numbers are multiples of _____

b) Write the multiples of 8.

___, ___, ___, ___, ___, ___, ___, ___, ___, ___, ___, ___, ___, ___, ___, ___

Think and Discuss.

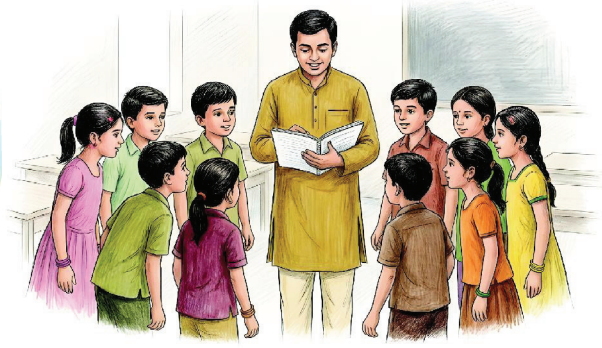
If the cat and the rat land on the same number, the cat will catch the rat. The cat jumps 3 steps forward, the rat jumps 2 steps forward. The cat is now on 6 and the rat on 12. Will the cat catch the rat? If yes, at which number?



If we multiply 1,2, 3, 4, ….. and so on by a number, The resulting numbers are called multiples of that number.

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4.5 Meow Meow game



- How to play the game?
- All students should stand in a circle.
- Decide on a number with which the game is . 4
- Students have to say the numbers from 1, 2, 3, ... one by one.
- The student who has to say a multiple of 4 will cry as a cat meow- meow. Other wise they will be removed from the game. The player who remains till the end is the winner.

Which numbers did you replace with meow? _____, _____, _____, _____, _____, _____

The numbers announced as meow meow are multiples of 4. Now continue the game with multiples of 5.

_____, _____, _____, _____, _____, _____, _____, _____, _____, _____

Important facts of multiples are……..

- So far we have written multiples of 2, 3 and 4 to some extent only. But, we can write the multiples of a number endlessly. Endlessly is otherwise termed as infinitely. This means, we can't say the last multiple of a number.
- A number is multiple of itself.
- Every number is multiple of 1.

Recognize the multiples in the numbers chart.

1. The multiples of 2 and circle them with a red sketch-pen.
2. Identify the multiples of 5 and write × symbol on them with a green sketch-pen
3. Underline the multiples of 10.



1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	79	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

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Write down here:

Multiples of 2 : _____, _____, _____, _____, _____, _____, _____, _____, _____, _____

_____, _____, _____, _____, _____, _____, _____, _____, _____, _____

Multiples of 5 : _____, _____, _____, _____, _____, _____, _____, _____, _____, _____

_____, _____, _____, _____, _____, _____, _____, _____, _____, _____

Multiples of 10 : _____, _____, _____, _____, _____, _____, _____, _____, _____, _____

EXERCISE-2

1. Find the first 5 multiples of each of the following.

   a) 3 b) 7 c) 8

2. Write the multiples of 8 below 100.

3. Read following sentences and write 'F' for false, 'T' for true in the brackets.

   If it is true write 'T', otherwise 'F' in the brackets.

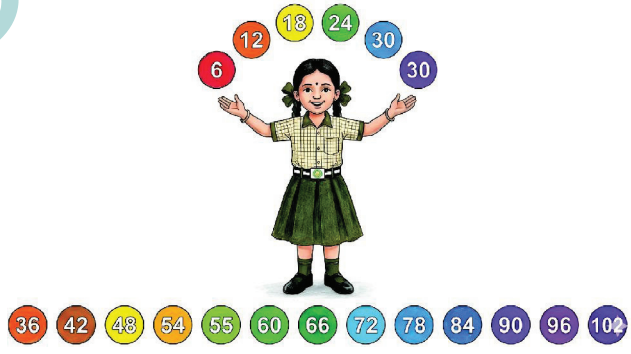
   a) 12 is a multiple of 3 ( )

   b) 57 is a multiple of 8 ( )

   c) 30 is a multiple of 5 ( )

   d) 47 is a multiple of 6 ( )

   e) 52 is a multiple of 7 ( )



4. Circle the multiples of 3 in the following numbers.

   2, 5, 6, 9, 10, 14, 20, 21, 27, 32, 37, 36, 48.

5. Circle the numbers which are not multiples of 4 in the following numbers.

   2, 4, 8, 11, 20, 21, 27, 28, 30, 32, 37, 40, 45, 57.

6. Circle the multiples of 5 in the following numbers.

   2, 4, 14, 20, 21, 27, 35, 55, 25, 68, 65, 22, 39.

7. Circle the numbers which are not multiples of 8 in the following numbers.

   20, 24, 45, 32, 35, 26, 90, 8, 7, 10.

AP SCERT

Improve Your Learning

1. Ramaiah purchased 9 chairs from a furniture store, each costing ₹303. Which of the below expressions shows the total cost of the chairs? ( )

   a) $(9 \times 3) + (9 \times 0) + (9 \times 3)$ b) $(9 \times 300) + (9 \times 0) + (9 \times 30)$

   c) $(9 \times 300) + (9 \times 0) + (9 \times 3)$ d) $(9 \times 30) + (9 \times 3)$

2. In a school, eggs are supplied in trays every week. Each tray contains 30 eggs. In the first week of july, a total of 6 trays were supplied.

   a) How many eggs were supplied for that week?

   b) If 7 trays of eggs were distributed in the second week, how many eggs were distributed in that week?

   c) Vasu said that adding 30 to the number of eggs distributed in the first week would give the number of eggs distributed in the second week. Is it correct?

3. A library has 5 rows of desks. Each row has 6 desks. If 2 students sit at each desk, how many students can study in the library at the same time?

4. Observe the picture given below. Answer the following questions.

   Each box contains 6 crayons.



   a) What is the total number of crayons in all the 5 boxes?

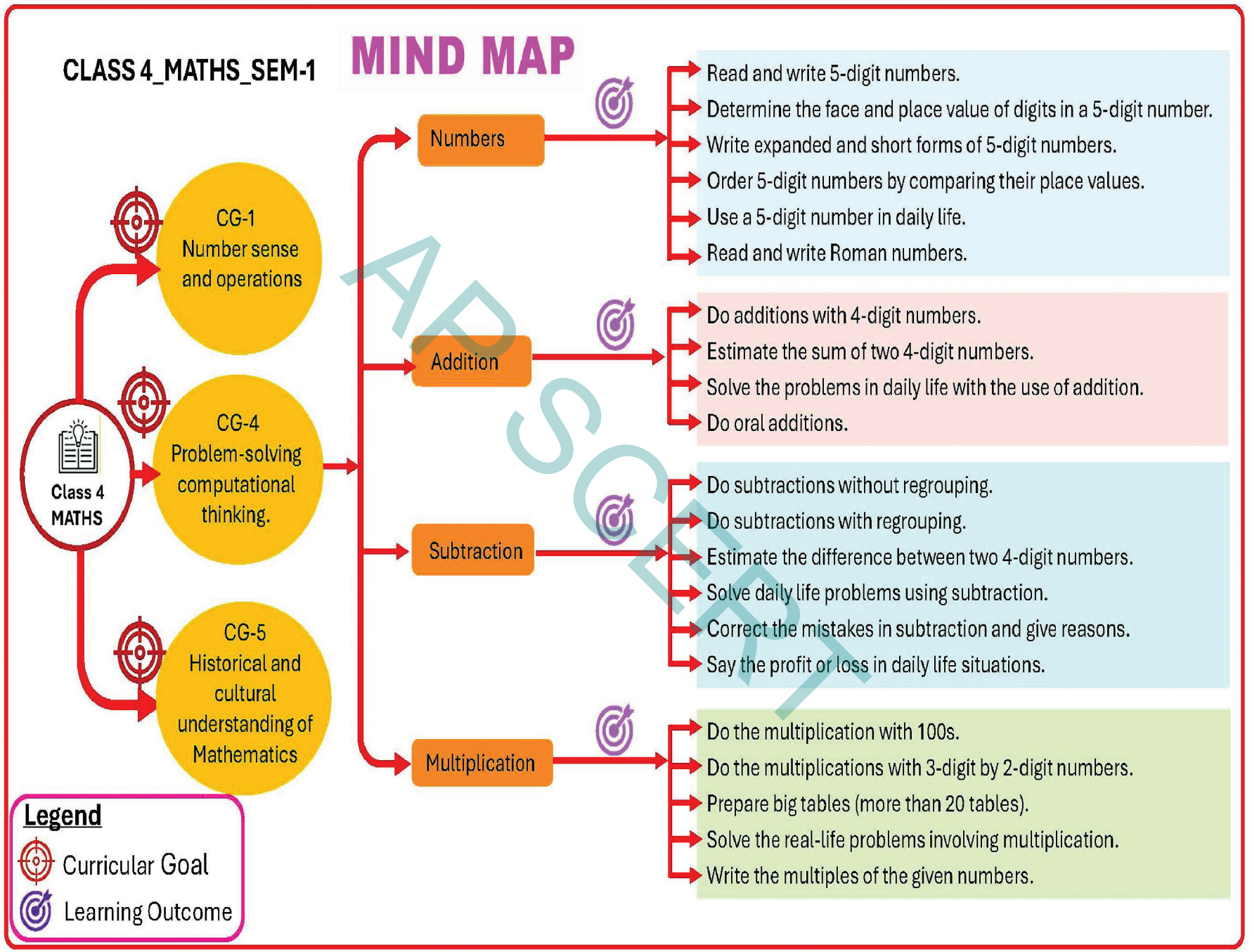
   b) What is the total number of crayons if one box is removed?

5. A student bought 8 identical packets of pens. After giving 5 packets to his classmates, he had 12 pens left. How many pens did he have in total at the beginning?

6. Read the instructions and find the number.

   I am a multiple of 7.
   I am greater than 20 but less than 30.
   If you add my digits together, the sum is 10.
   Who am I?

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CLASS 4_MATHS_SEM-1
MIND MAP
Class 4 MATHS
CG-1 Number sense and operations
CG-4 Problem-solving computational thinking.
CG-5 Historical and cultural understanding of Mathematics
Numbers
Addition
Subtraction
Multiplication
Read and write 5-digit numbers.
Determine the face and place value of digits in a 5-digit number.
Write expanded and short forms of 5-digit numbers.
Order 5-digit numbers by comparing their place values.
Use a 5-digit number in daily life.
Read and write Roman numbers.
Do additions with 4-digit numbers.
Estimate the sum of two 4-digit numbers.
Solve the problems in daily life with the use of addition.
Do oral additions.
Do subtractions without regrouping.
Do subtractions with regrouping.
Estimate the difference between two 4-digit numbers.
Solve daily life problems using subtraction.
Correct the mistakes in subtraction and give reasons.
Say the profit or loss in daily life situations.
Do the multiplication with 100s.
Do the multiplications with 3-digit by 2-digit numbers.
Prepare big tables (more than 20 tables).
Solve the real-life problems involving multiplication.
Write the multiples of the given numbers.
Legend
Curricular Goal
Learning Outcome

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