

CHAPTER 01

KNOWING OUR NUMBERS

Ordering and Forming numbers:

When you all stand for assembly, your sports teacher must have told you this frequently,

“Stand in your height order”



You were able to do this instantly because you know you have to stand in the increasing order of height without actually measuring. We compare our height with our shoulder level and organize ourselves.



Similarly, we can arrange the numbers too. In our previous grade, we have learnt to arrange the number in the increasing or decreasing order by comparing their value. Now we shall recapitulate the same.

Ascending order:

Ascending order means arrangement from the smallest to the greatest.

Descending order:

Descending order means arrangement from the greatest to the smallest.

Example 1:

Arrange the following numbers in ascending order?

(a) 847, 9754, 8320, 571

In the given set of numbers, we have 3 digit and four-digit numbers. To begin with, we choose only the 3 digit numbers as they are the smallest. We arrange them in increasing order by comparing the digit to its hundred's place.

The remaining have two numbers 9754 and 8320 are four-digit numbers as they have thousand of places.

Among these two, the number of 8 in a thousand places is smaller than the one the with 9 in a thousand places.

Hence the final arrangement will be

571, 847, 8320, 9754

Similarly, we can arrange this

(b) 3802, 6501, 9801, 2551

The numbers in ascending order will be

2551, 9801, 6501, 3802

Descending order:

Arrange the following numbers in descending order?

Example 1:

(a) 5000, 7500, 85400, 7861

To arrange in descending order identify the number with the highest number of digits.

It is 85400.

The remaining numbers are 4 digits.

Arrange these numbers by comparing the digit in the thousand place and then digit in the hundred's place.

So the final arrangement will be:

85400, 7861, 7500, 5000

Example 2:

The numbers are:

(b) 1971, 45321, 88715, 92547

By first arranging the five-digit numbers and then the four-digit number, we have

92547, 88715, 45321, 1971

Important Points:

For ordering numbers,

- Ascending order - Arrange the numbers from small to big.
- Descending order - Arrange the numbers from big to small.

With a given set of digits, we can make different numbers under various conditions.

Consider the digits 3, 5, 7, 9.

Let us make different numbers from these digits such that no digit repeats in each number.

Let us first make a number by arranging the digits in the descending in the place value system.

Do you see, this number Nine thousand Seven hundred and Fifty-three is the largest number that can be made!

Similarly, we can make the smallest too!

Here we
ascending order in

| TH | H | T | O |
|----|---|---|---|
| 9 | 7 | 5 | 3 |
| TH | H | T | O |
| 3 | 5 | 7 | 9 |

arrange them in the
the place value system.

We can now form as many numbers by keeping one digit constant at a time in one place and changing the other digits.

Here are some examples.

| TH | H | T | O |
|----|---|---|---|
| 9 | 7 | 3 | 5 |

| TH | H | T | O |
|----|---|---|---|
| 7 | 9 | 5 | 3 |

| TH | H | T | O |
|----|---|---|---|
| 9 | 5 | 3 | 7 |

| TH | H | T | O |
|----|---|---|---|
| 7 | 9 | 3 | 5 |

| TH | H | T | O |
|----|---|---|---|
| 9 | 5 | 7 | 3 |

Example 2:

With digits 3,5,4,2 make the greatest and smallest four-digit number such that 4 is at the ten's place.

| TH | H | T | O |
|----|---|---|---|
| | | 4 | |

Now, the condition given here is that the number 4 should be in ten's place and out of the remaining digits, the biggest is 5 so we can place this in thousand places.

| TH | H | T | O |
|----|---|---|---|
| 5 | | 4 | |

We can now place 3 in a hundred places and 2 in one place to get the greatest number.

| TH | H | T | O |
|----|---|---|---|
| 5 | 3 | 4 | 2 |

Similarly, we can make the smallest number by just changing the ones and thousand's place. For the smallest number, we just need to arrange the digits in ascending order.

| TH | H | T | O |
|----|---|---|---|
| 2 | 3 | 4 | 5 |

Important Points:

To form greatest and smallest numbers with a given set of digits,

- Arrange the digits in descending order to get the greatest number.
- Arrange the digits in ascending order to the smallest number.
- To form a number with a given condition, place the number under condition first and then arrange the remaining digits.