



# Large Numbers

## Learning Outcomes

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

- read and write 5- and 6-digit numbers in the Indian system and use them in daily life.
- use place-value to write 5- and 6-digit numbers in the expanded form and vice versa.
- compare 5- and 6-digit numbers and arrange them in ascending/descending order.
- make the greatest and smallest number with the given digits.
- round numbers to the nearest 10, 100 and 1000.
- represent numbers up to 39 in the Roman number system.



## GET STARTED

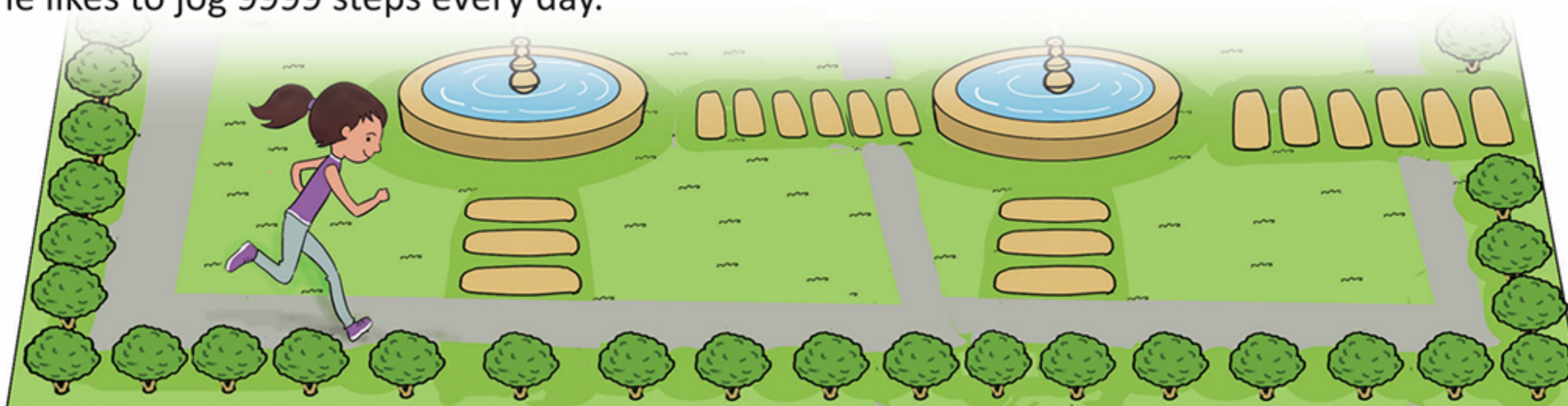
### Large numbers in real life

Arun likes to jog. He jogs 1000 steps every day.



1000 is the \_\_\_\_\_ (largest/smallest) 4-digit number.

Arun's elder sister is a long distance runner. She likes to jog 9999 steps every day.



She stops at 9999 because she only knows how to count up to 4-digit numbers!

9999 is the \_\_\_\_\_ (largest/smallest) 4-digit number.

## Check what you know

1. Write the number and number name. Then show it on the abacus.

a)

Number \_\_\_\_\_

Number name \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

b)

Number \_\_\_\_\_

Number name \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

2. Write the expanded form in figures.

a)  $5674 = 5000 + \underline{\quad} + \underline{\quad} + \underline{\quad}$

b)  $7083 = \underline{\quad} + \underline{\quad} + \underline{\quad} + \underline{\quad}$

3. Arrange in ascending order.

a) 2963, 1235, 3582, 899

\_\_\_\_\_

b) 8466, 6488, 8521, 8644

\_\_\_\_\_

4. Arrange in descending order.

a) 8052, 8502, 8520, 852

\_\_\_\_\_

b) 6628, 8266, 6286, 6826

\_\_\_\_\_

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

- |               | Smallest | Greatest |
|---------------|----------|----------|
| a) 7, 8, 4, 9 | _____    | _____    |
| b) 5, 0, 2, 6 | _____    | _____    |

6. Write the place value and face value of:

- |              | Place value | Face value |
|--------------|-------------|------------|
| a) 5 in 5432 | _____       | _____      |
| b) 0 in 8079 | _____       | _____      |



7. Answer the questions.

- What is 1000 more than 5683? \_\_\_\_\_
- Which is the largest 4-digit number? \_\_\_\_\_
- What is the smallest 4-digit number minus the largest 3-digit number? \_\_\_\_\_
- What is 100 less than 6789? \_\_\_\_\_
- The value of 6 in 4568 goes up by how many times, when it moves to the left by 1 digit? \_\_\_\_\_



## CONCEPTS SECTION

### ◆ 5-digit numbers

When Rita was in Class 3, she had a collection of 999 stamps.



999 is the largest 3-digit number.

Her mother then gave her 1 more stamp. She had  $999 + 1 = 1000$  stamps.



1000 is the smallest 4-digit number.

Now Rita is in Class 4. Her stamp collection has grown to 9999 stamps.



9999 is the largest 4-digit number.  
 Rita now has  $9999 + 1 = 10000$  stamps.  
 10000 is a 5-digit number. It is read as **ten thousand**.

Her father gave her 1 more stamp.  
 How many stamps does she have now?



She now has  $9999 + 1$  stamps.

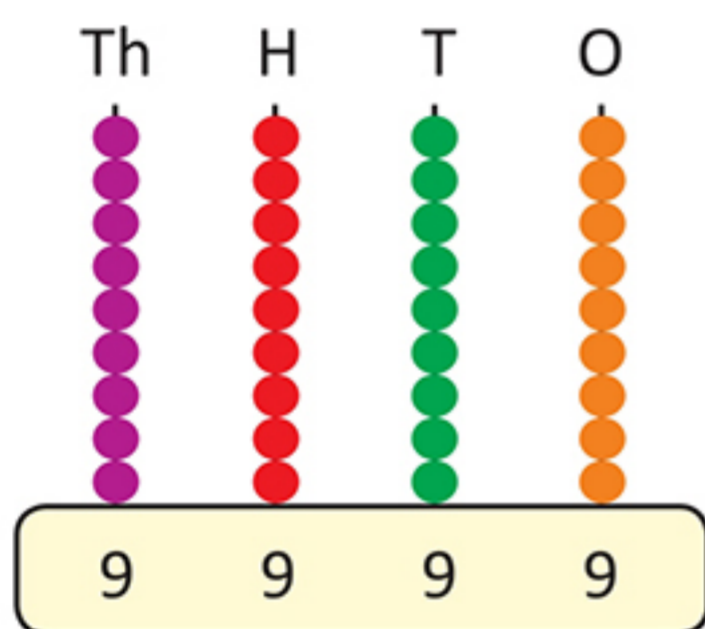
10000 is the smallest 5-digit number.



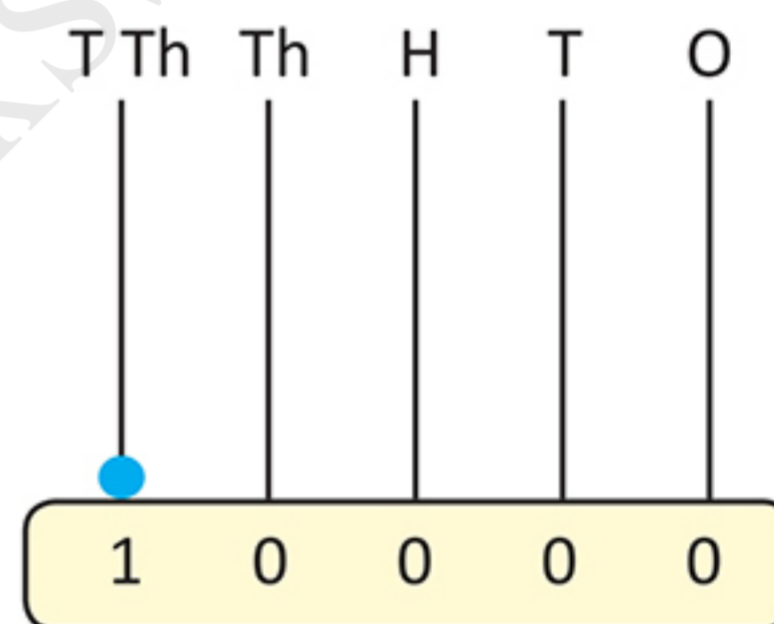
To write a 5-digit number, we need a new place value.  
 The new place value is the **ten thousands** place (T Th).

T Th	Th	H	T	O
1	0	0	0	0

9999 is shown on the abacus as:



10000 is shown on the abacus as:



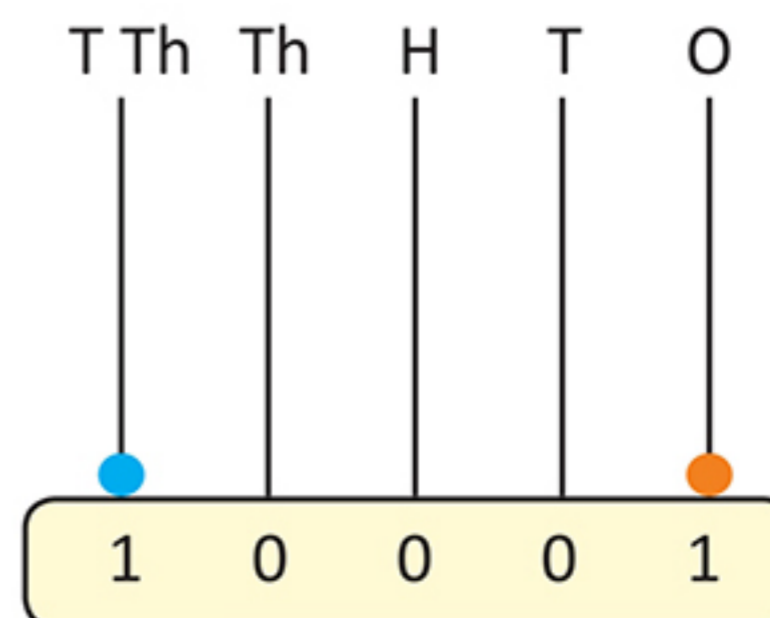
+ 1 =

To show 10000, we need an abacus with five spikes. The spike to the left of the Thousands spike is the Ten Thousands (T Th) spike.

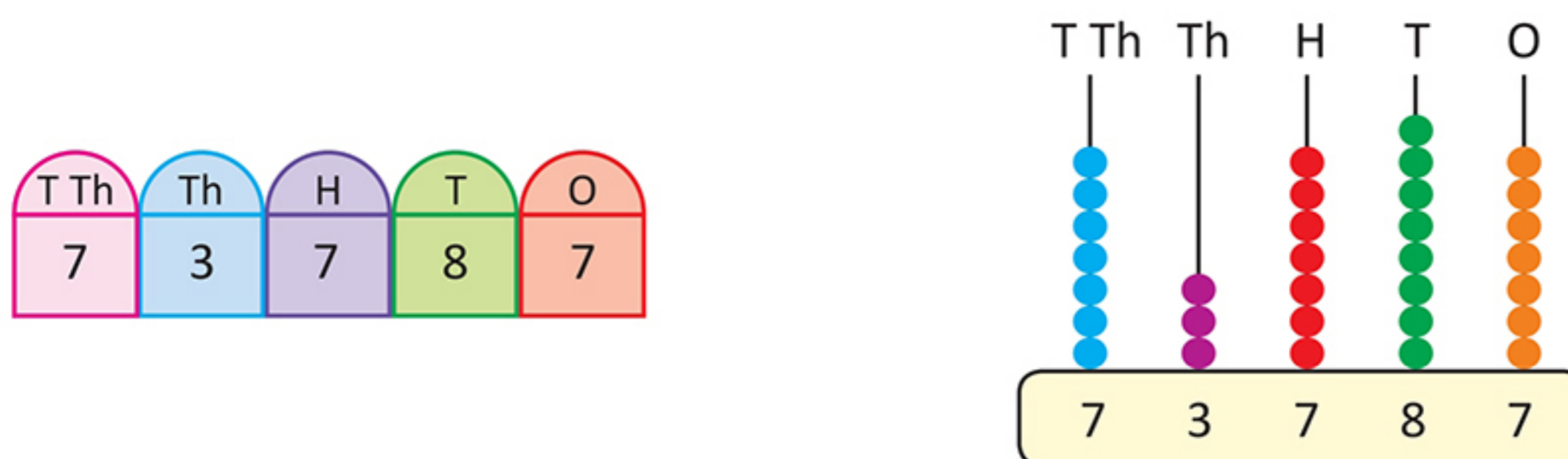


1 more than 10000 is 10001. It is shown on the place value chart and abacus as:

Ten Thousands (T Th)	Thousands (Th)	Hundreds (H)	Tens (T)	Ones (O)
1	0	0	0	1



According to a study, 73787 children are born every day in India. This is a 5-digit number. It consists of 7 ten-thousands, 3 thousands, 7 hundreds, 8 tens and 7 ones. It is shown as:



### Ones and thousands periods

To make it easy to read large numbers, the digits are divided into periods. The digits in the same period are read together.

The **ones, tens and hundreds** digits form the ones period.

The **thousands and ten thousands** digits form the thousands period.

Two periods are separated by a comma.

The number 73,787 is read as:

**Seventy-three thousand seven hundred eighty-seven**

### ◆ Face value and place value

In the number 73,787:

Face value of 7 is 7. Place value of 7 is

$$7 \times 10,000 = 70,000$$

Face value of 3 is 3. Place value of 3 is  $3 \times 1000 = 3000$ .

Face value of 7 is 7. Place value of 7 is  $7 \times 100 = 700$ .

Face value of 8 is 8. Place value of 8 is  $8 \times 10 = 80$ .

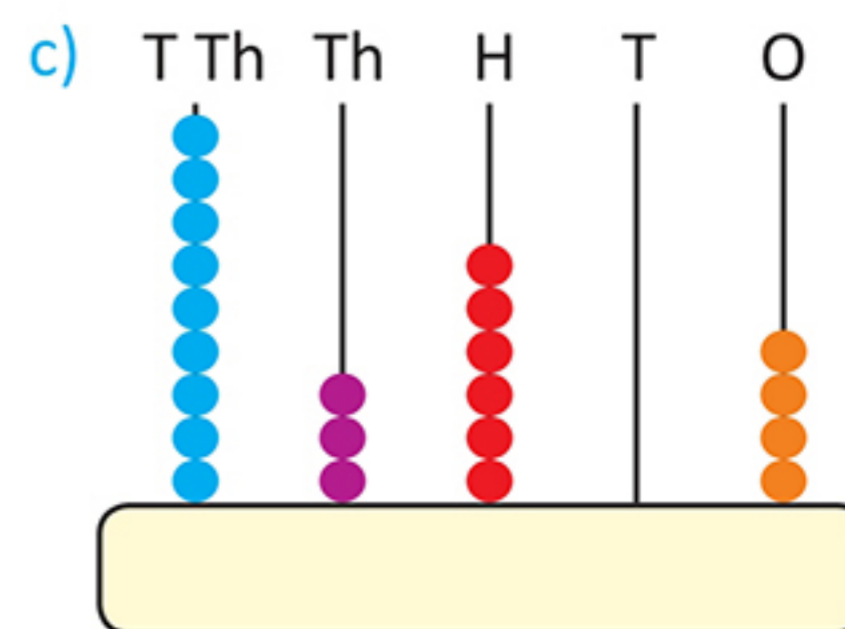
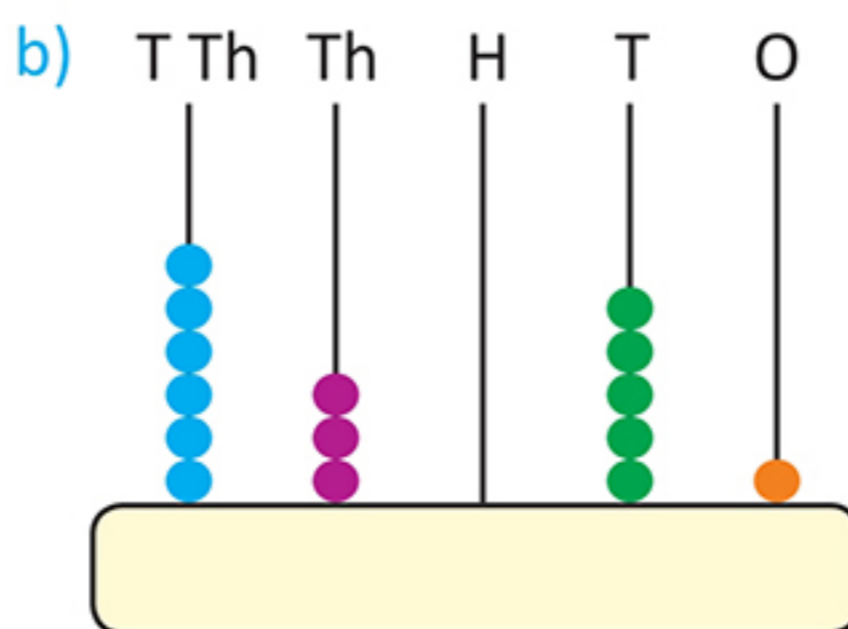
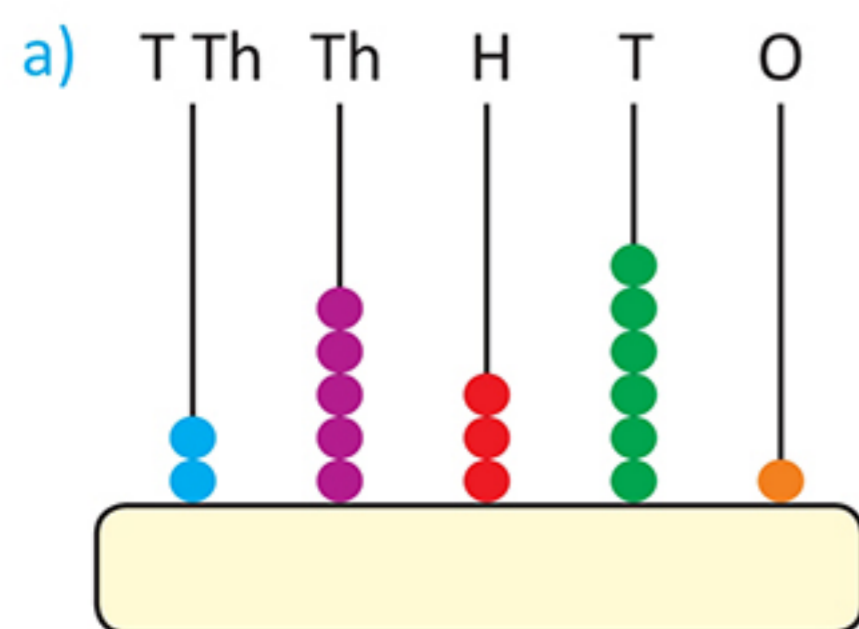
Face value of 7 is 7. Place value of 7 is  $7 \times 1 = 7$ .

Thousands period		Ones period		
TTh	Th	H	T	O
7	3	7	8	7

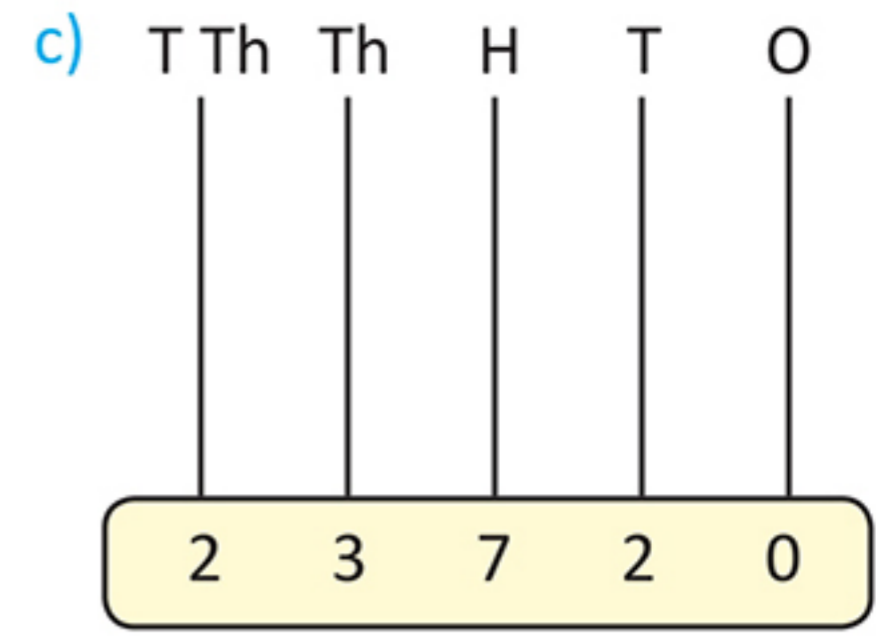
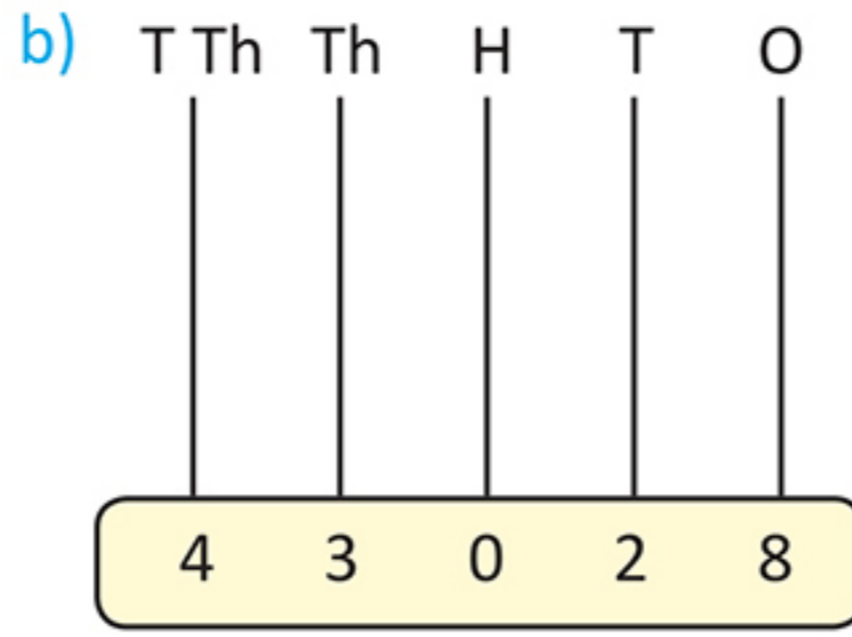
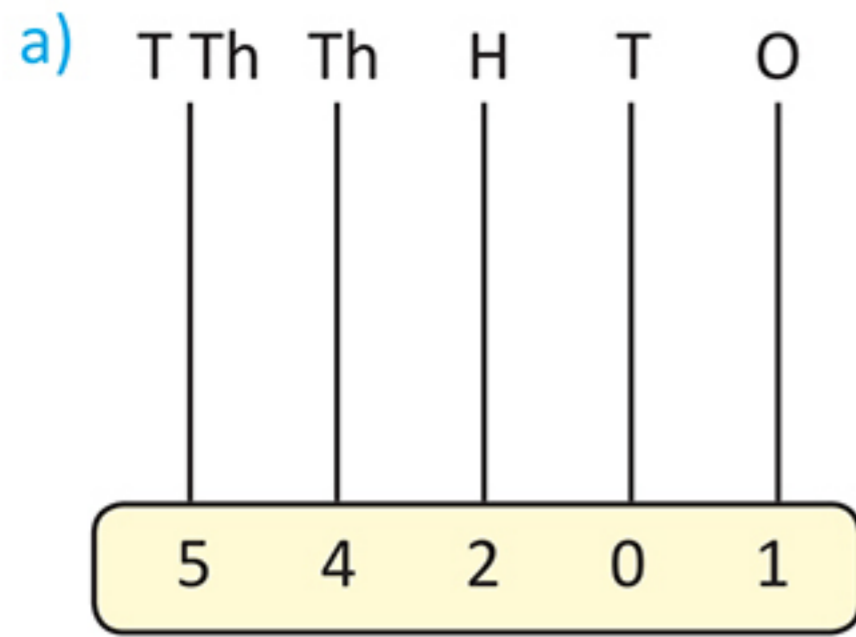
Therefore, in the expanded form,  $73,787 = 70,000 + 3000 + 700 + 80 + 7$

### EXERCISE 1

1. Write the number on each abacus.



**2. Show the number on the abacus.**



**3. Write the number for the number name. Put the comma in the right place.**

- a) Ninety-one thousand four hundred seventy-five \_\_\_\_\_
- b) Thirty-three thousand three hundred three \_\_\_\_\_
- c) Eleven thousand ninety-one \_\_\_\_\_

**4. Read the number and write the number name.**

- a) 84,290 : \_\_\_\_\_
- b) 29,354 : \_\_\_\_\_
- c) 60,032 : \_\_\_\_\_

**5. Write down the following.**

- a) Greatest 5-digit number : \_\_\_\_\_
- b) Smallest 5-digit number : \_\_\_\_\_
- c) 3 thousand more than 10,010 : \_\_\_\_\_
- d) 6 thousand less than 43,102 : \_\_\_\_\_
- e) Ten thousand more than 12,345 : \_\_\_\_\_
- f) The expanded form of 38,709 : \_\_\_\_\_

**◆ 6-digit numbers**

You know that:

The greatest 4-digit number is 9999.

$9999 + 1 = 10,000$

10,000 is the smallest 5-digit number.

The greatest 5-digit number is 99,999.

$99999 + 1 = 100000$

Lakhs form a separate period. Therefore 100000 is written as 1,00,000.

The place value chart for 1,00,000 is:

Lakhs period	Thousands period		Ones period		
Lakhs	Ten thousands	Thousands	Hundreds	Tens	Ones
1	0	0	0	0	0

100000 is the smallest 6-digit number. It is read as **1 lakh**.



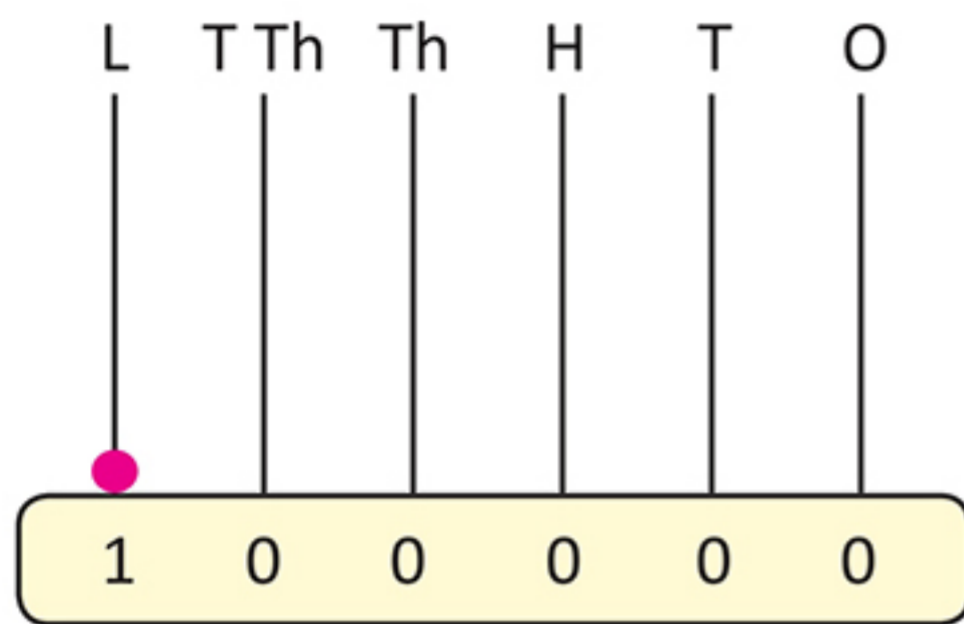
According to the census (counting of population) carried out in 2011, the population of the town of Dehradun was 578420.

578420 is written as: **5,78,420**

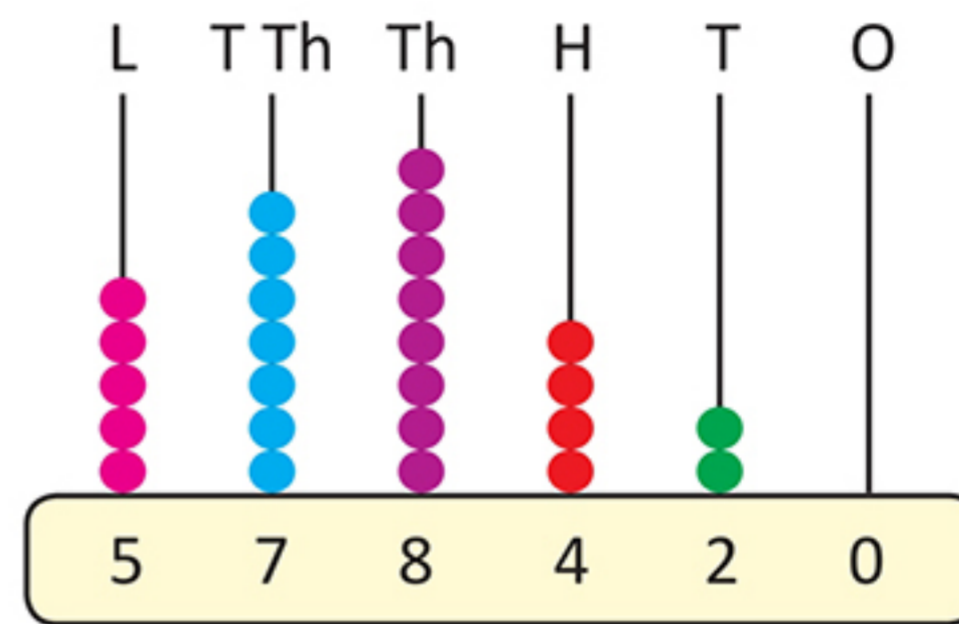
It is read as: **Five lakh seventy-eight thousand four hundred twenty**

To show 6-digit numbers on an abacus, a sixth spike is needed. This is the lakhs spike.

1,00,000 is shown on the abacus as:



5,78,420 is shown in the abacus as:



In 5,78,420 the **place value** of:

5 is  $5 \times 1,00,000 = 5,00,000$

7 is  $7 \times 10,000 = 70,000$

8 is  $8 \times 1000 = 8000$

4 is  $4 \times 100 = 400$

2 is  $2 \times 10 = 20$

0 is  $0 \times 1 = 0$

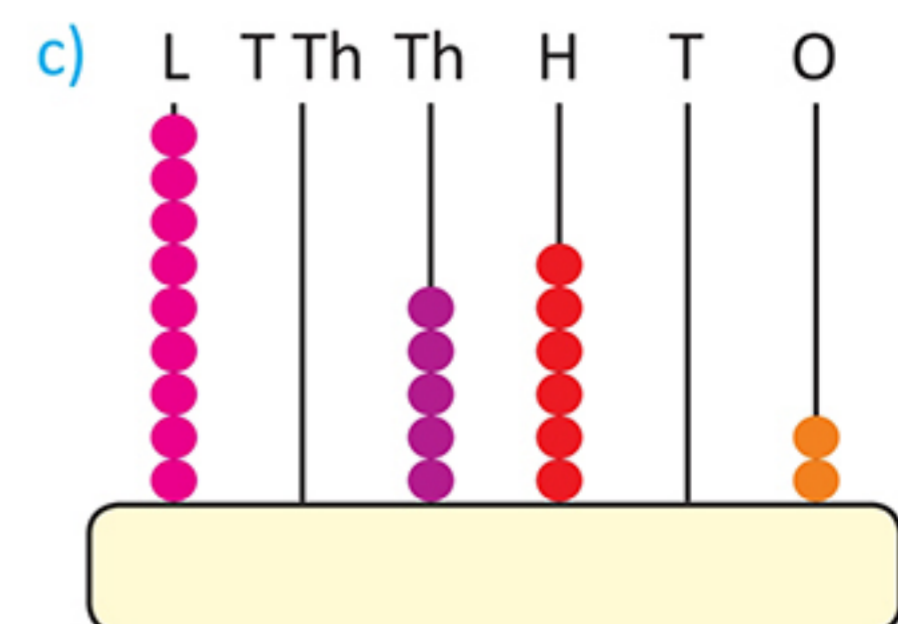
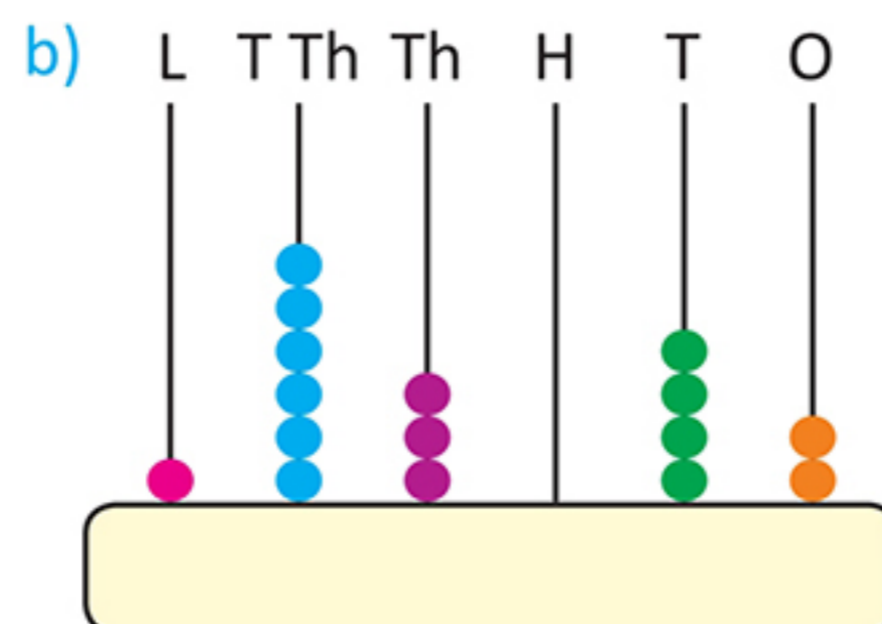
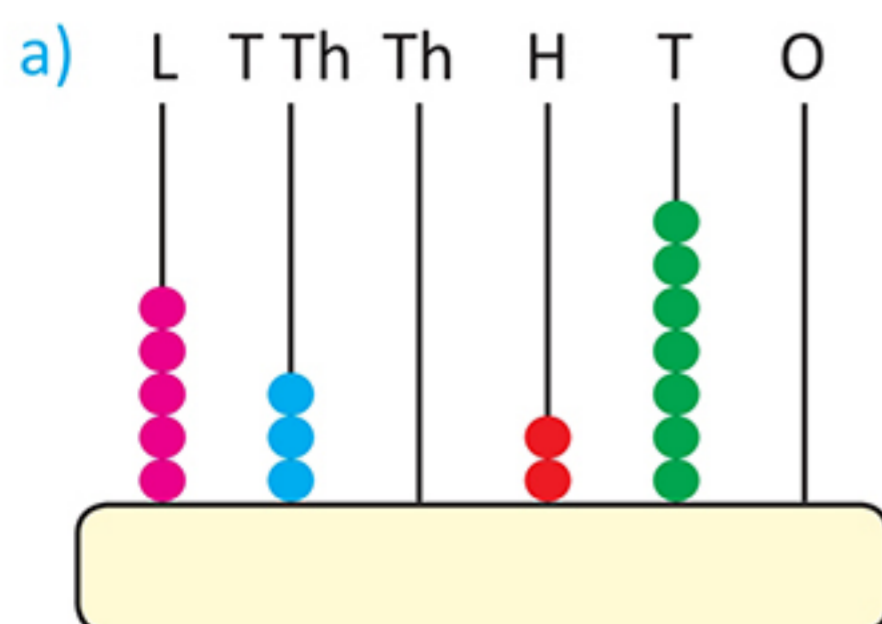
Lakhs period	Thousands period		Ones period		
Lakhs	Ten thousands	Thousands	Hundreds	Tens	Ones
5	7	8	4	2	0

Therefore, 5,78,420 in the **expanded form** is:

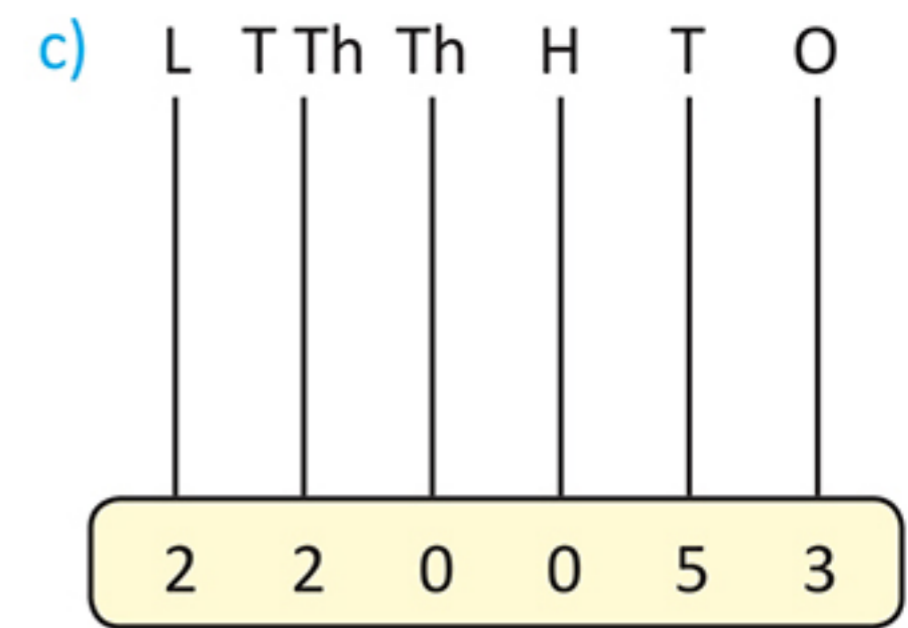
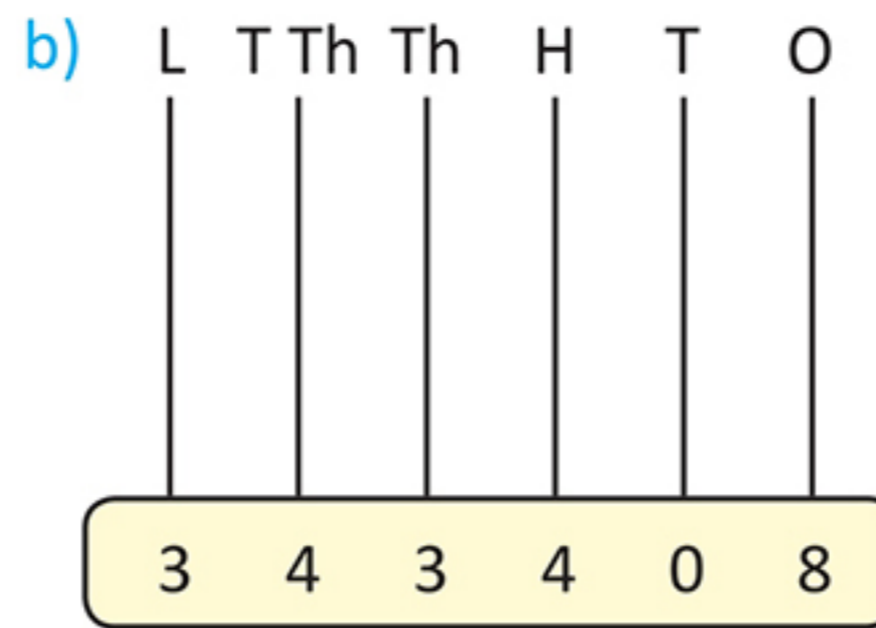
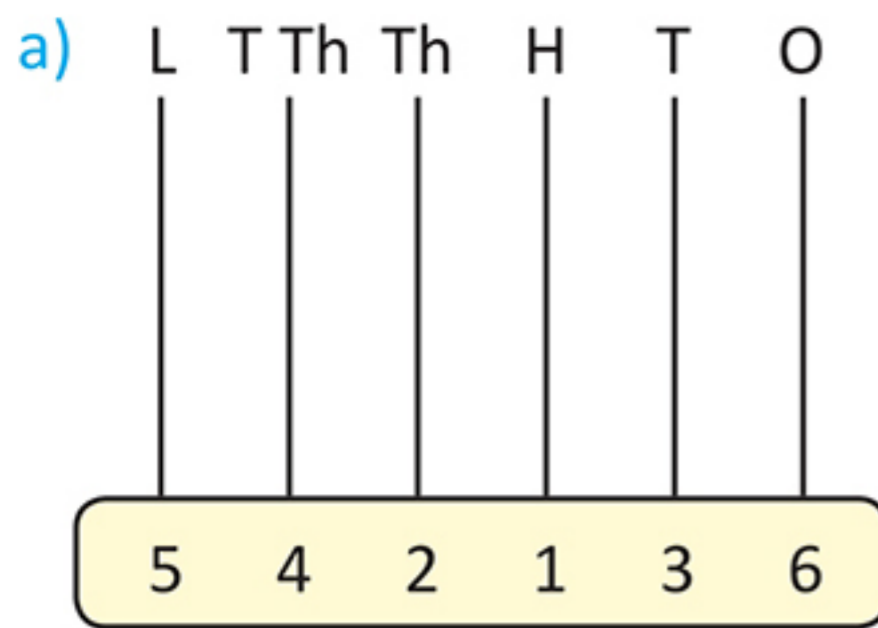
$$5,78,420 = 5,00,000 + 70,000 + 8000 + 400 + 20 + 0$$

## EXERCISE 2

1. Write the number on each abacus.



## 2. Show the number on the abacus.



## 3. Write the number for the number name. Put the comma at the right place.

- a) Six lakh forty-five thousand three hundred twenty : \_\_\_\_\_  
b) Two lakh ninety thousand one hundred one : \_\_\_\_\_  
c) Four lakh eleven : \_\_\_\_\_

## 4. Read the number and write the number name.

- a) 6,28,732 : \_\_\_\_\_  
b) 5,80,210 : \_\_\_\_\_  
c) 4,41,063 : \_\_\_\_\_

## 5. Write the numbers.

- a) Greatest 6-digit number : \_\_\_\_\_  
b) Smallest 6-digit number : \_\_\_\_\_  
c) 3 lakhs more than 4,10,010 : \_\_\_\_\_  
d) 6 ten thousand less than 5,63,102 : \_\_\_\_\_  
e) Ten thousand more than 7,12,345 : \_\_\_\_\_  
f) Expanded form of 9,54,073 : \_\_\_\_\_

## ◆ Comparing numbers

A public library in Ernakulam has 75,430 books. A public library in Chennai has 1,45,498 books. Which library has more books?

To answer this question you have to find which number is greater—75,430 or 1,45,498.

### Comparing numbers with different number of digits

The number with more digits is always greater.

Therefore,  $1,45,498 > 75,430$

The Chennai library has more books than the Ernakulam library.



## Comparing numbers with same number of digits

1. First compare the lakhs digits.

$$5,39,468 > 4,28,972$$

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

2. If the lakhs digits are the same, compare the ten thousands digits.

$$7,67,329 < 7,89,900$$

$$\text{as } 6 < 8$$

3. If the lakhs and ten thousands digits are the same, compare the thousands digits.

$$8,49,603 > 8,47,782$$

$$\text{as } 9 > 7$$

4. Continue in this way—going to the right, digit by digit until you find two digits that are different. See the examples below.

$$7,53,639 > 7,53,036$$

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

$$6,28,349 < 6,28,383$$

$$\text{as } 4 < 8$$

$$5,34,348 > 5,34,343$$

$$\text{as } 8 > 3$$

### ◆ Ascending and descending order

Arranging numbers in **ascending order** means arranging them in increasing order—that is from the smallest to the greatest.

**Example 1:** Arrange in ascending order: 23,675 3456 60,000 8432

**Step 1:** Find the **smallest number** and write it as the first number. Cancel it from the list.

**Step 2:** In the remaining numbers, find the **smallest**, and write it next. Cancel it from the list.

Continue in this way till you have written down all numbers.

**Answer:** 3456, 8432, 23,675, 60,000



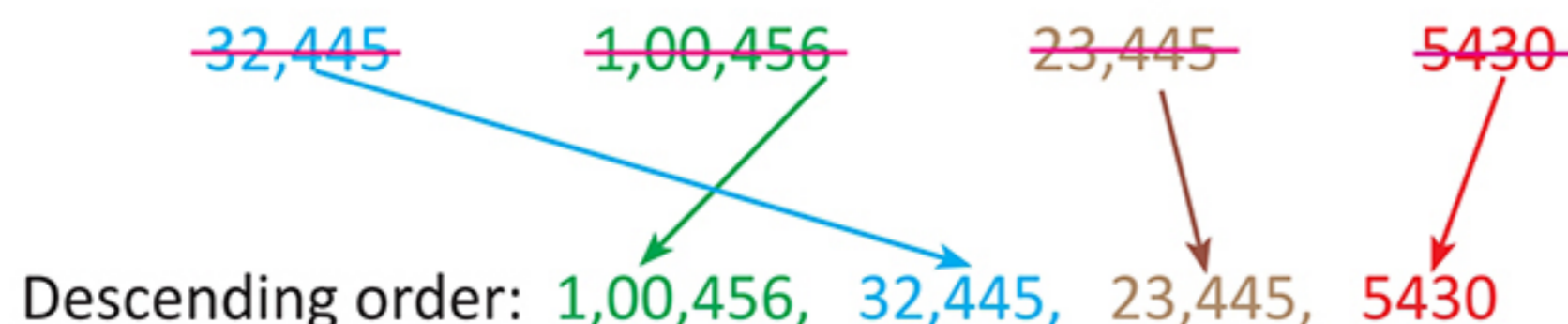
#### Rapid check

Write 4567 7654 1,12,345 and 21,543 in ascending order.

Arranging numbers in **descending order** means arranging them in decreasing order—that is from the greatest to smallest.

**Example 2:** Arrange in descending order: 5430 32,445 1,00,456 23,445

The method is the same, but in this case you have to find the **greatest number** in each step.





### Rapid check

Write 12,345 10,359 9999 and 1,00,003 in descending order.

---

## EXERCISE 3

### 1. Fill in the correct symbol < or >.

- a) 84,026  32,001      b) 64,332  86,331      c) 1,95,422  95,099  
 d) 3,56,780  3,56,790      e) 2,48,291  2,48,270      f) 5,87,009  5,77,897

### 2. Ring the greatest number in each.

- a) 23,596    33,496    22,996      b) 20,182    9876    1,20,001  
 c) 53,138    53,238    53,088      d) 4,67,143    4,68,122    4,68,222

### 3. Ring the smallest number in each.

- a) 4355    44,355    4495      b) 1,16,433    21,643    12,346  
 c) 67,789    67,879    67,979      d) 5,60,000    5,61,000    99,999

### 4. Arrange in ascending order.

- a) 53,217    53,211    55,600    45,301    \_\_\_\_\_  
 b) 47,520    9760    52,497    1,00,000    \_\_\_\_\_  
 c) 1,21,050    1,12,500    5,10,211    1,02,570    \_\_\_\_\_

### 5. Arrange in descending order.

- a) 26,566    26,600    27,560    3,27,400    \_\_\_\_\_  
 b) 50,329    59,530    59,329    5,59,530    \_\_\_\_\_  
 c) 3,41,956    9,56,432    3,14,566    9,65,432    \_\_\_\_\_

## ◆ Building greatest and smallest numbers

### Without repeating digits

You are given these number cards: **4** **6** **3** **0** **8**

You can build many 5-digit numbers by arranging them in different ways.

Some examples are:

**6** **3** **0** **4** **8**    **3** **8** **0** **4** **6**    **8** **6** **4** **3** **0**    **3** **4** **6** **8** **0**

Think! How will you build the **greatest 5-digit number** from these digits?



Simple! Arrange the digits in **descending order**: **8 6 4 3 0**

How will you build the smallest 5-digit number from these digits?

Arrange the digits in ascending order. But remember, the number cannot begin with 0. You cannot write 03468 because  $03468 = 3468$  which is a 4-digit number.

So, the smallest 5-digit number is **3 0 4 6 8**.

### With repeating digits

You are given the digits 1, 5, 6.

Make the greatest 5-digit number with these digits; digits may be repeated.

Arrange the digits in descending order, and repeat the largest digit as many times as necessary.

So, the number is: 66,651

To make the smallest number with these digits, arrange them in ascending order and repeat the smallest digit as many times as necessary. So, the number is: 11,156

### EXERCISE 4

1. Build the greatest and smallest numbers with these digits, without repeating the digits.

Digits	Number of digits	Greatest number	Smallest number
a) 4, 3, 1, 7	4		
b) 5, 3, 2, 1, 4	5		
c) 3, 0, 6, 1, 8, 7	6		
d) 0, 2, 7, 5, 6, 9	6		

2. Build the greatest and smallest numbers with these digits, by repeating digits as required.

Digits	Greatest 5-digit number	Smallest 5-digit number	Greatest 6-digit number	Smallest 6-digit number
a) 3, 1, 7				
b) 2, 8, 4				
c) 7, 0, 6, 3				
d) 0, 2, 7, 5				

## ◆ Rounding numbers

A newspaper headline says: **1500 people affected by floods**

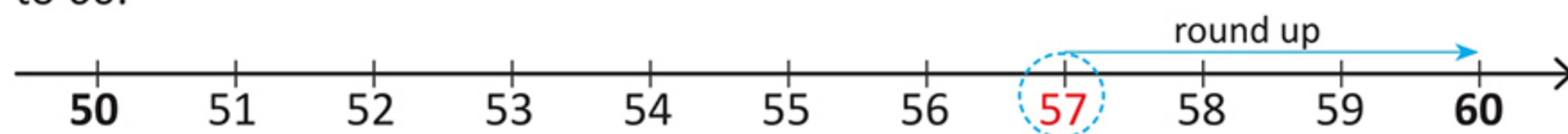
Do you think exactly 1500 people were affected?

The actual number affected may have been 1482 or 1537. What the headline means is that the number is *close to 1500*. We say that the actual number has been **rounded** to 1500.

### Rounding to the nearest 10

To round a number, say 57, to the nearest 10:

1. Find the tens between which the number lies; 57 lies between 50 and 60.
2. Find which ten the number is closer to; 57 is closer to 60 than 50, so it is **rounded** to 60.



3. If the number is midway between the two tens it is rounded up. For example, 85 is rounded up to 90.



**Example 1:** Round i. 432 and ii. 2655 to the nearest 10.

- i. 432 lies between 430 and 440. It is closer to 430. Therefore, it is **rounded down** to 430.

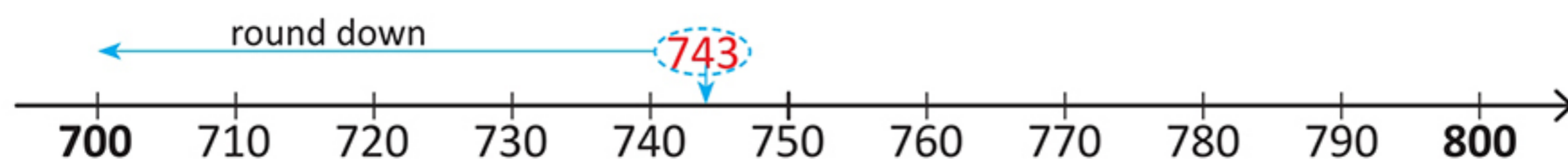


- ii. 2655 lies midway between 2650 and 2660. Therefore, it is **rounded up** to 2660.

### Rounding to the nearest 100

To round a number, say 743, to the nearest 100:

1. Find the hundreds between which the number lies; 743 lies between 700 and 800.
2. Find which hundred the number is closer to; 743 is closer to 700 than 800, so it is **rounded down** to 700.



3. If the number is midway between the two hundreds it is rounded up. For example, 450 is **rounded up** to 500.



**Example 2:** Round i. 472 and ii. 2750 to the nearest 100.

- i. 472 lies between 400 and 500.  
It is closer to 500. Therefore, it is **rounded up** to 500.
- ii. 2750 lies midway between 2700 and 2800. Therefore, it is **rounded up** to 2800.

### Rounding to the nearest 1000

To round off a number, say 4650, to the nearest 1000:

1. Find the thousands between which the number lies; 4650 lies between 4000 and 5000.
2. Find which thousand the number is closer to; 4650 is closer to 5000 than 4000, so it is **rounded up** to 5000.
3. If the number is midway between the two thousands it is rounded up. For example, 9500 is **rounded up** to 10,000.

**Example 3:** Round i. 6470 and ii. 22,500 to the nearest 1000.

- i. 6470 lies between 6000 and 7000.  
It is closer to 6000. Therefore, it is **rounded down** to 6000.
- ii. 22,500 lies midway between 22,000 and 23,000. Therefore, it is **rounded up** to 23,000.

### EXERCISE 5

#### 1. Round to the nearest 10.

- |        |        |         |           |
|--------|--------|---------|-----------|
| a) 32  | b) 67  | c) 452  | d) 85     |
| e) 114 | f) 966 | g) 2456 | h) 23,450 |

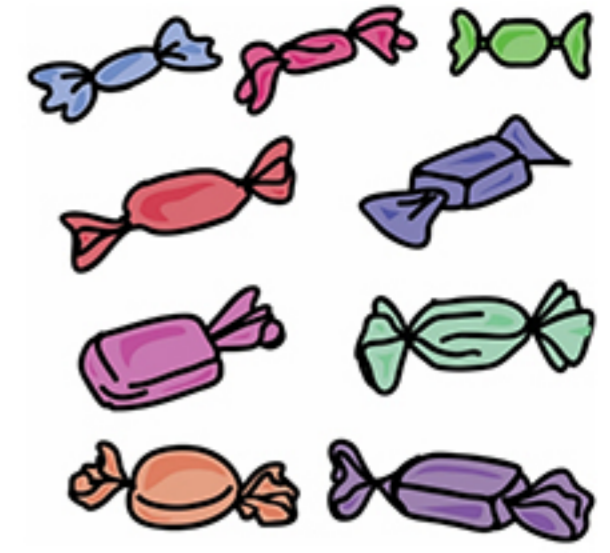
#### 2. Round to the nearest 100.

- |        |           |           |       |
|--------|-----------|-----------|-------|
| a) 754 | b) 8638   | c) 9772   | d) 49 |
| e) 150 | f) 45,813 | g) 27,390 | h) 99 |

#### 3. Round to the nearest 1000.

- |         |             |             |           |
|---------|-------------|-------------|-----------|
| a) 4892 | b) 67,101   | c) 499      | d) 93,228 |
| e) 5499 | f) 2,69,859 | g) 5,77,645 | h) 999    |

- You want to take sweets for your class on your birthday. There are 46 children in your class. How many sweets will you take, rounded to the nearest 10?
- Latha's class has 42 children. She rounds to the nearest 10 and takes 40 sweets to class on her birthday. Did she do the right thing? Why? What should she have done?
- A newspaper reporter was told that 23,347 people watched a cricket match between India and Sri Lanka. In the newspaper, he gave the headline as: **23,000 watch cricket match**. How did he round off the number?



## ◆ Roman numerals

In the number system that you have learnt, all numbers are written using the symbols 0, 1, 2, 3, 4, 5, 6, 7, 8 and 9. These are called **numerals**.

This system was invented in India and carried to other parts of the world by Arabs. That is why it is often called the **Hindu–Arabic system**.

The Romans in ancient times used another system. They used 7 symbols or numerals, representing the following numbers.

Roman numerals	I	V	X	L	C	D	M
Hindu–Arabic system	1	5	10	50	100	500	1000

There is no symbol for 0 in the Roman system. It does not use place values to write numbers. It uses rules of addition and subtraction of the above numbers to write other numbers.

### Writing numbers 1–39

The symbols I, V and X are used to write numbers 1–39.

**Rule 1:** Numerals I and X can be repeated.

Repetition means addition. I and X can be repeated up to three times.

**Rule 2:** A numeral written **after** a numeral of bigger value, means **addition**.

**Rule 3:** A numeral written **before** a numeral of bigger value means **subtraction**.

**Rule 4:** If a number is placed **between** two numbers of greater value, it is **subtracted from the number on the right**.



$$\text{III} = 1 + 1 + 1 = 3$$

$$\text{XX} = 10 + 10 = 20$$

$$\text{VI} = 5 + 1 = 6$$

$$\text{XXV} = 10 + 10 + 5 = 25$$

$$\text{IV} = 5 - 1 = 4$$

$$\text{IX} = 10 - 1 = 9$$

$$\text{XIV} = 10 + (5 - 1) = 14$$

$$\text{XIX} = 10 + (10 - 1) = 19$$

## EXERCISE 6

### 1. Write the Roman numerals:

- a) 19 \_\_\_\_\_      b) 36 \_\_\_\_\_      c) 25 \_\_\_\_\_      d) 27 \_\_\_\_\_

### 2. Write the Hindu-Arabic numerals:

- a) XXVIII \_\_\_\_\_      b) XXIV \_\_\_\_\_      c) XXX \_\_\_\_\_      d) XVII \_\_\_\_\_

### 3. Use the Roman system rules to complete the table.

1	I		21	XXI	$10 + 10 + 1$
2	II	$1 + 1$	22		
3	III		23		
4	IV	$5 - 1$	24		$10 + 10 + (5 - 1)$
5	V		25	XXV	
6		$5 + 1$	26		
7			27		
8			28		
9	XIX		29	XXIX	
10	X		30	XXX	
11	XI		31		
12		$10 + 2$	32		
13			33		$10 + 10 + 10 + 3$
14	XIV		34		
15		$10 + 5$	35	XXXV	
16	XVI		36		
17			37		
18			38		
19	XIX		39		$10 + 10 + 10 + (10 - 1)$
20		$10 + 10$			

### Check it!

Golu and Molu wrote the following Roman numerals for the given Hindu-Arabic numerals. Put ✓ for right and ✗ for wrong answer. Also point out the mistake.

Golu 

22  
4  
14  
9

XXVII  
IV  
XIV  
VIII

Molu 

XXII  
IIII  
XIII  
IX



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

### Mental Maths

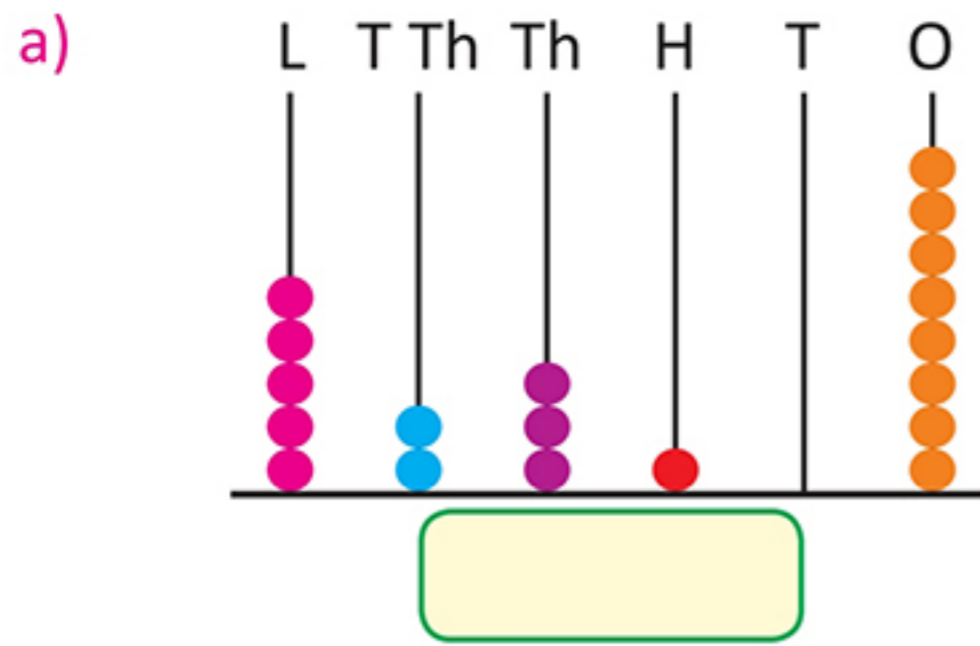
1. Which of these is a 5-digit number? 123476 6590 45678 334566
2. In which of these, does the digit 7 have a place value of 70000?  
754896 474566 47566 78932
3. Which digit is in the lakhs place in 398105?
4. What is the sum of the place values of the digit 5 in 507895?
5. What is 5299 rounded off to the nearest 100?
6. What is 299 rounded off to the nearest 1000?
7. What is the Roman numeral for 29?
8. What is the Hindu–Arabic numeral for XXXVII?
9. What is 1 less than 4,00,000?
10. Give a number that is greater than 358701.

### Mixed Bag

#### 1. Choose the correct answer.

- a) The difference between the place value and face value of the digit 1 in 1,23,456 is:  
i. 1,00,000                      ii. 1,00,001                      iii. 99,999                      iv. 9999
- b) In which number, is the digit 5 in the ten thousands place?  
i. 5,36,498                      ii. 3,54,436                      iii. 2,45,467                      iv. 1,23,456
- c) 34,678 is bigger than which of the following?  
i. 1,23,678                      ii. 44,678                      iii. 35,678                      iv. 34,578
- d) 189 rounded to the nearest 1000 is:  
i. 0                      ii. 1000                      iii. 100                      iv. 200
- e) Which of these is a valid Roman number?  
i. VVV                      ii. IIII                      iii. XXX                      iv. XVV

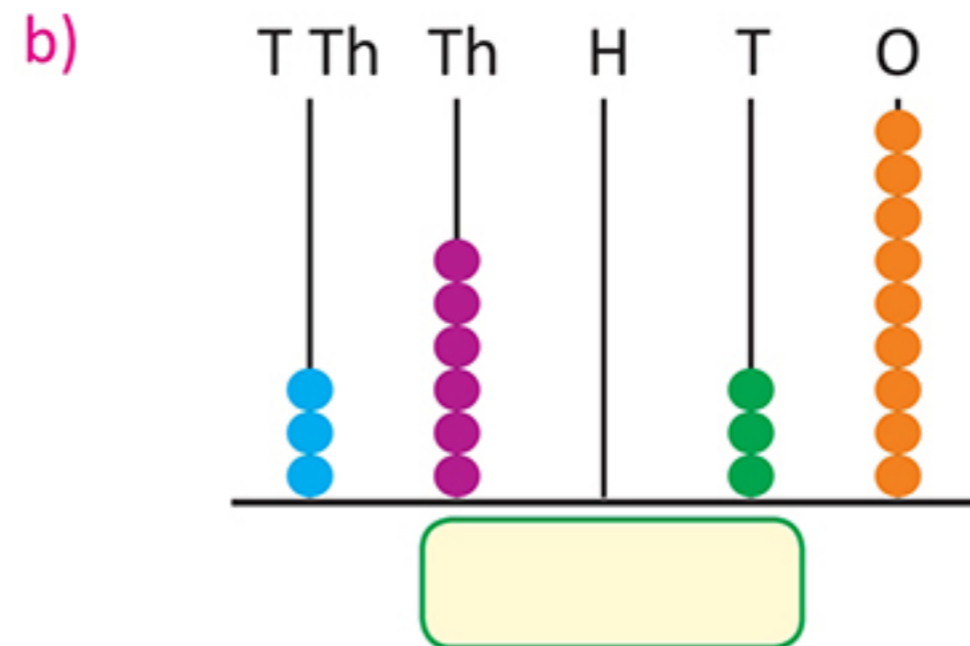
2. Write the number and number name for each abacus.




---



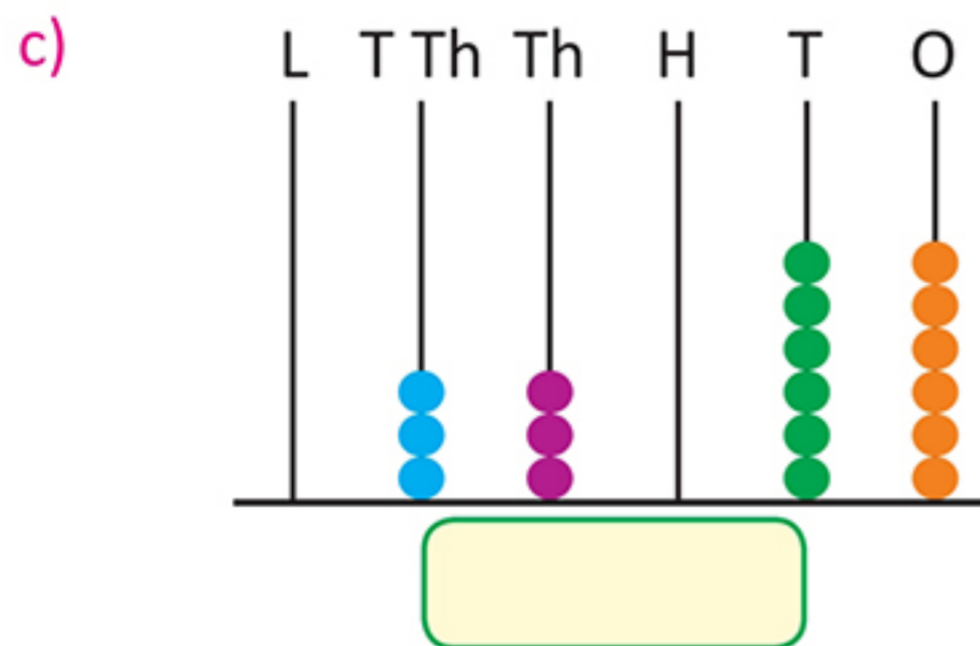
---




---



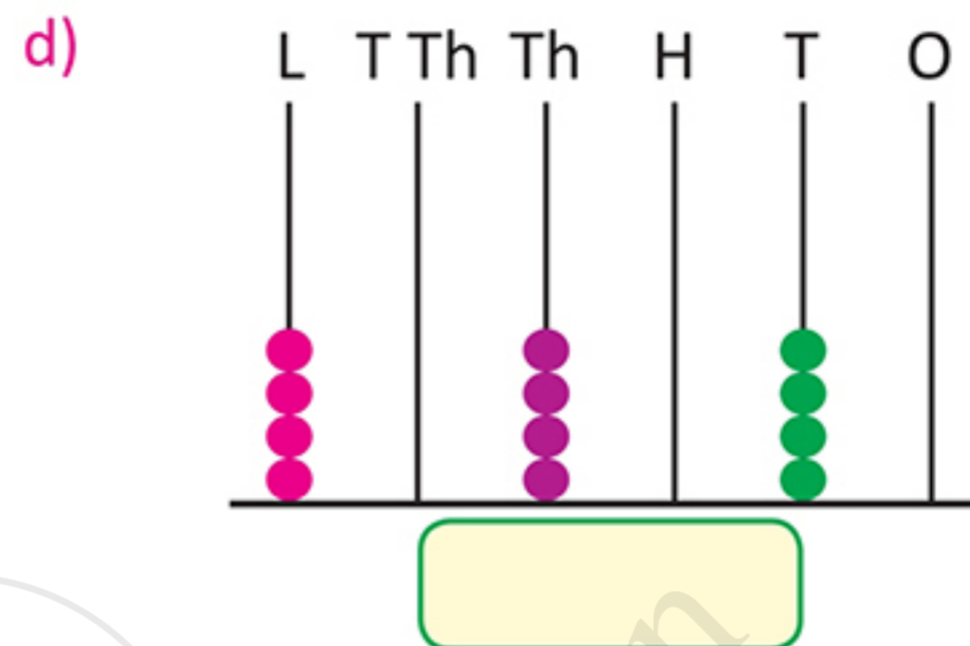
---




---



---




---



---

3. Write the number for the number name.

- a) Five lakh fifteen thousand ten : \_\_\_\_\_
- b) Ten thousand one hundred eleven : \_\_\_\_\_
- c) Nine lakh ninety-two thousand nine hundred nine : \_\_\_\_\_
- d) One lakh one : \_\_\_\_\_
- e) Fifty-six thousand fifty : \_\_\_\_\_

4. Read the number and write the number name.

- a) 1,29,323 : \_\_\_\_\_
- b) 5,08,017 : \_\_\_\_\_
- c) 80,539 : \_\_\_\_\_
- d) 44,044 : \_\_\_\_\_
- e) 9,99,009 : \_\_\_\_\_

5. Write in the expanded form.

- a) 56,495 : \_\_\_\_\_

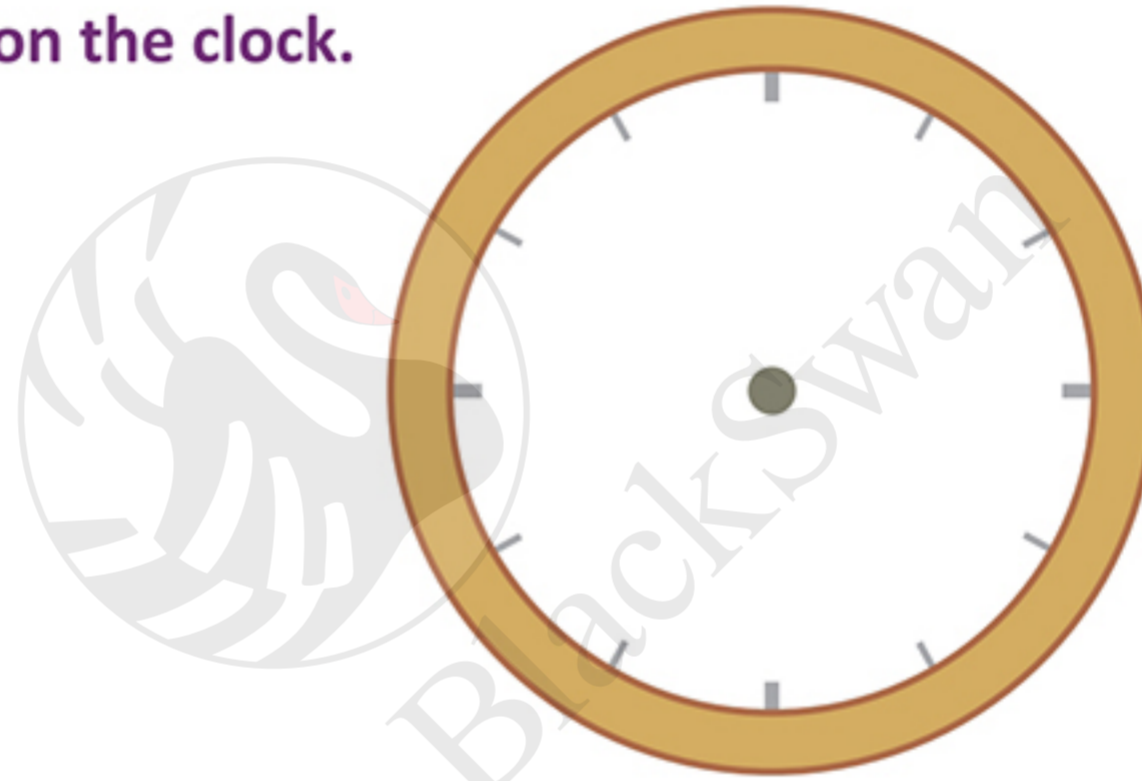


## 11. Applying rounding (story sums)

Round only the numbers given in green where it makes sense to do so. Put a cross if rounding the numbers will cause problems. The first two are done for you.

- a) I want to buy a shirt. My shirt size is **42** cm (nearest 10): **×**  
(cannot be rounded off to 40, otherwise the shirt will be too small to fit)
- b) Gagan has to buy **49** cup cakes for a party (nearest 10): **50**
- c) Mr Sharma wants to buy a shoe. His shoe size is **8** (nearest 10): \_\_\_\_\_
- d) Monojit's address is Flat no. **47** Kalpana Building, Chittaranjan Avenue, Kolkata (nearest 10): \_\_\_\_\_
- e) Food has to be arranged for **485** guests at a wedding party (nearest 100): \_\_\_\_\_
- f) Chitra's telephone number is **465401** (nearest 1000): \_\_\_\_\_
- g) A newspaper wants to report that 1,02,336 people were present in a protest march at India Gate (nearest 10,000): \_\_\_\_\_

## 12. Write the Roman numerals 1–12 on the clock.



## Higher Order Thinking Skills

- 1. The sum of 8 hundreds, 56 and 2 ones is:  
a) 66                      b) 138                      c) 858                      d) 8562
- 2. Robin rounded the numbers 322 and 359 to their nearest hundreds. He then added the rounded numbers correctly. His answer was:  
a) 600                      b) 680                      c) 700                      d) 800
- 3. Tom thought of a number. If he adds 400 to this number, the answer is greater than 550 and less than 650. Which of the following could be the number Tom thought of?  
a) 200                      b) 250                      c) 300                      d) 100
- 4. Salma thought of a three-digit number. The digit in the tens place is 6. The digit in the ones place is greater than 8. She added the digits in the hundreds place and the tens place. The sum is the same as the digit in the ones place. What is the digit in the hundreds place?  
a) 8                          b) 3                          c) 4                          d) 9

5. Rita has four number cards with the digits 3, 2, 1 and 0 on them. She makes the smallest 4-digit number using these cards without repeating any card. Which digit would go in the ones place?

- a) 2                      b) 1                      c) 3                      d) 0

## Problem Solving

You are arranging a party for 24 friends on your birthday. You estimate that you will need the following items.

- Vegetarian samosas: 24 (1 each)
- Seekh kabab (non-vegetarian): 14 (1 each for 14 non-vegetarians)
- Cup cakes 24 (1 each)
- Sandwiches: 48 (2 each)
- Large cold drink bottles 6 (1 glass each) (each bottle fills 4 glasses)



You want to round the numbers to the nearest 10 for ordering. But you want to make sure that you do not fall short of any item.

Think! How many of each will you order? Will you go according to the rounding off rules or will you change the rules?



## Cross-curricular Practice

1. The distance from the earth to the moon is 3,84,400 kilometres. Round this to the nearest 1000.

Can you use your knowledge of rounding, to round it to the nearest 1,00,000?

2. Light travels very fast. It goes 2,99,792 km in 1 SECOND!! Think! How will you round this?



## Heritage: Vedic Maths

Look at the Roman numerals for large numbers.

3333 = MMMCCCXXXIII

2999 = MMCMXCIX

If ancient Indian mathematicians had not invented the place value system, writing and reading large numbers would have been a real pain!

The distance from the Earth to the Sun is 14,96,00,000 km.

You cannot write this in the Roman system!

The Hindu–Arabic system has made writing large numbers so simple.



## ACTIVITIES SECTION

### Maths Lab Activity

#### Game of housie with 5- and 6-digit numbers

Prepare a list of 20 questions based on 5- and 6-digit numbers, for example:

Smallest 6-digit number

Number with 7 in its ones place

Number with 6 in the ones place and 6 in the lakhs place

Largest 5-digit number

5-digit number with all 7s

6-digit number starting with 6 and with other digits in reverse order

On sheets of paper, make  $4 \times 3$  columns as shown. In each sheet, write any 8 numbers in the cells at random, answering any 8 of the 20 questions.

45687		323233	654326
	100000	77777	
123982	654321		99999

Distribute the sheets to students. Read out the questions and ask the students to cross out the corresponding numbers.

As a student completes a row, he/she calls out, 'bingo!' comes up, tallies the numbers against the teacher's questions, and claims the prize.

Finally, the student to get all the numbers first, gets the prize for full house.

### Project

Work in groups of 3-4 to find the populations of the largest 10 cities in India.

(You can visit the site: <http://www.census2011.co.in/city.php> for this.)

Arrange the cities in ascending order of their population.

## WORKSHEET



1. Write in figures: Ten thousand four hundred and seventy three \_\_\_\_\_
2. Arrange in ascending order:  
73,240 10,234 81,240 73,024 \_\_\_\_\_
3. Write the number name for 9,10,000: \_\_\_\_\_
4. What is 2180 rounded to the nearest 100? \_\_\_\_\_

A

5. Write the number just after (successor) and the number just before (predecessor) of 39,125.

Successor: \_\_\_\_\_ Predecessor: \_\_\_\_\_

6. Write in the Roman number system: a) 33 \_\_\_\_\_ b) 22 \_\_\_\_\_

**B**

1. Write in figures: Fourteen thousand and four \_\_\_\_\_

2. Arrange in descending order and then find the successor of the greatest number.

90,000 1,99,999 99,999 90,999 \_\_\_\_\_

Greatest number: \_\_\_\_\_ Successor of greatest number: \_\_\_\_\_

3. Write the number name for 3,44,440. \_\_\_\_\_

4. Round 9,07,853 to the nearest 100 and 1000.

To nearest 100: \_\_\_\_\_ To nearest 1000: \_\_\_\_\_

5. Write the successor and predecessor of 10,910.

Successor: \_\_\_\_\_ Predecessor: \_\_\_\_\_

6. Write in the Hindu–Arabic number system. a) XXIX \_\_\_\_\_ b) XIV \_\_\_\_\_

1. Write in figures: Seven lakh seven thousand and seventeen \_\_\_\_\_

2. Arrange the following in the ascending order.

Seventy lakh two thousand eight hundred and forty

Seven lakh four hundred and four

Seventy thousand seven hundred and thirty three

Seventy lakh seven thousand and eighty three

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

3. Write the number name for 412919. \_\_\_\_\_

4. Use the given digits to form two 6-digit numbers that will round to 8,00,000 when rounded to the nearest ten thousand (digits are to be used only once): 1, 7, 5, 9, 8, 4

\_\_\_\_\_  
\_\_\_\_\_

5. Find the difference between the successor of 9999 and the predecessor of 10,000. \_\_\_\_\_

6. Build the greatest and smallest 6-digit numbers with the digits 2, 0, 4, 8. Repeat digits as necessary. Greatest: \_\_\_\_\_ Smallest: \_\_\_\_\_

**C**