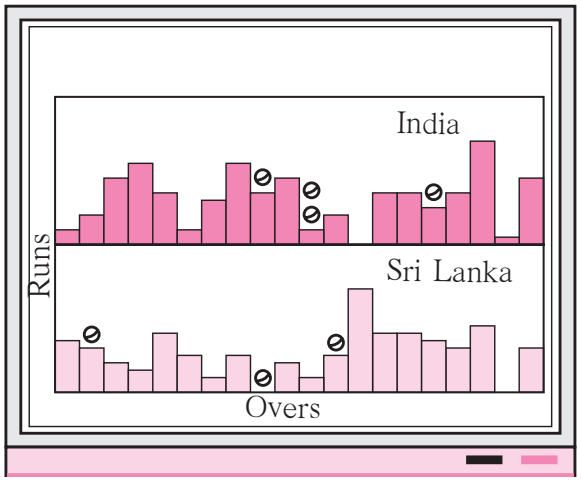
6 Bar Graphs

YGHHYL

Let's recall.



Observe the picture alongside.

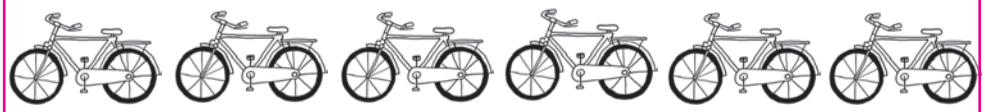
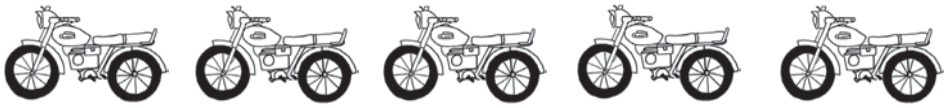
(1) To which sport is this data related?

(2) How many things does the picture tell us about?

(3) What shape has been used in the picture to represent runs?

We have seen how to make pictograms for given numerical data. When the scale is given, numerical information can be obtained by counting the pictures.

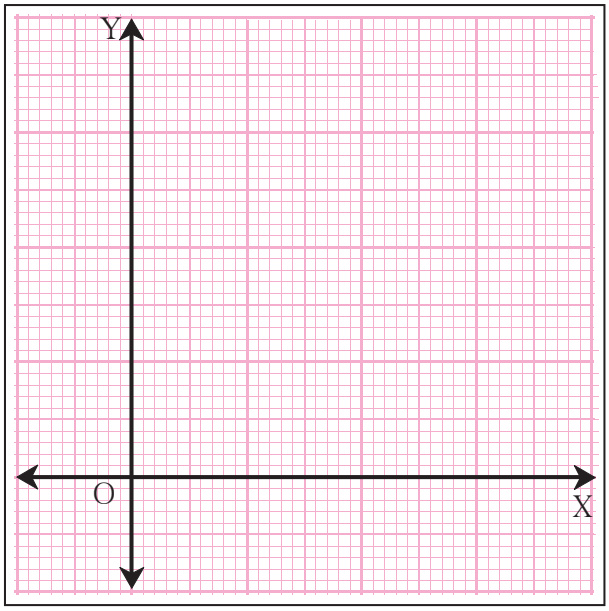
Example : A pictogram of the types and numbers of vehicles in a town is given below. Taking 1 picture = 5 vehicles, write their number in the pictogram.

Type of vehicle	Vehicles	Number
Bicycle		
Motor-cycle		
Auto-rickshaw		
Bullock cart		

It can take a long time to draw pictures. Could we give the same data without using pictures?

Let's learn.

Graph Paper

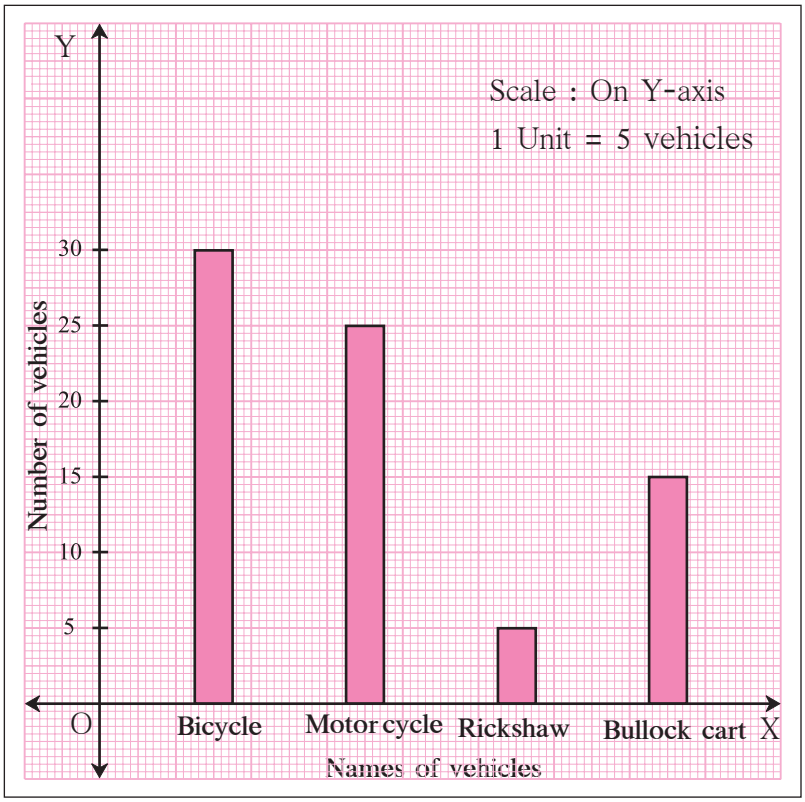


Observe the graph paper shown here. There are some bold and some faint lines on it. The bold lines show a certain big unit. This unit is divided into smaller units which are shown by the faint lines. The grid formed by these lines makes it easy to select a suitable scale and draw columns of the proper height.

Near the lower edge of the paper, a horizontal line is drawn as a base. It is called the X-axis. A line perpendicular to the X-axis is drawn on the left side of the paper. That is called the Y-axis.

The items about which the graph is to be drawn are taken on the X-axis at equal distances from each other. The number related to each item is shown above it by a vertical column. This column is parallel to the Y-axis and of the proper height according to the chosen scale. Now, let us convert the pictogram shown on page 35 into a bar graph.

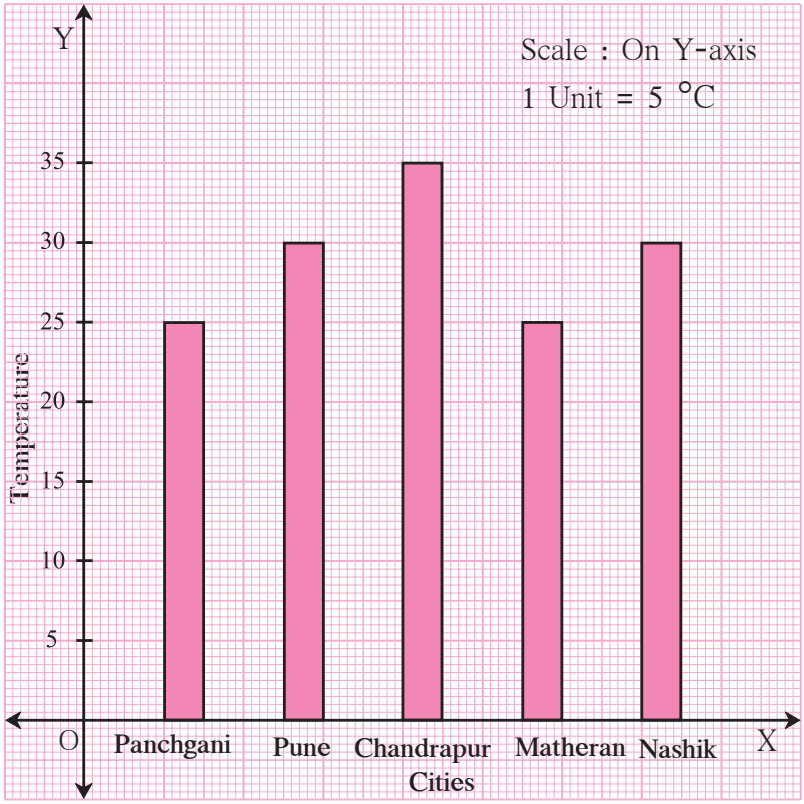
In the graph, we have to show certain vehicles and their number, which are 5, 15, 25 and 30. Let us take a scale of 5 vehicles = 1 big unit.



You can see the finished graph in the figure above.

Practice Set 18

✸ This bar graph shows the maximum temperatures in degrees Celsius in different cities on a certain day in February. Observe the graph and answer the questions.



(1) What data is shown on the vertical and the horizontal lines?

(2) Which city had the highest temperature?

(3) Which cities had equal maximum temperatures?

(4) Which cities had a maximum temperature of 30°C?

(5) What is the difference between the maximum temperatures of Panchgani and Chandrapur?

Let's learn.

Drawing a Bar Graph

Let us take an example to see how the given data is shown as a bar graph.

Example : Information about the plants in a nursery is given here. Show it in a bar graph.

Names of plants	Mogara	Jai	Hibiscus	Chrysanthemum
Number of plants	70	50	45	80

Take a graph paper.

(1) In the centre, write the title 'Types and number of plants'.

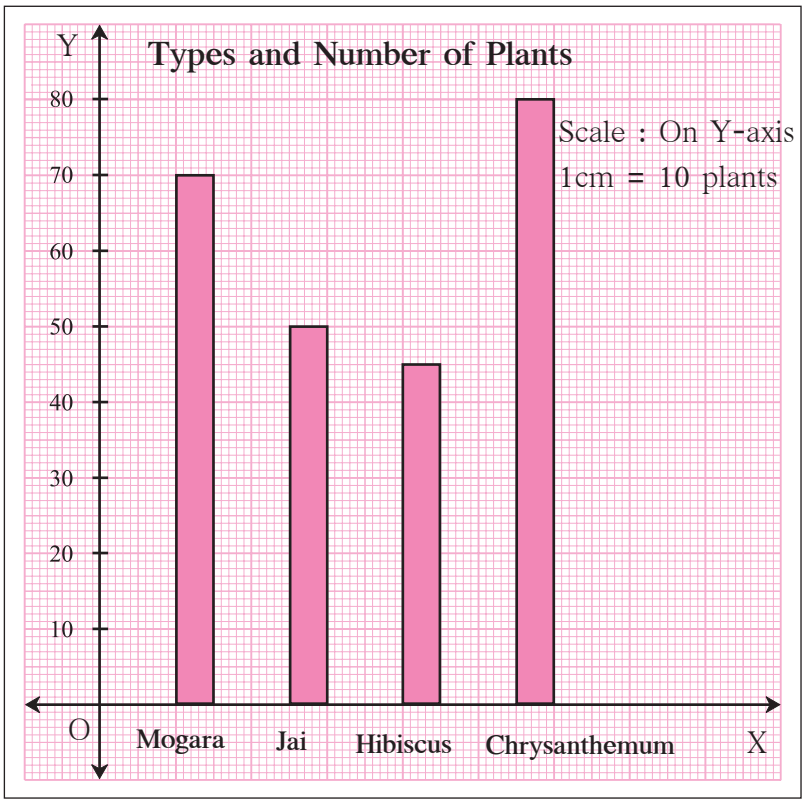
(2) Draw the X and Y axes, and mark O, their point of intersection.

(3) Write the names of the plants on the X-axis at equal distances.

(4) The number of plants is divisible by 5. So, take the scale 0.5 cm = 5 plants, that is, 1cm = 10 plants on the Y-axis as it can be easily shown on the graph paper.

(5) Write the scale in the top right hand corner.

(6) Draw a bar of the appropriate height above the name of each plant on the X-axis.



For the same example above, draw a graph taking a different scale on the Y-axis. (For example, 1 cm = 5 plants.) Compare it with the graph above.

Now I know –

- Every bar in the graph should be of equal width.
- The distance between any two adjacent bars should be equal.
- All bars should be of appropriate height.

My friend, Maths : In newspapers, in periodicals.

Collect bar graphs from newspapers or periodicals showing a variety of data.

Practice Set 19

(1) The names of the heads of some families in a village and the quantity of drinking water their family consumes in one day are given below. Draw a bar graph for this data.
(Scale : On Y-axis, 1cm = 10 litres of water)

Name	Ramesh	Shobha	Ayub	Julie	Rahul
Litres of water used	30 litres	60 litres	40 litres	50 litres	55 litres

(2) The names and numbers of animals in a certain zoo are given below. Use the data to make a bar graph. (Scale : on Y-axis, 1cm = 4 animals)

Animals	Deer	Tiger	Monkey	Rabbit	Peacock
Number	20	4	12	16	8

(3) The table below gives the number of children who took part in the various items of the talent show as part of the the annual school gathering. Make a bar graph to show this data. (Scale : on Y-axis, 1cm = 4 children)

Programme	Theatre	Dance	Vocal music	Instrumental music	One-act plays
No. of students	24	40	16	8	4

(4) The number of customers who came to a juice centre during one week is given in the table below. Make two different bar graphs to show this data.
(Scale : on Y-axis, 1cm = 10 customers, on Y-axis, 1cm = 5 customers)

Type of juice	Orange	Pineapple	Apple	Mango	Pomegranate
No. of customers	50	30	25	65	10

(5)* Students planted trees in 5 villages of Sangli district. Make a bar graph of this data. (Scale : on Y-axis, 1cm = 100 trees)

Name of place	Dudhgaon	Bagni	Samdoli	Ashta	Kavathepiran
No. of trees planted	500	350	600	420	540

(6)* Yashwant gives different amounts of time as shown below, to different exercises he does during the week. Draw a bar graph to show the details of his schedule using an appropriate scale.

Type of exercise	Running	Yogasanas	Cycling	Mountaineering	Badminton
Time	35 minutes	50 minutes	1 hr 10 min	$1\frac{1}{2}$ hours	45 minutes

(7) Write the names of four of your classmates. Beside each name, write his/her weight in kilograms. Enter this data in a table like the above and make a bar graph.

ICT Tools or Links

Several different types of graphs are used to present numerical data. Ask your teacher for help to observe the graphs in MS - Excel, PPT.