

# **8th Standard- Maths**

## **Introduction to Graphs**

The x-coordinate of a point is its distance from y-axis.

The y-coordinate of a point is its distance from x-axis.

The coordinates of the origin are (0, 0).

The x-coordinate of every point on y-axis is zero.

The y-coordinate of every point on x-axis is zero.

A bar graph is used to show comparison among categories.

A pie graph is used to compare parts of a whole.

A histogram is a bar graph that shows data in intervals.

A line graph displays data that changes continuously over periods of time.

A line graph which is a whole unbroken line is called a linear graph.

Fixing a point on the graph sheet we need, x-coordinate and y-coordinate.

The relation between dependent variable and independent variable is shown through a graph.

The purpose of the graph is to show numerical facts in visual form for their better and quick understanding. It is specially very useful when there is a trend or comparison to be shown.

### **A Bar Graph**

It consists of two or more parallel vertical (or horizontal) bars (rectangles).

### **A Pie Graph (or A Circle-Graph)**

It is used to compare parts of a whole. The circle represents the whole.

### **A Histogram**

It is a bar graph showing data in intervals. It has adjacent bars over the intervals.

### **Linear Graphs**

Location of a Point

For locating a point on the graph sheet, we need its x-coordinate and y-coordinate.

### **Coordinates**

x-coordinate of a point reveals how much we have to move from origin O to right or left along the x-axis ; whereas y-coordinate of a point reveals how much we have to move above or below O along the y-axis.

### **Some Applications**

In our daily life, we observe two quantities that are interrelated i.e., the change in one quantity is accompanied by a change in the other quantity.

For example more the number of days a labourer works, more the wages he gets. More the sugar we purchase, more the amount we have to pay.

In the first case, the number of days is called the independent variable (or control variable) and the wages is called the dependent variable.

Similarly, in the second case, the amount of sugar is the independent variable whereas the money paid is the dependent variable.

The relation between the independent and dependent variables can be shown by a graph.

