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) - 3

Semester (సెమిస్టర్) - 1

Unit No. అధ్యాయం సంఖ్య	Name of the Unit అధ్యాయం	Month నెల	Pages పేజీలు
	Readiness *(Refer to Readiness book)* సంసిద్ధత	June జూన్	
1.	Numbers సంఖ్యలు	July జులై	2-43
2.	Addition కూడిక	August ఆగష్టు	44-69
3.	Subtraction తీసివేత	September సెప్టెంబరు	70-95
4.	Multiplication గుణకారం	October అక్టోబరు	96-127
	Mind Map		128

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R3L9R8
Teacher corner

A1E9C6
Student corner

UNIT 1

Numbers

Q9L3V6

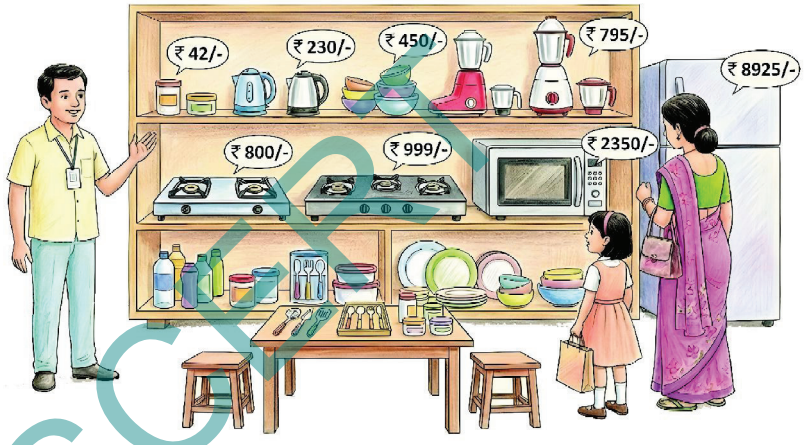
Learner will be able to :

- Identify and write the Face and Place value of the four digit numbers up to 9999.(CG-1)
- Write four digit numbers in expanded and short form up to 9999.(CG-1)
- Compare any two 4-digit numbers by using symbols (<, =, >).(CG-1)
- Arrange the given four digit numbers in ascending and descending order.(CG-1)
- Round the numbers to nearest thousands.(CG-1)

Observe the picture:

Bindu went to a household exhibition cum sales center with her mother. They want to buy some items. Observe the items and their price tags.

Bindu started to read the price of these items. Help her.



1. Can you tell any 3 items that you observe in this sales center?
2. What is the price of Mixer ?
3. What is the price of Kettle?
4. What are the prices of Gas Stoves?
5. What is the price of Refrigerator?





Do these

Write the numbers in words.

S.No.	Item	Price	In Words
1.	Mixer	₹ 795	
2.	Gas Stove	₹ 999	
3.	Kettle	₹ 230	
4.	Refrigerator	₹ 8925	

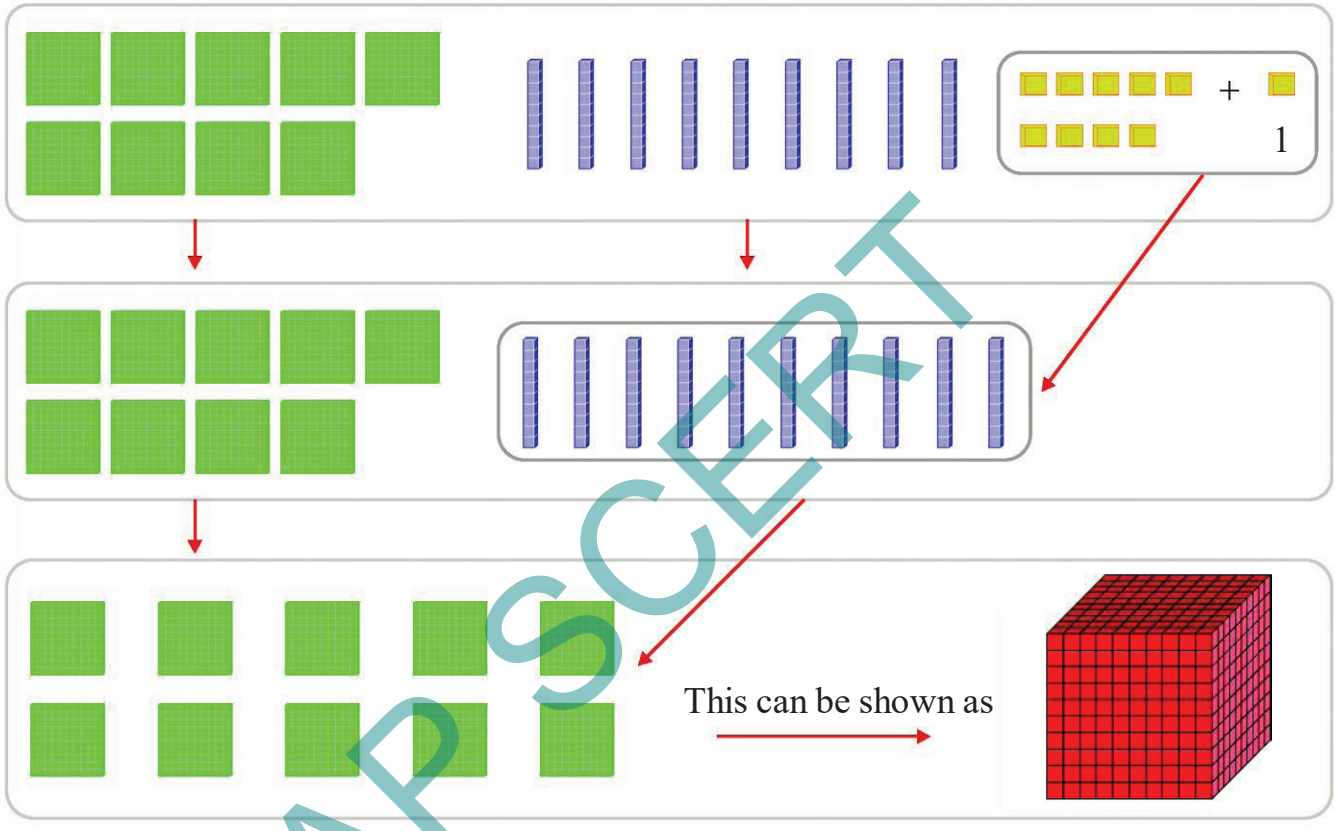
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Let us know about 4 - digit numbers.

Let us recall how we get 10 from 9 and 100 from 99. By adding 1 to 9 we get 10 and 100 by adding 1 to 99 we get 100. So, what do we get by adding 1 to 999?

9 + 1	= 10 ; 2-digit number
99 + 1	= 100 ; 3-digit number
999 + 1	= 1000 ; 4-digit number

How many hundreds are there in 1000?

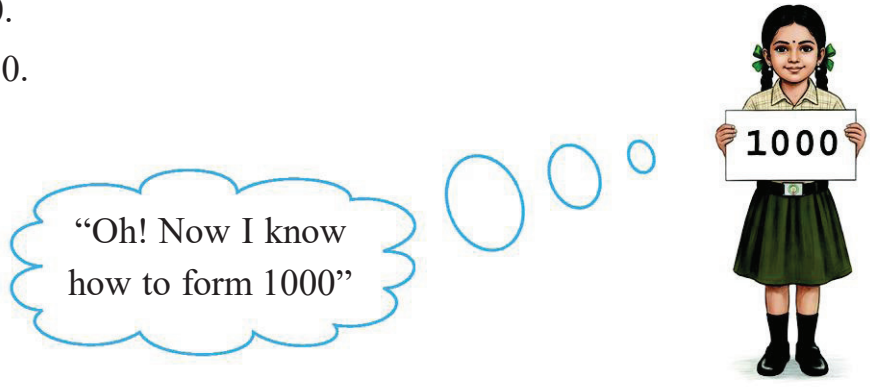


9 hundreds + 1 hundred = ten hundreds = one thousand

10 hundreds make 1 thousand.

We write one thousand as 1000.

By adding 1 to 999, we get 1000.



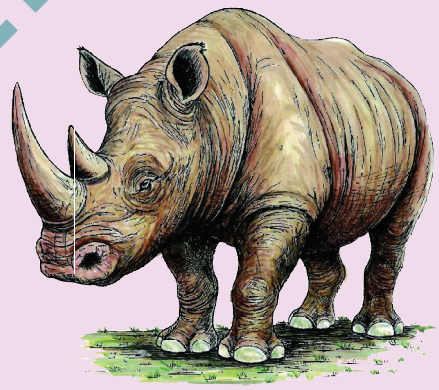
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Thousands (1000s) Around Us



The thousand pillar temple (Veyi Sthambhala Gudi) also known as Sri Rudhreswara Swamy temple, is a historic Hindu temple located in Hanmakonda, near Warangal in Telangana, India. During the region of King Rudhradeva of the Kakatiya Dynasty, the temple is a magnificent example of Kakatiya architectural brilliance. It is built in 1163 AD.

Do you know?



In the early 1900s, the population of the Indian Rhinoceros was driven to near extinction, with only around 200 rhinoceros left. With recent conservation efforts, there are around 4000 (four thousand) rhinoceroses. It weighs between 1800 kg (one thousand eight hundred) and 2700 kg (two thousand seven hundred), is around 2 m high/tall and more than 3 m long. The Indian rhinoceros is the state animal of Assam.

My country

"India is a country with a rich cultural heritage. It has 788 districts. These districts are divided into about six lakh villages, each with its own unique traditions and practices. India has over 7500 kilometres (Seven thousand five hundred) of coastline on three sides. Our country's history goes back over 5000 years (Five thousand), and we celebrate more than 1000 festivals.

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Identify the range of numbers most suitable for the following situations. Share your thoughts.

Number of children in your village	Only 1	Number of books in your class room
Number of teachers in your school	2 to 5	Number of students in your class room
Number of tables in your class room	10 to 50	Number of bricks in a brick kiln
Number of books in your library	50 to 100	Number of letters in this page
Number of houses in your village	100 to 200	Number of children in your school
Number of pages in your mathematics textbook	200 to 500	Number of girls in your school
Number of sachivalayams in your village	500 to 1000	Number of steps to reach school from your home
	more than 1000	

Identify things around you that are all more than thousand in number.

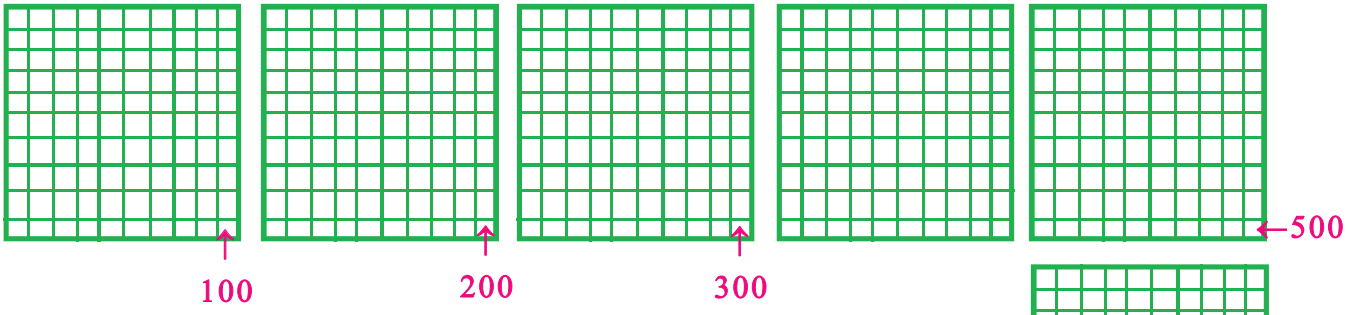
_____

_____

_____

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To make it one thousand, how much is to be added?



a) We are at 900. How much more must be added to reach 1000 ?

900 + _____ = 1000

b) Mark 800. How much more must be added to reach 1000 ?

800 + _____ = 1000

c) Mark 850. How much more must be added to reach 1000 ?

850 + _____ = 1000

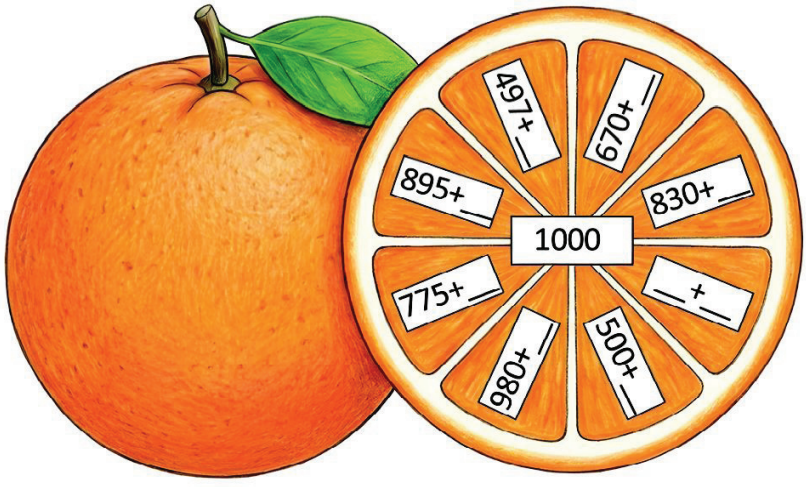
d) Mark 760. How much more must be added to reach 1000 ?

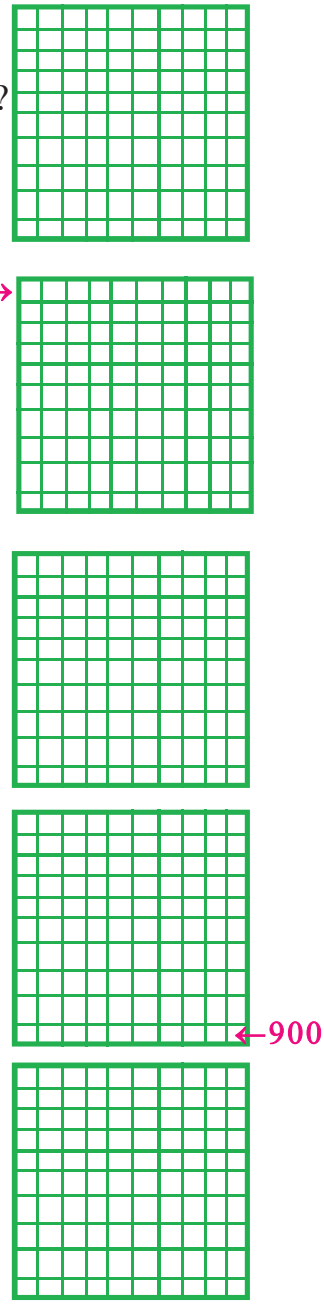
760 + _____ = 1000

e) Mark 400. How much less is 400 than 1000 ?

1000 - _____ = 400

f) Complete the addition to make 1000.

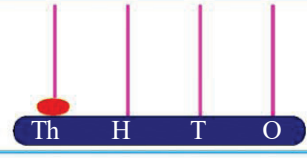
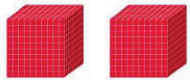
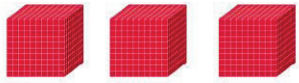
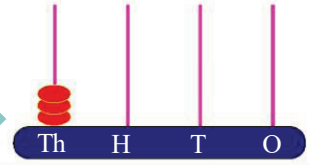
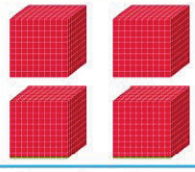
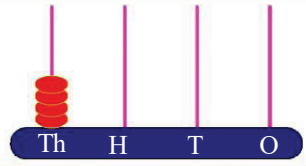
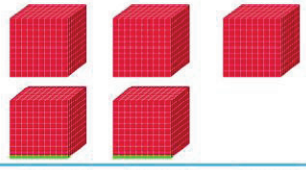
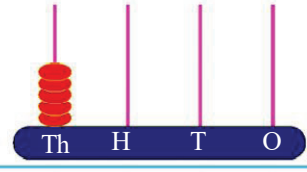
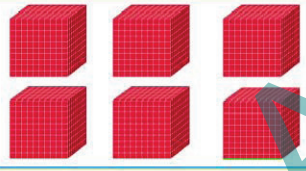
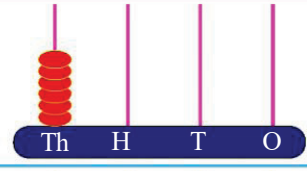
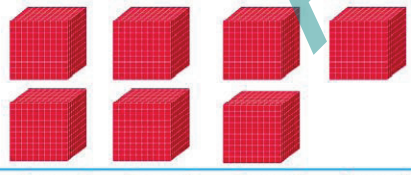
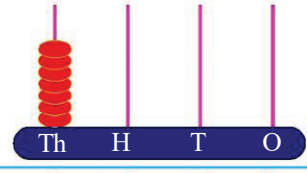
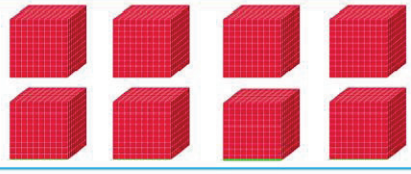
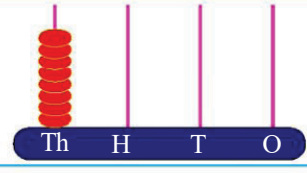
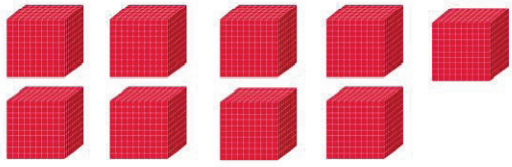




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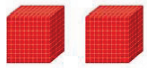
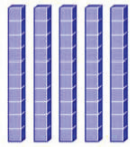
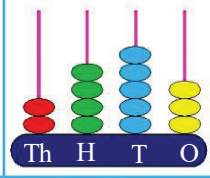
Representing 1000's

Observe the following.

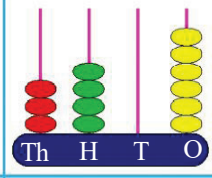
Number represented in blocks	Number and Numbers in words	Number represented on spike abacus
	1,000 One Thousand	
	2,000 Two Thousand	
	3,000 Three Thousand	
	4,000 Four Thousand	
	5,000 Five Thousand	
	6,000 Six Thousand	
	7,000 Seven Thousand	
	8,000 Eight Thousand	
	9,000 Nine Thousand	

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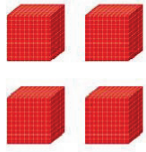
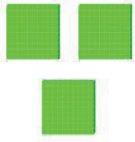
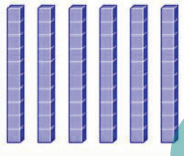
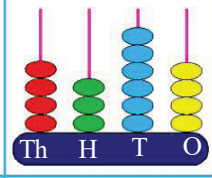
Representation of four digit numbers.

				2453	
2 thousands	4 hundreds	5 tens	3 ones		2453

We read the number 2453 as two thousand four hundred and fifty three.

				3406	
3 thousands	4 hundreds	0 tens	6 ones		3406

We read the number 3406 as three thousand four hundred and six.

				4364	
4 thousands	3 hundreds	6 tens	4 ones		4364

We read the number 4364 as four thousand three hundred and sixty four.

AP SCERT

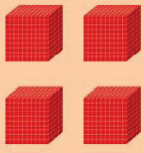
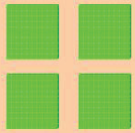
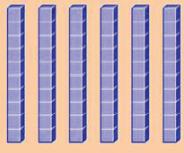
Oh! Now I think
One red bead = 1000
One green bead = 100
One blue bead = 10
One yellow bead = 1





Do these

1. Write the correct digit in ◯ and write the number in ☐

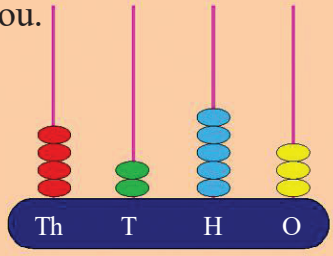





☐ ☐

◯ thousands ◯ hundreds ◯ tens ◯ ones

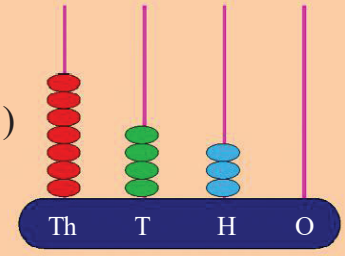
2. Write the number and number name by observing beads on the Abacus. One is done for you.

a)

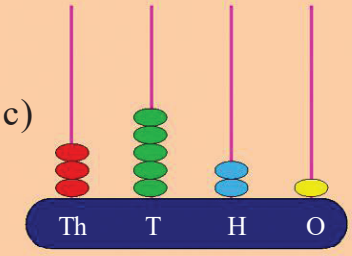


4253

b)



c)

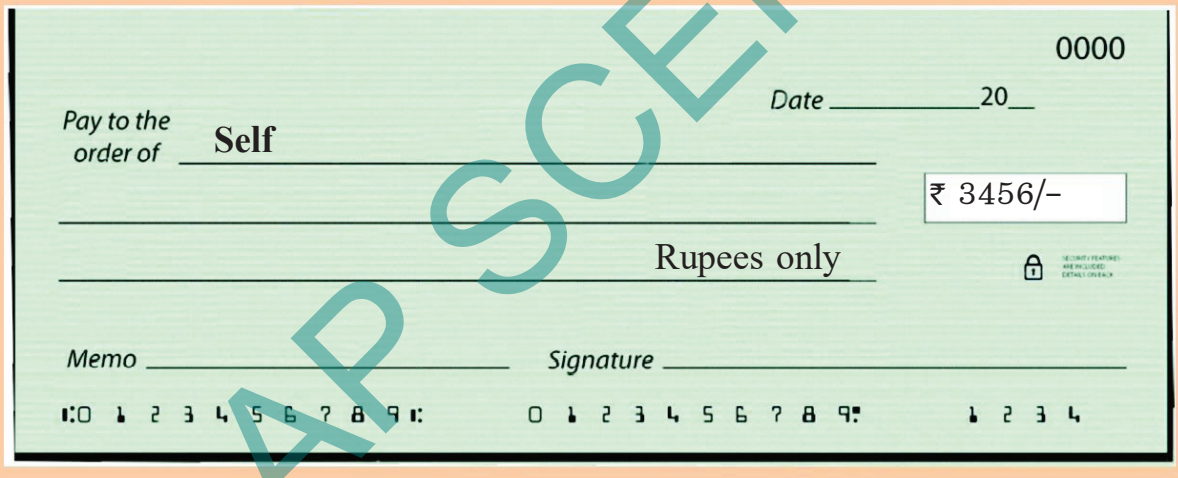


a) Four thousand two hundred and fifty three.

b) _____

c) _____

3. Mr. Pradeep has to write a cheque for ₹ 3,456. Help him to write the amount in words in the box.

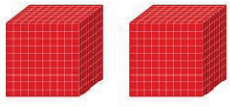


AP SCERT

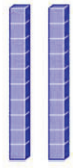
Place value and Face value of 4-digit numbers:

Observe the following blocks.









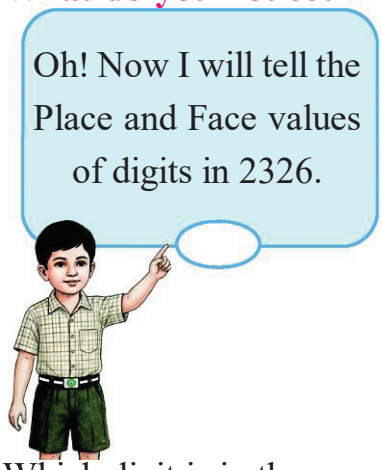


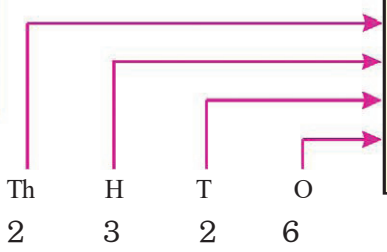
(2) Thousands (3) Hundreds (2) Tens (6) Ones

Th	T	H	O
2	3	2	6

Two thousand three hundred and twenty six.

What do you notice?





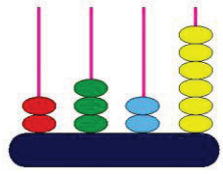
Place value			Face value
2 thousands	=	2000	2
3 hundreds	=	300	3
2 tens	=	20	2
6 ones	=	6	6

Which digit is in the ones place? 6. It's place value is 6.

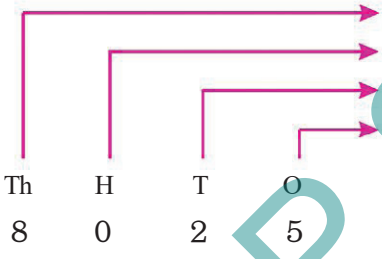
Which digit is in the tens place? _____ It's place value is _____.

Which digit is in the hundreds place? _____ It's place value is _____.

Which digit is in the thousands place? _____ It's place value is _____.



Example : Find the Place value of each digit in 8025.



Place value			Face value
8 thousands	=	8000	8
0 hundreds	=	0	0
2 tens	=	20	2
5 ones	=	5	5

Note: No matter where '0' is in a number, it's place value is always '0'.



Do these

1. Find the Place value and Face value of each of the digits in the following numbers.

a) **6742**

Digit	Place value	Face value
6		
7		
4		
2		

b) **5309**

Digit	Place value	Face value
5		
3		
0		
9		

APSCERT

Activity

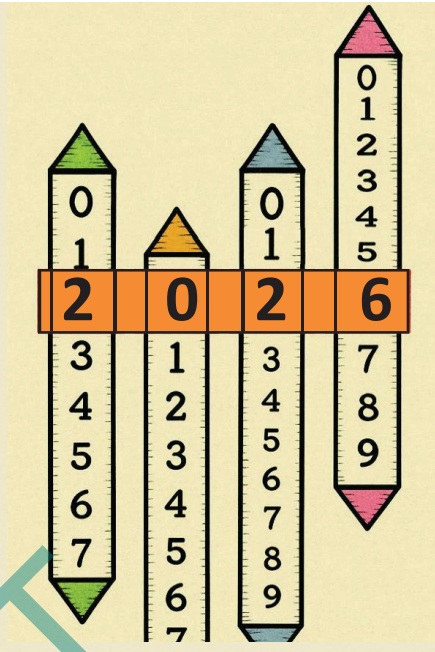
Make the place value slider. Increase or decrease the number as tolder.

a) 1895 - increase the number by 1.

b) 2785 - increase the number by 10.

c) 5648 - decrease the number by 300.

d) 6487 - increase the number by 2000.



Think and Discuss

1) Yashu wrote Seven thousand and twenty four as 724.

Is this correct? _____

Write the correct number. _____

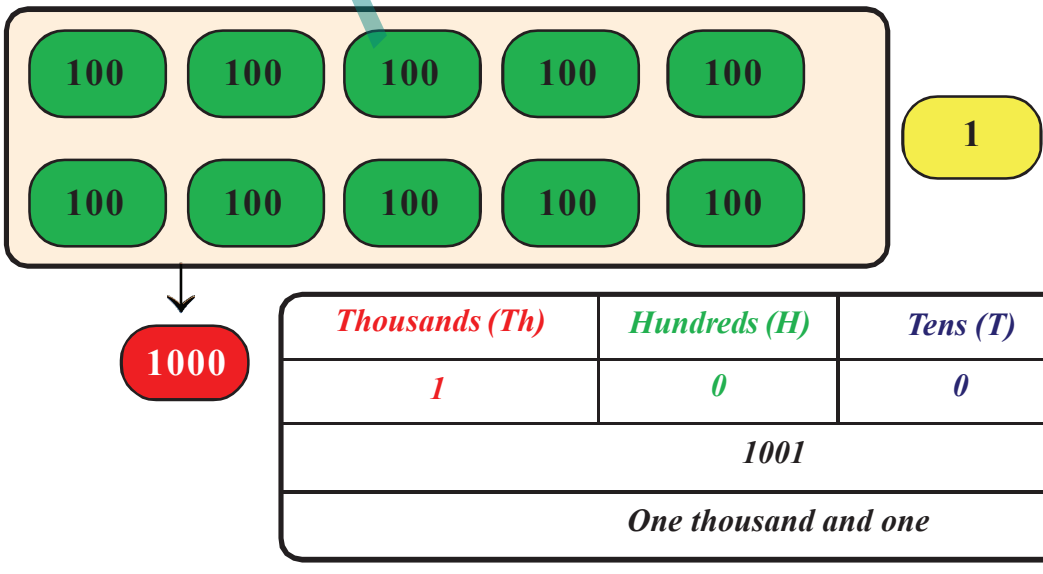
2) Padmaja wrote Five thousand six hundred and three as 563.

Is this correct? _____

Write the correct number. _____



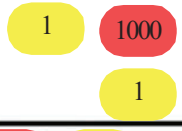
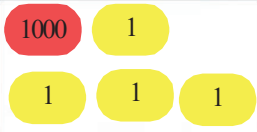
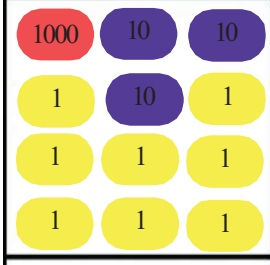
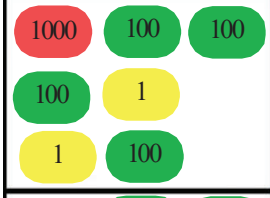
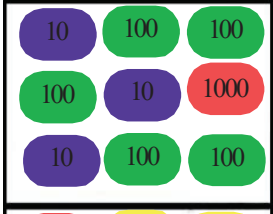
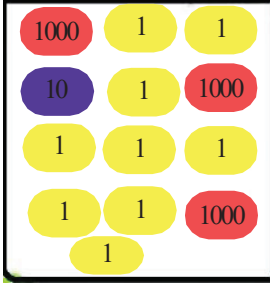
Using number tokens in place of blocks to make large numbers.



Thousands (Th)	*Hundreds (H)*	*Tens (T)*	*Ones (O)*
1	*0*	*0*	*1*
1001			
One thousand and one			

AP SCERT

Look at the table below and fill in the blanks.

Tokens	Expanded Form	Th	H	T	O	Number	Number Name
	*1000 + 1*					*1001*	
						*1002*	
						*1003*	
		*1*	*0*	*0*	*4*		
							
	*1000 + 100*					*1100*	*One thousand One hundred*
						*1038*	
							
							
	*3000 + 0 + 10 + 9*						

AP SCERT

Math Lab Activity



1. Use tokens of 1, 10, 100, 1000 to identify the numbers and write them in the table.
   a) 8 Tens and 2 Ones.
   b) 4 Tens and 12 Ones.
   c) 3 Hundreds, 14 Tens and 8 Ones.
   d) 12 Hundreds, 18 Tens and 2 Ones.
   e) 1 Thousand, 5 Hundreds, 10 Ones and 17 Ones.

	Th	*H*	*T*	*O*	*Number*	*Number Name*
a	*0*	*0*	*8*	*2*	*82*	*Eighty Two*
b						
c						
d						
e						

AP SCERT

2. Circle the bigger number.

30	or	300
6000	or	600
2000	or	3000
5000	or	4000
7000	or	8000

3. Circle the smaller number.

2 Ones	or	2 Hundreds
2 Tens	or	5 Thousands
7 Hundreds	or	2 Tens
9 Tens	or	4 Hundreds
8 Hundreds	or	30 Tens

Number Line

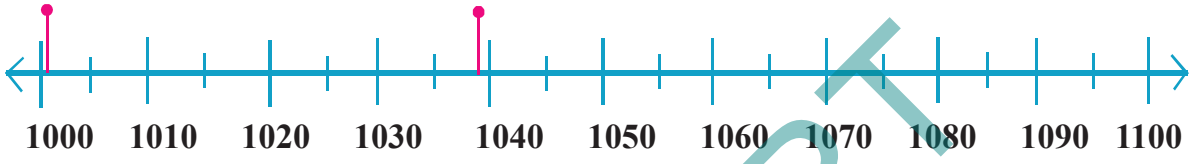
1. Circle the numbers lie between 2226 and 3226?

3316 3236 2236 2216 3126 3216

2. Do as per the instructions.

a)1001 and 1038 are marked on the numberline. Try to mark 1043, 1069, and 1084 on the same number line.

1001 **1038**



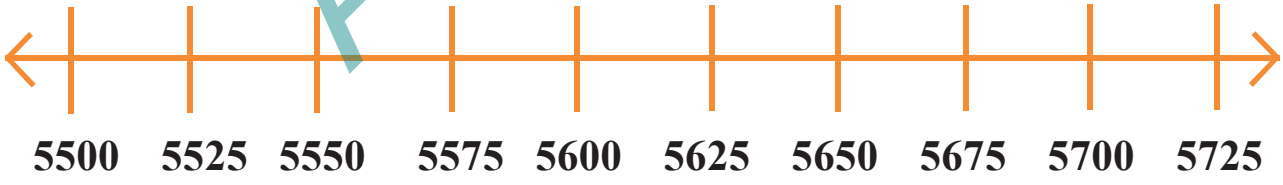
b) Mark the following numbers on the numberline below.

2025, 2080, 2175, 2245, 2295, 2310, 2390, 2430, 2460



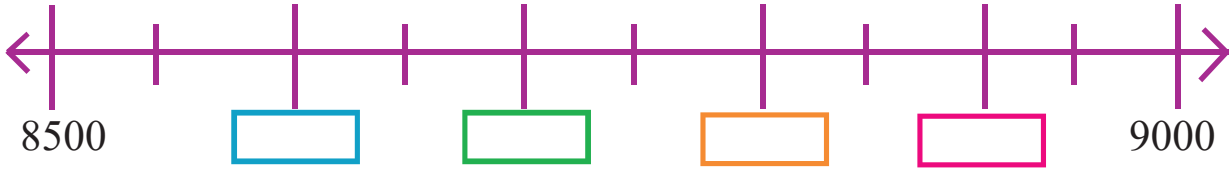
c) Mark the following numbers on the numberline below.

5512, 5548, 5590, 5636, 5673, 5695



d) Mark the following numbers on the numberline below.

8679, 8990, 8923, 8763



AP SCERT

Rounding off the nearest 100's.

Example - 1 Round off 237 to nearest 100's.

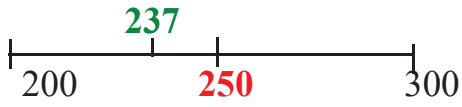
Step - 1 : To round a number to the nearest hundreds we need to identify between which two hundreds the given number lies.

237 lies between 200 and 300.

Step - 2: Identify the midpoint of 200 and 300.



Step - 3: Mark 237 on number line.



Is the number 237 closer to 200 or 300?

The number 237 is closer to 200 because it is before the half way (mid) point (250).

so, we round off 237 to 200.

Example : 2 Round off 950 to the hundreds.

950 is the mid point of 900 and 1000.



Middle numbers are rounded upto the next hundreds.

So, we round off 950 to 1000.

Rules of rounding to the nearest hundred

1. Identify the previous hundred and next hundred of given number.
2. Look at the tens digit of given number.
3. If the tens digit is 0,1,2,3,4 round down to the previous hundred.
4. If the tens digit is 5,6,7,8,9 round upto the next hundred.



Do these

Round of the given numbers to nearest hundreds.

a) 284 b) 354 c) 4324 d) 5568

AP SCERT

EXERCISE-1

1. Observe the series and fill the boxes with correct numbers.

a)

2001	2002	2003			2006	

b)

4571	4572	4573				4577

2. Read the numbers given in words below and write in numbers (numerals) in the boxes.

a) Three thousand five hundred and twenty five =

b) Seven thousand seven hundred and eight =

c) Eight thousand and five =

3. Write the Place value of circled digits.

a) 5 (9) 3 7 _____ b) 3 8 (1) 1 _____

4. Write the following numbers in words.

a) 5876 = _____

b) 7305 = _____

c) 2089 = _____

5. Write each of the following in expanded form.

a) 3870 = _____ + _____ + _____ + _____

b) 7077 = _____ + _____ + _____ + _____

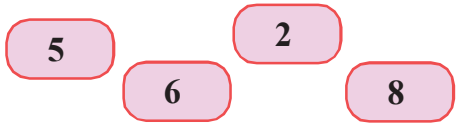
6. Write the short form in numerals?

a. Five thousands + Two Hundreds + Forty + Three = _____

b. Seven thousands + One Hundred + Sixty + Eight = _____

7. Write the four digit number having 5 in thousands place, 8 in hundreds place, 3 in tens place and 2 in ones place.

8. Which number lying between 5000 and 6000 that has 8 in its tens place that can be formed using the numbers below?



a) 6582 b) 5862 c) 2685 d) 5682

AP SCERT

Activity — Making 4-digit numbers



1. Take any 4 cards from 0 to 9.
2. Make any 4-digit number with those cards.
3. Read and write the number in words.
4. Write the numbers by using these digits in the following table.

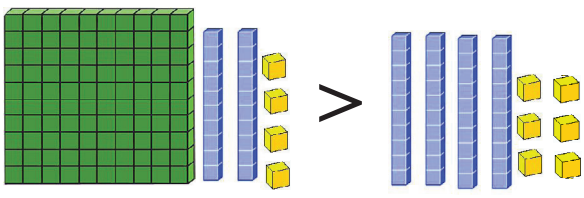
S. No	Number	Number in Words
1	4592	Four thousand five hundred and ninety two
2		
3		
4		
5		
6		

Comparison of the numbers

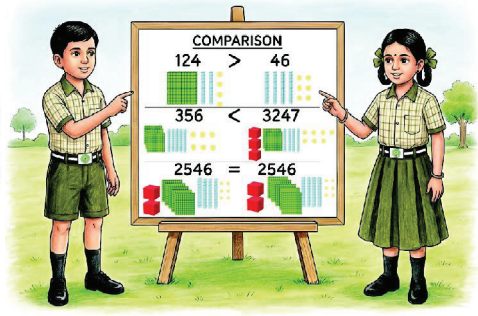
To compare numbers we follow the rules given below.

Rule -1: **The number containing more digits is the larger number.**

Example: In 124 and 46, 124 contains 3 - digits whereas 46 contains 2-digits. So, 124 is greater than 46.



Do you remember?
'>' greater than
'<' less than
'=' is equal to



124 > 46

124 is greater than 46.

AP SCERT

Similarly, in 356 and 3247, 356 has 3-digits and 3247 has 4-digits. So, 356 is less than 3247. $356 < 3247$

Rule -2: While comparing any two equal digit numbers, we always compare starting from left most digit.

Example:

a) Comparing numbers with the same number of digits.

Comparing 5476 and 6123

5476 (<) 6123

as 5 < 6.

5476 < 6123.

So, 5476 is less than 6123.

Comparing 3541 and 2689

3541 (>) 2689

as 3 > 2.

3541 > 2689.

So, 3541 is greater than 2689.

b) Comparing numbers having same digits in thousands place.

Comparing 7435 and 7621

7435 (=) 7621

7435 (<) 7621

as 4 < 6.

7435 < 7621.

So, 7435 is less than 7621.

Comparing 6810 and 6542

6810 (>) 6542

6810 (=) 6542

as 8 > 5.

6810 > 6542.

So, 6810 is greater than 6542.

c) Comparing numbers having same digits in thousands and hundreds place.

Comparing 5215 and 5236

5215 (=) 5236

5215 (=) 5236

5215 (<) 5236

as 1 < 3.

5215 < 5236.

So, 5215 is less than 5236.

Comparing 4358 and 4342

4358 (=) 4342

4358 (=) 4342

4358 (>) 4342

as 5 > 4.

4358 > 4342.

So, 4358 is greater than 4342.

AP SCERT

d) Comparing numbers having same digits in thousands, hundreds and tens place.

Comparing 4358 and 4359

4358 4359

(=)
(=)
(=)
(<)

As 8 < 9

4358 < 4359.

So, 4358 is less than 4359.

Comparing 3425 and 3421

3425 3421

(=)
(=)
(=)
(>)

As 5 > 1

3425 > 3421.

So, 3425 is greater than 3421.



Do these

1. Fill in the boxes with (< , =, >) symbols.

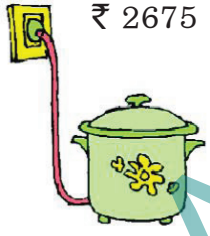
a) ₹ 250



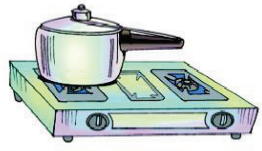
Price of the toy car. ☐ Price of the toy JCB.



b) ₹ 2675



Price of the rice cooker. ☐ Price of the pressure cooker.



2. Compare the number and write the correct symbol (<, =, >) in the boxes given below.

a) 6472 ☐ 5306

b) 465 ☐ 3079

c) 5780 ☐ 5967

d) 6504 ☐ 6079

e) 3281 ☐ 3896

f) 4650 ☐ 4698

g) 7856 ☐ 7854

h) 6702 ☐ 6923

i) 5063 ☐ 5063

j) 5716 ☐ 5186



APSCERT

3. Circle the smallest number in the following . One is done for you.

a)	4356	567	9075	3207
b)	6079	8254	3975	4280
c)	5204	5402	4502	2504
d)	2354	2435	2345	2543

4. Circle the greatest number in the following.

a)	5648	3772	6660	5555
b)	2074	2879	2978	2542
c)	3945	3495	4530	2471

Ordering of numbers: Observe these pictures of investment details of four merchants and answer the following questions.



Anwar invested ₹ 5526



Somu invested ₹ 4690



Madanna invested ₹ 3480



Gourayya invested ₹ 6370

a) Who invested more money ? _____ How much ? _____

b) Who invested less money ? _____ How much ? _____

c) Write the investments of the merchant from less to more.

_____, _____, _____, _____

d) Write the investments of the merchant from more to less.

_____, _____, _____, _____

Observe the arrangement of the numbers from lowest to highest. This order is called **Ascending order**. The order from highest to lowest is called **Descending order.**

AP SCERT



Do these

1. 1009, 4002, 6088, 3800

   Write the numbers as per the given symbols.

   a) _____ > _____ > _____ > _____

   b) _____ < _____ < _____ < _____

2. Write the following numbers in ascending and descending order.

   2566, 2988, 2300, 2377

   Ascending Order: _____ , _____, _____, _____

   Descending Order: _____ , _____, _____, _____



EXERCISE-2



1. Write any five 4-digit number using the digits 1, 3, 7 and 9.

2. Circle the range of a number that the number lies in given pair of number.

a)	250	300 - 400	200 - 300
b)	460	300 - 400	400 - 500
c)	884	700 - 800	800 - 900



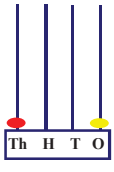
3. Write the biggest and smallest 4- digit numbers formed by the given digits.

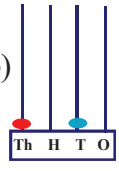
Digits	Biggest 4- digit number	Smallest 4-digit number
3, 7, 5, 9	9753	3579
6, 4, 9, 5		
1, 0, 5, 2		
2, 9, 4, 6		

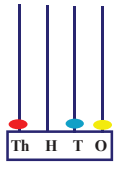
4. Fill in the blanks by using the digits from 0 to 9.

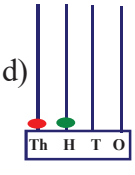
   a) 7 ___ ___ 3 < 768 ___ b) 853 ___ < 8 ___ 3 ___

5. Which of the spike abacuses shows the number "One Thousand and Ten"? ( )

a) 

b) 

c) 

d) 

APSCERT

Improve your learning

1. Which of these is as SAME as 67? ( )

   a) sixty seven b) seventy six c) seven six d) six seven

2. Three tens + two thousands + eight hundreds + seven ones = ____

   Which of the following number comes in the blank? ( )

   a) 7382 b) 3827 c) 3287 d) 2837

3. Kareena, Sushma, and Rajesh wrote the expanded form to the number 9329 as shown.

   Kareena: 9 thousands + 3 hundreds + 2 tens + 9 ones.

   Sushma: 9000 + 300 + 20 + 9.

   Rajesh: (9 × 1000) + (3 × 100) + (2 × 10) + (9 × 1).

   Who wrote the expanded form correctly ( )

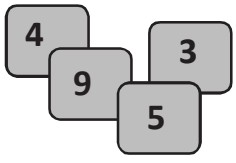
   a) Sushma and Kareena b) Kareena and Rajesh

   c) Rajesh and Sushma d)Kareena, Sushma and Rajesh

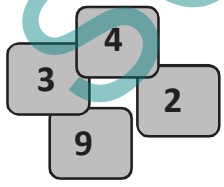
4. Raju, Asrath, and Santhi have 4 cards, as given below.

   Who can form the largest number?

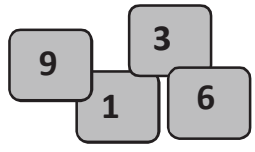
   Raju

   Asrath

   Santi

   a) Raju b) Santi c) Santi and Raju d) Raju and Asrat

5. A student was asked to use the digits 3, 0, 8, and 5 to make the smallest 4-digit number. He wrote 0358. Is it a true 4-digit number? If not, what is the correct smallest 4-digit number?

6. Create a "Skip Counting" challenge for you friend. Start your sequence at 120. Your sequence must have 5 numbers, and the rule must involve adding a number between 5 and 10. Write the sequence.

7. Observe the sequence: 250, 275, 300, 325, ... What are the next three numbers? Explain the rule you used to find them.

8. A farmer collected 463 eggs from his poultry farm. If he wants to round this number to the nearest hundred, what will it be?

APSCERT

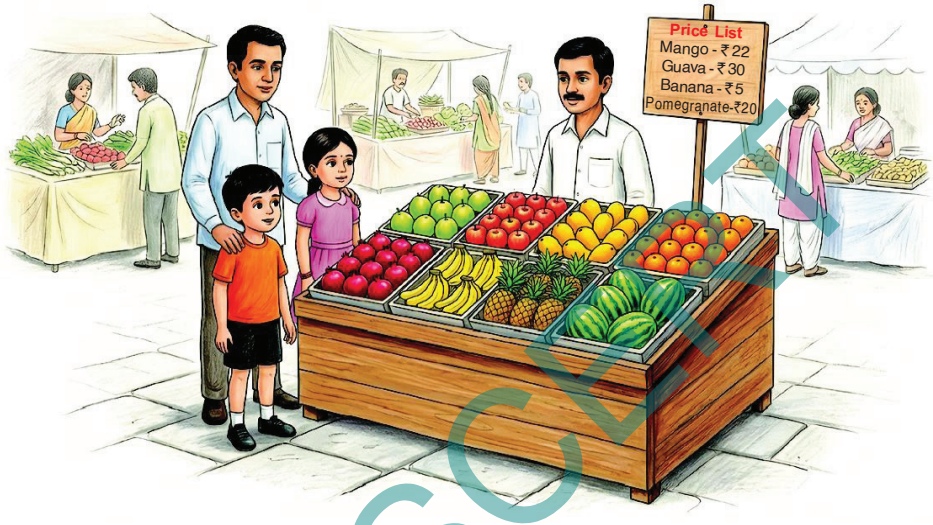
UNIT 2

Addition

M9N8J9

Learner will be able to :

- Do addition of 2 - digit numbers in different methods. (CG-1)
- Do addition of 3 - digit numbers. (CG-1)
- Solve oral and word problems on Addition from real life situations. (CG-4)
- Do addition through estimation. (CG-1)



Harsha and Ramya both are twins. They are studying 3rd class. Their class teacher asked to collect the information regarding the price of different fruits. So, they went to Sankaraiah's fruits shop in the evening along with their father. Now observe the price of fruits and answer the following questions.

1. What is the price of a Mango ?
2. What is the price of an Guava ?
3. What is the price of Banana ?
4. What is the total price of Mango and Banana ?
5. What is the total price of Mango, Guava and Banana ?

By the evening in Sankaraiah's shop there are only 51 Pomegranates, 6 Mangoes and 22 Guavas are leftover. He went to an Orchard to purchase fruits in wholesale. He purchased 60 Pomegranates, 120 Mangoes and 110 Guavas.

Now, let us find the total Pomegranates with Sankaraiah

Number of Pomegranates in stock = 5 1

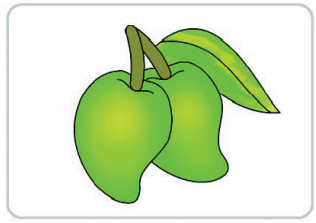
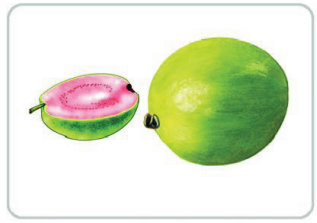
Number of Pomegranates purchased = (+) 6 0

Total Pomegranates with Sankaraiah = 1 1 1

APSCERT

Addition of 3-digit number with 1-digit number.

Sankariah purchased 60 pomegranates, 120 mangoes and 110 guavas.

Now, let's find the total mangoes with Sankaraiah.

		H	T	O
Number of mangoes purchased	=	1	2	0
Number of mangoes in stock	= (+)			6
Total number of mangoes	=	1	2	6

Step 1: We add ones, 0 + 6 = 6. Write '6' in ones place.

Step 2: We write '2' in tens place as there is no other number to add.

Step 3: We write '1' in hundreds place as there is no other number to add.

Total number of Mangoes = 126



Do these

Do the following.

a)

	H	T	O
	5	0	1
+			8

b)

	H	T	O
	7	1	3
+			3

c)

	H	T	O
	8	9	1
+			5

d) 195 + 4 =..... e) 300 + 2 = ...

f) Ramesh had 123 TVs in his shop. The dealer supplied 6 more TVs to him. Total how many TVs does Ramesh have now?

Number of TVs in the shop =

Number of TVs supplied by the dealer =

Total number of TVs Ramesh has in the shop =



AP SCERT

Addition of 3-digit number with 2-digit number.

Now, find out the total number of guavas in Sankaraiah's shop.

Number of guavas purchased = 110

Number of guavas in stock = 22

Total number of guavas = 110 + 22 = 132

	H	T	O
	1	1	0
+		2	2
	1	3	2

Step 1: Add ones, 0 + 2 = 2. Write '2' in ones place.

Step 2: Add tens, 1 + 2 = 3. Write '3' in tens place.

Step 3: Write '1' in hundreds place as there is no digit to add in the hundreds place.

Total number of Guavas = 132





Do these

Do the following.

a)

	H	T	O
	6	2	3
+		3	5

b)

	H	T	O
	4	0	5
+		7	0

c)

	H	T	O
	8	5	7
+		4	2

d) 555 + 44 =.....

e) 936 + 52 = ...

f) In a zoo, mother elephant ate 111 Bananas and little elephant ate 36 Bananas. How many Bananas were eaten by both elephants?

	H	T	O
Number of Bananas ate by Mother elephant =	1	1	1
Number of Bananas ate by Little elephant = (+)		3	6
Total number of Bananas ate by both =			

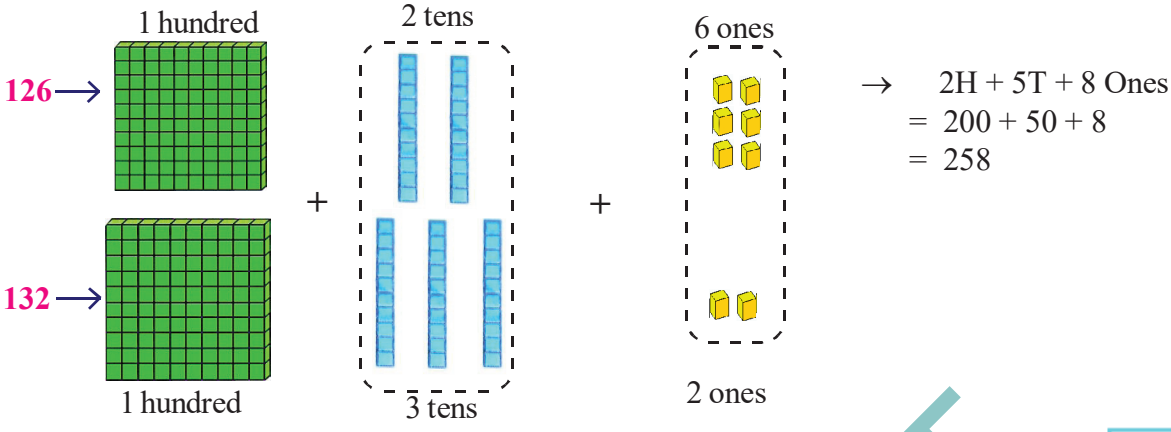
g) Which number is 50 more than 45?

h) Which number is 120 more than 60?

AP SCERT

Addition of 3-digit number with 3-digit number.

Now Sankaraiah had 111 Pomegranates, 126 Mmangoes and 132 Guavas in his shop. How many Mangoes and Guavas are there in total.



Addition in another way

Step 1: Add the digits in ones place, 6 + 2 = 8. Write '8' in ones place.

Step 2: Add the digits in tens place, 2 + 3 = 5. Write '5' in tens place.

Step 3: Add the digits in hundreds place, 1 + 1 = 2. Write '2' in hundreds place.

H	T	O
1	2	6
1	3	2
2	5	8

(+)

Number of Mangoes = 126

Number of Guavas = 132

Total number of Mangoes and Guavas = 126 + 132 = 258

Example: Help Sankaraiah to find total number of fruits in his shop.

Number of Pomegranates = 111

Number of Mangoes = 126

Number of Guavas = 132

Total number of fruits = 111 + 126 + 132

H	T	O
1	1	1
1	2	6
1	3	2

(+)



Do these

Do the following sums.

a)

H	T	O
7	6	3
+ 1	2	3

b)

H	T	O
6	0	7
+ 3	1	2

c)

H	T	O
4	3	2
+ 5	6	1

d) 555 + 144 =.....

e) 836 + 152 = ...

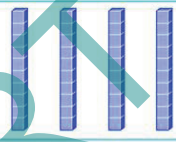
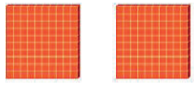
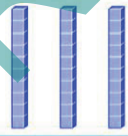
AP SCERT

Addition by using blocks.

345 eggs were supplied to MPPS, Koduru in the first week of a month. As there were some holidays in the second week only 234 eggs were supplied.



How many eggs were supplied in 2 weeks?

	Hundreds	Tens	Ones	100	10	1
	3	4	5			
+	2	3	4			
	5	7	9	5	7	9

By observing the above table,

$$345 + 234 = 300 + 40 + 5 + 200 + 30 + 4$$
$$= 300 + 200 + 40 + 30 + 5 + 4$$
$$= 500 + 70 + 9$$
$$= 579$$

Eggs supplied in the first week = _____

Eggs supplied in the second week = _____

Total number of eggs supplied = _____





AP SCERT

EXERCISE-1

1. Add the following.

a)

T	O
8	6
1	3

b)

H	T	O
7	8	6
		3

c)

H	T	O
5	4	7
	3	2

d)

H	T	O
1	5	6
8	4	3

2. Find the missing number.

a)
$$\begin{array}{r} 3\ 2\ 6 \\ +\ \square\ 3\ \square \\ \hline 7\ 5\ 8 \end{array}$$

b)
$$\begin{array}{r} \square\ \square\ 3 \\ +\ 1\ 2\ 5 \\ \hline 4\ 6\ 8 \end{array}$$

c)
$$\begin{array}{r} \square\ \square\ \square \\ +\ 7\ 3\ 5 \\ \hline 9\ 9\ 9 \end{array}$$

3. In a test cricket match team India scored 216 runs on the first day. Second day team india scored 172 runs more than the first day. How many runs were scored on the second day?

Answer the following.

a) How many runs did India score on the first day?

b) How many more runs did India score on second day than on the first day?

c) What do you need to find in the given problem ?

d) Which operation do you use to solve the problem?

e) How many runs India scored on second day?

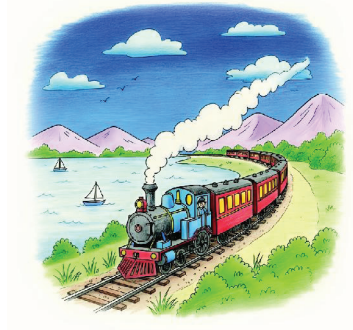


4. In a train there are 60 passengers in one compartment and 72 passengers in another compartment. How many people are there in both the compartments?

Number of people in the first compartment =

Number of people in the second compartment =

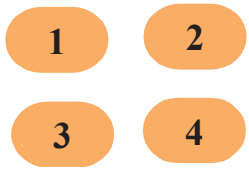
Total number of people in both compartments =

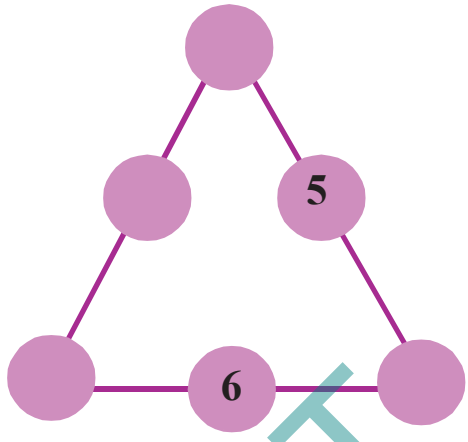


AP SCERT

Do these

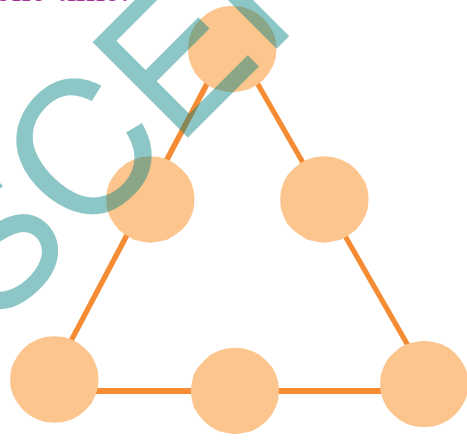
1. Use the numbers 1 - 6 in the blanks in such a way that the sum on each side of the triangle is 9. Use the numbers only one time.



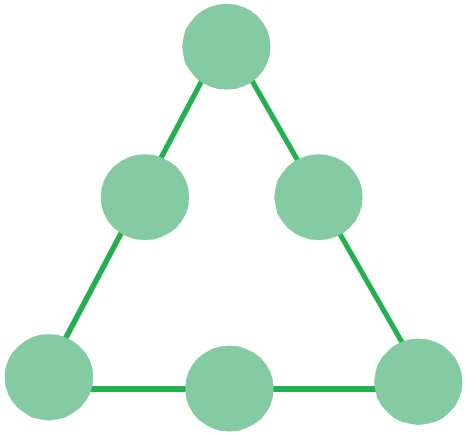


2. Use the numbers 1 - 6 in the blanks in such a way that the sum on each side of the triangle is 10. Use the numbers only one time.





3. What other sums can you make with these six numbers?
   Can you make 12 on each side?
   No numbers should be repeated.





AP SCERT

Addition of 3-digit number with 1-digit number (Carry forward)



Kiddy Bank:

Harsha & Ramya wanted to donate money on the occasion of their birthday. They opened their kiddy banks and counted their savings.

Harsha had ₹ 639, his mother gave him ₹ 9.

Then he added ₹ 9 to his saved amount ₹ 639

= 639 + 9

Step 1: Add the digits in ones place.

9 ones + 9 ones = 18 ones

= 10 ones + 8 one

= 1 ten + 8 ones

10 ones = 1 ten

So, write '8' in ones place and carry forward '1' to tens place.

	H	T	O
		1	
+	6	3	9
			9
			8

Step 2: Add the digits in tens place , 3 tens + 1ten (carry forward)

= 4 tens.

So, write '4' in tens place.

Step 3: Write '6' in hundreds place as there is no other number in hundreds place.

Harsha had a total of ₹ 648 with him.

	H	T	O
		1	
+	6	3	9
			9
	6	4	8

Do these

Do the following.

a)

	H	T	O
	5	6	8
+			7

b)

	H	T	O
	4	0	3
+			9

c)

	H	T	O
	7	9	5
+			8

d) 678 + 7 = _____ e) 836 + 6 = _____

f) The number '5' more than 205 is _____

g) The number '9' more than 369 is _____

AP SCERT

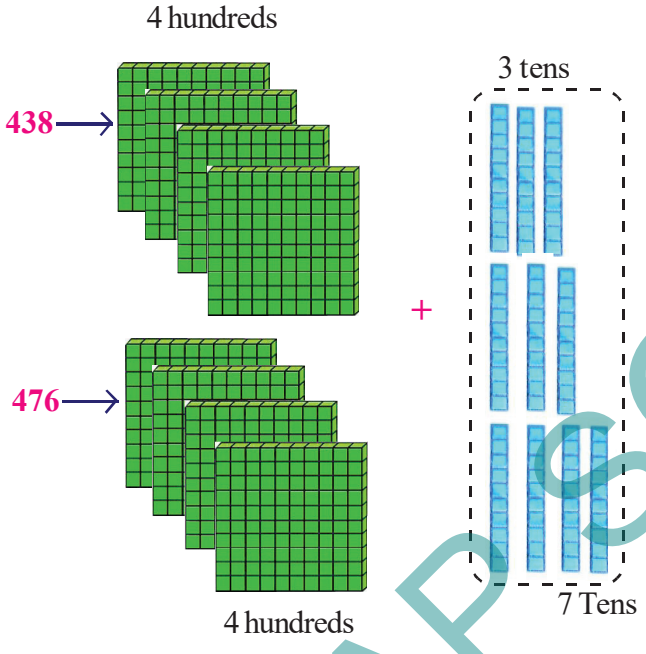
Addition of 3-digit number with 3-digit number (Carry forward)

Harsha and Ramya went to Jyothi Orphanage home to donate money. Harsha donated ₹ 438 and Ramya donated ₹ 476. Let's find total amount they donated to Orphanage home.



How much amount have they donated ?

438 + 476 =



10 ones = 1 Ten

→ 8H + 10T + 14 Ones

9H + 1T + 4 ones

= 914

H	T	O
1	1	
4	3	8
4	7	6
9	11	14
9	1	4

They both donated ₹ 914

Example:

Father brought dresses for Harsha and Ramya. Harsha's dress costs ₹755 and Ramya's dress costs ₹ 978. What is the total cost of the dresses?

Thousands	Hundreds	Tens	Ones	1000	100	10	1
	9	7	8				
	7	5	5				

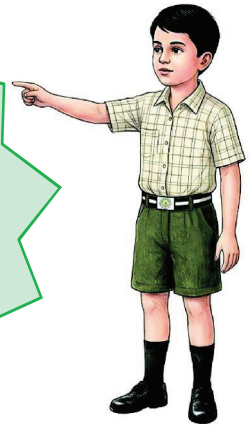
APSCERT

Let's estimate!

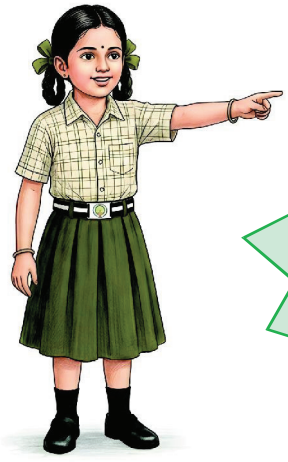
Harsha and Ramya went to a "jathara". Let's see what they purchased.

Harsha spent ₹68 on food and ₹99 on toys at the jathara. How much money did Harsha spend at the jathara?

Adding numbers is easier when they are in tens. 68 is closer to 70, so I can say that I spent about 70 on food. Similarly, I spent about 100 on toys. So I spent about 70+100= 170 in the jathara.



Ramya spent ₹145 on bangles and ₹175on Jewellery at jathara. Estimate the total amount she spent to the nearest hundred.



Adding numbers is easier when they are in hundreds. We know that 145 is closer to 100, and 175 is closer to 200. The total amount spent by Lakshmi is 100+200=300 at jathara.

APSCERT



Do these

Estimate the answer of the following:

(a) Chandini spent ₹91 on fruits and ₹82 on vegetables. About how much money did she spend?

(b) Priya saved ₹428 and received ₹376 Rupees as a reward. Estimate and write the total money to the nearest hundred?

(c) David earned ₹897 on Monday and ₹574 on Tuesday. How much money did he earned?

(d) There are 25 Guava and 32 mango trees in a garden. How many trees are there in the garden?

EXERCISE-2



1. a)

	Th	H	T	O
		8	4	5
+		3	6	5

b)

	Th	H	T	O
		5	6	7
+		3	1	6

c) 869 + 371 =

d) 704 + 379 =

2. Write the numbers in the table and find the sum. One is done for you.

a) 462 + 8 =

	H	T	O
	4	6	2
+			8
	4	7	0

b) 325 + 42 =

	H	T	O
+			

c) 33 + 333 =

	H	T	O
+			

3. Ramya did addition as shown below. Check it out.

a)
$$\begin{array}{r} 346 \\ +\ 172 \\ \hline 418 \end{array}$$

b)
$$\begin{array}{r} 567 \\ +\ 316 \\ \hline 883 \end{array}$$

c)
$$\begin{array}{r} 815 \\ +\ 323 \\ \hline 1138 \end{array}$$

4. Write the missing number in the boxes.

a)
$$\begin{array}{r} 243 \\ +\ \square 2 \square \\ \hline 672 \end{array}$$

b)
$$\begin{array}{r} \square\square 5 \\ +\ 436 \\ \hline 781 \end{array}$$

c)
$$\begin{array}{r} \square\square\square \\ +\ 639 \\ \hline 908 \end{array}$$

5. Circle the correct answer. One is done for you.

a)	48 + 96	134	(144)	154
b)	312 + 9	3111	311	321
c)	430 + 74	504	494	410
d)	4529 + 678	1107	4197	5207
e)	675 + 735	1410	1310	1400

AP SCERT

6. Rafi had 783 candle packets in his shop. He purchased 237 candle packets more from Imthiaz. How many candle packets does Rafi have now?

7. In a school library there are 468 books in Telugu and 655 books in English. How many books are there in the library?

8. Find the sum of the biggest 3-digit number and the biggest 2-digit number.

9. Find the sum of the biggest 3-digit number and smallest 3-digit number.

10. Which two of the following numbers sum is 100 ( )

54 **64** **46** **76**

a) 46,64 b) 46,54 c) 54,76 d) 64,46

11. '15' more than 205 = ... ( )

a) 215 b) 2110 c) 190 d) 220

Project work

Collect the data from your nearest pachari shop and fill the data given below.

S.No.	Name of the item	Cost per Kg
1	Groundnuts	
2	Blackgram	
3	Tamarind	
4	Surf	
5	Toordal	

1. To buy groundnuts and tamarind, how much money have to pay the shopkeeper?
2. The sum of the cost of which two items is nearer to 200?
3. To buy all the above items, how much money have to pay the shopkeeper?

AP SCERT

Improve your Learning

1. 8 more than 454 is ____. ( )

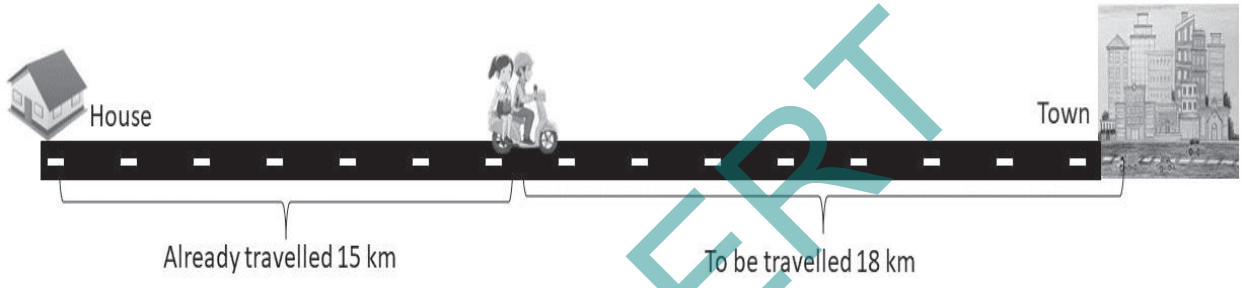
   a) 4512 b) 1254 c) 462 d) 446

2. Which of the following statements is correct? ( )

   a) 18+4=112 b) 12+9=111 c) 17+6=77 d) 14+16=30

3. Sushma and his father are going to a nearby town by bike.

   What is the total distance from Sushma's house to the nearby town? ( )



   a) 3 b) 15 c) 18 d)33

4. A librarian has 450 books. 215 are Telugu books and the rest are English. If the librarian adds 15 more Telugu books, find the total books in telugu and the total books at him.

5. In a train compartment 'A' has 75 people. Compartment 'B' has 72 people. The ticket collector says there are "more than 140 people in total." Is the ticket collector correct? Show your calculation to prove or disprove his statement.

6. Create two different pairs of numbers which result should be 100.

7. Ali and Bala are playing a game. Ali scored 48 points. Bala scored 29 more points than Ali.

   a) How many points did Bala score?

   b) How many points did Ali and Bala score altogether?

8. Ramu went to a shop and bought a toy for ₹ 120, a ball for ₹ 45, and a book for ₹ 85. How much money did he spend in total?

AP SCERT

UNIT 3

Subtraction

I1Q4E9

Learner will be able to :

- Subtract 3-digit number from 3-digit number.(CG-1)
- Solve Word problems on real life situations.(CG-4)
- Do subtraction by estimation.(CG-1)



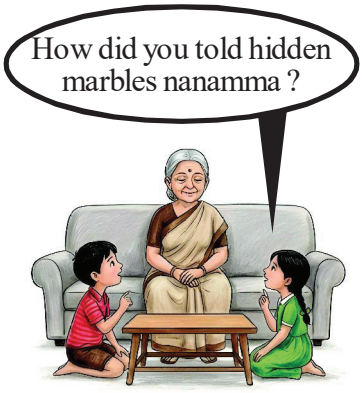
Charan and Nalini love their Nanamma. She is their best friend. They love to listen to her stories.

One day Nanamma showed them a 'Magic Trick' There are 20 marbles on the table. You hide some marbles with your hands. I shall tell you the number of marbles you have hidden.









Teacher Note: Discuss the trick with your children. Help them to understand about subtraction.

Total Seeds	Seeds on the table	Hidden seeds
20	12	
20	10	
20	8	
22	12	
25	14	
29	17	



APSCERT

Mariyamma was a banana seller, lives beside Nanamma's house.
One day Nalini and Charan went to Mariyamma's house. Mariyamma was going to the market with a basket of bananas. There were 156 bananas in the basket. She gave 2 bananas to them.



How many bananas are left with Mariyamma?

Total Bananas in the basket	= 156
Number of Bananas given to Charan and Nalini	= (-) 2
Bananas left with Mariyamma	= 154





Do these

a)

H	T	O
2	3	6
–		5

b)

H	T	O
3	2	7
–		4

c)

H	T	O
4	7	8
–		7

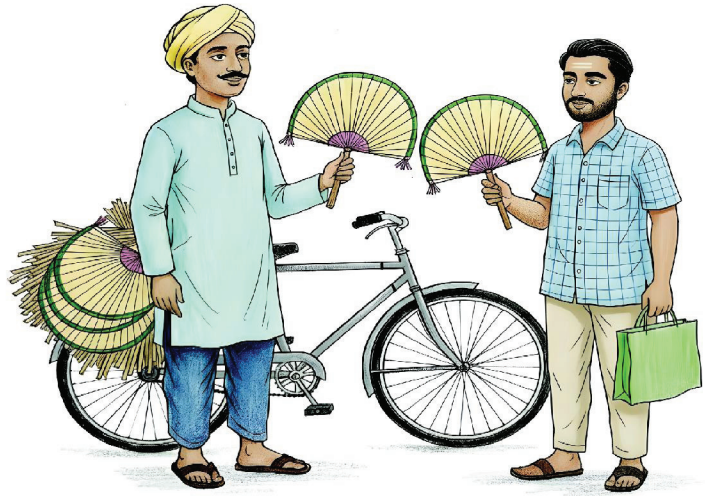
d)

H	T	O
5	6	9
–		6

Subtraction of 3-digit number from 3-digit number

Danayya sells hand fans in the villages. Danayya has 113 Palm leaf fans. On the way Sharma stopped Danayya to buy 116 Palm leaf fans to distribute in a puja ceremony.

How many leaf fans are still required?



AP SCERT

		H	T	O
Number of Palm leaf fans required	=	1	1	6
Number of Palm leaf fans available	=	– 1	1	3
Number of fans required more	=			

Step 1: Subtraction in Ones place

a) Subtract 3 Ones from 6 Ones

b) 6 Ones – 3 Ones = 3 Ones

c) Write answer 3 in Ones place 3

H	T	O
1	1	6
– 1	1	3
		3

Step 2: Subtraction in Tens place

a) Subtract 1 from 1

b) 1 Ten – 1 Ten = 0 Tens

c) Write answer 0 in Tens place

H	T	O
1	1	6
– 1	1	3
	0	3



Step 3: Subtraction in Hundreds place

a) Subtract 1 Hundred from 1 Hundred

b) 1 Hundred – 1 Hundred

c) Write answer 0 in Hundreds place

H	T	O
1	1	6
– 1	1	3
0	0	3

If Danayya has 3 more Palm leaf fans, he can fulfil Sharma's need.

Example :

If Danayya has only 113 Palm leaf fans, and Sharma needs 226 Palm leaf fans, how many more will be required?

		H	T	O
Number of Palm leaf fans required	=	2	2	6
Number of Palm leaf fans available	=	– 1	1	3
Number of leaf fans to be required	=			



AP SCERT

Do these

1. The cost of a shirt is ₹ 885. The price is reduced by ₹ 35 for a festive season. What is the price of the shirt after reduction in price?



		H	T	O
The cost of a shirt	=			
Reduced amount	=			
Current price	=			

2. Ramya wanted to buy a new dress for the festival worth ₹ 750. But she had saved ₹ 550 in her piggy bank. How much more money does she need?

EXERCISE-1

1. Do the following.

a) 3 5 6 − 4

b) 4 7 8 − 2

c) 5 8 3 − 2

d) 8 7 6 − 4 2 3

e) 7 4 5 − 1 3 2

f) 2 6 7 − 1 3 3

g) 4 7 8 − 1 1 4

h) 6 7 9 − 4 3 1

2. Answer the following questions.

   a) What is the difference between 300 and 200?

   b) What will we get, if we subtract 125 from 175?

3. How much more to be add to make ₹ 425 equal to ₹ 679?

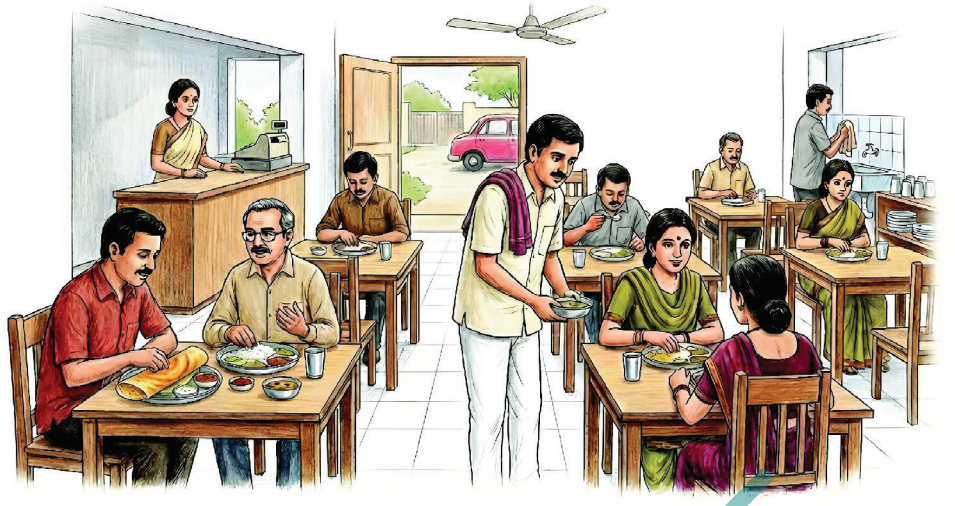
4. There are 385 students in a school. The Mid Day Meal agency has 142 eggs with them. How many more eggs are required to get each child an egg?

5. Sonu had ₹50. He went to a book shop to buy a notebook that cost ₹75. How much more money does he need to buy the notebook? ( )

   a) ₹15 b) ₹20 c) ₹25 d) ₹125

AP SCERT

Subtraction of 2-digit number from 3-digit number with regrouping.



Now, Danayya has ₹ 337. He ate one masala dosa in a hotel and paid ₹ 48. How much money does he have left ?

Total Amount Danayya have = ₹ 3 3 7

Amount paid for Dosa = ₹ – 4 8

Balance Amount = ₹ _____

Step 1: Subtraction at Ones place

1) 8 is greater than 7, hence subtraction is not possible.
2) Carry 1 Ten from 3 Tens to ones place.
3) 1 Ten from Tens places becomes 10 Ones in Ones place.
   Now 10 + 7 = 17 Ones in ones place.
4) Subtract 8 from 17
   17 Ones – 8 Ones = 9 Ones
5) Write 9 in Ones place

H	T	O
	2	(17)
3	~~3~~	~~7~~
–	4	8
		9

Step 2: Subtraction at Tens place

1) 4 is greater than 2, hence subtraction is not possible.
2) Carry 1 Hundred from 3 hundreds in Hundreds place to Tens place.
3) 1 Hundred from Hundreds place becomes 10 Tens in Tens place.
   Now 10 Tens + 2 Tens = 12 Tens.
4) Subtract 4 Tens from 12 Tens.
   12Tens – 4 Tens = 8 Tens.
5) Write 8 in Tens place.

H	T	O
2	(12)	(17)
~~3~~	~~3~~	~~7~~
–	4	8
	8	9

APSCERT

Step 3: Subtraction at Hundreds place

Now, there is 2 in hundreds place.

1) There is no number in Hundreds place to subtract.

2) Write 2 in Hundreds place.

The remaining amount with Danayya is ₹ 289.

H	T	O
2	(12)	(17)
~~3~~	~~3~~	~~7~~
–	4	8
2	8	9

Example: If cost of dosa is ₹ 69, how much amount would be left with Danayya?

Total amount Danayya had	=	₹ 3 3 7
Amount paid for dosa	=	₹ – 6 9
Balance with Danayya	=	₹



Do these

1) Do the following.

a) 4 2 5 (-) 3 7 ____

b) 5 4 6 (-) 6 9 ____

c) 6 3 5 (-) 7 7 ____

2) Rajaiah has 342 sheep. He sold 65 sheep. How many sheep are there now?

Subtraction of 3- digit number from 3-digit number with regrouping.

In a Medical Camp the doctor examined Danayya and gave a prescription in the medical camp. Danayya went to a private medical shop. The shop owner said that the medicine costs ₹ 425.

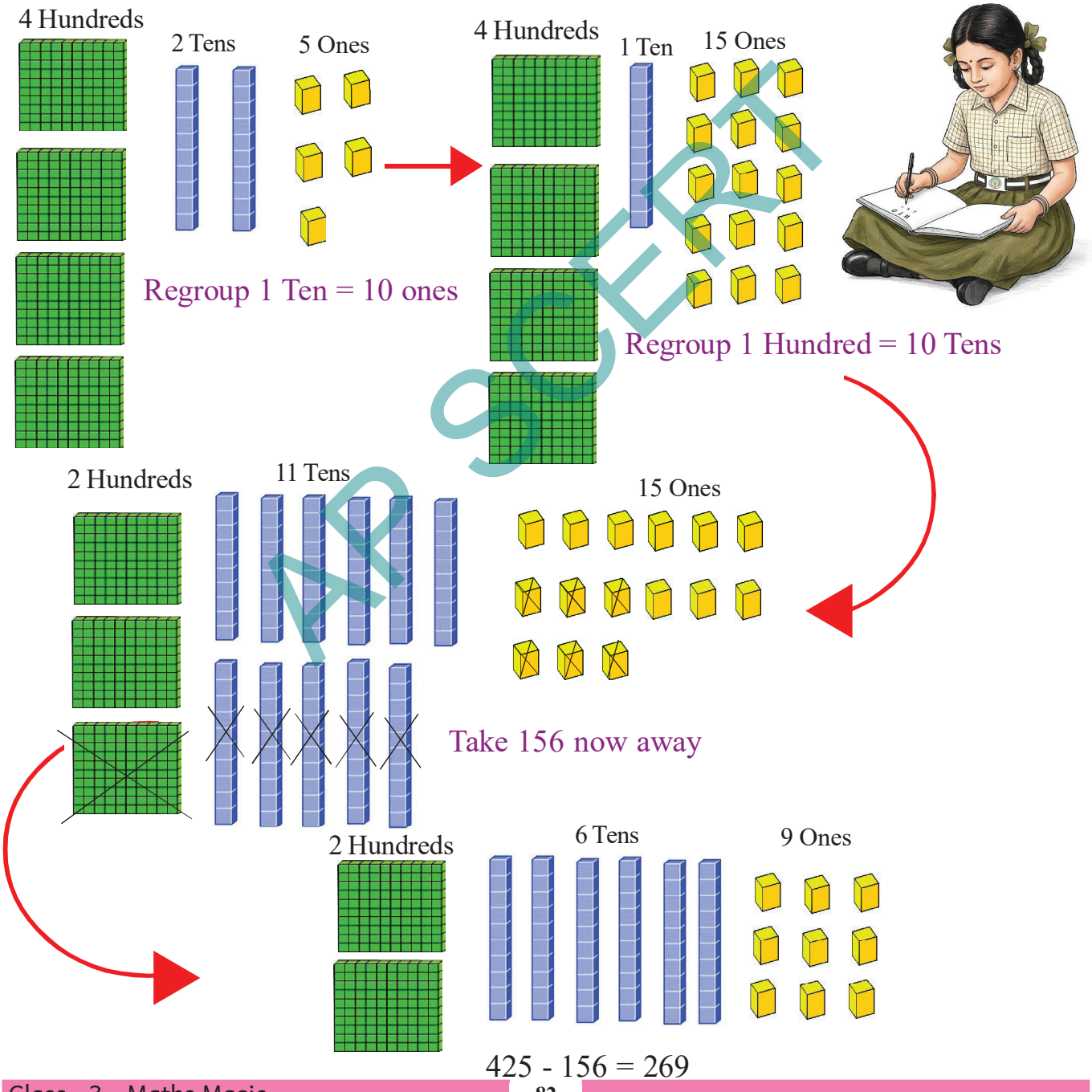


APSCERT

Danayya purchased the medicine in a Generic medical shop at a cost of ₹156. How much money did Danayya saved by choosing Generic medical shop?

	H	T	O
Cost of the medicine in the private medical shop	4	2	5
Cost of the same medicine in the Generic medical shop	(−)1	5	6
Price difference = ₹			

Using number blocks to solve 425 - 156.



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Step 1 : Subtraction in Ones place

1) 5 < 6 so, subtraction is not possible.
2) Borrow 1 Ten from 2 Tens in tens place.
3) Now in ones place 1 ten + 5 ones = 10 ones + 5 ones = 15 ones.
4) Subtract 6 ones from 15 ones.
5) 15 ones - 6 ones = 9 ones.
6) Write 9 in ones place.

H	T	O
	(1)	(15)
4	~~2~~	~~5~~
- 1	5	6
		9

Step 2 : Subtraction in Tens place

1) 1 < 5 hence subtraction is not possible.
2) Borrow 1 hundred from 4 hundreds (1 hundred = 10 tens).
3) Now in tens place 10 tens + 1 tens = 11 tens.
4) Subtract 5 tens from 11 tens.
5) 11 tens – 5 tens = 6 tens.
6) Write 6 in tens place.

H	T	O
3	(11)	(15)
~~4~~	~~2~~	~~5~~
- 1	5	6
	6	9

Step 3 : Subtraction in Hundreds place

1) 3 > 1.
2) Subtract 1Hundred from 3 Hundred.
3) 3 Hundreds - 1 Hundred = 2 Hundreds.
4) Write 2 in hundreds place.

So, the answer is ₹269.

H	T	O
3	(11)	(15)
~~4~~	~~2~~	~~5~~
- 1	5	6
2	6	9

Danayya saved ₹269 at generic medical shop instead of not purchasing at a private medical shop.

Example : A villager donated 125 blankets to the poor in the last year. Present year he distributed 270 blankets. How many more blankets he distributed in present year when compare to last year?

Number of blankets distributed in present year =
Number of blankets distributed in last year =
Number of more blankets distributed in present year =

H	T	O

APSCERT

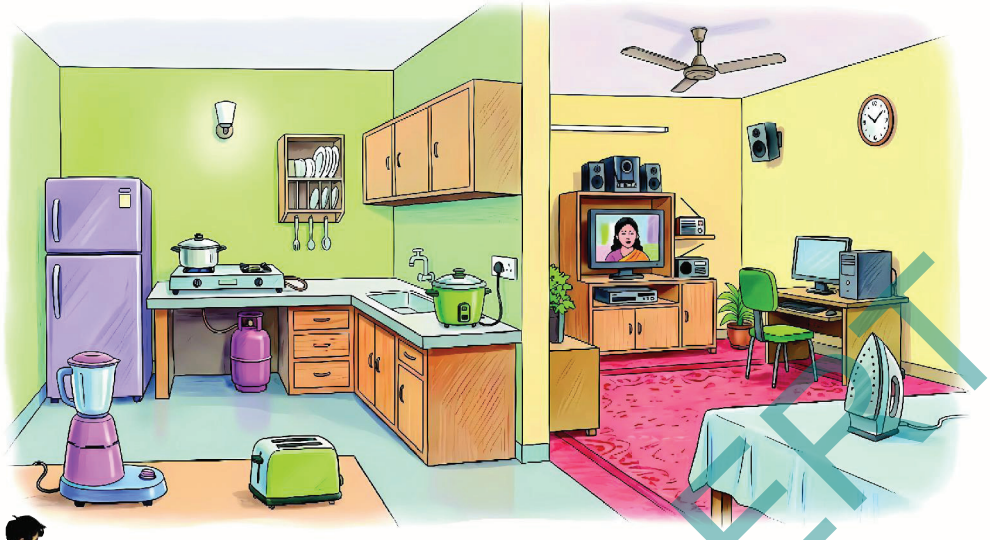
Example:

Neelu noted electricity meter reading as follows.

Last month reading = 269 units

Present months reading = 327 units

How many units of electricity did the family consumed in this month?



$$\begin{array}{r} 3\ 2\ 7 \\ (-)\ 2\ 6\ 9 \\ \hline 5\ 8 \\ \hline \end{array}$$

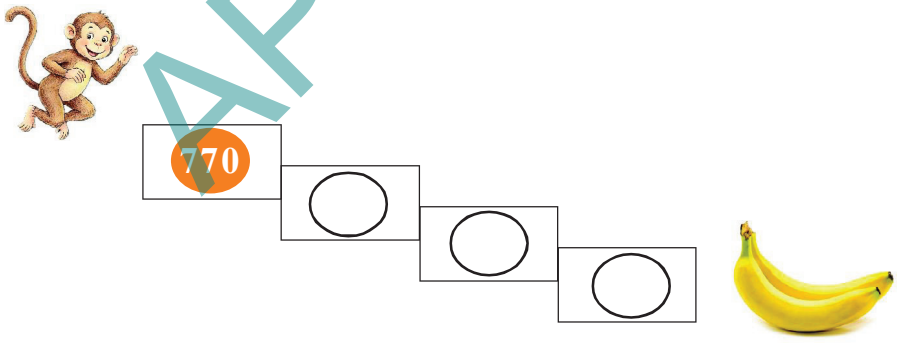
Neelu's family has consumed 58 units of electricity in this month.



Do these

Help the monkey to get the bananas.

1) Subtract 192 from the number on the step and continue the subtraction to reach the bananas.



2) If 235 hens are sold from 520 hens in a poultry, how many hens will remain?

3) There are 432 students in a school. If 245 members are girls how many boys are there?

4) One pair of chappal cost is ₹250. If Raju has ₹195 with him, how much more amount is required to buy the pair?

AP SCERT

Subtraction by Estimation

Observe the picture and answer the following. One is done for you.



1) The hundred nearer to 140 is (100) 200 300

2) The hundred nearer to 255 is 100 200 300

3) The hundred nearer to 170 is 100 200 300

Estimate the difference

Example: 375 - 215 100 (200) 300

375 is nearer to 400

215 is nearer to 200

The difference between 400 and 200 = 400 – 200 = 200.

So the difference of 375 and 215 is nearer to 200.





Do these

Estimate the difference and circle the answer.

a) 520 – 180 300 400 500 600

b) 685 – 210 500 600 700 400

Shakunthala Devi (4th November 1929-21st April 2013) was an Indian writer and human calculator. She was popularly known as **"Human computer."** Her talent was recorded in the Guinness book of world records in 1982. "Using mental math, she multiplied two thirteen "digit" numbers in 28 seconds. She gave the answer faster than the computer.

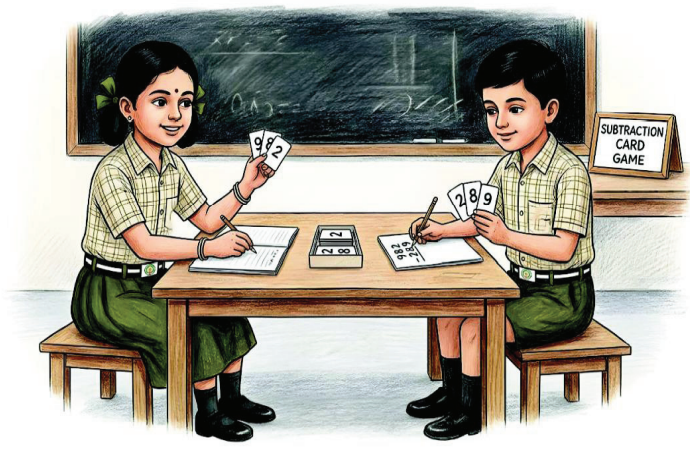


Source : Guinness World Records. (n.d.) Fastest human computation.

AP SCERT

Math Fun

Subtraction Card Game



Type: Pair Game

Materials Needed:Number cards (0–9)

How to play?

Divide the students into pairs (Student -1, student -2).

Give each pair number cards from 0 to 9.

Each pair selects any three number cards.

From the chosen cards, one student forms the largest 3-digit number, and the other student forms the smallest 3-digit number.

Student subtracts the smallest number from the largest number individually.

They verify the answer with their partner.

Project work

Collect the information of eggs supplied to your school and enter the details in the table given below.

Sl. No.	Day	Stock of eggs	Number of used eggs	Remaining eggs
1	Monday			
2	Tuesday			
3	Wednesday			
4	Thursday			
5	Friday			
6	Saturday			

a. On which day maximum eggs were remained? .....

b. On which day minimum eggs were remained? .....

c. How many total eggs were used in the six days? .....

AP SCERT

EXERCISE-2

1.Match the following.

200 - 112	218
415 - 197	315
642 - 327	88
941 - 149	783
960 - 177	792



2. Fill the missing digits in the following subtrations to correct it.

8 _	9 3	5 6 _
- 4 _	- _ _	- 1 9 8
3 5	3 5	_ 6 9

3. Ramya is a guava seller. In the morning she had 500 guavas in the basket. In the evening she had 295 guavas. How many guavas did Ramya sell?

4. There are 650 chikkies in a school. 579 chikkies were served in lunch. How many chikkies will remain?

5. I have some money. If you give ₹200 to me, my money will become ₹780. How much money do I have already?

6. Naresh has ₹500 with him. Which of the following items can he buy?

1) Shirt = ₹200 2) Pant = ₹300 3) Shoe = ₹400 4) Bag = ₹300
5) Ball = ₹200 6) Water bottle = ₹100 7) Bat = ₹400

7. Observe the 4 number cards shown below. ( )

22	24	32	42
Card A	Card B	Card C	Card D

Radha picked two cards from the set. The difference between those two cards is 20. Which cards did she pick?

a) A and B b) A and C c) B and C d) A and D

AP SCERT

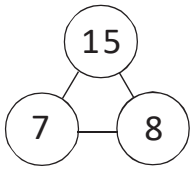
Improve Your Learning

1. Find the number that should be written in the box? ( )

90 - ☐ = 78

a) 1 b) 12 c) 22 d) 28

2. Write two subtraction sentences from these numbers.



a) ..... b) .....

3. Swapna is selling red and yellow flowers at a fair. She has 278 flowers.

i) If 45 of the flowers are yellow, how many are red?

ii) 129 flowers were left with Swapna by the end of the day. How many flowers did she sell?

4. Look at the 4 cards shown below. ( )

22	24	32	42
Card A	Card B	Card C	Card D

Radha picked two cards from the set. The difference between those two cards was 20. Which cards did she pick?

a) A and B b) A and C c) B and C d) A and D

5. If a guava seller started with some fruit, sold 149, and has 251 left, he claims he started with 400. Verify it by using subtraction.

6. Use the numbers 112, 132, 155, 175, 195 and create three different pairs of numbers that result in a difference of exactly 20. Then, create one pair where the difference is exactly 43.

AP SCERT

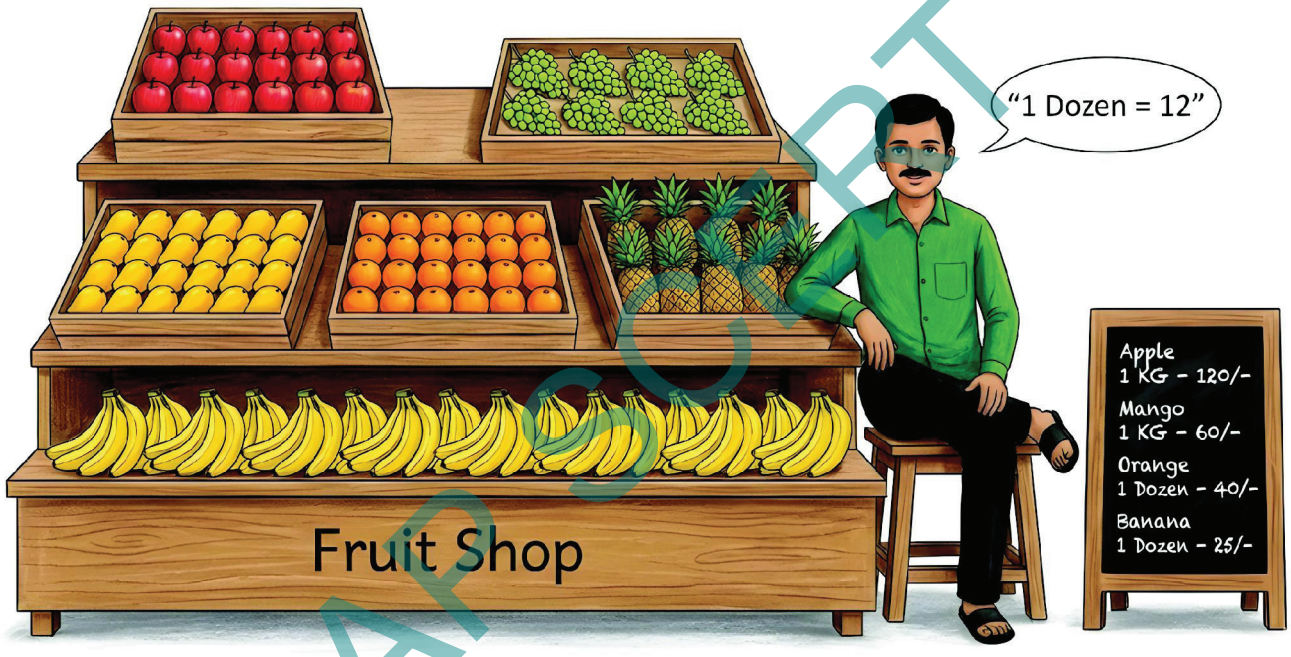
UNIT 4

Multiplication

K6V5P6

Learner will be able to :

- Multiply a 2-digit number with 1-digit number (CG-1)
- Multiply 2- digit number with 2-digit number. (CG-1)
- Multiply 3 -digit number with 1-digit number. (CG-1,4)
- Form tables from 6th to 9th. (CG-1)



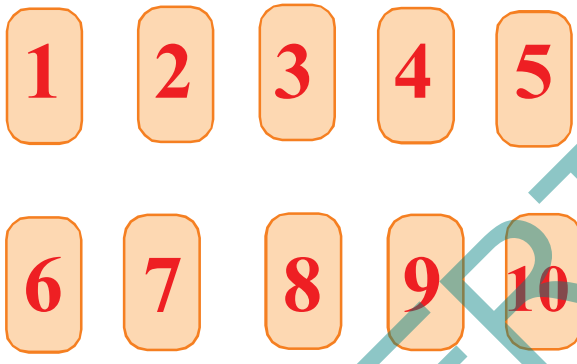
APSCERT

Observe the above picture and answer the following questions.

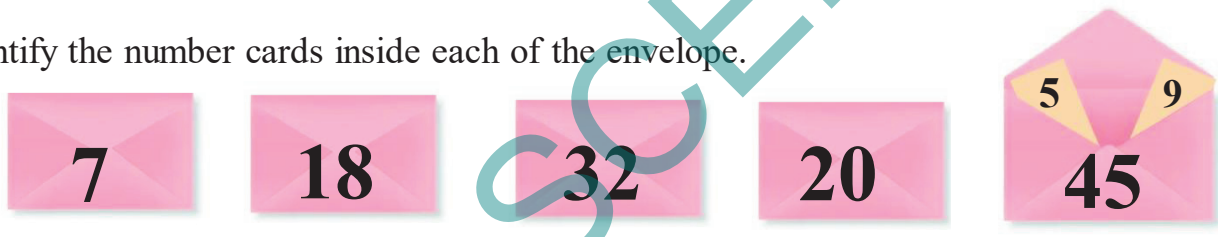
1. How many apples are there in the shop?
   How many rows of apples are there?_____
   How many apples are there in each row?_____
   Total Number of apples _____
2. The price of apples is how many times to the price of mangoes
3. If you want to buy two dozens of bananas in the shop, how much money you need to pay to the fruit seller?
4. To buy 3 kgs of mangoes and 1 kg of apples, how much money do you need to pay to the shopkeeper?

Math Game

- There are ten number cards from 1-10. There are five sealed envelopes.
- Take any two number cards. The product of those numbers should be match the number on the envelope.
- For exmple the 5th envelope contains the cards 5 and 9. The Product of the numbers (5 and 9) 5 x 9 = 45.



Identify the number cards inside each of the envelope.



Anjali & Pavan are playing with multiplication tables.



Pavan : What is 8 times 7?
Anjali : 56
Anjali : What is 13 times 6?
Pavan: I do not know. I only know tables till 10.
Anjali : You can answer this question even without knowing the 13 table. Just split up 13 into 10 + 3. Then multiply these numbers by 6 and add the products. Let me show this to you in your notebook.

APSCERT

13×6

$13 = 10 + 3$

So, $13 \times 6 = 10 \times 6 + 3 \times 6$

$= 60 + 18$

$= 78$



Pavan : Wow! Its too easy. Now I can split 13 into 8 + 5 all so.



13×6

$13 = 8 + 5$

So, $13 \times 6 = 8 \times 6 + 5 \times 6$

$= 48 + 30$

$= 78$

Anjali : Splitting a number into smaller numbers and multiplying makes multiplication easier.

Now let us practise the multiplication.



Do these

1. Do the following.

a)

T	O
1	4
×	3

b)

T	O
1	2
×	5

c)

T	O
1	3
×	4

$13 \times 6 = 78$

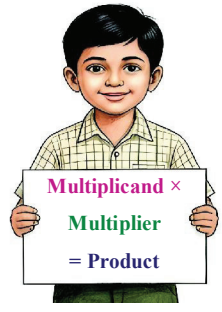
13 **Multiplicand**	6 **Multiplier**	78 **Product**

In $21 \times 2 = 42$,

Which one is multiplicand? Answer = _____

Which one is multiplier? Answer = _____

Which one is product? Answer = _____



AP SCERT

2. Karthik have 4 packets. There are 24 crackers in each packet. How many crackers will be in 4 such packets?

Crackers in each packet = 24

Number of packets = _____

Total number of crackers = 24 × ____ = ____

3. There are 12 bananas in a bag. Find the number of bananas in 5 such bags.

Number of bananas in each bag = _____

Number of bags = 5

Total number of bananas = _____ × 5

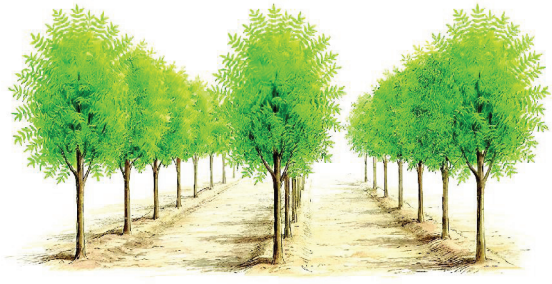
= _____



Other process for multiplication.

There are 47 Neem trees in a row. How many Neem trees are there in 3 rows ?

Rojabai did like this



H	T	O
	4	7
	×	3
1	4	1

Padmaja said we can do this in expanded form also:

47 × 3 = (40 + 7) × 3

= (40 × 3) + (7 × 3)

= 120 + 21

= 141

Example:

There are 32 coconuts in a bag. How many coconuts are there in 4 such bags?

Number of coconuts in a bag = 32

Number of bags =

Total number of coconuts in all bags = _____ × _____

=



AP SCERT

Do these

1. **Do the following.**

   a) 86 × 2 = _____ b) 64 × 3 = _____

   c) 45 × 5 = _____ d) 58 × 4 = _____

2. There are 50 books in a box. Find the total number of books in such 4 boxes?

   Number of books in each box =

   Number of boxes =

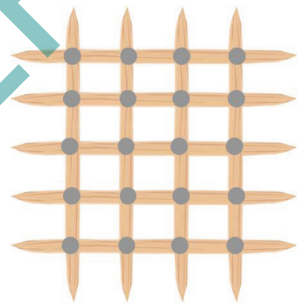
   Total number of books =

3. Cost of a pen is ₹ 4. What is the cost of 32 pens?

Math Lab Activity

Rambabu trying another way to write the multiplication tables. Do you see repeated addition in this?

Rambabu had some sticks. He arranged them like this.
He counted the black dots showing the points where sticks meet.

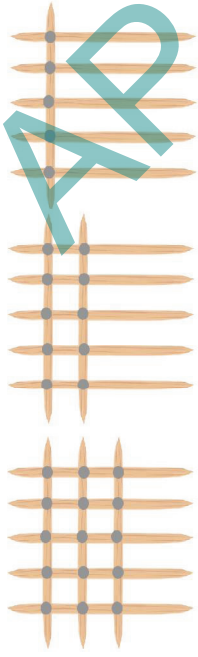


Lets try making a 5times tables with sticks.

1 time 5 = 5

2 times 5 = 10

3 times 5 = 15



1 x 5 = 5
2 x 5 = 10
3 x 5 = 15
4 x 5 =
5 x 5 =
6 x 5 =
7 x 5 =
8 x 5 =
9 x 5 =
10 x 5 =

Complete the - 5 table using sticks.
Prepare 6 and 10 tables by using the sticks method as shown above.

AP SCERT

Formation of Tables:

Method 1: Add table of 5 and table of 1 for making the table of 6.

Table 5	5	10	15	20	25	30	35	40	45	50
Table 1	1	2	3	4	5	6	7	8	9	10
Table 6	6	12	18	24	30	36	42	48	54	60

1 × 6 read as 1 time 6 i.e. 6 × 1 = 6

We can say that 1 × 6 = 6 × 1 = 6

2 × 6 read as 2 times 6 i.e. 6 × 2 = 12

We can say that 2 × 6 = 6 × 2 = 12

3 × 6 read as _____

We can say that 3 × 6 = _____ = 6 × 3 = _____

We can multiply the numbers in any order. The product remains same.

Add table 6 and table 3 for making table 9.

Table 6	6	12		24		36		48	54	60
Table 3	3	6	9		15		21		27	30
Table 9	9	18								90

Method 2 : Formation of Table 9 by counting leaves.

	1 × 9 = 9	9 × 1 = 9
	2 × 9 = 18	9 × 2 = 18
	3 × 9 = 27	9 × 3 = 27
	4 × 9 = 36	9 × 4 = 36
	5 × 9 = 45	9 × 5 = 45
	6 × 9 = 54	9 × 6 = 54
	7 × 9 = 63	9 × 7 = 63
	8 × 9 = 72	9 × 8 = 72
	9 × 9 = 81	9 × 9 = 81
	10 × 9 = 90	9 × 10 = 90

AP SCERT

Observe the pattern

1 × 9 = 09	(0 + 9 = 9)
2 × 9 = 18	(1 + 8 = 9)
3 × 9 = 27	(2 + 7 = 9)
4 × 9 = 36	(3 + 6 = 9)
5 × 9 = 45	(4 + 5 = 9)
6 × 9 = 54	(____ + ____ = ____)
7 × 9 = 63	(____ + ____ = ____)
8 × 9 = 72	(____ + ____ = ____)
9 × 9 = 81	(____ + ____ = ____)
10 × 9 = 90	(____ + ____ = ____)



Observe these and express in your own words.

1. 9 × 5 = 45, 5 × 9 = 45 So, 5 × 9 = 9 × 5 = 45
2. 4 × 30 = 120, 30 × 4 = 120 So, 4 × 30 = 30 × 4 = 120



Do these

1. Make the table of 7 by using Table 5 and Table 2.
2. Make table 9 by using Table 7 and Table 2.
3. Make the table of 8 by taking any two tables of your choice.



Multiply by 10's

A packet contains 10 pencils.

(a) How many pencils do 2 packets have? 2 x 10 = 20
(b) How many pencils do 3 packets have? 3 x 10 = 30
(c) How many pencils do 4 packets have? 4 x 10 = 40
(d) How many pencils do 8 packets have? _____
(e) How many pencils do 10 packets have? _____
(f) How many pencils do 14 packets have? _____
(g) How many pencils do 26 packets have? _____
(h) How many pencils do 57 packets have? _____



AP SCERT

When we multiply a number by 10, the product will be the number followed by one '0' (zero).



Do these

1. 34 × 10 = 340
2. 80 × 10 = 800
3. 48 × 10 = _____
4. 85 × 10 = _____
5. 10 × 90 = _____

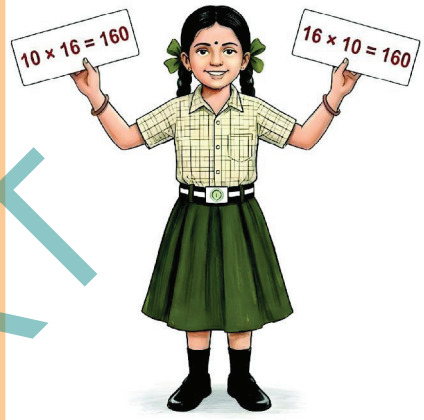
10 × 34 = 340

10 × 80 = _____

_____ × 10 = _____

_____ × _____ = _____

_____ × _____ = _____



Observe the pattern and fill in the blanks.

2 x 20 = 40
3 x 20 = 60
4 x 20 = 80
5 x 20 = 100
6 x 20 = ___
7 x 20 = ___
8 x 20 = ___
9 x 20 = ___
10 x 20 = ___
11 x 20 = ___
12 x 20 = ___

2 x 30 = 60
3 x 30 = 90
4 x 30 = 120
5 x 30 = 150
6 x 30 = ___
7 x 30 = ___
8 x 30 = ___
9 x 30 = ___
10 x 30 = ___
11 x 30 = ___
12 x 30 = ___

2 x 40 = 80
3 x 40 = 120
4 x 40 = 160
5 x 40 = 200
6 x 40 = ___
7 x 40 = ___
8 x 40 = ___
9 x 40 = ___
10 x 40 = ___
11 x 40 = ___
12 x 40 = ___

APSCERT

EXERCISE-1

1. **Write multiplicand, multiplier and product in the following multiplications.**

   a) 72 × 4 = 288; Multiplier = _____; multiplicand = _____; product = _____

   b) 5 × 100 = 500; Multiplier = _____; multiplicand = _____; product = _____

2. **Find the product.**

   a) 75 × 2 = b) 95 × 4 = c) 70 × 8 =

   d) 93 × 9 = e) 64 × 8 = f) 96 × 10 =



3. a) Prepare the table for 5 using the tables 2 and 3.

   b) Prepare the table for 10 using the table 6 and 4.

   c) Prepare the table for 9 using the table 5 and 4.

4. **Solve the following.**

   a) The price of one pencil is ₹ 6. What is the cost of 72 pencils ?

   b) In an orchard, there are 10 rows of mango trees and each row contains 25 trees. How many mango trees are there in total ?

5. Rajesh bought 5 bags of oranges at a store. There were 9 oranges in each bag. How many oranges did Rajesh have now? Which set of Mathemetical sentence could be used to solve this problem?

   a) 2 x 9 = 18 (or) 9 + 9 = 18

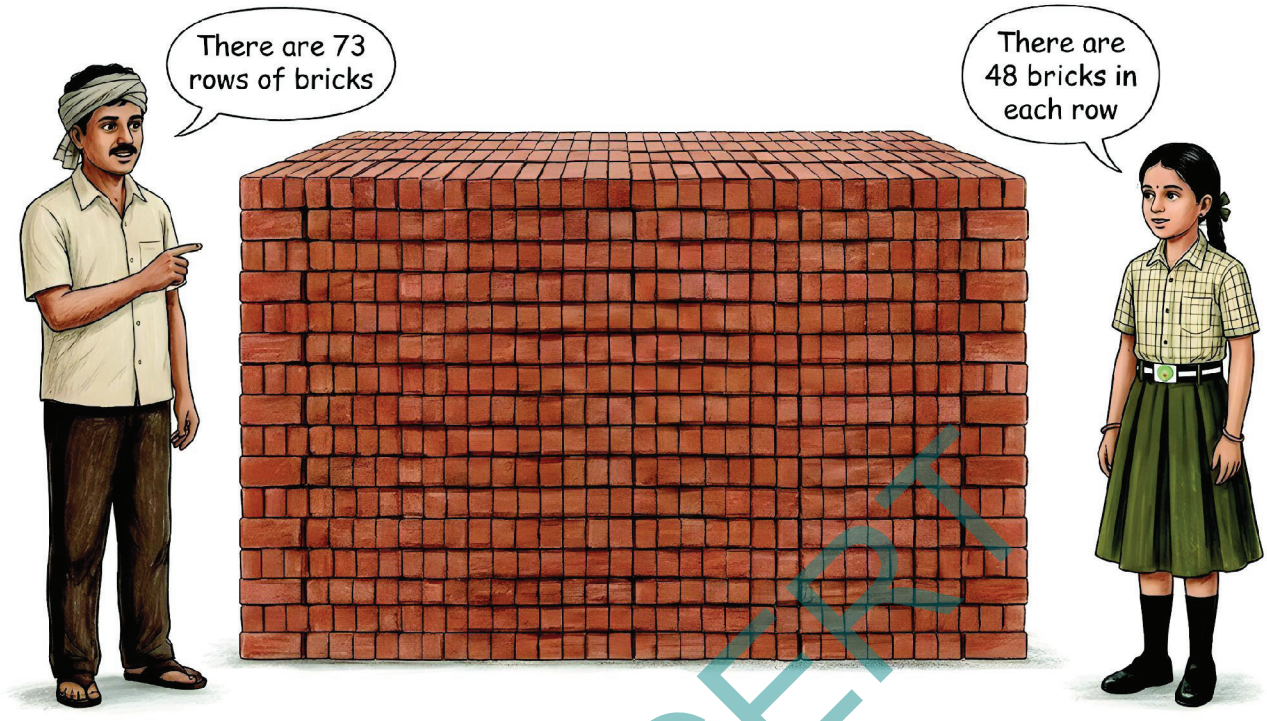
   b) 5 x 5 = 25 (or) 5 + 5 + 5 + 5 + 5 = 25

   c) 5 x 9 = 45 (or) 9 + 9 + 9 + 9 + 9 = 45

   d) 9 x 9 = 81 (or) 9 + 9 + 9 + 9 + 9 + 9 + 9 + 9 + 9 = 81

AP SCERT

Multiplication of 2-digit number by 2-digit number: (With regrouping)



How many bricks are there?

Harika solved it in this way

Step 1: First write the numbers vertically

Multiply 3 in ones place with 8

3 ones x 8 = 24 ones

24 ones = 2 tens + 4 ones

Write 4 ones in ones column.

and Carry 2 to tens column.

Th	H	T	O
		(2)	
		7	3
		× 4	8
			4

Step 2: Multiply 7 tens with 8

7 tens x 8 = 56 tens

56 tens + 2 tens = 58 tens = 5 hundreds + 8 tens

Write 8 in tens place and 5 in hundreds place

Th	H	T	O
		(2)	
		7	3
		× 4	8
		5	8 4

AP SCERT

Step 3: 4 tens x 3 = 12 tens = 120

120 = 1 hundred + 2 tens + 0 ones

Write 0 in ones place, 2 in tens place and

Carry over 1 to hundreds place.

Th	H	T	O
		(2)	
		7	3
	×	4	8
	5	8	4
		2	0

Step 4: Multiply 4 tens with 7 tens.

7 tens x 4 tens = 70 x 40 =2800 = 28 hundreds

Add carry over 1 hundred to 28 hundreds = 29 hundreds

29 hundreds = 2900 = 2 thousands + 9 hundreds

Write 9 in hundreds place and 2 in thousands place.

We have to add 584 with 2920.

584 + 2920 = 3504

There are 3504 bricks in all.

Th	H	T	O
(1)	(2)		
	7		3
×	4		8
	5	8	4
2	9	2	0
3	5	0	4

Example :

72 people can sit in one compartment of a train. How many people can sit in a train, with 23 such compartments?



Th	H	T	O
		7	2
	×	2	3
	2	1	6
1	4	4	0
1	6	5	6

Capacity of the compartment to sit = 72

Number of compartments = 23

Total number of people who can sit in the 23 compartments

= _____ × _____ = _____

AP SCERT

Do these

1. Do the following.

a)

Th	H	T	O
		7	1
	×	2	4

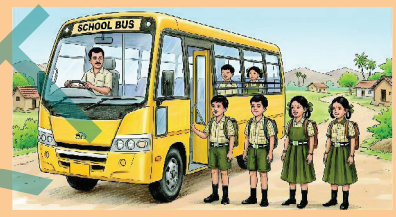
b)

Th	H	T	O
		4	5
	×	3	8

c)

Th	H	T	O
		9	5
	×	4	2

2. 48 people can travel in a bus. How many people can travel in 26 such buses?



3. In a library there are 48 cupboards. In each cupboard, there are 63 books. How many books are there in the library?



Multiplication of 3-digit number by 1-digit number

Method 1: Multiply 132 with 3.

Step-1: Write the numbers vertically

Multiply 2 ones by 3

2 ones x 3 = 6 ones. Write 6 under ones column

H	T	O
1	3	2
	×	3
		6

Step-2: Multiply 3 tens by 3

3 tens x 3 = 9 tens. Write 9 under tens column

H	T	O
1	3	2
	×	3
	9	6

Step-3: Multiply 1 hundred by 3

1 hundred x 3 = 3 hundreds.

Write 3 under hundreds column.

Thus 132 x 3 = 396

H	T	O
1	3	2
	×	3
3	9	6

APSCERT

Method 2:

Example-1 : 234 × 2

200 +	30 +	4 ×
200 × 2 = 400	30 × 2 = 60	4 × 2 = 8

2

∴ 234 × 2 = 400 + 60 + 8 = 468



Method 3:

234 × 2 = (200 + 30 + 4) × 2

= (200 × 2) + (30 × 2) + (4 × 2)

= 400 + 60 + 8

= 468

Example- 2 :

A basket contains 120 mangoes. How many mangoes are there in 4 such baskets?

Number of mangoes in basket = 120

Number of baskets = 4

Total number of mangoes = Number of mangoes in basket × No. of baskets

= 120 × 4 = 480



AP SCERT



Do these

1. Do the following.

a)

H	T	O
1	2	2
	×	4

b)

H	T	O
1	4	0
	×	2

c)

H	T	O
2	2	1
	×	3

d)

H	T	O
1	1	1
	×	9

2. A book contains 130 pages. Total how many pages are there in 3 such books?
3. A bag costs ₹ 300. How much money will be paid to buy 2 bags?
4. There are 2 boxes and in each box there are 142 balls. How many balls are there in total?

Just estimate !

The teacher asked Padmaja, about how many people are there in her village?

There are 40 families in my village. Some families have 3 members or less and some have 4 to 5 members. Let me assume that all families have 4 members each.



So about 40 x 4 = 160 people are living in my village.

Now, can you estimate the number of people living in your village?

The teacher wrote below problem on the board and asked children to choose closest answer to the correct answer.

One note book costs ₹ 9. How much will 22 such notebooks? Estimate the cost.

₹300 ₹250 ₹280 ₹220



Multipication with 10 is easier to compare with '9'. We can do fast multipication. 22 x 10 = 220.

So, Padmaja correctly ticks ₹220.



Do these

Can you estimate closest to the products?

1. There are 26 mangoes in each basket. How many mangoes will be there in 19 such baskets?

   460 480 500

2. The cost of each movie ticket is ₹25. If 28 students of a class go to watch the movie, how much money they have to pay for the tickets?

   ₹800 ₹750 ₹900

AP SCERT

3. Siva wants to plant some plants in his field. He wants to plant in 26 rows.
   If each row contains 27 plants, how many plants should he buy?
   600 780 900
4. The cost of a folding chair is ₹175. What is the cost of 5 such folding chairs?
   ₹500 ₹1000 ₹1500



EXERCISE-2



1. Multiply.

a)
H	T	O
	1	2
	×	9

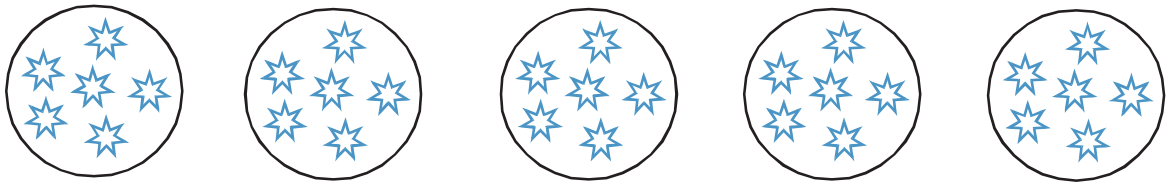
b)
H	T	O
	4	2
×	1	9

c)
H	T	O
4	1	4
	×	2

2. Fill in the blanks.

a) 67 × 5 = _____ b) 93 × 4 = _____ c) 123 × 3 = _____

3. There are 36 beads in a necklace. How many beads are there in 13 necklaces?
4. If there are 48 bottles in one carton, how many bottles are there in 16 cartons?
5. There are 54 chikkis in one plate. If, there are 44 such plates, how many chikkis are there?
6. Cost of a dictionary is ₹ 120. How much money has to pay for 4 dictionaries?
7. 5 students of a class collected ₹ 110 each for the Prime Minister's relief fund. How much money did they collect altogether?
8. Observe the picture below.



What is the missing number in the multiplication equation represented in the picture?

_____ X 6 = 30

a) 5 b) 6 c) 24 D) 36

AP SCERT

Improve your Learning

1. 89 x ___ = 89. What is the missing number in the blank ? ( )

   a) 0 b) 1 c) 89 d) 90

2. Rama solved a math problem. 5 _____ 5 = 25

   Which mathematical symbol should be placed in the blank to make the statement correct. ( )

   a) + b) - c) × d) ÷

3. Observe the given pattern ( )

   16,32,64,___ what should be done to find the next number

   a) Add 2 to 64 b) Multiply 64 with 2

   c) Divide 64 with 2 d) Divide 64 with 8

4. Observe the apples on the plates given below. ( )



   If 4 apples are in the plate, how many apples will be in 4 plates. The multiplication form

   a) 4 + 4 = 16 b) 4 - 4 = 0 c) 4 x 4 = 16 d) 4 ÷ 4 = 16

5. Krishna got the answer 19 x 5 = 85. Ravi got the answer 19 x 5 = 95. Whom do you agree with? Do the solution and decide.

6. Make a word problem using 24 × 3. Solve it.

   Note : 24 trees in a row, 3 rows

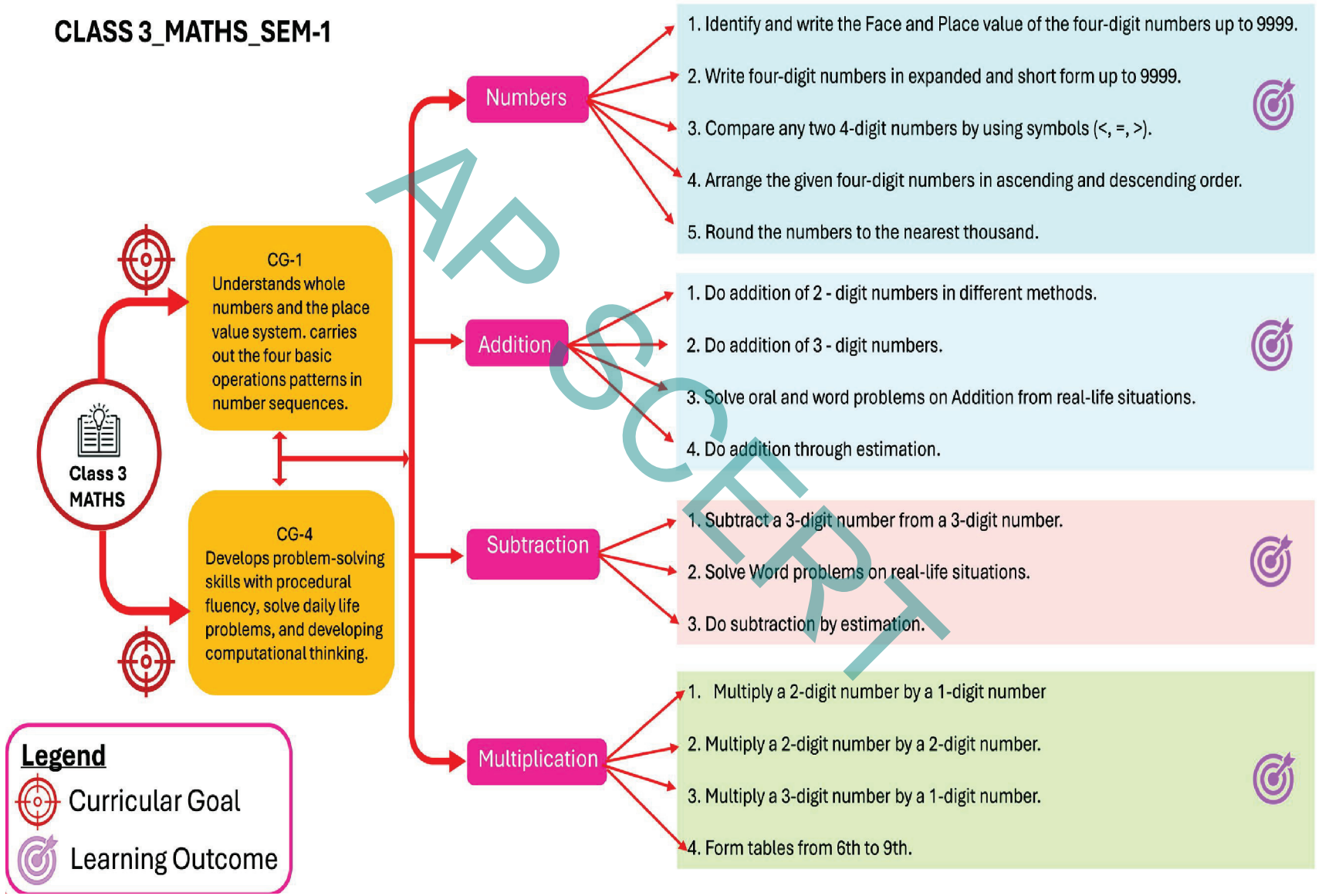
7. Ranjani has 27 flowers and needs to put 3 flowers in each vase. How many vases does she need?

8. Sneha put exactly 15 balls in each of the basket shown below. Find out the total number of balls she put in all the baskets?



AP SCERT

MIND MAP



APSCERT