Bar Graph

The pictorial representation of data in groups, either in horizontal or vertical bars where the length of the bar represents the value of the data present on axis. They (bar graphs) are usually used to display or impart the information belonging to 'categorical data' i.e; data that fit in some category.

Properties of Bar Graph

- All Bars have a common base.
- The length of each bar corresponds to its respective data mentioned on the axis (Y-axis for Vertical Graph, X-axis for Horizontal Graph).
- Each bar displayed has the same width.
- The distance between consecutive bars is the same

Significance of a Bar Graph

It is always easier and more comfortable to visually understand something than to look at the large table of Numerical data. Bar graphs are extensively used in presentations and reports. It is very prominently used as it summarizes data and displays it in a frequency distribution.

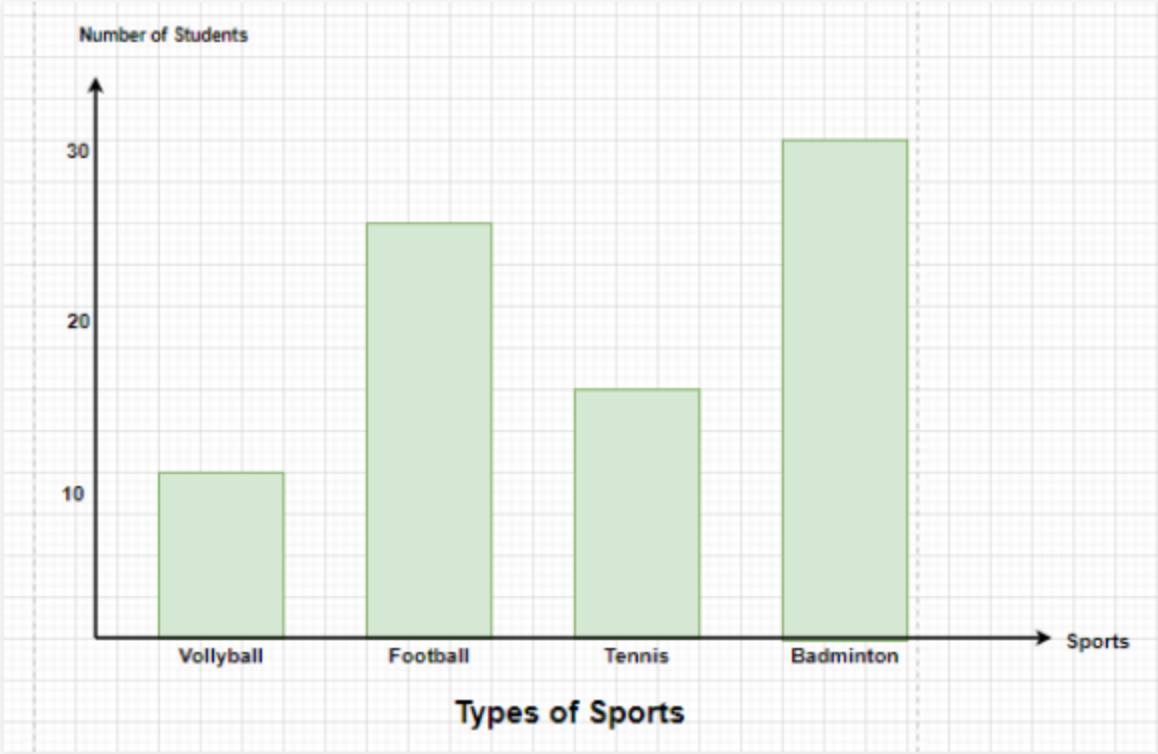
Sample Problems on Bar Graph

Question 1: Draw the Bar Graph for the following table,

Sports	Number of Students
Vollyball	10
Football	25
Tennis	15
Badminton	30

Solution:

The Bar Graph for the following table is,



Histograms

Histograms are the graphical display of data with the help of bars, the heights of the bars may vary due to different data. The similarity of a Histogram resembles a bar chart, but histogram groups numbers into different ranges. The length of each bar tells how many fall into each range, and it can be decided which ranges are to be used.

Construction and interpretation of Histogram

- First, mark the class intervals on X-axis and frequencies on Y-axis.
- Make sure that the scale of both axes is the same.
- The class Intervals shall always be exclusive.
- Create bars with class intervals on the x-axis and corresponding frequencies on the y-axis.
- The length of each bar reflects the Frequency when intervals are equal.
- The area of each bar is the same as its respective frequency when intervals are unequal.

Difference Between Histograms and Bar graph

- Bar graph is a one-dimensional figure while Histogram is a two-dimensional figure.
- In Bar graphs, the length of the bars shows the frequency, but the width has no special significance but in Histograms, the frequency is shown by the area of the bar.
- In bar graphs, the bars are separated from each other with equal spaces, while in Histograms, the bars are always touching each other.

Question 1: In a Park, there are 28 trees of different heights, the heights can be measured in centimeters and the range of the trees lie between 100-350 cms. Draw the Histogram for the following data,

Range of Height of Tree (in cm)	100-150	150-200	200-250	250-300	300-350
Number of Trees	2	10	6	3	7

Solution:

Since the height of the trees are lying between 100-350, we shall start by marking the he ights on x-axis in groups of 50cm each and the number of trees will be mentioned on y-ax is.

Therefore, if a tree has a height of 230 cm, it will lie in the rectangle 200-250.