

Chapter 12

Data Handling

In our previous classes, we have learnt how to read and interpret pictorial diagrams. In this chapter we shall learn more about pictorial diagrams.

In our daily life, we get report regarding weather, temperature, rainfall, market rates of pulses, gold, silver and oils etc. through radio, TV, newspapers etc.

As we are now living in an information oriented age, all these reports are of great use to us in taking decisions and planning our activities.

The information regarding the above will be collected by specialist people in systematic and scientific manner. The data thus collected is called Raw Data and if presented as it is, it may not give us a clear idea. So, the data is arranged in a particular way for easy understanding of the onlookers. This way of arranging raw data is called Representation of Data.

Example 1 : The percentage of marks obtained by 30 students of a class in the Annual Examination are as under:

| | | | | | | | | | |
|----|----|----|----|----|----|----|----|----|----|
| 48 | 12 | 38 | 72 | 18 | 25 | 72 | 9 | 13 | 92 |
| 4 | 48 | 94 | 9 | 50 | 60 | 38 | 87 | 85 | 67 |
| 60 | 13 | 18 | 85 | 48 | 85 | 92 | 28 | 4 | 18 |

Data shown in this form is called 'Raw Data' or 'Ungrouped Data'. From the data presented in this form we cannot easily make out any assessment about the standards of the class at a glance.

Let us now present the same data in an ascending order as shown below:

| | | | | | | | | | |
|----|----|----|----|----|----|----|----|----|----|
| 4 | 4 | 9 | 9 | 12 | 13 | 13 | 18 | 18 | 18 |
| 25 | 28 | 38 | 38 | 48 | 48 | 48 | 50 | 60 | 60 |
| 67 | 72 | 72 | 85 | 85 | 85 | 87 | 92 | 92 | 94 |

Data presented in the above form may give us a little better idea of the performance of the class.

When the same data is presented in a grouped form in a table, we have:

| | | | | | | | | | | | | | | | | | | |
|------------------------------|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-------|
| Percentage of Marks obtained | 4 | 9 | 12 | 13 | 18 | 25 | 28 | 38 | 48 | 50 | 60 | 67 | 72 | 85 | 87 | 92 | 94 | Total |
| Number of students | 2 | 2 | 1 | 2 | 3 | 1 | 1 | 2 | 3 | 1 | 2 | 1 | 2 | 3 | 1 | 2 | 1 | 30 |

Data presented in a tabular form as shown on the previous page may give the teacher a still better picture of the achievement of the students, how many students are below average and what measures are to be taken for the betterment of their standards etc.

Example 2 : Marks obtained by 40 students of a class V in a monthly test (to a maximum of 50) are given below :

34 25 41 8 12 12 47 8
 41 34 8 25 36 36 34 36
 18 41 36 36 25 41 25 18
 25 36 12 34 47 41 36 41
 34 36 25 36 8 18 12 8

Arranging the above marks in ascending order, we have

8 8 8 8 8 (5 times)
 12 12 12 12 (4 times)
 18 18 18 (3 times)
 25 25 25 25 25 25 (6 times)
 34 34 34 34 34 (5 times)
 36 36 36 36 36 36 36 36 36 (9 times)
 41 41 41 41 41 41 (6 times)
 47 47 (2 times)

From the above arrangement, we find the number of times a particular mark repeatedly occurs. This is called frequency of the mark.





The table showing the marks and their corresponding frequencies is called a 'Frequency Table'.

FREQUENCY TABLE

| Marks | Frequency |
|-------|-----------|
| 8 | 5 |
| 12 | 4 |
| 18 | 3 |
| 25 | 6 |
| 34 | 5 |
| 36 | 9 |
| 41 | 6 |
| 47 | 2 |

When the given data is presented in the form of 'Frequency Table' as shown on the previous page, it is easy to understand, compare and plan for betterment.

Example 3 : The pictograph shown below gives information about kinds of fruit plants in a field.

| | |
|------------|--|
| Mango |  |
| Apple |  |
| Watermelon |  |
| Guava |  |

Here, 1 fruit represents 10 fruit plants.



Testing Time 12.1

1. The ages (in years) of a group of children are as follows:

6 8 9 8 12 7 4 5 11 13 8
 11 6 8 4 8 5 11 13 9 10 11

Represent the above data in tabular form and then answer the following questions:

- How many children are 8 years old?
- How many children are 13 years old?
- Write the number of children, younger than 6 years.
- How many children are between 6 and 11 years old?

2. Show the following information in the form of a pictograph.

| | | | | | |
|------------------------|-----------|--------|-----------|------------|--------|
| Name of the player | Shrishant | Yuvraj | Harbhajan | S.K. Gupta | Pathan |
| Number of balls bowled | 48 | 60 | 42 | 30 | 54 |