

# Numbers

## Learning Outcomes

At the end of this lesson, you will be able to:

- read and write 4-digit numbers and use them in daily life.
- use place-value to write 4-digit numbers in the expanded form and vice versa.
- compare 4-digit numbers and arrange them in ascending/descending order.
- make the greatest and smallest number with given digits.

## GET STARTED

### Numbers in real life

Mathy studies in Bright School in Class 3. She is very interested in Maths. She looks for Maths everywhere!

She has a younger brother Shambhu and an elder brother Asim.



Did you know, Didi, there were 99 children in my school. I joined the school yesterday. Now there are 100 children.

Oh! 100 does seem like a very important number!

Shambhu, I love the number 100. It is the smallest 3-digit number. It is equal to 10 tens.



Look at this lovely shirt, Mathy! It costs ₹ 999. I can't understand how much that is. Why do they always have such difficult prices?



You are right, Bhaiya. 999 is the largest 3-digit number. They should mark the price as ₹ 1000. 1000 is just 1 more than 999. But it is such a nice number.





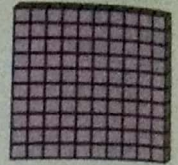
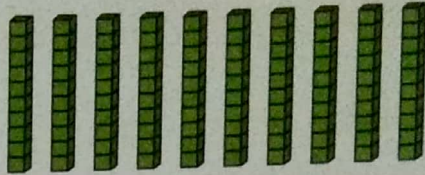
## Check what you know




### 1. Fill in the blanks.

a) 10 ones make 1 \_\_\_\_\_

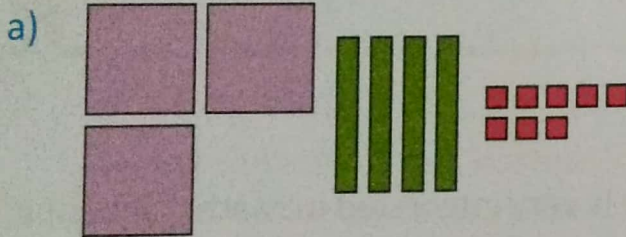


b) 10 tens make 1 \_\_\_\_\_

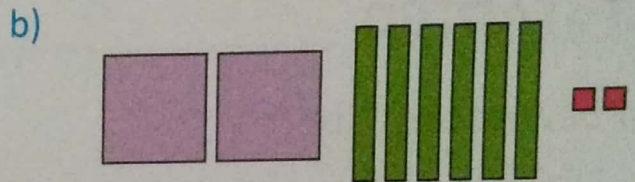


Let us represent ones, tens and hundreds as    respectively.

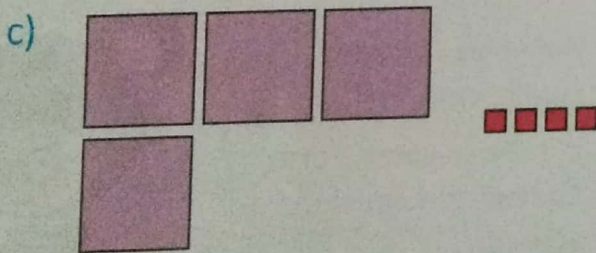
### 2. Write the number and number name.



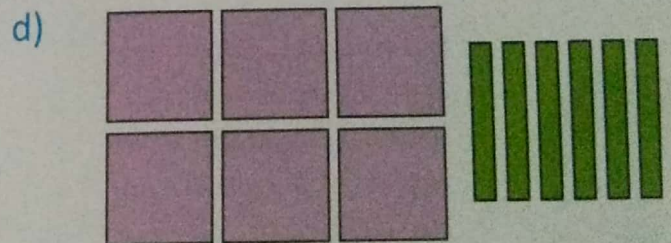
\_\_\_\_\_



\_\_\_\_\_



\_\_\_\_\_



\_\_\_\_\_

### 3. Write the number and number name.

a) 6 hundreds + 7 tens + 5 ones

=

\_\_\_\_\_

b) 4 hundreds + 8 tens

=

\_\_\_\_\_

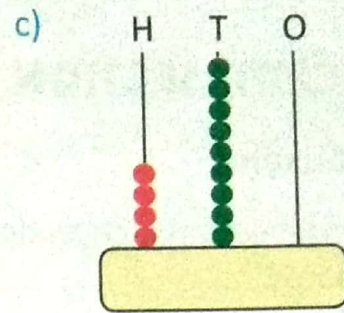
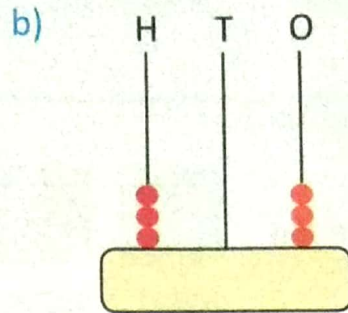
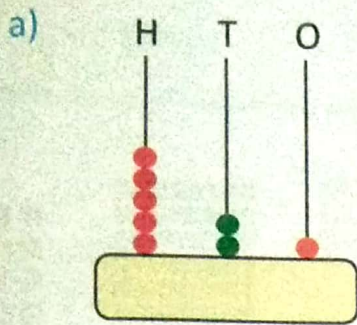
c) 7 hundreds + 9 ones

=

\_\_\_\_\_



4. Write the number shown on each abacus.



5. Write the expanded form.

a)  $555 = \underline{\hspace{1cm}} + \underline{\hspace{1cm}} + \underline{\hspace{1cm}}$

b)  $990 =$

c)  $403 =$

d)  $800 =$

6. Write the face value and the place value of the digit in red.

	Face value	Place value
a) 295	<input type="text"/>	<input type="text"/>
c) 601	<input type="text"/>	<input type="text"/>

	Face value	Place value
b) 240	<input type="text"/>	<input type="text"/>
d) 560	<input type="text"/>	<input type="text"/>

7. Fill in the  with  $>$ ,  $<$  or  $=$ .

a)  $176 \text{ } \text{ } 167$

b)  $485 \text{ } \text{ } 496$

c)  $990 \text{ } \text{ } 99$

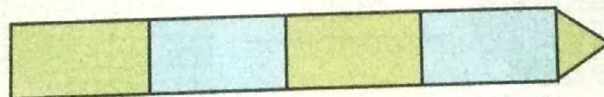
d)  $708 \text{ } \text{ } 780$

e)  $650 \text{ } \text{ } 650$

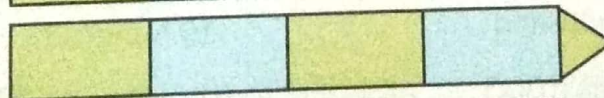
f)  $123 \text{ } \text{ } 321$

8. Write the numbers in ascending (increasing) order.

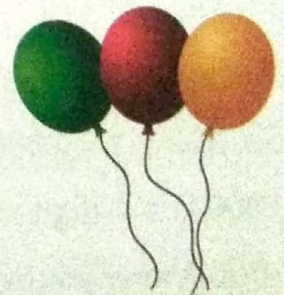
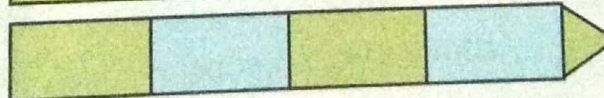
a) 272, 384, 96, 504



b) 634, 291, 388, 275



c) 405, 400, 419, 401

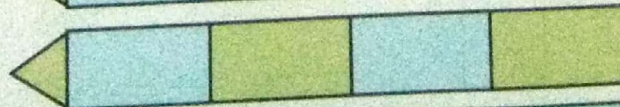


9. Write the numbers in descending (decreasing) order.

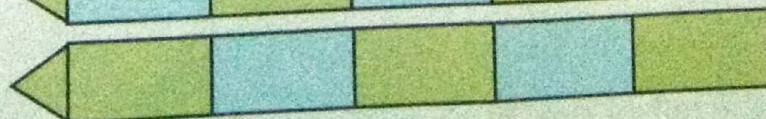
a) 184, 289, 753, 99



b) 738, 138, 384, 761



c) 95, 91, 109, 99, 100





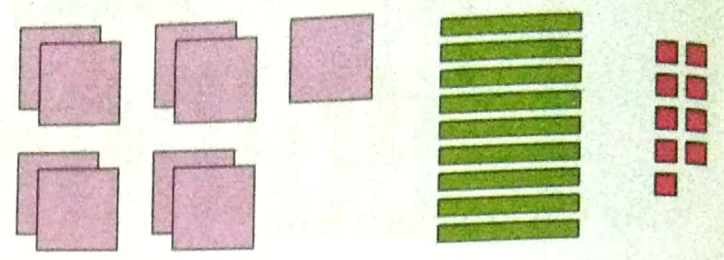


## CONCEPTS SECTION

### ◆ Thousand

Rita has a big stamp collection. She has 999 stamps.

999 is 9 hundreds + 9 tens + 9 ones.



Her friend Anand gave her one more stamp.

How many stamps does she have now?

How much is  $999 + 1$ ?

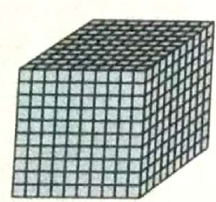
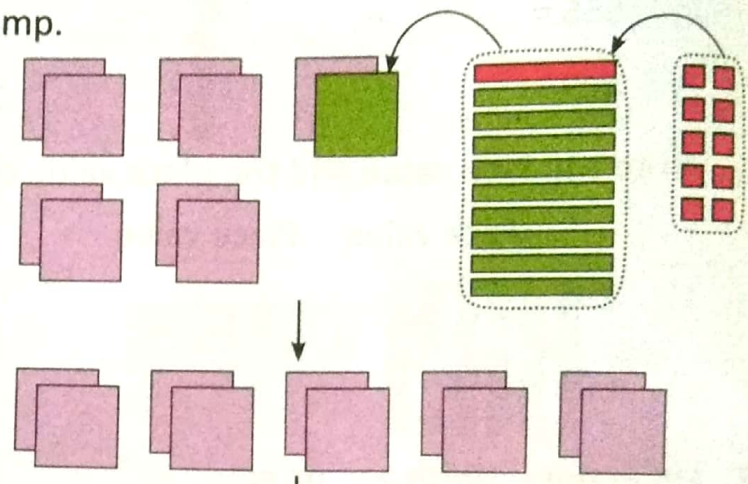
She has 9 hundreds + 9 tens + 10 ones

= 9 hundreds + 10 tens

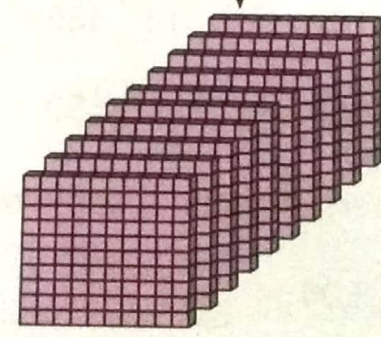
= 9 hundreds + 1 hundred

= 10 hundreds

10 hundreds together make **1 thousand**.



1 thousand



10 hundreds

make

We write 1 thousand as **1000**.

So,  $999 + 1 = 1000$ .

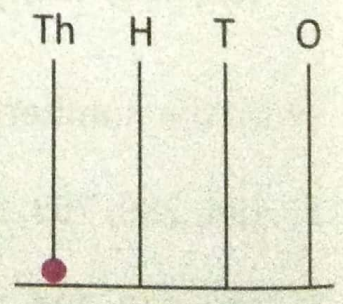
1000 is a 4-digit number.

1000 is shown on the abacus as:

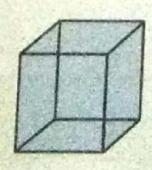
1000 is the smallest 4-digit number.



Th	H	T	O
1	0	0	0



Let us represent 1000 as:



To show 1000 we use an abacus with four spikes.

The spike on the left of the 'Hundreds' spike is labelled 'Thousands' or 'Th'.

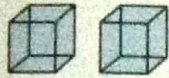
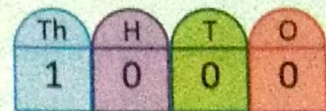


## ◆ Counting in thousands

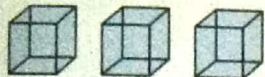
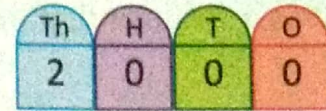
Fill in the blanks.



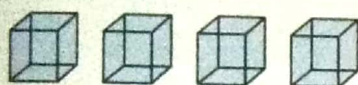
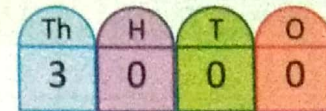
1 thousand



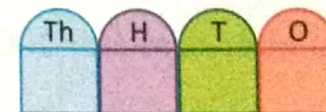
2 thousands



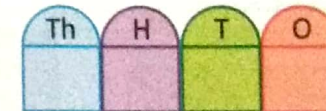
3 thousands



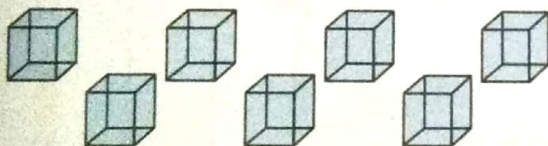
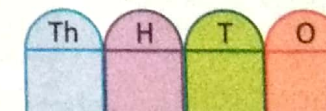
4 thousands



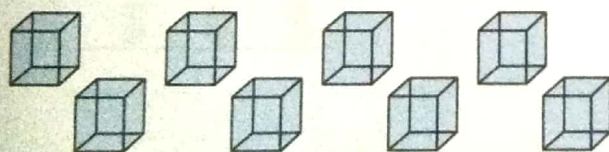
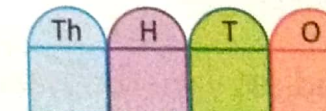
5 thousands



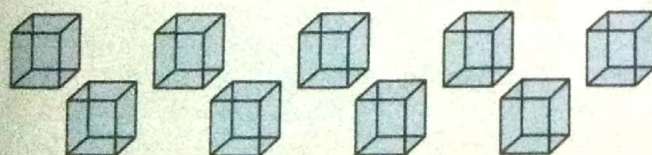
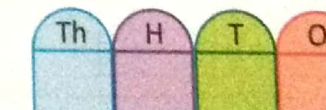
6 thousands



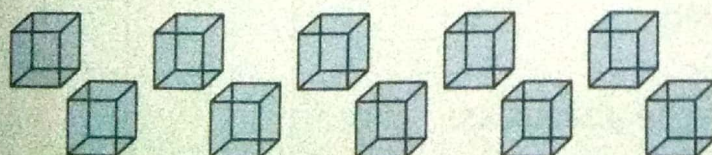
7 thousands



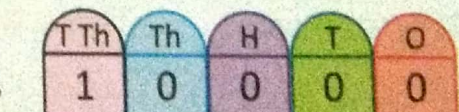
8 thousands



9 thousands



10 thousands



10 thousand or 10000 has five digits. We need five places to write it. It is the smallest 5-digit number.





## ◆ Building numbers beyond 1000

Rita has 1000 stamps.

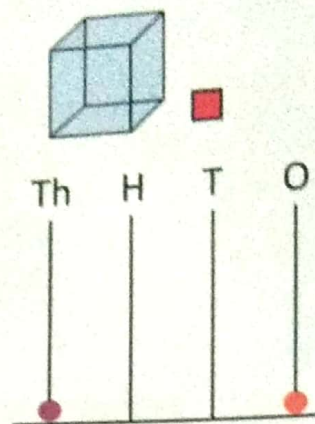
Her father gave her 1 more stamp.

She now has  $1000 + 1 = 1001$  stamps.

1001 has 1 thousand, 0 hundreds, 0 tens and 1 one.



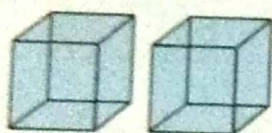
Th	H	T	O
1	0	0	1



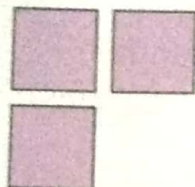
The number name for 1001 is **one thousand one**.

**Look at these numbers.**

a)



2 thousands



3 hundreds



5 tens



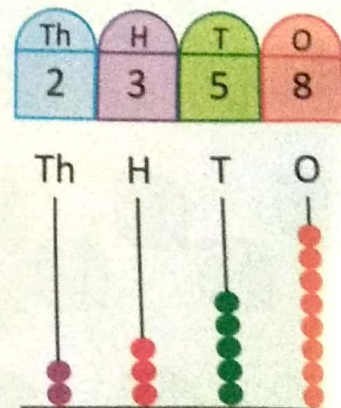
8 ones is

It is written as:

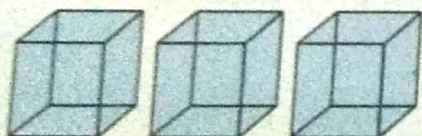
2 3 5 8

It is read as: **Two thousand three hundred fifty-eight**

It is shown on the abacus as:



b)

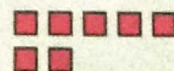


3 thousands

0 hundreds



4 tens



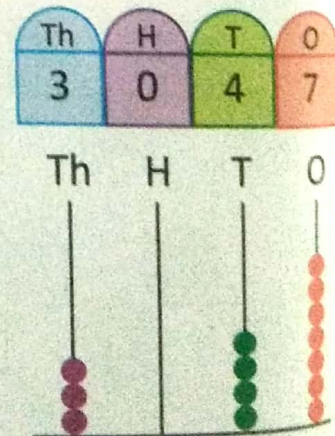
7 ones is

It is written as:

3 0 4 7

It is read as: **Three thousand forty-seven**

It is shown on the abacus as:



How will you read the following numbers?

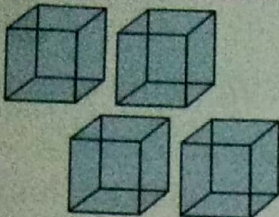

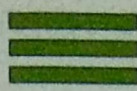

7508: \_\_\_\_\_

8020: \_\_\_\_\_

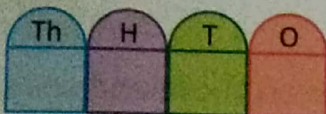


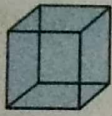
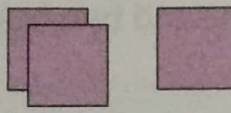

## EXERCISE 1

1. Fill in the blanks and the table.

a)    

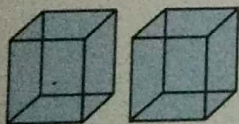

\_\_\_\_\_ thousands      \_\_\_\_\_ hundreds      \_\_\_\_\_ tens      \_\_\_\_\_ one

Number	Number name	Abacus								
	<hr/> <hr/>	<table><tr><th>Th</th><th>H</th><th>T</th><th>O</th></tr><tr><td></td><td></td><td></td><td></td></tr></table>	Th	H	T	O				
Th	H	T	O							

b)   

\_\_\_\_\_ thousand      \_\_\_\_\_ hundreds      \_\_\_\_\_ tens      \_\_\_\_\_ ones

Number	Number name	Abacus
<div><div>Th</div><div>H</div><div>T</div><div>O</div></div>		<div><div>Th</div><div>H</div><div>T</div><div>O</div></div>

c)  

\_\_\_\_\_ thousands      \_\_\_\_\_ hundreds      \_\_\_\_\_ tens      \_\_\_\_\_ ones

Number	Number name	Abacus
<div><div>Th</div><div>H</div><div>T</div><div>O</div></div>		<div><div>Th</div><div>H</div><div>T</div><div>O</div></div>



2. Write the number names.

a)  $3711 =$  \_\_\_\_\_

b)  $8094 =$  \_\_\_\_\_

c) The tiger population in India in the year 2015 was **2226**. Write the number of tigers as a number name. \_\_\_\_\_

d) The Nile River in Egypt is the longest river in the world. It is **6650** km long. Write its length as a number name. \_\_\_\_\_



3. Write the numbers.

a) One thousand four hundred twenty = \_\_\_\_\_

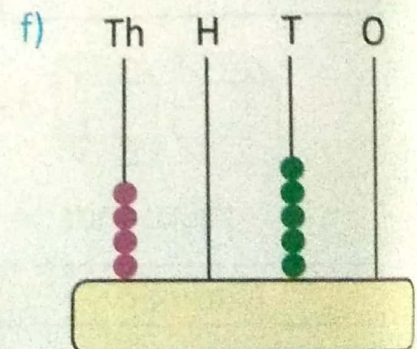
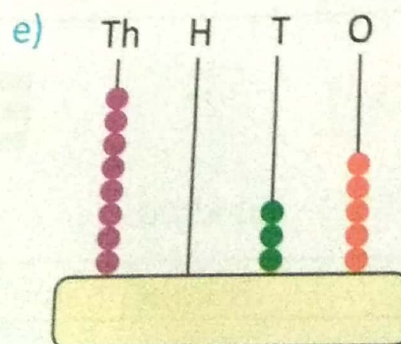
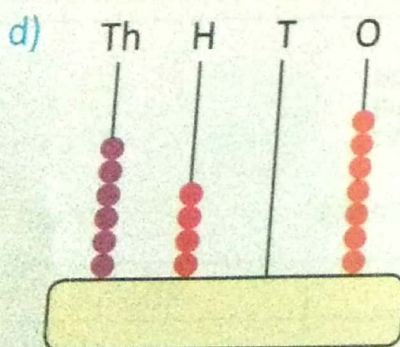
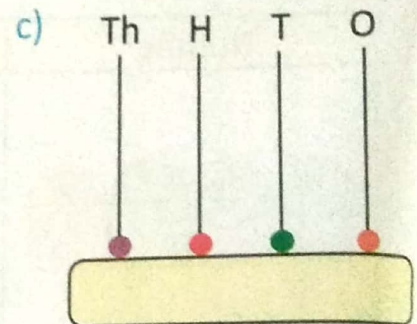
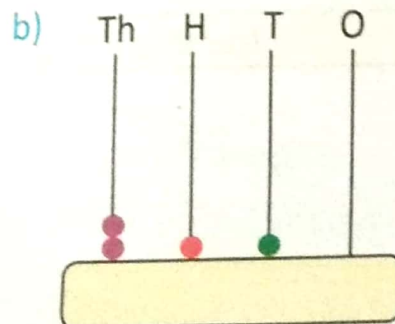
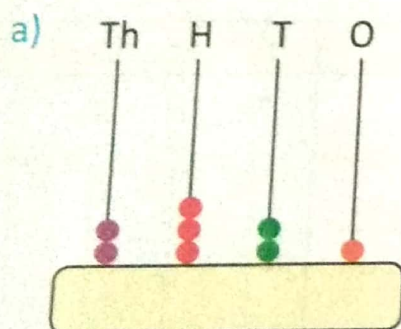
b) Nine thousand seventy-one = \_\_\_\_\_

c) The leopard population in India in the year 2015 was **seven thousand seven hundred and one**. Write this as a number. \_\_\_\_\_

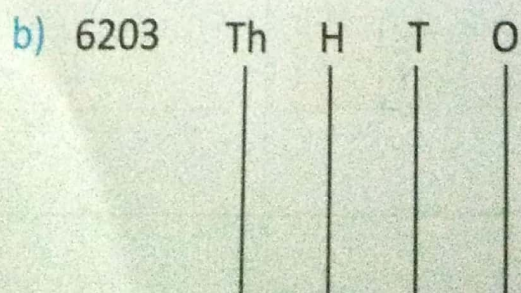
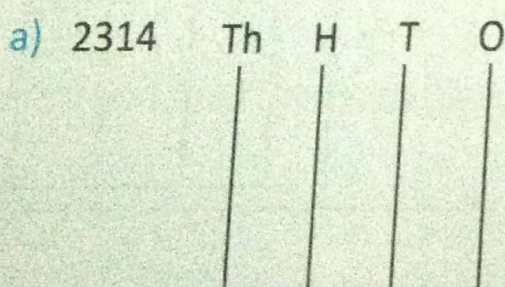
d) Chennai is at the level of the sea. Shimla is high up in the mountains. Shimla is higher than Chennai by **two thousand two hundred seventy-six metres**. Write this as a number. \_\_\_\_\_



4. Write the number shown on each abacus.



5. Show the number on the abacus.





c) 5430

Th	H	T	O

d) 2000

Th	H	T	O

6. Fill in the numbers in order.

a) 1087, 1088, 1089, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

b) 4198, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

c) 9829, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

d) 5050, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

e) 6104, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

### ◆ Face value and place value

8276 is a 4-digit number.

8 is in the thousands place.

Its place value in 8276 is 8 thousands or 8000.

Its face value in 8276 is 8.

2 is in the hundreds place.

Its place value in 8276 is 2 hundreds or 200.

Its face value in 8276 is 2.

7 is in the tens place.

Its place value in 8276 is 7 tens or 70.

Its face value in 8276 is 7.

6 is in the ones place.

Its place value in 8276 is 6 ones or 6.

Its face value in 8276 is 6.

Th	H	T	O
8	2	7	6



The **place value** depends on the place of the digit in the number.

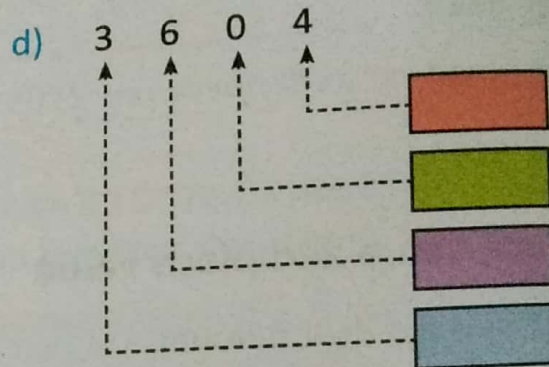
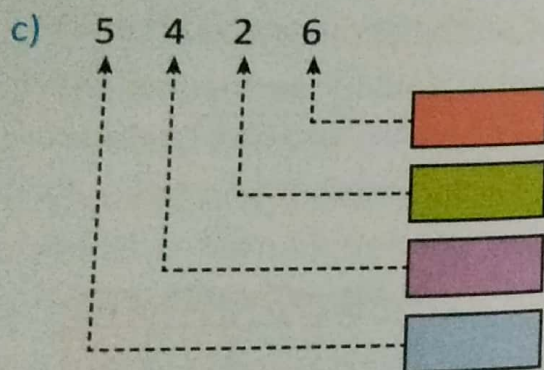
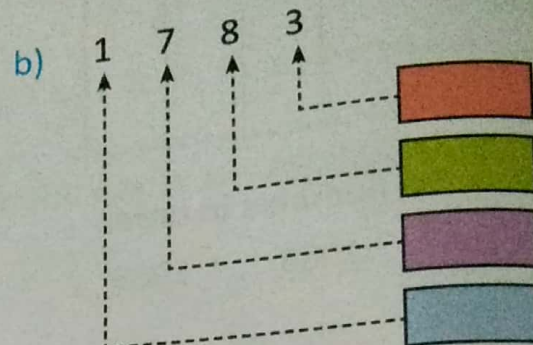
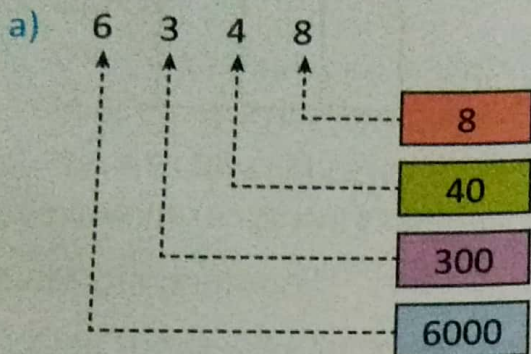
The **face value** of a digit is the number itself. It remains the same in all places.



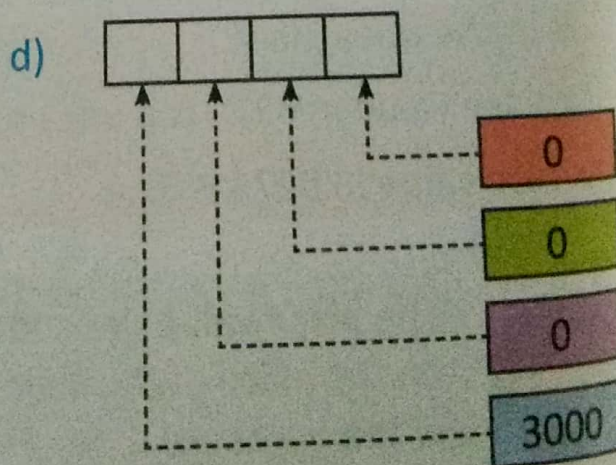
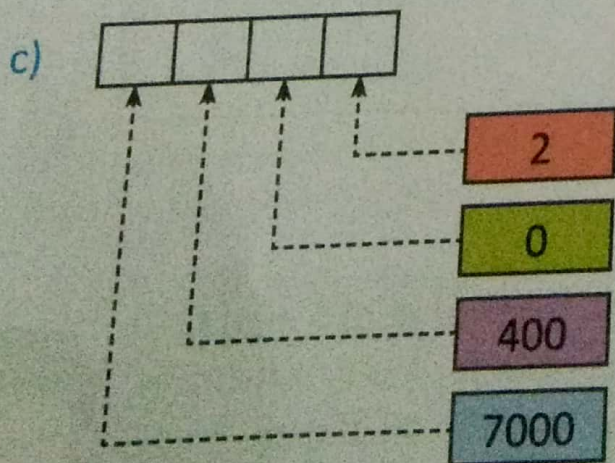
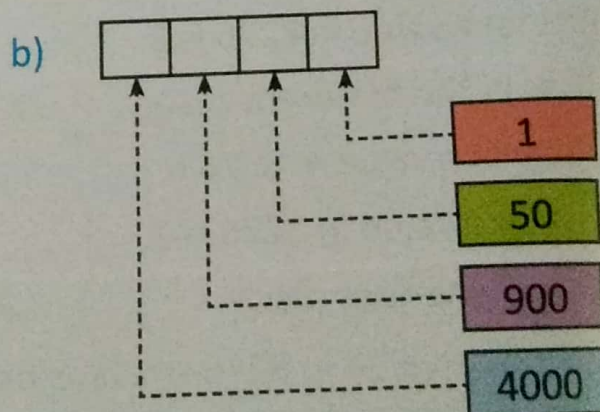
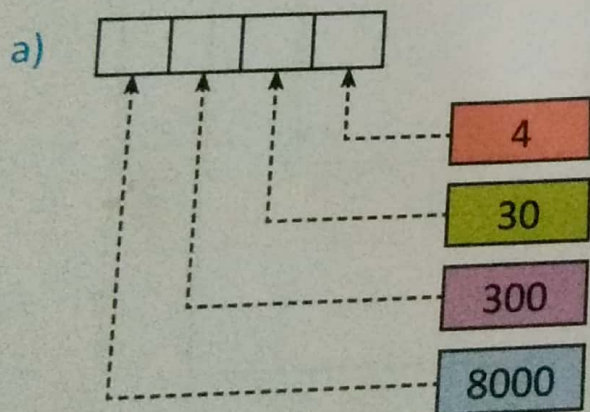


## EXERCISE 2

### 1. Fill in the place values.



### 2. Write the numeral.





3. Write the place and place value of the digit in colour.

Number	Place	Place value	Number	Place	Place value
a) 24 <b>3</b> 6	tens	<input type="text"/>	b) 3 <b>1</b> 07	<input type="text"/>	<input type="text"/>
c) 719 <b>8</b>	<input type="text"/>	<input type="text"/>	d) <b>6</b> 497	<input type="text"/>	<input type="text"/>
e) 5 <b>0</b> 10	<input type="text"/>	<input type="text"/>	f) 501 <b>0</b>	<input type="text"/>	<input type="text"/>

### ◆ Expanded form

The expanded form of 7534 is:

$$7534 = 7 \text{ thousands} + 5 \text{ hundreds} + 3 \text{ tens} + 4 \text{ ones} \quad (\text{in words})$$

$$= 7000 + 500 + 30 + 4 \quad (\text{in figures})$$

### EXERCISE 3

1. Write the expanded form in figures.

$$\begin{aligned} \text{a) } 3684 &= \underline{3000} + \underline{600} + \underline{80} + \underline{4} \\ \text{b) } 5079 &= \underline{\quad} + \underline{\quad} + \underline{\quad} + \underline{\quad} \\ \text{c) } 8173 &= \underline{\quad} + \underline{\quad} + \underline{\quad} + \underline{\quad} \\ \text{d) } 4682 &= \underline{\quad} + \underline{\quad} + \underline{\quad} + \underline{\quad} \\ \text{e) } 9590 &= \underline{\quad} + \underline{\quad} + \underline{\quad} + \underline{\quad} \end{aligned}$$

The place value of the digit 0 in a number is always zero. So we always write '0' whatever may be its position in a number.



2. Write the number.

$$\begin{aligned} \text{a) } 7000 + 400 + 50 + 9 &= \underline{\quad} \\ \text{b) } 6000 + 0 + 30 + 1 &= \underline{\quad} \\ \text{c) } 1000 + 700 + 10 &= \underline{\quad} \end{aligned}$$

### ◆ Comparing numbers

The junior school library has 5430 books. The senior school library has 4988 books. Which library has more books?

To answer this question you have to find which number is greater—5430 or 4988.

Comparing numbers with different number of digits

The number with more digits is always greater.

Examples:  $2125 > 949$      $3456 > 99$      $3878 > 8$





### Comparing numbers with same number of digits

1. First compare the thousands digits.
2. If the thousands digits are the same, compare the hundreds digits.
3. If the thousands and hundreds digits are the same, compare the tens digits.
4. If the thousands, hundreds and tens digits are the same, compare the ones digits.

$$5468 > 4972 \text{ as } 5 > 4$$

$$7679 > 7590 \text{ as } 6 > 5$$

$$8453 < 8472 \text{ as } 5 < 7$$

$$7536 > 7530 \text{ as } 6 > 0$$

### Ordering numbers

**Example 1:** Identify the biggest number and the smallest number.

5608    5809    897    462

Biggest number: 5809

Smallest number: 462

**Example 2:** Arrange the numbers 99, 5403, 954 and 3854 in ascending (increasing) order.

Write the smallest number first and cut it out from the list  $\rightarrow$  99; 99, 5403, 954, 3854

Write the next bigger number and cut it out from the list  $\rightarrow$  954; 99, 5403, 954, 3854

Write the next bigger number and cut it out from the list  $\rightarrow$  3854; 99, 5403, 954, 3854

Write the biggest number and cut it out from the list  $\rightarrow$  5403; 99, 5403, 954, 3854

**Answer:** 99, 954, 3854, 5403

**Example 3:** Arrange in descending order: 2790, 4780, 7923, 5613

Follow the same procedure as in Example 2, but write the biggest number first, then the next smaller number and so on. Write the smallest number last.

Biggest number: 7923

Next smaller number: \_\_\_\_\_

Next smaller number: \_\_\_\_\_

Smallest number: \_\_\_\_\_

**Answer:** 7923, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

### EXERCISE 4

1. Fill in the blanks with  $>$ ,  $<$  or  $=$  signs.

a) 834  1590

b) 999  1000

c) 4375  4162

d) 5910  5911

e) 7832  7838

f) 8544  8544



2. Circle the greatest number.

- a) 813      1001      9990      270      b) 1285      1055      1135      1288  
c) 8461      8479      8439      8410      d) 98      1020      786      999

3. Circle the smallest number.

- a) 296      8532      100      1795      b) 8421      2148      4813      1589  
c) 7478      7470      7473      7474      d) 9305      953      1999      9315

4. Arrange the numbers in ascending order.

- a) 3747    1674    9542

--	--	--

- b) 8653    653    865

--	--	--

- c) 8464    9894    3799    7877

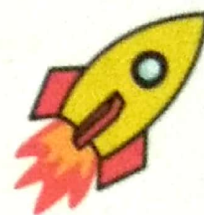
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- d) 7582    7959    7166    7745

--	--	--	--

- e) 3542    3561    3595    3519

--	--	--	--



5. Arrange the numbers in descending order.

- a) 2143    4782    5365

--	--	--

- b) 8104    7728    6540    4322

--	--	--	--

- c) 5321    5877    5108    5233

--	--	--	--

- d) 4492    4409    4465    4423

--	--	--	--

- e) 9243    9212    9290    9277

--	--	--	--



◆ Forming greatest and smallest numbers

Example: Form the greatest and smallest 4-digit numbers using the digits:

7   6   0   9

To form the greatest 4-digit number, arrange the digits in decreasing order.



The greatest 4-digit number is: **9 7 6 0**

To form the smallest 4-digit number, arrange the digits in increasing order. But you cannot have 0 in the thousands place, otherwise you get: 0 6 7 9 = 6 7 9 which is a 3-digit number.

So if there is a 0, put it in the hundreds place and not in the thousands place.

The smallest 4-digit number is: **6 0 7 9**

### EXERCISE 5

1. Use the given digits to make the smallest and greatest 4-digit numbers.

	greatest number	smallest number
a) 4, 3, 7, 1	<div style="border: 1px solid black; height: 20px; width: 150px;"></div>	<div style="border: 1px solid black; height: 20px; width: 150px;"></div>
b) 6, 5, 0, 9	<div style="border: 1px solid black; height: 20px; width: 150px;"></div>	<div style="border: 1px solid black; height: 20px; width: 150px;"></div>
c) 1, 0, 7, 3	<div style="border: 1px solid black; height: 20px; width: 150px;"></div>	<div style="border: 1px solid black; height: 20px; width: 150px;"></div>
d) 8, 1, 1, 5	<div style="border: 1px solid black; height: 20px; width: 150px;"></div>	<div style="border: 1px solid black; height: 20px; width: 150px;"></div>

### ◆ Odd and even numbers

You have read in Class 2 that:

Numbers that can be put into pairs are called **even numbers**.

Numbers that cannot be put into pairs are called **odd numbers**.



Even numbers have  
0, 2, 4, 6 or 8  
in the ones place.

Odd numbers have  
1, 3, 5, 7 or 9  
in the ones place.



### EXERCISE 6

1. Colour the boxes with even numbers green. Colour the boxes with odd numbers blue.

67	677	776	600	700	701
2425	2426	2427	2428	2429	2430
8000	8001	8011	8022	8123	8888
5670	7650	7561	5761	5055	5550



## ◆ Predecessor and successor

355

356

357

355 comes just before 356.  
355 is the **predecessor** of 356.  
We get the predecessor by  
subtracting 1 from the number.  
 $355 = 356 - 1$



357 comes just after 356.  
357 is the **successor** of 356.  
We get the successor by  
adding 1 to the number.  
 $357 = 356 + 1$

### EXERCISE 7

#### 1. Fill in the blanks.

	Predecessor	Between	Successor
a)	<u>3163</u>	3164	<u>3165</u>
b)	9479	<u>          </u>	9481
c)	5788	5789	<u>          </u>
d)	<u>          </u>	5130	<u>          </u>
e)	<u>          </u>	7399	<u>          </u>



## SKILLS SECTION (calculation, application and analysing skills)

### Mental Maths

What is:

- 1 less than
  - 4783
  - 5604
  - 3299
- 1 more than
  - 3862
  - 7000
  - 5999
- 10 less than
  - 6580
  - 7933
  - 8591
- 10 more than
  - 2004
  - 7952
  - 3491
- 100 less than
  - 7542
  - 6135
  - 8085
- 100 more than
  - 2891
  - 6013
  - 5940
- 1000 less than
  - 9284
  - 5009
  - 1676
- 1000 more than
  - 8049
  - 1450
  - 999



## Mixed Bag

1. Choose the correct answer.

a) The smallest 4-digit number is:

i. 1111

ii. 1000

iii. 0001

iv. 1001

b) The greatest 4-digit number is:

i. 9990

ii. 9999

iii. 10000

iv. 9000

c) The smallest 4-digit number formed by the digits 6, 0, 0, 9 is:

i. 0069

ii. 6009

iii. 9006

iv. 6900

d) The face value of 5 in 3567 is:

i. 5000

ii. 500

iii. 50

iv. 5

e) Which is the largest 4-digit even number?

i. 9999

ii. 9998

iii. 9000

iv. 10000

f) The place value of 0 in 6079 is:

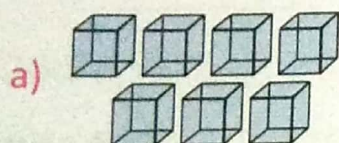
i. 0

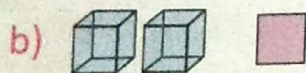
ii. 10

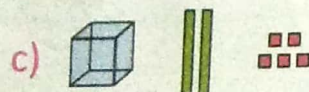
iii. 100

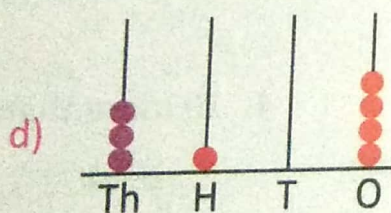
iv. 1000

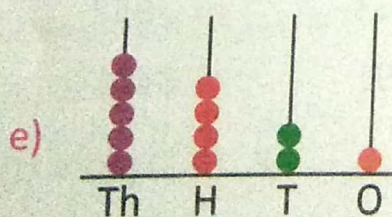
2. Write the number and the number name.

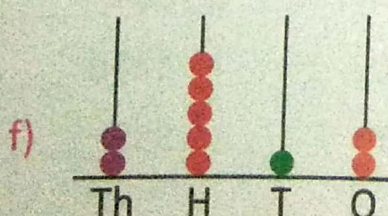














3. Write the face value and place value of the digit in red.

	face value	place value
a) 759 <del>6</del>	_____	_____
b) 8 <del>2</del> 01	_____	_____
c) <del>1</del> 355	_____	_____
d) 7 <del>4</del> 20	_____	_____
e) 50 <del>8</del> 5	_____	_____



4. Write in the expanded form.

- a)  $9473 = 9 \text{ Th} + 4 \text{ H} + 7 \text{ T} + 3 \text{ O} = 9000 + 400 + 70 + 3$
- b)  $7782 = \text{ } \text{Th} + \text{ } \text{H} + \text{ } \text{T} + \text{ } \text{O} = \text{ }$
- c)  $4803 = \text{ } \text{Th} + \text{ } \text{H} + \text{ } \text{T} + \text{ } \text{O} = \text{ }$
- d)  $6200 = \text{ } \text{Th} + \text{ } \text{H} + \text{ } \text{T} + \text{ } \text{O} = \text{ }$
- e)  $8070 = \text{ } \text{Th} + \text{ } \text{H} + \text{ } \text{T} + \text{ } \text{O} = \text{ }$

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

- a) 4359  682      b) 9833  3601      c) 3647  3647
- d) 5906  5449      e) 8859  8853      f) 6938  6939

6. Arrange in ascending order.

a) 4563 5368 3616 6805

--	--	--	--

b) 2506 2560 2056 2755

--	--	--	--

c) 5009 5090 5900 5823 4999

--	--	--	--	--

d) 9091 9109 9901 9190 9019

--	--	--	--	--

7. Arrange in descending order.

a) 7493 8962 5449 3609

--	--	--	--

b) 7306 7603 7036 3760

--	--	--	--



c) 3892 3961 3691 3040 3400

d) 6311 6113 6613 6331 6111



8. Circle the numbers in which the place value of 2 is 200.

a) 5327

b) 7297

c) 8126

d) 6632

e) 8200

f) 4123

g) 5219

h) 7236

9. Applying 4-digit numbers (story sums)

a) Ashok's school fee is ₹ 3456 per month. While paying, the tens and hundreds digits got interchanged. Did Ashok's parents have to pay less or more than the actual fee?

b) Vijay and Ajay went jogging in the morning. Vijay took 1056 steps. Ajay took 1065 steps. Who took more steps?

c) Sahiba bought a sweet for ₹ 1. She gave a ₹ 500 note to the shopkeeper. How much money will the shopkeeper return to her?

d) Mamta wants to buy a dress that costs ₹ 2450. She has one ₹ 2000 note and one ₹ 500 note. Does she have enough money to buy the dress?



### Higher Order Thinking Skills

1. In which number is the underlined digit worth 60?

a) 46

b) 65

c) 654

d) 3256

2. A number has:

7 hundreds

4 fewer tens than one hundred has, and

3 fewer units than one ten has.

Which of the following is the number?

a) 743

b) 763

c) 767

d) 747

3. In which place, is the place value of a number the same as its face value?

a) Ones place

b) Tens place

c) Hundreds place

d) Thousands place

4. Which of the following is equal to 343?

a) 340 tens plus three

b) 34 tens plus 30 ones

c) 30 tens plus 34 ones

d) 30 tens plus 43 ones



5. Preet has to make the greatest number using 4 different digits. One of the digits is 0. In which place will he put 0?

a) Ones

b) Tens

c) Hundreds

d) Thousands

### Problem Solving

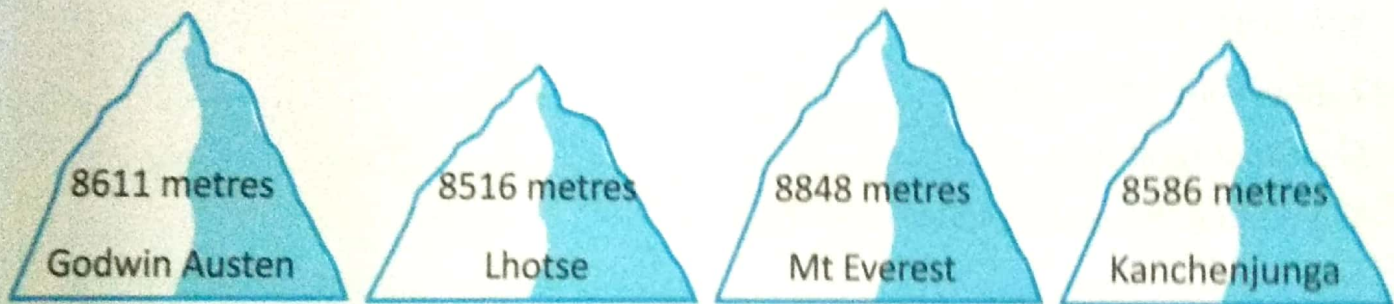
1. If you add 1 to the greatest 4-digit number, what do you get?
2. What is the difference between the successor and predecessor of a number?
3. Which is the smallest 4-digit number in which all digits are different?
4. Which is the greatest 4-digit number in which all digits are different?
5. Manav and his three neighbourhood friends were born in the following years.

Manav: 2000      Manisha: 1997      Arnav: 2004      Somya: 1999

Arrange the children's names in ascending order of their **ages**.

### Cross-curricular Practice

The four highest mountains in the world have the following heights from sea level. Arrange them in descending order.



## ACTIVITIES SECTION

### Maths Lab Activity

**Objective:** Making 4-digit numbers

**Material required:** Number cards 0–9, made on cardboard.

**Method:** Let students work in groups of five. Give each group a set of number cards 0–9. Let them make 4-digit numbers using the cards.

- One student in the group makes ten 4-digit numbers beginning with 1, by arranging the three other cards.
- The second student records each number in figures.



- The third student records them in words.
  - The fourth student records them in expanded form.
  - The fifth student identifies the greatest and smallest numbers made.
- Change the duties allotted to the students, with the second student making numbers beginning with 2, and so on.

### Fun Activity

Solve the crossword puzzle.

Across

1. 100 more than 3128
2. The successor of 999
3. Five thousand six hundred four
4. 10 more than 2000

Down

1. Counting in thousands, the number before 4125.
5. 2 thousands 5 tens 2 ones
6. Eight thousand sixty
7. The number between 5400 and 5402.

1		5	6		
2					7
		3			
		4			

### Project

Work in groups of 5 to find out the lengths of 5 of the world's longest rivers in kilometres. Arrange the lengths in descending order.

You can find the lengths from the site: [http://en.wikipedia.org/wiki/List\\_of\\_rivers\\_by\\_length](http://en.wikipedia.org/wiki/List_of_rivers_by_length)



# WORKSHEET



1. Write the number name.

7245 = \_\_\_\_\_

A

2. Write in expanded form.

a) 4768 = \_\_\_\_\_ + \_\_\_\_\_ + \_\_\_\_\_ + \_\_\_\_\_

b) 2923 = \_\_\_\_\_ + \_\_\_\_\_ + \_\_\_\_\_ + \_\_\_\_\_

3. Fill in the blanks with <, > or =.

a) 1756 ○ 1278

b) 976 ○ 2123

1. Write the number: Two thousand and twenty-five = \_\_\_\_\_

B

2. Write the number.

a) 5000 + 600 + 0 tens + 0 ones = \_\_\_\_\_

b) 3000 + 6 = \_\_\_\_\_

3. a) Circle the greatest number.

9186, 7298, 6987, 7512, 9564

b) Circle the smallest number.

5050, 4050, 4300, 5300, 4005

1. Arrange the numbers in ascending order.

C

a) 4276, 4726, 4706, 4076 \_\_\_\_\_

b) 8690, 6897, 6890, 860 \_\_\_\_\_

2. Arrange the numbers in descending order.

a) 6345, 6453, 876, 654 \_\_\_\_\_

b) 4002, 598, 3452, 4102 \_\_\_\_\_

3. Use the given digits to make the smallest and greatest 4-digit numbers.

Greatest number

Smallest number

a) 3, 1, 0, 6

b) 9, 0, 5, 0



## Learning Outcomes

At the end of this lesson, you will be able to:

- add up to 4-digit numbers with and without grouping.
- state the properties of addition.
- apply the skill of addition to solve real-life problems.



## GET STARTED

### Addition in real life

Maninder and Maya are very interested in aeroplanes.



You know, Maya, this is the picture of an Airbus A380-800. It is the largest passenger aeroplane in the world.



Wow! It does look huge!



It has two decks. The lower deck can seat up to 538 passengers and the upper deck can seat up to 315 passengers.



Oh yes! I can see the upper and lower windows in the picture. How many people in all can sit on it, Maninder?



I am sure you can calculate on your own, Maya.



Can you help Maya find out the total number of passengers that can travel in the plane?

Photograph by lenac from the German Wikipedia  
[1] - Own work, Public Domain, <https://commons.wikimedia.org/w/index.php?curid=3751757>



## Check what you know

### 1. Add (without regrouping).

a)

$$\begin{array}{r} 342 \\ + 237 \\ \hline \end{array}$$

b)

$$\begin{array}{r} 137 \\ + 602 \\ \hline \end{array}$$

c)

$$\begin{array}{r} 203 \\ 234 \\ + 151 \\ \hline \end{array}$$

### 2. Add (regrouping of ones).

a)

$$\begin{array}{r} 426 \\ + 137 \\ \hline \end{array}$$

b)

$$\begin{array}{r} 507 \\ + 318 \\ \hline \end{array}$$

c)

$$\begin{array}{r} 333 \\ + 248 \\ \hline \end{array}$$

### 3. Add (regrouping of tens and ones).

a)

$$\begin{array}{r} 638 \\ + 274 \\ \hline \end{array}$$

b)

$$\begin{array}{r} 298 \\ + 347 \\ \hline \end{array}$$

c)

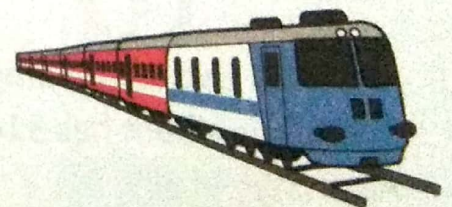
$$\begin{array}{r} 586 \\ 198 \\ + 176 \\ \hline \end{array}$$

### 4. Will you add or subtract to get the answer? Solve the problems where you have to add.

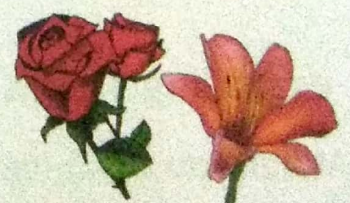
a) 265 people attended a music show on Saturday. 331 people attended it on Sunday. How many people in all attended the show? **Add / Subtract**

b) Minto read two books in the holidays. One book had 236 pages. The other book had 164 pages. How many pages did he read in all? **Add / Subtract**

c) There were 567 people on a train. 234 people got down at a station. How many people are there on the train now? **Add / Subtract**



d) Bijoy and Bina counted the flowers in their school garden. There were 254 roses and 436 lilies. How many flowers were there in all? **Add / Subtract**





## CONCEPTS SECTION

### ◆ Addition of 4-digit numbers without regrouping

Example: Add 3325 and 2231.

Adding 4-digit numbers is just like adding 3-digit numbers.

Arrange the numbers one below the other as shown and add.

Always start from the ones.

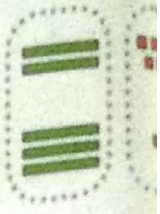
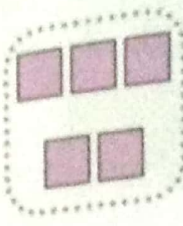
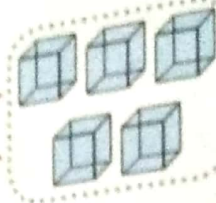
Step 1: Add the ones.

Step 2: Add the tens.

Step 3: Add the hundreds.

Step 4: Add the thousands.

Th	H	T	O
3	3	2	5
+ 2	+ 2	+ 3	+ 1
5	5	5	6



### EXERCISE 1: Add.

a) 
$$\begin{array}{r} 2463 \\ + 1324 \\ \hline \end{array}$$

b) 
$$\begin{array}{r} 4065 \\ + 2831 \\ \hline \end{array}$$

c) 
$$\begin{array}{r} 7011 \\ + 1078 \\ \hline \end{array}$$

d) 
$$\begin{array}{r} 502 \\ + 445 \\ \hline \end{array}$$

e) 
$$\begin{array}{r} 4208 \\ + 3651 \\ \hline \end{array}$$

f) 
$$\begin{array}{r} 6003 \\ + 2065 \\ \hline \end{array}$$

g) 
$$\begin{array}{r} 2145 \\ + 7854 \\ \hline \end{array}$$

h) 
$$\begin{array}{r} 211 \\ + 601 \\ \hline \end{array}$$

- i) In a school library, there are 3425 story books and 2304 subject books. How many books are there in the library?
- j) Aarti has two stamp albums. One album has 2306 stamps. The other album has 3143 stamps. How many stamps does Aarti have in all?



### ◆ Adding 3-digit numbers with regrouping

When you add 3-digit numbers, sometimes you get a 4-digit answer.



**Example:** Add 643 and 576.

**Step 1:** Add the ones.

$$3 + 6 = 9$$

**Step 2:** Add the tens and regroup.

$$4 + 7 = 11$$

11 tens = 1 hundred + 1 ten

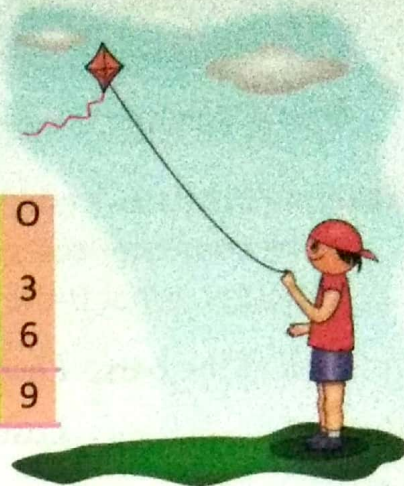
**Step 3:** Add the hundreds and regroup.

$$1 + 6 + 5 = 12$$

12 hundreds = 1 thousand + 2 hundreds

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

**Answer:** 1219



## EXERCISE 2: Add.

a) 
$$\begin{array}{r} 349 \\ + 838 \\ \hline \end{array}$$

b) 
$$\begin{array}{r} 444 \\ + 864 \\ \hline \end{array}$$

c) 
$$\begin{array}{r} 536 \\ + 607 \\ \hline \end{array}$$

d) 
$$\begin{array}{r} 660 \\ + 960 \\ \hline \end{array}$$

e) 
$$\begin{array}{r} 456 \\ + 654 \\ \hline \end{array}$$

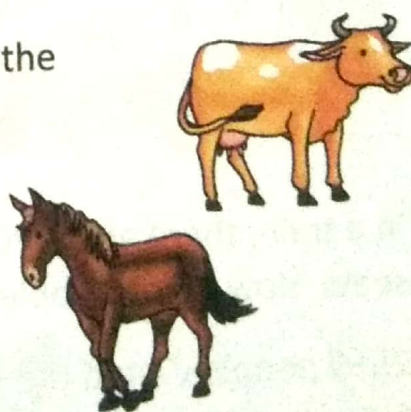
f) 
$$\begin{array}{r} 888 \\ + 222 \\ \hline \end{array}$$

g) 
$$\begin{array}{r} 386 \\ + 839 \\ \hline \end{array}$$

h) 
$$\begin{array}{r} 491 \\ + 909 \\ \hline \end{array}$$

i) 559 children bought books from a school bookshop on the first day. 463 children bought books on the second day. How many children bought books in the two days?

j) There are 663 horses and 527 cows in a farm. How many animals are there in the farm?



## ◆ Adding 4-digit numbers with regrouping

Refer Maths Lab Activity on page 32

**Example 1:** Add 2808 and 4267.

**Step 1:** Add the ones:  $8 + 7 = 15$

15 ones = 1 ten + 5 ones

**Step 2:** Add the tens:  $1 + 0 + 6 = 7$

Th	H	T	O
1		1	
2	8	0	8
+	4	2	6
7	0	7	5



**Step 3:** Add the hundreds:  $8 + 2 = 10$

10 hundreds = **1 thousand** + 0 hundreds

**Step 4:** Add the thousands:  $1 + 2 + 4 = 7$

**Answer:** 7075

**Example 2:** Manav's tablet computer costs ₹ 5235. Rachna's tablet computer costs ₹ 1275 more than Manav's tablet computer. What is the cost of Rachna's tablet computer?

Look at the bars. Cost of Manav's tablet computer: ₹ 5235

Cost of Rachna's tablet computer: ₹ 5235 + ₹ 1275

You can see that to get the cost of Rachna's tablet computer, you have to add ₹ 5235 and ₹ 1275.

Rachna's tablet computer costs ₹ \_\_\_\_\_

$$\begin{array}{r} 5235 \\ + 1275 \\ \hline \end{array}$$

**EXERCISE 3: Add.**

a)  $\begin{array}{r} 1323 \\ + 4968 \\ \hline \end{array}$

b)  $\begin{array}{r} 2089 \\ + 3411 \\ \hline \end{array}$

c)  $\begin{array}{r} 3415 \\ + 3879 \\ \hline \end{array}$

d)  $\begin{array}{r} 843 \\ + 108 \\ \hline \end{array}$

e)  $\begin{array}{r} 7399 \\ + 1022 \\ \hline \end{array}$

f)  $\begin{array}{r} 6702 \\ + 1439 \\ \hline \end{array}$

g)  $\begin{array}{r} 6303 \\ + 1807 \\ \hline \end{array}$

h)  $\begin{array}{r} 518 \\ + 436 \\ \hline \end{array}$

- i) In a train, there are 1570 first-class seats and 2550 second-class seats. How many people can sit in the train?
- j) 2559 people visited the Trade Fair in Delhi on Saturday. On Sunday, 3405 more people than Saturday visited the Trade Fair. How many people visited the Trade Fair on Sunday?

**Example 3:** What is the sum of 3250, 1336 and 5405?

$$\begin{array}{r} 3250 \\ 1336 \\ + 5405 \\ \hline 9991 \end{array}$$





## EXERCISE 4:

Add.

a)

$$\begin{array}{r} 2\ 1\ 4\ 3 \\ +1\ 5\ 4\ 1 \\ +2\ 0\ 1\ 4 \\ \hline \end{array}$$

b)

$$\begin{array}{r} 1\ 2\ 1\ 3 \\ +3\ 4\ 4\ 0 \\ +3\ 1\ 0\ 1 \\ \hline \end{array}$$

c)

$$\begin{array}{r} 7\ 0\ 4\ 3 \\ +\ 1\ 3\ 2 \\ +\ 2\ 2\ 3 \\ \hline \end{array}$$

d)

$$\begin{array}{r} 7\ 1\ 5\ 4 \\ +1\ 7\ 2\ 0 \\ +\ 1\ 2\ 6 \\ \hline \end{array}$$

e)

$$\begin{array}{r} 9\ 3\ 2 \\ +1\ 4\ 7\ 5 \\ +3\ 8\ 3\ 6 \\ \hline \end{array}$$

f)

$$\begin{array}{r} 2\ 3\ 4\ 6 \\ +1\ 1\ 0\ 8 \\ +6\ 4\ 5\ 3 \\ \hline \end{array}$$

g)

$$\begin{array}{r} 3\ 4\ 3\ 2 \\ +2\ 9\ 8\ 0 \\ +\ 2\ 3\ 1 \\ \hline \end{array}$$

h)

$$\begin{array}{r} 3\ 6\ 0\ 0 \\ +\ 9\ 9\ 4 \\ +2\ 2\ 2\ 2 \\ \hline \end{array}$$

## ◆ Properties of addition

### 1. Order property

Two numbers can be added in any order. Their sum remains the same.

3043 men and 2652 women add up to 5695 people.

2652 women and 3043 men also add up to 5695 people.

$$\begin{array}{r} 3\ 0\ 4\ 3 \\ +2\ 6\ 5\ 2 \\ \hline 5\ 6\ 9\ 5 \end{array}$$

and

$$\begin{array}{r} 2\ 6\ 5\ 2 \\ +3\ 0\ 4\ 3 \\ \hline 5\ 6\ 9\ 5 \end{array}$$

$$3043 + 2652 = 2652 + 3043$$



### 2. Grouping property

Three numbers can be added in any order. Their sum remains the same.



To add three numbers, group any two numbers and add. Add the sum to the third number.

(3426 men + 2041 women) + 1231 children = 6698 people

(2041 women + 3426 men) + 1231 children = 6698 people

(1231 children + 2041 women) + 3426 men = 6698 people





$\begin{array}{r} 3426 \\ + 2041 \\ + 1231 \\ \hline 6698 \end{array}$	$\begin{array}{r} 2041 \\ + 3426 \\ + 1231 \\ \hline 6698 \end{array}$	$\begin{array}{r} 1231 \\ + 2041 \\ + 3426 \\ \hline \quad \quad 8 \end{array}$
--	--	---

### Rapid check

Try a different order here:

The sum of 3426, 2041 and 1231 remains the same, in whichever order you arrange and add them.

### 3. Zero property

When 0 is added to a number, or when a number is added to 0, the sum is the number itself.



2432 cows added to 0 cows gives 2432 cows.

0 horses added to 3659 horses gives 3659 horses.

$\begin{array}{r} 2432 \\ + \quad 0 \\ \hline 2432 \end{array}$	$\begin{array}{r} 0 \\ + 3659 \\ \hline 3659 \end{array}$
---	---

### Rapid check

Add.

$\begin{array}{r} 8639 \\ + \quad 0 \\ \hline \end{array}$	$\begin{array}{r} 0 \\ + 8639 \\ \hline \end{array}$
--	--

### EXERCISE 5: Use the properties of addition to add.

- |  |   |
|--|---|
| a) $4603 + 2112 = \underline{\quad\quad\quad} + 4603$              | b) $8080 + \underline{\quad\quad\quad} = 1010 + 80$ |
| c) $3118 + 260 + 1212 = 1212 + 3118 + \underline{\quad\quad\quad}$ | d) $0 + 116 = 116 + \underline{\quad\quad\quad}$    |
| e) $8181 + 0 = \underline{\quad\quad\quad}$                        | f) $0 + 2090 = \underline{\quad\quad\quad}$         |
| g) $3489 + 1 = \underline{\quad\quad\quad}$                        | h) $2600 + 1 = \underline{\quad\quad\quad}$         |
| i) $\underline{\quad\quad\quad} + 2067 = 2067$                     | j) $\underline{\quad\quad\quad} + 4119 = 4120$      |

## SKILLS SECTION (calculation, application and analysing skills)

### Mental Maths

In the previous class, you learnt a simple method for carrying out certain types of additions mentally.







To add 9, add 10 and then subtract 1. To find  $149 + 9$ :

First add 10:  $149 + 10 = 159$  Then, subtract 1:  $159 - 1 = 158$

To add 8, add 10 and then subtract 2. To find  $2137 + 8$ :

First add 10:  $2137 + 10 = 2147$  Then, subtract 2:  $2147 - 2 = 2145$

Let us extend this further.



To add 19, first add 20 and then subtract 1. To find  $158 + 19$ :

First add 20:  $158 + 20 = 178$  Then, subtract 1:  $178 - 1 = 177$



To add 18, first add 20, then subtract 2. To find  $2147 + 18$ :

First add 20:  $2147 + 20 = 2167$  Then, subtract 2:  $2167 - 2 = 2165$

### 1. Work out the following mentally.

- |                       |                        |  |
|-----------------------|------------------------|--|
| a) $149 + 9 =$ _____  | b) $362 + 9 =$ _____   | c) $205 + 8 =$ _____                             |
| d) $1617 + 9 =$ _____ | e) $2833 + 8 =$ _____  | f) $1238 + 7 =$ _____<br>(how will you do this?) |
| g) $218 + 19 =$ _____ | h) $317 + 19 =$ _____  | i) $256 + 18 =$ _____                            |
| j) $612 + 18 =$ _____ | k) $1166 + 19 =$ _____ | l) $1117 + 17 =$ _____                           |

### 2. Work these out mentally.

- |                             |                         |                        |
|-----------------------------|-------------------------|------------------------|
| a) $82 + 8 =$ _____         | b) $400 + 300 =$ _____  | c) $5000 + 40 =$ _____ |
| d) $48 + 12 =$ _____        | e) $1400 + 600 =$ _____ | f) $53 + 47 =$ _____   |
| g) 10 more than 991 = _____ | h) $609 + 10 =$ _____   |                        |
| i) $80 + 30 =$ _____        | j) $299 + 100 =$ _____  |                        |

## Mixed Bag

### 1. Choose the correct answer.

- a) If  $1256 + 2456$  is 3712,  $2456 + 1256$  is:
- |             |              |               |                   |
|-------------|--------------|---------------|-------------------|
| i. $< 3721$ | ii. $> 3721$ | iii. $= 3712$ | iv. none of these |
|-------------|--------------|---------------|-------------------|
- b) If  $2406 + 3128 + 1096 = 6630$ , which of the following is true?
- |                                    |                                   |
|------------------------------------|-----------------------------------|
| i. $(2406 + 3128) + 1096 = 6630$   | ii. $2406 + (3128 + 1096) = 6630$ |
| iii. $(2406 + 1096) + 3128 = 6630$ | iv. All of these are true         |



c) 100 more than 4506 is:

i. 4507

ii. 4516

iii. 5506

iv. none of these

d) The sum of the smallest 4-digit number and the largest 3-digit number is:

i. 1000

ii. 9999

iii. 1099

iv. 1999

2. Work these out in your notebook. Write the sum.

a)  $325 + 780 =$

b)  $654 + 456 =$

c)  $505 + 595 =$

d)  $2043 + 5033 =$

e)  $3333 + 2135 =$

f)  $63 + 1015 =$

g)  $4850 + 3250 =$

h)  $4207 + 3489 =$

i)  $3848 + 5909 =$

j)  $6980 + 2289 =$

k)  $5107 + 98 =$

l)  $6378 + 967 =$

3. Find the sum.

a)

	4	5	6
+	1	3	4
+	5	1	0

b)

	6	3	0	0
+		4	0	0
+	1	6	7	5

c)

	5	0	1	3
+	3	2	0	7
+		8	6	2

d)

	6	4	2
+	1	3	6
+	1	2	1

e)

	1	4	4
+	1	3	9
+	1	6	6

f)

	3	3	3
+	2	4	6
+	2	2	2

g)

	4	9
+	1	1
+	2	9

h)

	1	2	1
+	2	6	7
+	4	4	3

i)  $333 + 2460 + 22 =$

j)  $2347 + 123 + 29 =$

4. Applying addition (story sums)

a) Jim has 2084 stamps. His sister Simi has 5018 stamps.  
How many stamps do they have altogether?





- b) There are 5262 girls and 2416 boys in a college. Find the total number of students in the college.
- c) A florist had 3006 flowers. He bought an equal number more. How many flowers does he have now?
- d) Anil spent ₹ 6243 on Monday and ₹ 246 on Tuesday. How much money did he spend altogether?
- e) A television set costs ₹ 5400 and a sofa set costs ₹ 803. What is the total cost for both?
- f) There are 1343 books in English, 2481 books in Hindi and 3444 books in other languages in a library. How many books does the library have?
- g) What is 245 more than 5600?



### Higher Order Thinking Skills

- I had 132 marbles with me. I got 44 more from one friend and gave away 50 to another friend. How many marbles do I have now?  
a) More than 132    b) Less than 132    c) 132 marbles    d) none of these
- If the letters A to Z are given the values of 1 to 26 in the same order, then the sum of values of I and \_\_\_\_\_ is 20.  
a) L    b) M    c) K    d) J
- 1234 added to which number will give an answer of 1344?  
a) 100    b) 101    c) 111    d) 110
- Which of the following numbers could be the sum of 122 and a 2-digit number?  
a) 130    b) 222    c) 146    d) 124
- Manju travels 124 km by bus and 242 km by car. Manish travels 242 km by bus and 124 km by car. Which of the following statements is correct?  
a) Manju has travelled more than Manish.    b) Manish has travelled more than Manju.  
c) Both have travelled the same distance.  
d) We require more information to answer the question.

### Problem Solving

- There are 2006 mango trees, 3194 apple trees and 2413 banana trees in an orchard. How many mango and banana trees are there altogether?

(Hint: This sum has some additional information which you will not need to find the answer. What is the additional information?)





2. The double of 2447 is  $2 \times 2447$ . Can you find the double of 2447 by addition?
3. Given that  $\text{PAGE} = 1798$ , what addition sum is represented by:  
 $\text{EGG} + \text{EGG} = \text{PAGE}$ ? (Hint : What do E and G stand for?)

## ACTIVITIES SECTION

### Maths Lab Activity

**Objective:** To add 2345 and 3418 using cubes (thousands), sheets (hundreds), strips (tens) and slips (ones)

**Material required:** Cubes, sheets, strips and slips.

**Method:**

- Step 1: Ask students to make the two numbers using cubes, sheets, strips and slips and place them one below the other.
- Step 2: Ask them to put the ones together and count them. Since there are more than 10 ones, let them join 10 ones to make a ten and carry it to the tens side.
- Step 3: Ask them to put the tens together and count them. Emphasise that the carried over 10 should also be added.
- Step 4: Ask them to put the hundreds together and count them.
- Step 5: Ask them to put the thousands together and count them.
- Step 6: Now ask them how many thousands, hundreds, tens and ones they have, and record the sum.

### Fun Activity

A story sum for  $24 + 33 = 57$  can be:

There are 24 boys and 33 girls in Class 3A. How many children study in Class 3A?

**Frame your own story sums for the following additions.**

1.  $150 + 200 = \underline{\hspace{2cm}}$

2.  $323 + 456 = \underline{\hspace{2cm}}$

### Project

Note down the number of pages in each of your Class 3 textbooks. Add all of them to get the total number of textbook pages you have to read in a year.



## WORKSHEET



1. Solve.

A

a) 
$$\begin{array}{r} 2008 \\ + 3681 \\ \hline \end{array}$$

b) 
$$\begin{array}{r} 5631 \\ + 2045 \\ \hline \end{array}$$

2. My sister bought a pair of jeans for ₹ 2356 and a shirt for ₹ 1542. How much money did she spend in all?

1. Add.

B

a) 
$$\begin{array}{r} 624 \\ + 1746 \\ \hline \end{array}$$

b) 
$$\begin{array}{r} 3601 \\ 1326 \\ + 2061 \\ \hline \end{array}$$

2. There are 1106 roses, 450 lilies and 1230 tuberoses in a flower shop. How many flowers are there in the shop?

1.  $A = 624$ ,  $B = 84$  and  $C = 2306$ . Find  $A + B + C$ .

2. There are 1924 boys, 1973 girls and 235 staff members in a school. How many people are there in the school?