

Primary

MATHEMATICS

(Class-IV)



Publication Division

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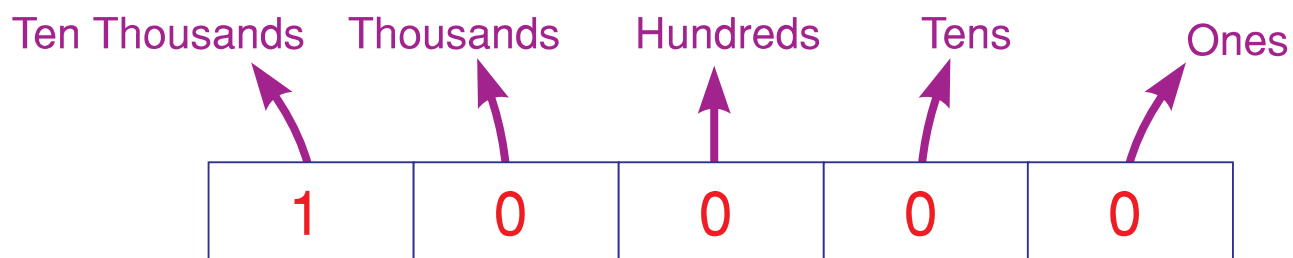
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There are **five digits** in ten thousand.

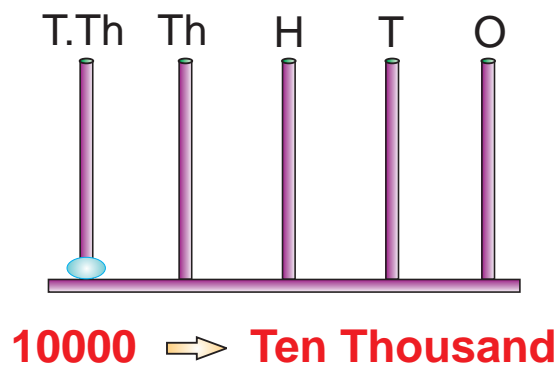
So,

- 9999 is the greatest 4-digit number.
- 10000 is the smallest 5-digit number.

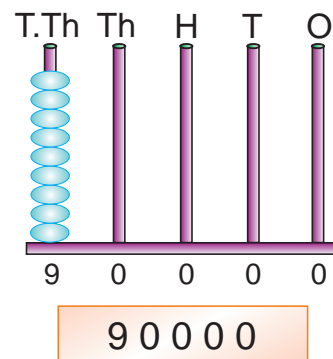
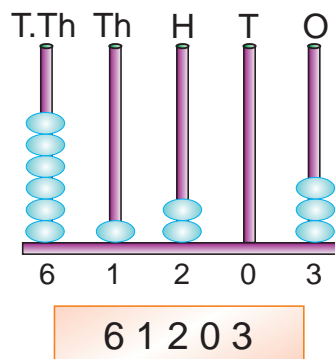
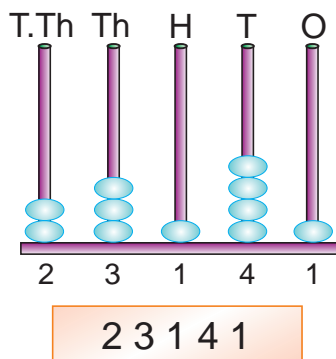
The five places of a 5-digit number are—
ONES, TENS, HUNDREDS, THOUSANDS, TEN THOUSANDS



On the abacus, 10000 is shown like this—

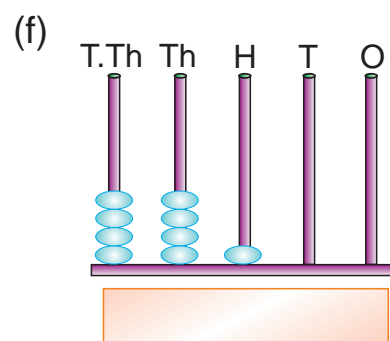
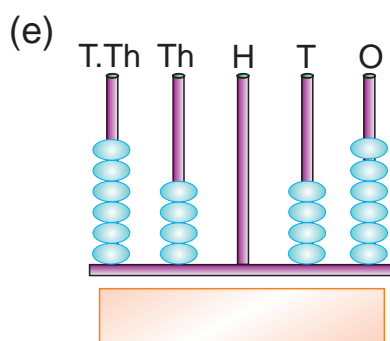
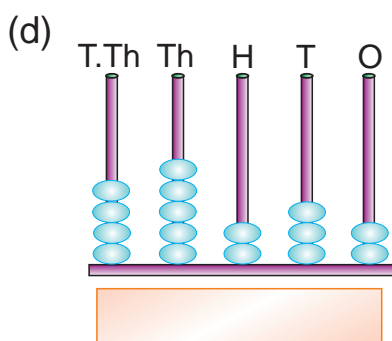
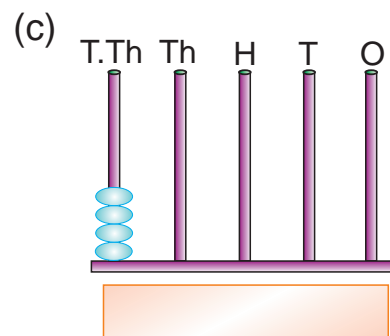
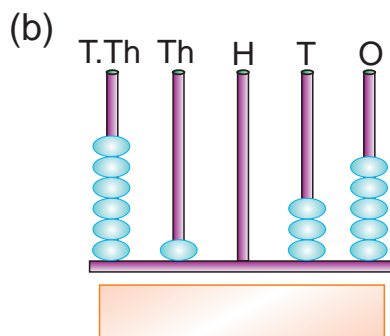
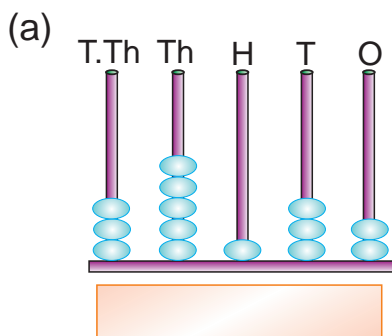


See the representation of some 5-digit numbers on the abacus.

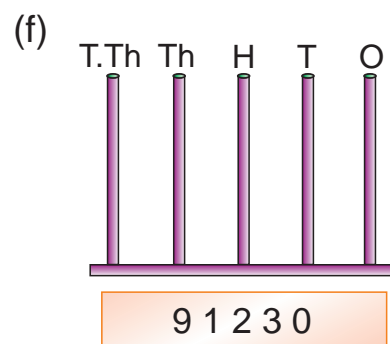
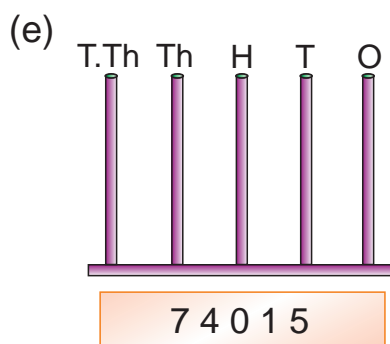
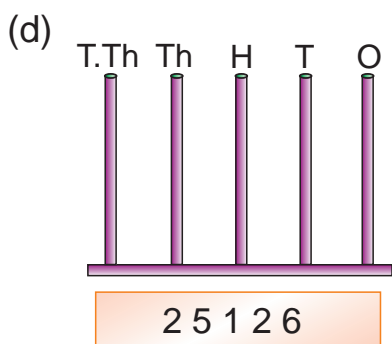
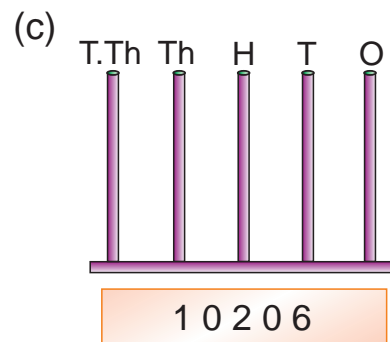
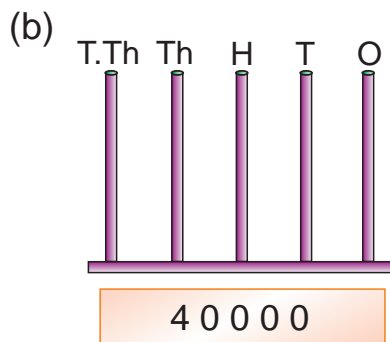
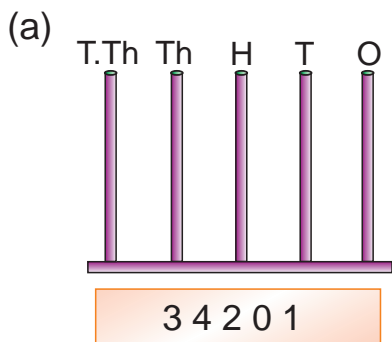


Worksheet 1

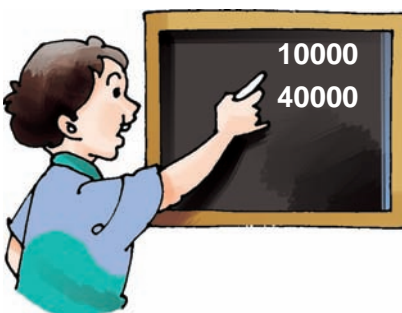
1. Write the numbers represented on the following abacus.



2. Represent the following numbers on the abacus.



Let us read the numerals beyond 10000.

	I write	I read	
	N numeral		Number Name
	10000		Ten thousand.
	40000		Forty thousand.
	65000		Sixty five thousand.
	72500		Seventy two thousand five hundred.
	83750		Eighty three thousand seven hundred fifty.
	99999		Ninety nine thousand nine hundred ninety nine.

Ten thousand
Forty thousand



INTRODUCING ONE LAKH

Now, let us see which number is one more than 99999.

$$99999 + 1 = 100000$$

We read 100000 as One Lakh.



How many digits
are there in 100000?



There are
Six digits.

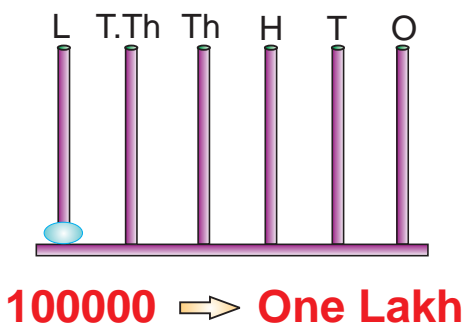
So,

- 99999 is the greatest 5-digit number
- 100000 is the smallest 6-digit number.

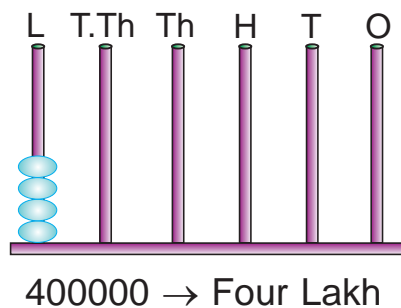
The six places of a 6-digit number are—
ONES, TENS, HUNDREDS, THOUSANDS, TEN THOUSANDS, LAKHS.

1 lakh = 10 times ten thousand

On the abacus, 100000 is shown like this—



Similarly,



One lakh,
Two lakh,
Three lakh,
Four lakh

We extend the numerals beyond one lakh in the same way as we did from 10000 to 99999.

Numeral	Number Name
100000	One lakh.
300000	Three lakh.
510000	Five lakh ten thousand.
725000	Seven lakh twenty five thousand.
863260	Eight lakh sixty three thousand two hundred sixty.
999999	Nine lakh ninety nine thousand nine hundred ninety nine.

Remember

100000 is the smallest 6-digit number and 999999 is the greatest 6-digit number.

Worksheet 2

1. Read loudly the following numerals.

- (a) 20000 (b) 33108 (c) 960002 (d) 77010
(e) 700000 (f) 382910 (g) 95766 (h) 810000
(i) 943256 (j) 88288

2. Write the number names for the given numerals.

- (a) 25002 (b) 800000 (c) 51008 (d) 521381
(e) 900009 (f) 11000 (g) 111100 (h) 625000
(i) 43021 (j) 52611

3. Write the numerals for the given number names.

- (a) Fifteen thousand four hundred sixty five.
(b) Nineteen thousand three hundred fourteen.
(c) Five lakh.
(d) Forty seven thousand two.
(e) Three lakh fifteen thousand three hundred.
(f) One lakh eleven thousand one hundred eleven.
(g) Fifty thousand five.
(h) Eight lakh fourteen thousand three.
(i) Seven lakh seven thousand seven.
(j) Nine lakh nine thousand.

4. Name the six places of a 6-digit number.

5. Write down the greatest number of 5-digits and the smallest number of 6-digits. How much is the difference between the two?

PLACE VALUE CHART



What are the six places of a 6-digit number?

Ones, Tens, Hundreds, Thousands, Ten Thousands and Lakhs.



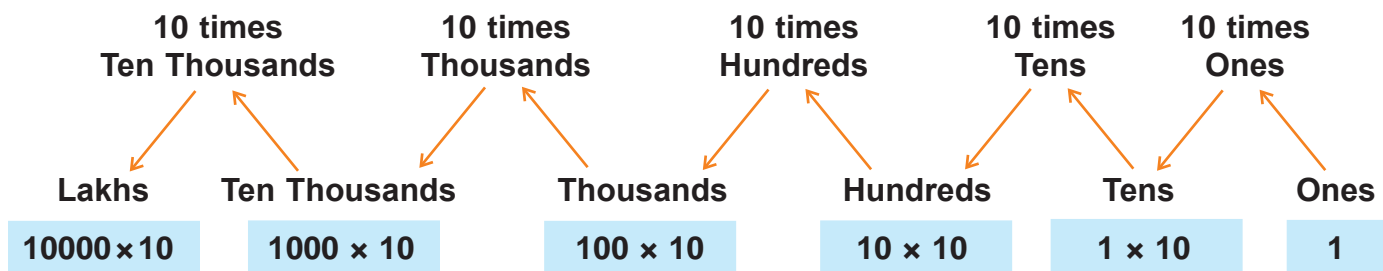
Keeping the places in mind, let us make a place value chart of a 6-digit number.

PLACE VALUE CHART

Lakhs 100000	Ten Thousands 10000	Thousands 1000	Hundreds 100	Tens 10	Ones 1
-----------------	---------------------------	-------------------	-----------------	------------	-----------

Observe the chart carefully. See that:

- the smallest place (ones) is on the extreme right.
- each place on the left has a value 10 times more than the value of the place on the right side.



Now, let us enter numerals, 8436, 49018, 643821 in the place value chart.

						Lakhs 100000	Ten Thousands 10000	Thousands 1000	Hundreds 100	Tens 10	Ones 1
L	T.Th	Th	H	T	O						
		8	4	3	6	→		8	4	3	6
	4	9	0	1	8	→		4	9	0	8
6	4	3	8	2	1	→	6	4	3	2	1

Worksheet 3

1. Given below are some numerals. Draw a neat place value chart and enter these numerals in it.

(a) 84621

(b) 493

(c) 832401

(d) 7777

(e) 100000

(f) 50009

(g) 623981

(h) 9987

(i) 46201

(j) 867430

PLACE VALUE



Do you remember
the place value of:

3 in 43
8 in 84
7 in 780
2 in 2835

The place value of:

3 in 43 is 3 or 3 ones
8 in 84 is 80 or 8 tens
7 in 780 is 700 or 7 hundreds
2 in 2835 is 2000 or 2 thousands



Remember

The place value of a digit in a numeral is the product of the digit and its place in the numeral.

Now, let us find the place value of different digits in 6-digit numbers.

L	T.Th	Th	H	T	O
2	3	5	7	8	2



The place of digit 7 is hundreds.

So the place value of 7 is 7×100 or 7 hundreds.

L	T.Th	Th	H	T	O
6	3	5	0	9	2



The place of digit 5 is thousands.

So the place value of 5 is 5×1000 or 5 thousands.

L	T.Th	Th	H	T	O
1	2	0	5	9	4



The place of digit 2 is ten thousands.

So the place value of 2 is 2×10000 or 2 ten thousands or twenty thousand.

L	T.Th	Th	H	T	O
4	7	8	2	1	3



The place of digit 4 is lakhs.

So the place value of 4 is 4×100000 or 4 lakhs.

Worksheet 4

1. Look at the place value chart given below and write the place value of the encircled digits.

	Lakhs (100000)	Ten Thousands (10000)	Thousands (1000)	Hundreds (100)	Tens (10)	Ones (1)
(a)		2	9	0	5	6
(b)	7	4	0	3	1	3
(c)			5	8	3	2
(d)	9	9	8	3	2	6
(e)		6	0	5	4	9

2. Write down the place value of the digit in bold.

- (a) 3**4**91 (b) 8**0**109 (c) **3**21893 (d) 65**0**5
 (e) 7**6**321 (f) 195**6**8 (g) **2**35740 (h) 4**9**23

3. Underline the numeral in which the place value of 8 is 80000.

- (a) 38291 (b) 4328 (c) 84720 (d) 829

4. Underline the numeral in which the place value of 2 is 200.

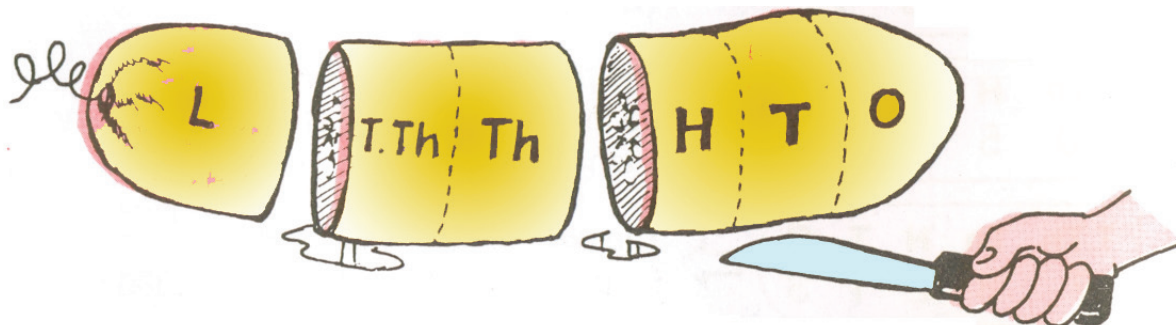
- (a) 253410 (b) 48295 (c) 72843 (d) 45782

5. Compare the place values of the encircled digits in—

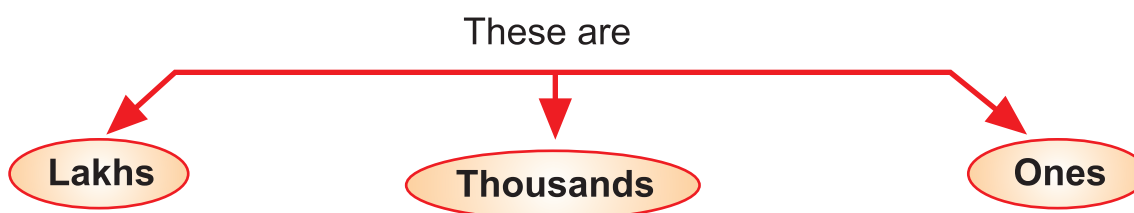
7 4 6 2 7 3

PERIOD

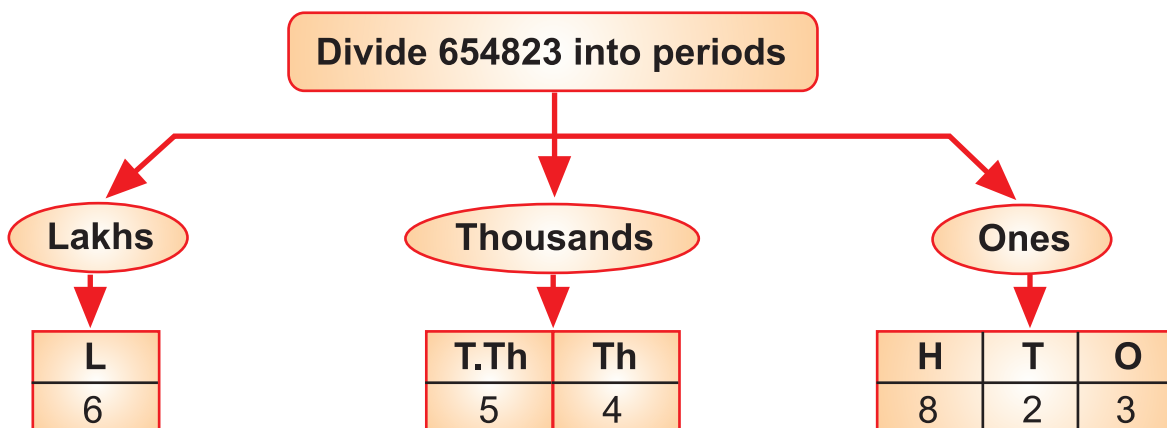
As the size of a number increases, we find it difficult to read the number. So, to read numerals for large numbers without any difficulty, we group the places into **periods**.



The six places are grouped into three PERIODS.



Now, let us observe the places of each period.



- The first three places from the right that are **Ones**, **Tens** and **Hundreds** make the ONES period.
- The next two places that are **Thousands** and **Ten Thousands** make the THOUSANDS period.
- The sixth place comes in the LAKHS period.

We read **6 54 823** as **six lakh fifty four thousand eight hundred twenty three**.

Remember

- While reading the numerals of a number, all the digits in the same period are read together, and the name of the period (except the ones) is read along with them.
- In order to separate the periods, we leave a little space or insert commas in between the periods, e.g. 643926 is written as 6 43 926 or 6,43,926.

The following place value chart clearly shows the periods and places of each digit of a numeral.

PLACE VALUE CHART

PERIOD →	LAKHS	THOUSANDS		ONES		
PLACE →	Lakhs (100000)	Ten Thousands (10000)	Thousands (1000)	Hundreds (100)	Tens (10)	Ones (1)

- What is the period and place of 1 in 3,48,016?

Period

Place

- What is the period and place of 3 in 9,23,108?

Period

Place

Answer these questions.

1. What is the period and place of 8 in 3,48,016?

Period

Place

2. What is the period and place of 9 in 9,23,108?

Period

Place

Worksheet 5

- Name the three periods into which a 6-digit number is grouped.
- Mention the places in Ones and Thousands periods.
- Rewrite the following numerals using commas between periods.

(a) 91409	(b) 113625	(c) 824300	(d) 98461
(e) 310008	(f) 444444	(g) 100000	(h) 505001
- Write the period, place and place value of the encircled digit in each numeral.

(a) ③, 4 1 , 9 6 8	(b) 2 6 , 0 4 ⑧
(c) 7 , 0 8 , ④ 3 2	(d) 8 , 0 ⑩ , 4 3 2
(e) 3 0 , 0 ④ 9	(f) 6 , 6 ⑥ , 6 6 6
(g) 8 , 0 1 , 0 2 ③	(h) ④ , 3 8 , 6 2 0
- Write the numerals using commas between periods.
 - Sixty two thousand three hundred.
 - Thirty thousand one.
 - Two lakh one thousand three.
 - Six lakh twenty nine thousand sixty.
 - Fifty thousand fifty.
 - Nine lakh nineteen thousand nineteen.
 - Fourteen thousand thirty one.
 - Eight lakh one thousand three hundred one.
- Write the number names for the following numerals.

(a) 75,831	(b) 3,65,186	(c) 1,00,301	(d) 95,000
(e) 3,08,751	(f) 7,07,707	(g) 6,60,660	(h) 40,004

EXPANDED FORM

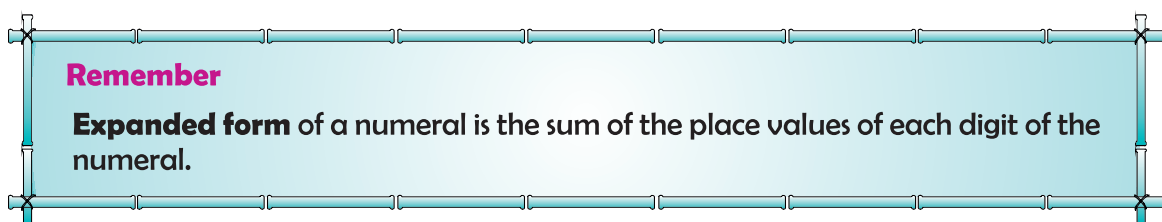
Do you remember the expanded form of 3498?

$$3498 \rightarrow 3 \text{ thousands} + 4 \text{ hundreds} + 9 \text{ tens} + 8 \text{ ones}$$

In the same way, let us write a 6-digit number in expanded form.

$$9,75,218 \rightarrow \begin{aligned} & 9 \times 1,00,000 + 7 \times 10,000 + 5 \times 1,000 + 2 \times 100 + 1 \times 10 + 8 \times 1 \\ & 9 \text{ lakhs} + 7 \text{ ten thousands} + 5 \text{ thousands} + 2 \text{ hundreds} + 1 \text{ ten} + 8 \text{ ones} \\ & 9,00,000 + 70,000 + 5,000 + 200 + 10 + 8 \end{aligned}$$

As shown above, the expanded form can be written in three different ways.



Given the expanded form of a number, we can also write the numeral in standard form.

Expanded form	Standard form
(a) $\underline{2}00 + \underline{7}0 + \underline{5}$	= <input style="width: 100px; height: 20px;" type="text" value="275"/>
(b) $\underline{8},000 + \underline{5}00 + \underline{2}0 + \underline{1}$	= <input style="width: 100px; height: 20px;" type="text" value="8,521"/>
(c) $\underline{7} \times 10,000 + \underline{0} \times 1,000 + \underline{5} \times 100 + \underline{2} \times 10 + \underline{1} \times 1$	= <input style="width: 100px; height: 20px;" type="text"/>
(d) $\underline{3}$ lakhs + $\underline{6}$ ten thousands + $\underline{5}$ thousands + $\underline{0}$ hundred + $\underline{3}$ tens + $\underline{2}$ ones	= <input style="width: 100px; height: 20px;" type="text"/>
(e) $\underline{4} \times 1,00,000 + \underline{8} \times 10,000 + \underline{6} \times 1,000 +$ $\underline{1} \times 100 + \underline{4} \times 10 + \underline{3} \times 1$	= <input style="width: 100px; height: 20px;" type="text"/>

Worksheet 6

1. Fill in the blanks.

$$(a) 75,162 = \boxed{} \text{ ten thousands} + \boxed{} \text{ thousands} + \boxed{} \text{ hundred} + \boxed{} \text{ tens} + \boxed{} \text{ ones.}$$

$$(b) 31,927 = \boxed{} \times 10,000 + \boxed{} \times 1,000 + \boxed{} \times 100 + \boxed{} \times 10 + \boxed{} \times 1$$

$$(c) 4,86,293 = \boxed{} \text{ lakhs} + \boxed{} \text{ ten thousands} + \boxed{} \text{ thousands} + \boxed{} \text{ hundreds} + \boxed{} \text{ tens} + \boxed{} \text{ ones.}$$

$$(d) 3,01,783 = \boxed{} + 0 + \boxed{} + 700 + \boxed{} + 3$$

$$(e) 50,908 = 50,000 + \boxed{} + \boxed{}$$

2. Write the following numerals in expanded form in three different ways.

$$(a) 91,409 \qquad (b) 1,13,625 \qquad (c) 8,24,307 \qquad (d) 98,461$$

$$(e) 3,10,008 \qquad (f) 4,44,444 \qquad (g) 8,00,134 \qquad (h) 9,00,009$$

3. Write the standard numerals. The first one is done for you.

$$(a) 6,00,000 + 50,000 + 4,000 + 300 + 10 + 1 = \boxed{6,54,311}$$

$$(b) 60,000 + 8,000 + 600 + 50 + 4 = \boxed{}$$

$$(c) 1,00,000 + 10,000 + 1,000 + 100 + 10 + 1 = \boxed{}$$

$$(d) 90,000 + 0 + 700 + 0 + 5 = \boxed{}$$

$$(e) 6,00,000 + 0 + 5,000 + 400 + 10 + 0 = \boxed{}$$

$$(f) 4,00,000 + 30,000 + 0 + 0 + 20 + 7 = \boxed{}$$

$$(g) 80,000 + 300 + 8 = \boxed{}$$

$$(h) 7,00,000 + 10,000 + 6 = \boxed{}$$

ORDERING OF NUMBERS

Do you remember how we compared the 4-digit numbers?

$$\underline{7},432 > \underline{6},581$$

$$3,\underline{8}52 < 3,\underline{9}41$$

$$5,3\underline{9}8 > 5,3\underline{2}8$$

$$7,25\underline{9} = 7,25\underline{9}$$

Remember

First compare digits in thousands place, then the digits in hundreds and tens place, and lastly the digits in ones place.

In the same way, we can compare 5-digit and 6-digit numbers.

Worksheet 7

1. Compare the following pairs of numerals (“<”, “>”, “=”).

(a) 36,491 78,491

(b) 98,397 9,83,976

(c) 99,909 99,990

(d) 86,253 86,254

(e) 1,16,430 1,16,430

(f) 84,001 84,010

(g) 7,53,829 7,53,289

(h) 4,00,414 4,00,441

(i) 63,800 6,380

(j) 33,313 36,313

2. Encircle the greatest numeral from each set of numerals given below.

(a) 68,349; 68,943; 6,839; 16,349

(b) 11,001; 1,10,001; 10,001; 1,100

(c) 9,43,826; 9,43,286; 9,43,962; 9,43,268

3. Rewrite each set of numerals in ascending order.

(a) 50,050; 50,500; 55,000; 5,005

(b) 71,309; 17,309; 71,903; 17,903

(c) 4,38,654; 43,865; 4,83,654; 4,38,546

(d) 2,20,222; 20,002; 22,020; 2,02,202

4. Rewrite each set of numerals in descending order.

(a) 10,001; 11,001; 1,110; 11,100

(b) 83,456; 38,456; 83,648; 83,458

(c) 3,49,990; 34,990; 3,94,090; 34,909

(d) 7,70,777; 70,070; 70,707; 7,07,077

Brain Teasers

1. Tick (✓) the correct answer.

- (a) The greatest 6-digit number formed by using the digits 7, 3, 1, 0, 9 and 4 is—
 (i) 974301 (ii) 974310 (iii) 974103 (iv) 973410
- (b) The period of the digit _____ in 6,54,321 is Lakhs.
 (i) 5 (ii) 3 (iii) 4 (iv) 6
- (c) The smallest 6-digit number is—
 (i) 1,11,111 (ii) 1,00,001 (iii) 1,10,010 (iv) 1,00,000
- (d) The sum of the place value of 9 and 7 in the number 947635 is—
 (i) 970000 (ii) 907000 (iii) 101000 (iv) 900700
- (e) $8 \times 1,00,000 + 5 \times 10,000 + 6 \times 1,000 + 9 \times 100 + 0 + 5$ is equal to—
 (i) 856095 (ii) 856905 (iii) 850695 (iv) 865905

2. Write the three periods of a 6-digit numeral. Also mention the corresponding places of each period.

3. You are given the following numerals. Pick out the greatest numeral and the smallest numeral from the set.

950	5,309	9,439	78,799	29,509	509
1,101	8,400	99,905	80,310	10,001	99,950

4. Fill in the blanks.

- (a) The smallest 5-digit numeral is
- (b) (i) 1 lakh = thousands.
 (ii) hundred = 10 tens.
- (c) The numeral just before 90,000 is

(d) The places, thousands and ten thousands, belong to the period.

(e) Compare by using “>”, “<” or “=” in the box.

(i) 11,111 1,111

(ii) 9,87,091 9,78,091

5. Write down the numeral which is one more than the greatest 5-digit numeral.

6. Which numeral has more digits—greatest 5-digit numeral or smallest 6-digit numeral?

7. Write the standard numeral for:

(a) $5,000 + 20 + 3$

(b) $600 + 70 + 15$

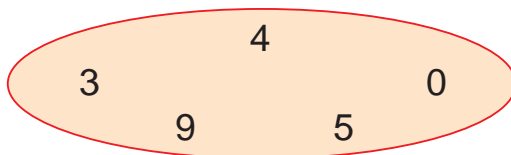
(c) $70,000 + 7 + 700 + 70$

8. Write down the period and place of the underlined digit in each numeral.

	Numeral	Period	Place
(a)	92, <u>9</u> 58		
(b)	87,2 <u>1</u> 5		
(c)	<u>6</u> 3,049		
(d)	<u>1</u> ,00,000		
(e)	53,26 <u>9</u>		

9. Compare the place values of the encircled digits in the numeral 43032.

10. You are given some digits below. Form the greatest and the smallest 5-digit numeral using each one of these digits only once.



Unit – 2

ADDITION AND SUBTRACTION



Do you remember addition and subtraction?



Let us solve some problems.

1. Add.

(a) 5,310 and 740

(b) 1,352; 531 and 296

(c) 2,135; 4,531 and 1,321

(d) 2,132; 47 and 501

(e) 52; 753 and 8,303

(f) 7,132; 60 and 205

2. Subtract.

(a) 4,573 from 9,013

(b) 2,518 from 8,746

(c) 4,575 from 6,027

(d) 2,538 from 7,537

(e) 457 from 3,600

(f) 2,753 from 4,532

Let us discuss more about Addition first.

**Do you know?**

The numbers which we add are called **Addends**.
For example:

$$\begin{array}{c} \textcircled{2} + \textcircled{3} = \textcircled{5} \\ \text{Addends} \quad \text{Sum} \end{array}$$

ADDITION (5-DIGIT NUMBERS AND 6-DIGIT NUMBERS)

Example 1:

	T.Th	Th	H	T	O
	2	1	3	4	2
+	1	0	2	3	7

As usual

- * first we add ones,
- * then tens,
- * then hundreds,
- * then thousands,
- * and at the end ten thousands.

So, after adding, we have:

	T.Th	Th	H	T	O
	2	1	3	4	2
+	1	0	2	3	7
	3	0	5	7	9

- Adding ones
- Adding tens
- Adding hundreds
- Adding thousands
- Adding ten thousands
(2 ten thousands + 1 ten thousands = 3 ten thousands)



Example 2:

Add 23,935; 53,441 and 21,253

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

Carry overs

- Adding ones
- Adding tens
- Adding hundreds
- Adding thousands
- Adding ten thousands (2 ten thousands + 5 ten thousands + 2 ten thousands = 9 ten thousands)

First of all, let us arrange the addends in the column form.



Thus, the sum of 23,935; 53,441 and 21,253 is 98,629.

Example 3:

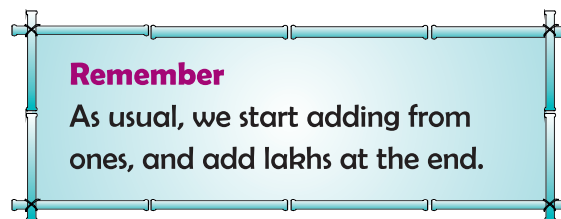
Add 4,37,816; 2,29,318 and 3,21,359

	L	T.Th	Th	H	T	O	
		1	1		2		← Carry overs
	4	3	7	8	1	6	
+	2	2	9	3	1	8	
+	3	2	1	3	5	9	
	9	8	8	4	9	3	

Adding lakhs
 (4 lakhs + 2 lakhs + 3 lakhs = 9 lakhs)

Adding ten thousands
 (1 ten thousands + 3 ten thousands + 2 ten thousands + 2 ten thousands = 8 ten thousands)

Adding thousands
 Adding hundreds
 Adding tens
 Adding ones



Thus, the sum of 4,37,816; 2,29,318 and 3,21,359 is 9,88,493.

Worksheet 1**1. Add.**

	T.Th	Th	H	T	O
	1	2	1	4	2
+	5	3	8	0	7

	T.Th	Th	H	T	O
	2	4	0	0	3
+	7	2	5	4	2
+		3	2	2	1

2. Add.

(a) 10,657; 35,101 and 33,333

(b) 25,762; 21,234 and 10,001

(c) 68,293; 439 and 30,292

(d) 42,738; 3,141 and 52,180

(e) 333; 55,555 and 2,222

(f) 554; 2,132 and 81,419

3. Arrange in columns and add.

(a) 3,53,175; 25,130 and 1,40,535

(b) 8,20,015; 17,057 and 1,30,155

(c) 2,535; 123 and 6,53,313

(d) 444; 4,444 and 4,44,444

(e) 35,015; 253 and 77,893

(f) 70,056; 4,38,295 and 6,666

4. Find the sum of the largest number of four digits and the smallest number of five digits.

PROPERTIES OF ADDITION

Add 75,312 and 12,313

Order of the addends has been changed.

$$\begin{array}{r} 75,312 \\ + 12,313 \\ \hline \end{array} = \underline{\hspace{2cm}}$$

$$\begin{array}{r} 12,313 \\ + 75,312 \\ \hline \end{array} = \underline{\hspace{2cm}}$$

Remember

When we change the order of the addends, the sum remains the same.

Now let us add three numbers.

Add 2, 5 and 8

We can add these numbers in six different orders (ways).

1st order	2nd order	3rd order	4th order	5th order	6th order
2	2	5	5	8	8
5	8	2	8	2	5
+ 8	+ 5	+ 8	+ 2	+ 5	+ 2
<hr style="width: 100%; border: 0.5px solid red;"/>	<hr style="width: 100%; border: 0.5px solid red;"/>	<hr style="width: 100%; border: 0.5px solid red;"/>	<hr style="width: 100%; border: 0.5px solid red;"/>	<hr style="width: 100%; border: 0.5px solid red;"/>	<hr style="width: 100%; border: 0.5px solid red;"/>
15	15	15	15	15	15

The sum remains the same.

Remember

The sum remains the same, even after changing the order of the addends.

Add and fill in the blanks. Two have been done for you.

(a) $7 + 0 = \underline{7}$

(b) $0 + 15 = \underline{15}$

(c) $25 + 0 = \underline{\hspace{2cm}}$

(d) $0 + 372 = \underline{\hspace{2cm}}$

(e) $75,312 + 0 = \underline{\hspace{2cm}}$

(f) $0 + 52,341 = \underline{\hspace{2cm}}$

I can do it.



Remember

When zero is added to a number or a number is added to zero, the sum is the number itself.

Worksheet 2

1. Fill in the blanks.

(a) $75,361 + 2,135 = 2,135 + \underline{\hspace{2cm}}$

(b) $45,793 + 15,911 = \underline{\hspace{2cm}} + 45,793$

(c) $92,501 + 123 + 111 = 111 + 92,501 + \underline{\hspace{2cm}}$

(d) $21,511 + 222 + 11,333 = 21,511 + \underline{\hspace{2cm}} + 222$

(e) $76 + \underline{\hspace{2cm}} + 92 = \underline{\hspace{2cm}} + 92 + 15$

(f) $\underline{\hspace{2cm}} + 615 + 62 = 617 + \underline{\hspace{2cm}} + 615$

(g) $75,312 + 0 = \underline{\hspace{2cm}}$

(h) $0 + 9,21,216 = \underline{\hspace{2cm}}$

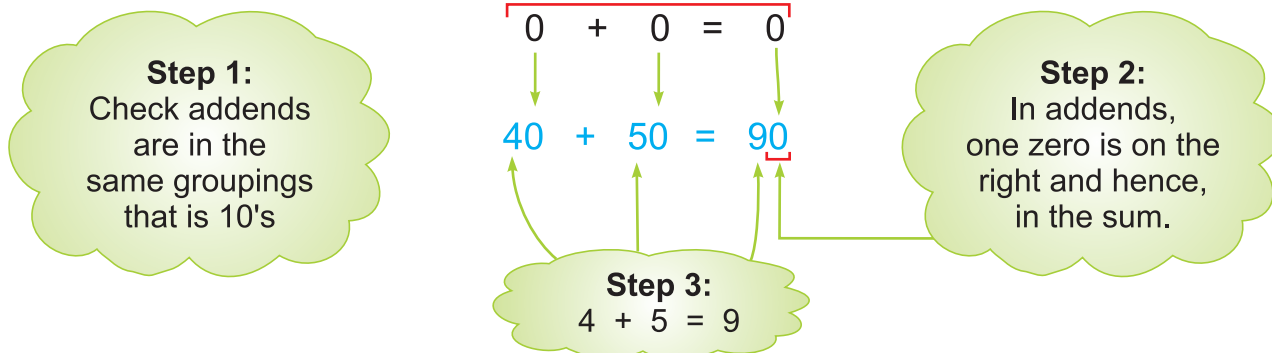
(i) $5,79,301 + 0 = 0 + \underline{\hspace{2cm}}$

(j) $0 + 2,571 = 2,571 + \underline{\hspace{2cm}}$

(k) $723 + \underline{\hspace{2cm}} = 723$

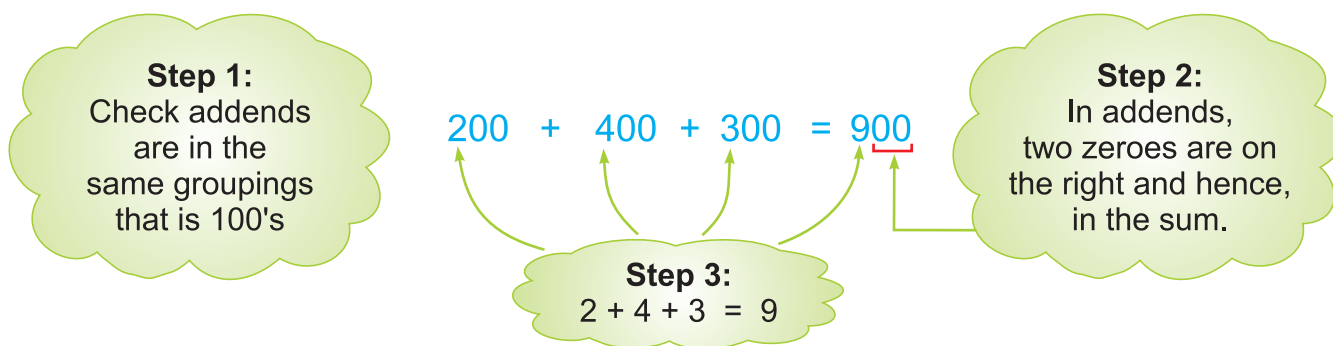
ADDITION (ORALLY)

Add 40 and 50 orally.

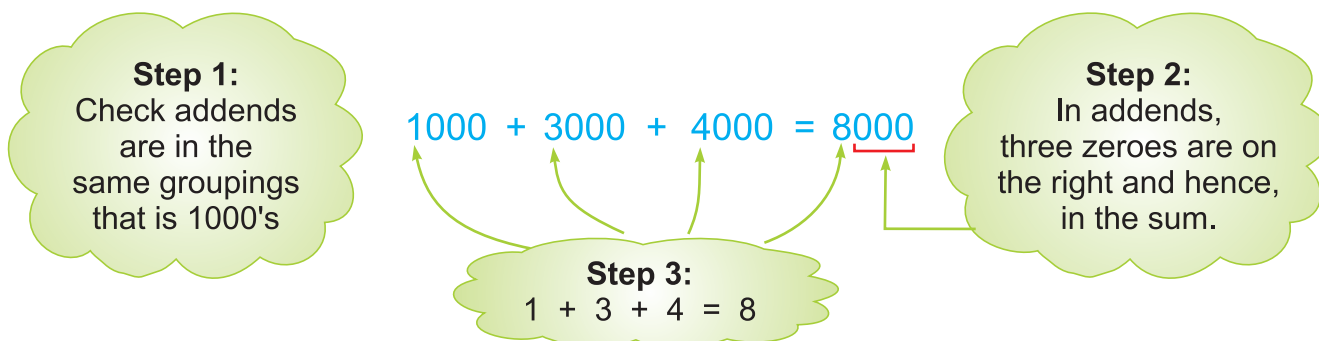


In the same way, we can add:

(i) 200; 400 and 300



(ii) 1,000; 3,000 and 4,000



Worksheet 3

1. Add orally.

$$(a) 70 + 20 = \underline{\hspace{2cm}} \quad (h) 100 + 200 + 500 = \underline{\hspace{2cm}}$$

$$(b) 30 + 40 = \underline{\hspace{2cm}} \quad (i) 200 + 300 + 200 = \underline{\hspace{2cm}}$$

$$(c) 20 + 60 + 10 = \underline{\hspace{2cm}} \quad (j) 400 + 300 + 100 = \underline{\hspace{2cm}}$$

$$(d) 30 + 20 + 30 = \underline{\hspace{2cm}} \quad (k) 2,000 + 3,000 = \underline{\hspace{2cm}}$$

$$(e) 30 + 40 + 20 = \underline{\hspace{2cm}} \quad (l) 5,000 + 11,000 + 2,000 = \underline{\hspace{2cm}}$$

$$(f) 700 + 200 = \underline{\hspace{2cm}} \quad (m) 13,000 + 3,000 + 13,000 = \underline{\hspace{2cm}}$$

$$(g) 900 + 500 = \underline{\hspace{2cm}} \quad (n) 47,000 + 13,000 = \underline{\hspace{2cm}}$$

Word Problems

We need to do addition in many situations in our daily life. Let us study some examples.

Example 1: There are 54,453 men, 26,725 women and 11,052 children in a town. Find the population of the town.

Solution:

Number of men	=	5 4 4 5 3
Number of women	=	2 6 7 2 5
Number of children	=	+ 1 1 0 5 2
Population	=	$\begin{array}{r} \underline{\hspace{1cm}} \\ 9\ 2\ 2\ 3\ 0 \end{array}$

Therefore, the population of the town is 92,230.

Example 2: Rita and Pooja are friends. Both of them collect postal stamps. Pooja has 2,150 postal stamps. Rita has 262 stamps more than Pooja. How many stamps does Rita have?

Solution:

Number of stamps Pooja has	=	2 1 5 0
More stamps Rita has	=	+ 2 6 2
Number of stamps Rita has	=	$\begin{array}{r} \underline{\hspace{1cm}} \\ 2\ 4\ 1\ 2 \end{array}$


Therefore, Rita has 2,412 postal stamps.

Worksheet 4

1. Solve the following word problems.

- (a) In an examination, 29,456 candidates passed while 57,281 candidates failed. How many candidates appeared for the examination?
- (b) In a school library, there are 11,250 Science books, 21,312 Maths books and 20,143 Hindi books. Find the total number of books in the library.
- (c) In a school, there are 1,752 students in primary classes, 1,825 in middle classes and 1,790 in senior classes. Find the total strength of the school.
- (d) The cost of a black and white T.V. set is ₹ 3,690. The cost of a colour T.V. set is ₹ 12,810 more than the cost of black and white T.V. set. Find the total cost of both the T.V. sets.
- (e) Raman purchased a house for ₹ 6,65,700. He spent ₹ 2,975 on its repairs. Find the amount he spent in all.

Let us discuss more about **Subtraction** now.



Do you know Subtrahend & Minuend?

9	8	1	5	←	Minuend is the number from which we subtract.
– 7	5	3	7	←	
2	2	7	8	←	

Subtrahend is the number to be subtracted.

Difference

SUBTRACTION (5-DIGIT NUMBERS AND 6-DIGIT NUMBERS)

Example 1: Subtract 32,573 from 75,492.

T.Th	Th	H	T	O
		10		10
7	5 ⁴	4	9 ⁸	2
– 3	2	5	7	3
4	2	9	1	9

First of all, let us arrange the numbers in the column form.



We cannot subtract 3 from 2, so we borrow 1 ten from tens column.

We can subtract 7 from 8 in hundreds column.

We cannot subtract 5 from 4 in hundreds column, so we borrow 1 thousand (10 hundreds) from thousands column.

We can subtract 2 from 4 in thousands column.

Subtracting 3 ten thousands from 7 ten thousands, i.e. 7 ten thousands – 3 ten thousands = 4 ten thousands.

Thus, the difference between 75,492 and 32,573 is 42,919.

Example 2: Subtract 5,29,257 from 7,97,305.

L	T.Th	Th	H	T	O
		10		10	10
7	9 ⁸	7	3 ²	0	5
– 5	2	9	2	5	7
2	6	8	0	4	8

We cannot subtract 7 from 5. Let us borrow 1 ten from tens column.

But in tens column there are zero tens. So, let us first borrow 1 hundred (10 tens) from hundreds column and then, take 1 ten from there.

We cannot subtract 9 from 7. So, let us borrow 1 ten thousands (10 thousands) from ten thousands column.

8 ten thousands – 2 ten thousands = 6 ten thousands.

7 lakhs – 5 lakhs = 2 lakhs.

Thus, the difference between 7,97,305 and 5,29,257 is 2,68,048.

To check the difference: Sum of the subtrahend and the difference should be equal to the minuend, as shown below:

7 9 7 3 0 5	Minuend	→	5 2 9 2 5 7
– 5 2 9 2 5 7	Subtrahend	→	+ 2 6 8 0 4 8
2 6 8 0 4 8	Difference	→	7 9 7 3 0 5

Worksheet 5

1. Subtract.

- | | |
|------------------------|------------------------|
| (a) 78,321 from 85,213 | (b) 96,570 from 97,295 |
| (c) 62,783 from 71,057 | (d) 88,732 from 89,560 |
| (e) 42,150 from 50,000 | (f) 53,008 from 79,096 |

2. Find the difference between–

- | | |
|---------------------------|---------------------------|
| (a) 6,54,372 and 1,28,453 | (b) 9,76,517 and 5,28,753 |
| (c) 5,484 and 7,98,454 | (d) 57,357 and 2,99,059 |
| (e) 9,76,287 and 62,578 | (f) 64,686 and 9,86,468 |

3. Perform the following subtraction and check the answers.

- | | |
|-------------------------|-------------------------|
| (a) 9,347 – 1,251 | (b) 6,792 – 4,321 |
| (c) 62,546 – 61,777 | (d) 1,90,000 – 89,999 |
| (e) 6,98,527 – 2,56,798 | (f) 5,43,922 – 4,31,789 |

4. Find the difference between the largest number of five digits and the smallest number of three digits.

PROPERTIES OF SUBTRACTION

We already know,

$$7 - 0 = 7$$

$$5 - 0 = 5$$

Remember

When we subtract zero from a number, we get the number itself.

Worksheet 6

1. Subtract the following:

(a) $16 - 0 = \square$

(b) $78 - 0 = \square$

(c) $82 - \square = 82$

(d) $432 - \square = 432$

(e) $\square - 0 = 732$

(f) $\square - 0 = 1,689$

(g) $457 - \square = 457$

(h) $\square - 0 = 6,955$

(i) $513 - \square = 513$

(j) $0 - \square = 0$

SUBTRACTION (ORALLY)

Subtract 30 from 90 orally.

Step 1:
Check minuend and subtrahend are in the same places, that is tens

$$\begin{array}{r} 0 - 0 = 0 \\ \hline 90 - 30 = 60 \end{array}$$

$$90 - 30 = 60$$

Step 3:
 $9 - 3 = 6$

Step 2:
In 90 and 30, one zero is on the right and hence, in the difference.

In the same way, we can subtract:

(i) 500 from 900

$$900 - 500 = 400$$

$$9 - 5 = 4$$

In 900 and 500, two zeroes are on the right and hence, in the difference.

(ii) 2,000 from 6,000

$$6000 - 2000 = 4000$$

$$6 - 2 = 4$$

In 6,000 and 2,000, three zeroes are on the right and hence, in the difference.

Worksheet 7

1. Subtract orally.

(a) $60 - 20 = \underline{\hspace{2cm}}$ (b) $90 - 20 = \underline{\hspace{2cm}}$

(c) $40 - 30 = \underline{\hspace{2cm}}$ (d) $80 - 30 = \underline{\hspace{2cm}}$

(e) $400 - 200 = \underline{\hspace{2cm}}$ (f) $700 - 300 = \underline{\hspace{2cm}}$

(g) $900 - 400 = \underline{\hspace{2cm}}$ (h) $8,000 - 3,000 = \underline{\hspace{2cm}}$

(i) $7,000 - 4,000 = \underline{\hspace{2cm}}$ (j) $8,000 - 6,000 = \underline{\hspace{2cm}}$

(k) $27,000 - 17,000 = \underline{\hspace{2cm}}$ (l) $45,000 - 4,000 = \underline{\hspace{2cm}}$

(m) $99,000 - 9,000 = \underline{\hspace{2cm}}$ (n) $16,000 - 11,000 = \underline{\hspace{2cm}}$

Word Problems

We need to do subtraction in many situations in our daily life. Let us study some examples.

Example 1: There are 62,438 bags of rice in a godown. Out of these, 15,259 bags were sent to different markets for sale. How many bags of rice remained in the godown?

Solution:

Total number of bags	=	6 2 4 3 8
Number of bags sent to different markets	= -	1 5 2 5 9
Number of bags left	=	<u>4 7 1 7 9</u>

Thus, 47,179 bags of rice remained in the godown.

Example 2: Mr Gupta's monthly salary is ₹ 12,530. His wife earns ₹ 550 less than Mr Gupta. Find the monthly salary of Mrs Gupta.

Solution:

Mr Gupta's monthly salary	=	1 2 5 3 0
Less salary Mrs Gupta earns	= -	5 5 0
Mrs Gupta's salary	=	<u>1 1 9 8 0</u>

Thus, the monthly salary of Mrs Gupta is ₹ 11,980.

Worksheet 8

1. Solve the following word problems.

- (a) There are 48,570 plants in a nursery. Its adjoining nursery has 51,257 plants. Which nursery has more plants and by how much?
- (b) In 2011, the population of a town was 5,75,890. If the number of males was 2,98,170, find the number of females in the town.
- (c) How much more is 16,500 than 14,756?
- (d) What must be subtracted from 5,25,873 to get 1,75,693?

Value Based Question

Amol, Deepak and Krishna were good friends. Of these three friends, Krishna was very poor. He was not able to buy new books and new set of uniform for his new class. Amol and Deepak wanted to help Krishna. They spoke to their parents and gave ₹ 1,250 and ₹ 1,075 to Krishna. It helped Krishna buy books and uniform for the new class.



1. How much money did Amol and Deepak give to Krishna?
2. If Krishna needed ₹ 2,000 for his new books and uniform, how much money is left with him?
3. How do you feel when you help others?

Brain Teasers (ADDITION & SUBTRACTION)

1. Tick (✓) the correct answer.

- (a) When we add 100 to 9,136, the digit at _____ place increases by 1.
 (i) ones (ii) hundreds (iii) tens (iv) thousands
- (b) The greatest 2-digit number is _____ less than the smallest 3-digit number by—
 (i) 10 (ii) 9 (iii) 1 (iv) 0
- (c) $7,000 - 5,000 - 2,000 =$ _____ .
 (i) 0 (ii) 3,000 (iii) 2,000 (iv) 1,000
- (d) 400 more than the successor of 399 is equal to _____ .
 (i) 401 (ii) 499 (iii) 400 (iv) 800

(e) $10 + 101 + 1,001 + 10,001$ is equal to _____ .

(i) 10,013

(ii) 11,113

(iii) 40,111

(iv) 11,001

2. Solve:

(a) $85,781 + 78,989$

(b) $48,125 + 9,999$

(c) $7,56,480 - 51,345$

(d) $80,000 - 79,899$

3. Write down the largest number and the smallest number of four digits in which no digit is repeated and also add them.

4. You are given a magic square. Use the numbers from 1 to 9 only once and complete it so that every row and every column adds up to 15.

4		2
3	5	
	1	6

5. A student was asked to write numeral for seventy six thousand and five. He wrote 7,605. Find the difference between the correct answer and his answer.

6. The difference between two numbers is 48,506 and the greater number is 1,00,009. Find the smaller number.

7. Fill in the blanks.

(a) $4,128 + \underline{\hspace{2cm}} = 4,128$

(b) $\underline{\hspace{2cm}} + 82 + 71 = \underline{\hspace{2cm}} + 96 + 82$

(c) If $75 + 169 + 1,001 = 1,245$ then, $1,001 + 75 + 169 = \underline{\hspace{2cm}}$

(d) $11,111 + 1,111 + 111 + 11 + 1 = \underline{\hspace{2cm}}$

(e) $\underline{\hspace{2cm}} - 0 = 785$

(f) $4,500 - 1,500 = \underline{\hspace{2cm}}$

(g) $18,000 - \underline{\hspace{2cm}} = 8,000$

(h) $7,500 + 2,500 = \underline{\hspace{2cm}}$

Unit – 3

MULTIPLICATION

Do you remember multiplication?



Let us solve some problems.

1. Multiply.

$$\begin{array}{r} (a) \quad 76 \\ \times 13 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} (b) \quad 532 \\ \times 25 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} (c) \quad 127 \\ \times 43 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} (d) \quad 483 \\ \times 21 \\ \hline \\ \hline \end{array}$$

2. Multiply.

$$(a) \quad 62 \text{ by } 2$$

$$(b) \quad 101 \text{ by } 5$$

$$(c) \quad 98 \text{ by } 21$$

$$(d) \quad 213 \text{ by } 42$$

3. Find the product.

$$(a) \quad 713 \times 3$$

$$(b) \quad 42 \times 50$$

$$(c) \quad 220 \times 10$$

$$(d) \quad 411 \times 23$$

Let us discuss more about Multiplication.



Do you know Multiplicand and Multiplier?

$$\begin{array}{r} 7 \leftarrow \text{Multiplicand (the number to be multiplied)} \\ \times 3 \leftarrow \text{Multiplier (the number by which we multiply)} \\ \hline 21 \leftarrow \text{Product (the answer we get after multiplication)} \end{array}$$

MULTIPLICATION (3-DIGIT AND 4-DIGIT NUMBER BY A 3-DIGIT NUMBER)

Example: Multiply 2,135 by 327

L	T.Th	Th	H	T	O
		2	1	3	5
		×	3	2	7
<hr style="border: 1px solid red;"/>					
	1	4	9	4	5
+	4	2	7	0	0
+	6	4	0	5	0
<hr style="border: 1px solid red;"/>					
	6	9	8	1	4
				4	5

327 (the multiplier) can be written as:

$$327 = 3 \text{ hundreds} + 2 \text{ tens} + 7 \text{ ones} \\ = 300 + 20 + 7$$

Step 1 : Find $2,135 \times 7$

Step 2 : Find $2,135 \times 20$

Step 3 : Find $2,135 \times 300$

Step 4 : Product of Step 1 + Product of Step 2 + Product of Step 3

Thus, $2,135 \times 327 = 6,98,145$

For the Teacher:

In this Chapter, we are discussing the multiplication of a 3-digit and 4-digit number by a 3-digit number with product not exceeding 9,99,999.

Worksheet 1**1. Multiply.**

(a) 317×125

(b) 892×243

(c) 734×162

(d) 931×217

(e) 753×135

(f) 731×307

2. Multiply.

(a) 431 by 721

(b) 821 by 621

(c) 972 by 340

(d) 435 by 425

(e) 1,432 by 211

(f) 7,312 by 135

3. Find the product.

(a) 437×211

(b) 713×217

(c) 982×133

(d) 345×264

(e) $1,732 \times 259$

(f) $1,083 \times 847$

4. Using the digits 3, 1 and 5 only once, write the smallest and the largest 3-digit numbers. Also find their product.**PROPERTIES OF MULTIPLICATION**

Let us find 7×3 and 3×7

$$\begin{array}{l} \textcircled{7} \times \textcircled{3} = 21 \\ \textcircled{3} \times \textcircled{7} = 21 \end{array} \longrightarrow \text{Same product}$$

Numbers being multiplied in different order

Similarly, find:

$$12 \times 8 = \boxed{}$$

$$8 \times 12 = \boxed{}$$

Is the product
in both the
cases same?

Yes/No

Remember

If two numbers are multiplied in either order, the product remains the same.

Thus, from the above example we conclude:

$$7 \times 3 = 3 \times 7$$

$$12 \times 8 = 8 \times 12$$

Now, let us multiply three numbers.

Multiply 2, 5 and 8.

We can multiply three numbers in six different orders.

1st order	:	$2 \times 5 \times 8$	=	80
2nd order	:	$5 \times 2 \times 8$	=	80
3rd order	:	$8 \times 2 \times 5$	=	80
4th order	:	$2 \times 8 \times 5$	=	80
5th order	:	$5 \times 8 \times 2$	=	80
6th order	:	$8 \times 5 \times 2$	=	80

Product is the same

In order to multiply three numbers,
first we multiply two of them
and then, multiply the product
obtained, by the third number.

Example:

$$\begin{array}{c} 2 \times 5 \times 8 \\ \downarrow \\ 10 \times 8 = 80 \end{array}$$

Remember

If three numbers are multiplied in any order, the product remains the same.

Multiplication by 1:

(a) $17 \times 1 = 17$

(b) $1 \times 48 = 48$

Remember

The product of a number and 1 is the number itself.

Multiplication by zero:

(a) $7 \times 0 = 0$

(b) $0 \times 18 = 0$

Remember

The product of any number and zero is zero.

Worksheet 2**1. Using the properties of multiplication, fill in the blanks.**

(a) If $4 \times 56 = 224$ then, $56 \times 4 =$ _____

(b) If $73 \times 12 = 876$ then, $12 \times 73 =$ _____

(c) $925 \times 213 = 213 \times$ _____

(d) $621 \times 127 =$ _____ $\times 621$

(e) _____ $\times 615 =$ _____ $\times 713$

(f) $7,256 \times 1 =$ _____

(g) $1 \times 276 =$ _____

(h) _____ $\times 396 = 396$

(i) If $43 \times 2 \times 4 = 344$ then, $2 \times 43 \times 4 =$ _____

(j) $11 \times$ _____ $\times 42 =$ _____ $\times 42 \times 56$

(k) $90 \times 0 =$ _____

(l) $356 \times$ _____ $= 0$

(m) $71 \times 0 \times 35 =$ _____



MULTIPLICATION (ORALLY)

Now, let us see the following pattern.

$$2 \times 60 = 120$$

$2 \times 6 = 12$ with **one zero** on right side.

$$2 \times 600 = 1200$$

$2 \times 6 = 12$ with **two zeroes** on right side.

$$2 \times 6000 = 12000$$

$2 \times 6 = 12$ with **three zeroes** on right side.

Remember

In order to multiply a number by 100, 200,, 900, we multiply the number by 1, 2,, 9 respectively, and put two zeroes on the right of the product. Similarly, we put three zeroes if we multiply a number by 1000, 2000,, 9000.

Worksheet 3

1. Find the product orally.

- | | |
|-------------------------------|--------------------------------|
| (a) $44 \times 100 =$ _____ | (i) $42 \times 300 =$ _____ |
| (b) $96 \times 1,000 =$ _____ | (j) $12 \times 8,000 =$ _____ |
| (c) $18 \times 1,000 =$ _____ | (k) $10 \times 1,000 =$ _____ |
| (d) $9 \times 40 =$ _____ | (l) $7 \times 40 =$ _____ |
| (e) $7 \times 400 =$ _____ | (m) $7 \times 4,000 =$ _____ |
| (f) $5 \times 900 =$ _____ | (n) $9 \times 80 =$ _____ |
| (g) $9 \times 8,000 =$ _____ | (o) $8 \times 7,000 =$ _____ |
| (h) $31 \times 200 =$ _____ | (p) $459 \times 1,000 =$ _____ |

2. Fill in the blanks.

(a) $75 \times 1,000 = \underline{\hspace{2cm}}$

(c) $\underline{\hspace{2cm}} \times 1,000 = 68,000$

(b) $25 \times \underline{\hspace{2cm}} = 2,500$

(d) $33 \times \underline{\hspace{2cm}} = 33,000$

Word Problems

We need to do multiplication in many situations in our daily life. Let us study some examples.

Example 1: In a library, there are 1,250 books in each almirah. There are 62 almirahs in the library. Find the total number of books in the library.

Solution: Number of books in each almirah = 1,250

Number of almirahs = 62

$$\begin{array}{r} \text{Total number of books in 62 almirahs} = \\ 1\ 2\ 5\ 0 \\ \times\ 6\ 2 \\ \hline 2\ 5\ 0\ 0 \\ +\ 7\ 5\ 0\ 0\ 0 \\ \hline 7\ 7\ 5\ 0\ 0 \end{array}$$

Thus, the number of books in 62 almirahs is 77,500.

Example 2: Rajat saves ₹ 350 every month. How much money can he save, (i) in 12 months (ii) in four years?

Solution: (i) Money saved by Rajat in one month = ₹ 350

$$\begin{array}{r} \text{Money saved in 12 months} = \\ \text{₹ } 3\ 5\ 0 \\ \times\ 1\ 2 \\ \hline 7\ 0\ 0 \\ +\ 3\ 5\ 0\ 0 \\ \hline \text{₹ } 4\ 2\ 0\ 0 \end{array}$$

Rajat saves ₹ 4,200 in 12 months.

(ii) We know that one year = 12 months

Money saved in one year = ₹ 4,200

$$\begin{array}{r} \text{Money saved in four years} = \\ \text{₹ } 4\ 2\ 0\ 0 \\ \times\ 4 \\ \hline \text{₹ } 1\ 6\ 8\ 0\ 0 \end{array}$$

Therefore, in four years, he can save ₹ 16,800.

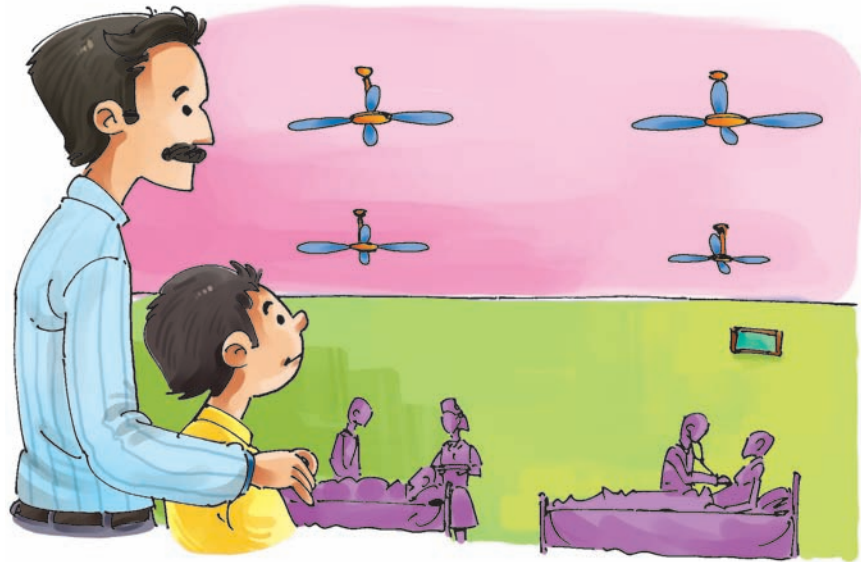
Worksheet 4

1. Solve the following word problems.

- There are 850 toffees in a packet. How many toffees are there in 215 packets?
- A can of oil contains 15 litres of oil. How much oil is there in 240 such cans?
- There are 238 beads in a necklace. Find the total number of beads in 167 such necklaces.
- One dozen bananas cost ₹ 36. What is the cost of 720 dozen bananas?
- There are 1,000 pages in a book. How many pages are there in 75 such books?

Value Based Question

Rohan visited a charitable hospital with his grandparents during a summer vacation. There he saw that most of the fans were not in proper working condition. Rohan wanted to help the patients of the charitable hospital by donating some fans. He spoke to his father who was the president of his colony. The colony donated 35 fans



to the charitable hospital. The hospital authorities were thankful to Rohan and his father.

- If the cost of one fan is ₹ 895, how much money was spent on the fans?
- In what other ways can you help a charitable hospital?