1 Bar Graph

◆ **Let us learn new :**

Activity 1 :

- Do you have fun while doing activity, given by your teacher. Let us do another activity like that. Dear friends, make a list of articles kept in your school bag as shown in following table and note down in the table with sign.

  e.g. Two pens are there in my school bag, then do two ■ in pen column.

■ ■					
Pen	**Textbook**	**Compass Box**	**Pencil**	**Notebook**	**Workbook**

Activity 2 : Dear friends, you have done good job ! Now, fill up the information about your family members in the following table. For this use colours. Fill up colour memberwise, in each box :

Colours→	Red	Green	Blue	Orange	Light Blue	Yellow
5						
4						
3						
2						
1						
No. of Members ↑	Brother	Sister	Uncle	Aunty	Maternal Uncle	Maternal Aunty

Activity 3 :

Dear friends, below approximate lifecycle of different animals are given in years, fill up different colours as shown in the table :

Lifecycle of animals

(in years) :

Cat	➤	10
Dog	➤	8
Rabbit	➤	6
Monkey	➤	12

| Colour	Red	Green	Blue	Orange
14				
13				
12				
11				
10				
9				
8				
7				
6				
5				
4				
3				
2				
1				
Animals				

Bar Graph :

We can easily understand the data (information) by pictures then by digits. But, pictorial representation of every data takes much time. Instead of pictures we show the same data in different way. From the given data, we can draw bars of equal breadth, equal rectangles. The graph which is represented by bars is called **Bar graph**.

Graph paper :

In graph paper, horizontal and vertical lines are drawn at right angles, distance between them is equal. In graph paper some lines are shown 'bold' and some lines are shown 'light' in colour. The distance between two consecutive bold coloured lines is 1 cm. 1 cm is divided into 5 or 10 equal parts. Here, we use the graph paper in which 1 cm is divided into 5 parts. Study the following graph paper :

Heading : In government primary shool, presence of students of std. 5 to 8 on Dt. 1-4-2012
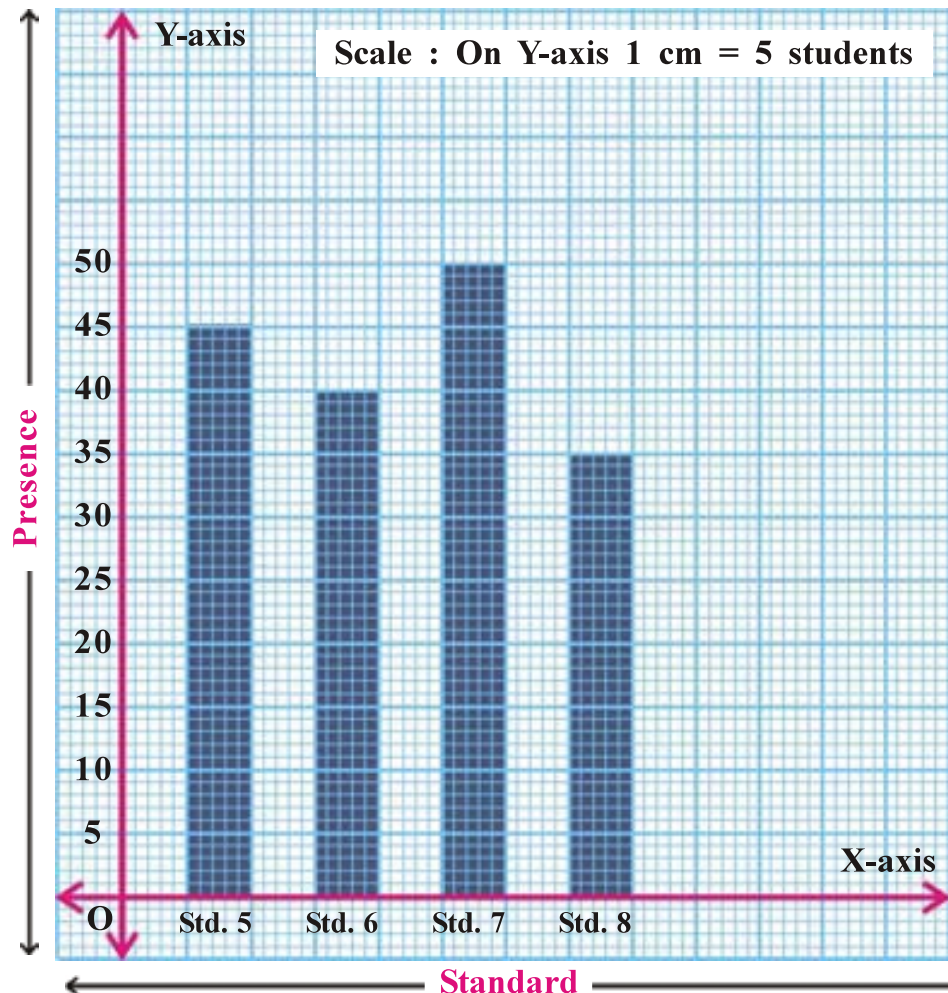
Graph 1

Advantages of Bar graph :

- Representation of the data is very short.
- We can remember the data for a long time.
- We can easily compare between two datas.
- We can understand the data easily.
- Data of more than one factors are easily available.

Uses :

In our daily life, we often come across bar graphs and tables relating to some data like birthrates, deathrates, cold, temperature, monsoon, percentage of literacy, industrial production, crop production, cricket match, export-import position of country, educational results and its achievement rank in newspaper, magazines and information bulletins on T.V.

Scale : Measurement of the data to decide 1 cm length or breadth is called scale. e.g. In graph-1, 1 cm = 5 students. It is the scale of Y-axis.

Activity 4 :

Dear friends, you have done activities 2 and 3. Now, same way fill up the data of runs scored by Indian cricketers with given colours :

Cricketer	Sachin	Sehwag	Raina	Dhoni	Gambhir
Runs	35	30	20	25	15

Here, maximum run is 35.

Scale : 1 box = 5 runs

Similarly, 5 runs means, fill up the colour in 1 ☐ box.

Colours → Runs ↓	Red	Green	Blue	Orange	Light Blue
35					
30					
25					
20					
15					
10					
5					
Cricketers →	Sachin	Sehwag	Raina	Dhoni	Gambhir

Activity 5 :

Trees	No. of trees
Neem	
Ashok	
Banyan	
Babool	
Peepel	

Dear friends, from our school ground or from nearby area list out the following trees :

Neem, Ashok, Banyan, Peepel

Scale : 1 box = 2 trees

Here, fill up the colours in whole box for 2 trees.

= 2 trees

Now, what should we do if number of trees is **odd number** ?

Here, Scale : 1 box = 2 trees

Therefore, 1 tree = $\frac{1}{2}$ box. So, fill up the colour in half box = 1 tree.

= 1 tree

Suppose, from our school ground or from nearby area number of neem trees is 9, then 2 trees = 1 box. i.e. take 4 boxes for 8 trees and half box for 1 tree. Therefore, to show 9 trees, take 4 full boxes and a half box.

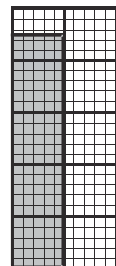| Nos.					
18					
16					
14					
12					
10					
8					
6					
4					
2					
Trees	Neem	Ashok	Banyan	Babool	Peepel

Half Boxes   **Full Boxes**   **Graph-paper**

**Let us understand :**

- Horizontal line drawn on graph-paper is called X-axis.
- Vertical line drawn on graph-paper is called Y-axis.
- Bar graph is used to compare 2 datas.
- Suitable heading is given to each graph.
- For each data vertical rectangle is drawn on X-axis.
- Width of each bar should kept equal but their respective height depends on value of given data. If the value is more, height of the bar is more and if the value is less, height of the bar is less.
- Always, distance between two nearby bars should kept equal. So, scale is not necessary on X-axis, but on Y-axis it is necessary to take suitable scale.
- Scale is decided according to the limitations of graph-paper. Everytime, scale is taken according to necessity.
- Generally, qualitative information is denoted on X-axis, while quantitative information is denoted on Y-axis.

Illustration 1 : The bar graph given shows rainfall of a week in month of July in five cities. Answer the following questions from that :

One week rainfall of 5 cities of July month
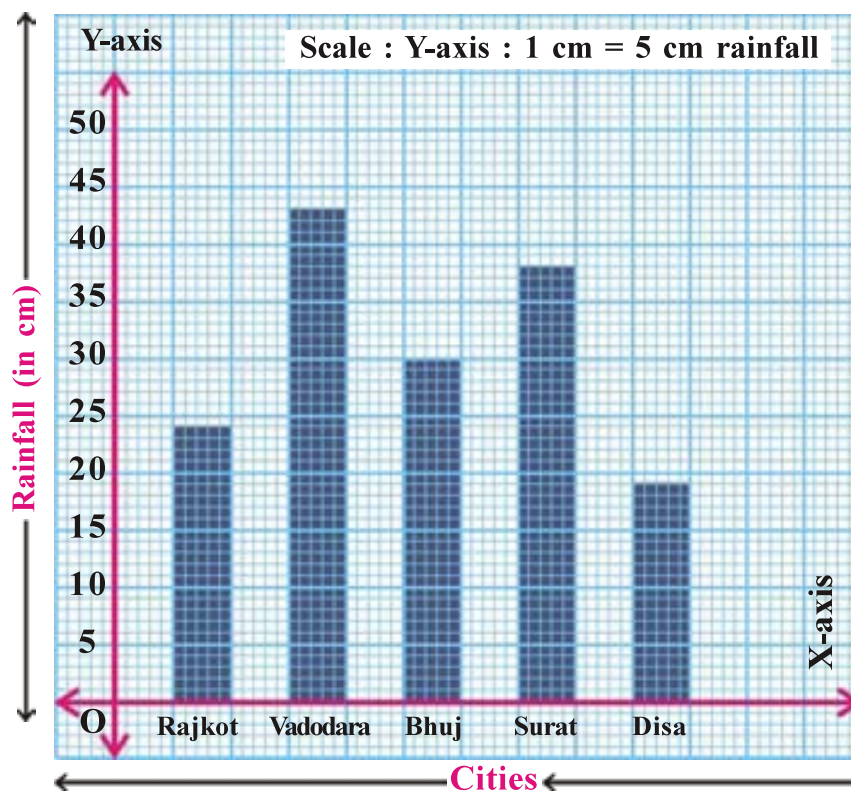
Graph 2

Questions :

(1) What information does the given bar graph give ?

(2) What is shown on X-axis ?

(3) What is shown on Y-axis ?

(4) What is the scale of this graph ?

(5) In which city does the maximum rain fall ? How much ?

(6) How much centimeter of rain falls in Bhuj city ?

(7) In which city does the minimum rain fall ? How much ?

Answers :

(1) Given bar graph shows total rain fall in one week of July month in five cities.

(2) Cities, name are shown on X-axis.

(3) Rain fall is shown (in cm) on Y-axis.

(4) Scale is 1 cm = 5 cm rainfall.

(5) Maximum rain falls in Vadodara city and it is 43 cm.

(6) 30 cm rain falls in Bhuj city.

(7) Minimum rain 19 cm falls in Disa city.

Do it yourself : By taking suitable scale, draw bar graph showing following information.

Standard	1	2	3	4	5
No. of students present					

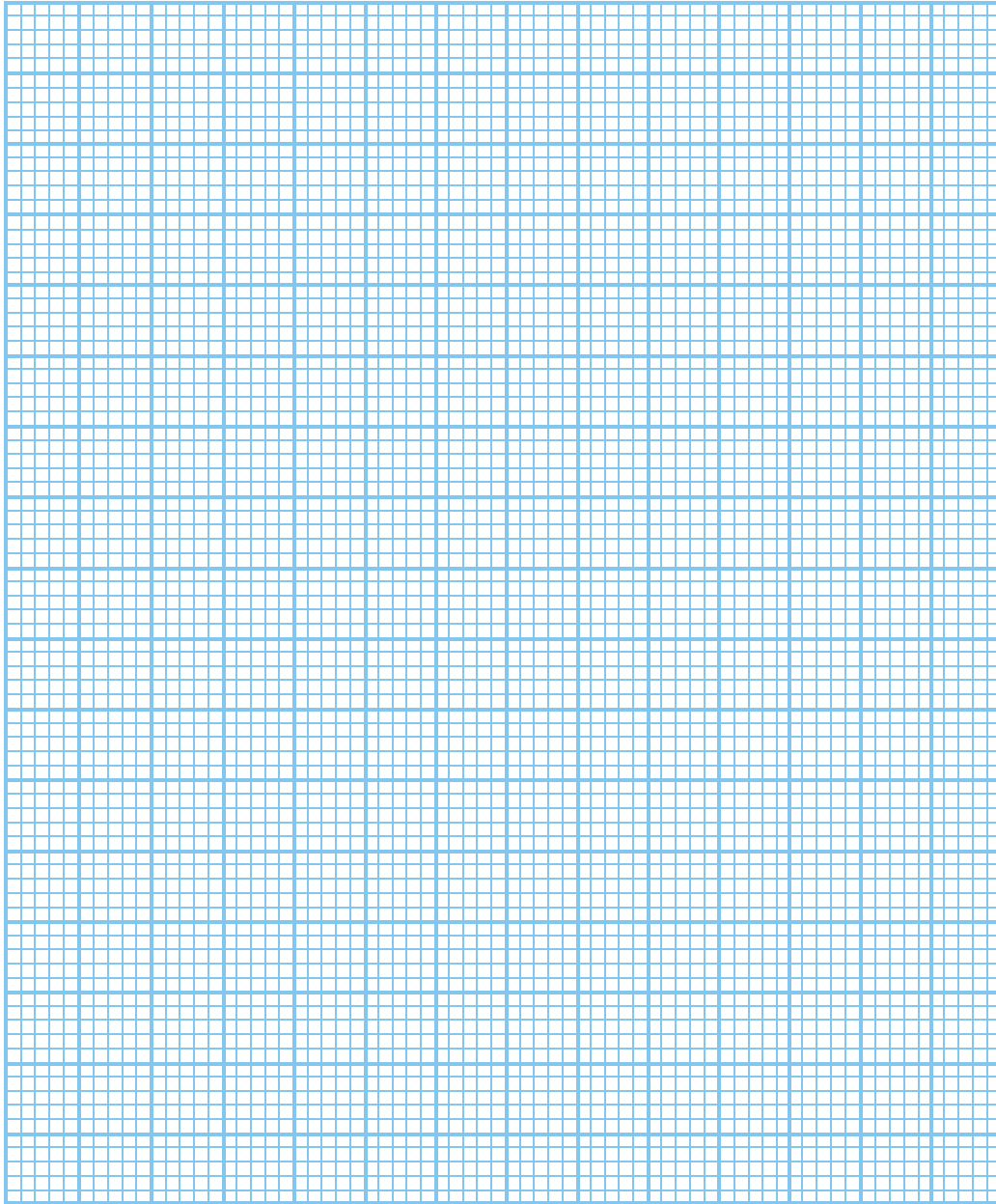Show today's no. of students present in std. 1 to 5 of your shool and fill up the above boxes.

Instruction to prepare graph :

(1) Draw horizontal line X-axis and draw vertical line Y-axis at right angle, on the graph paper by leaving specific space. Intersection point (origin) is given the name 'O'.

(2) Show standard on X-axis.

(3) Show no. of students on Y-axis.

(4) To show maximum 60 students on Y-axis, take scale 1 cm = 5 students. On Y-axis, start from O, write 5, 10, 15, 20, ..., 60 at each cm interval.

(5) On X-axis leave 1 cm box and draw 1st bar of 5 cm width. Same way draw other bars. Keep equal distance between each box.

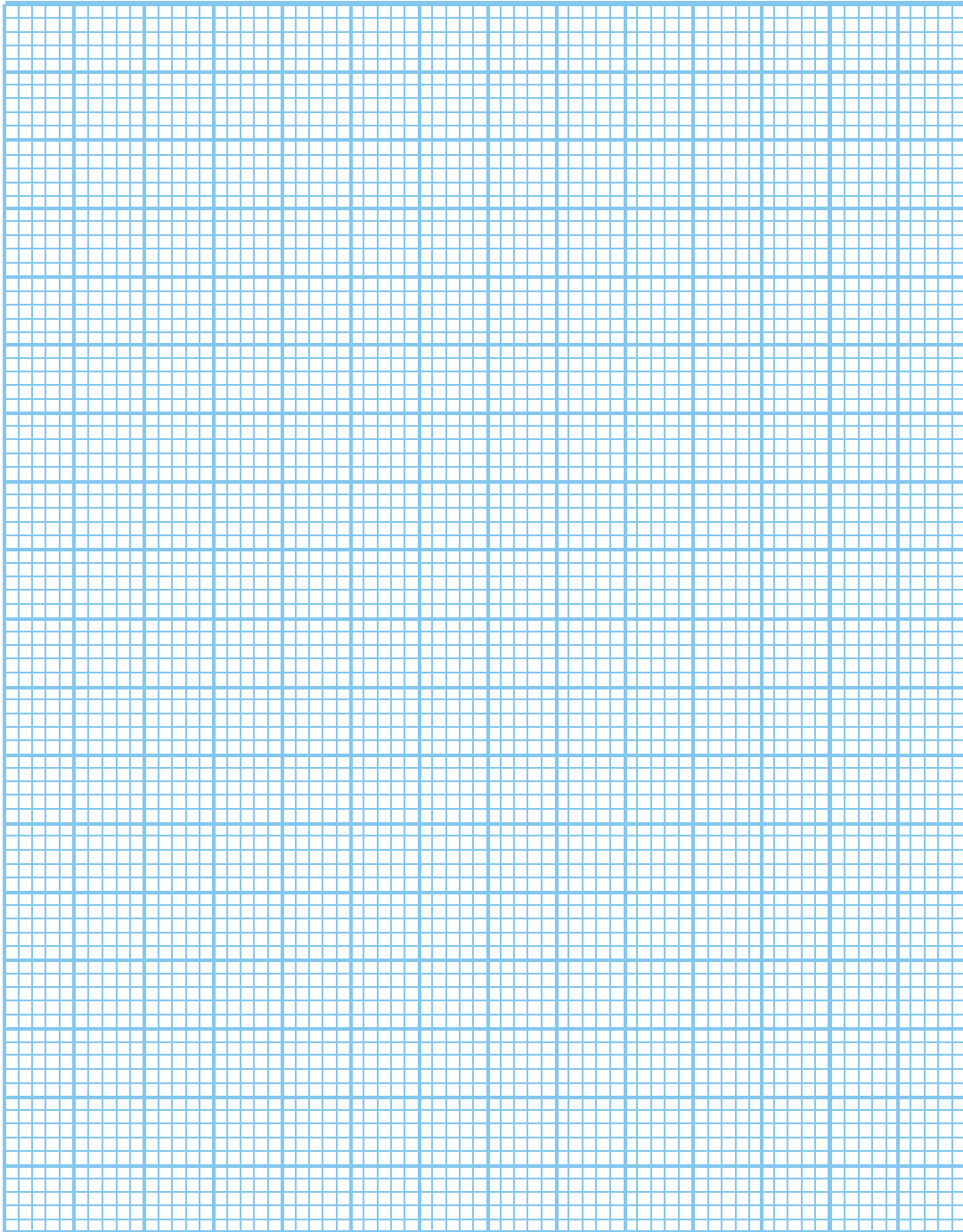(6) Give heading to the graph paper and also proper scale on the graph paper.

Exercise 1

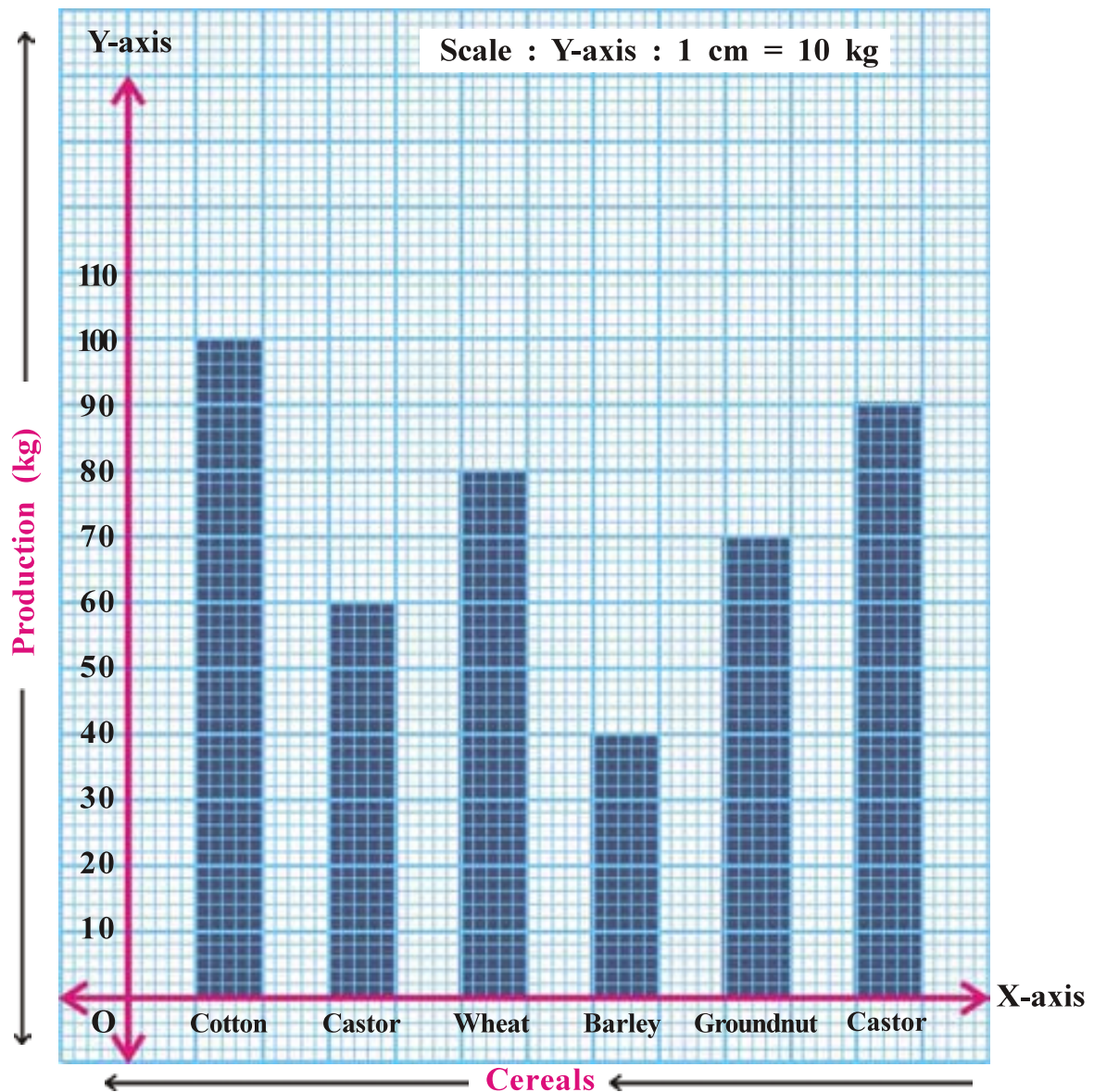**1.** Prepare bar graph and fill up the table from the following picture :
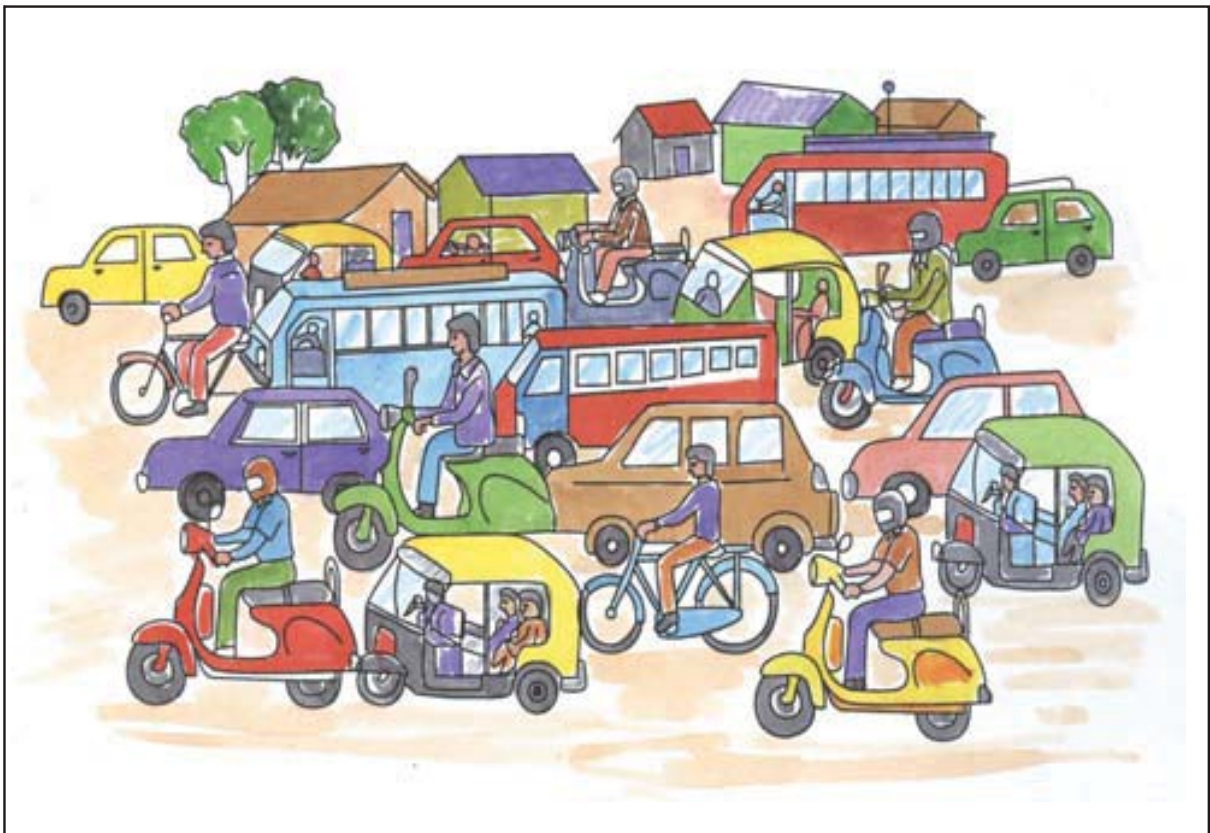
Vehicles	Bus	Scooter	Bicycle	Rickshaw	Car
Numbers					

2. Answer the following from given below bar graph :

Information of crops in Ramjibhai's field

Scale : Y-axis : 1 cm = 10 kg

**Questions :**

(1) What is shown in X-axis ?

(2) What is shown in Y-axis ?

(3) How much production occurs of Wheat ?

(4) Which crop has maximum production ? How much ?

(5) Which crop has minimum production ? How much ?

3. Complete the table from given data and prepare bar graph :

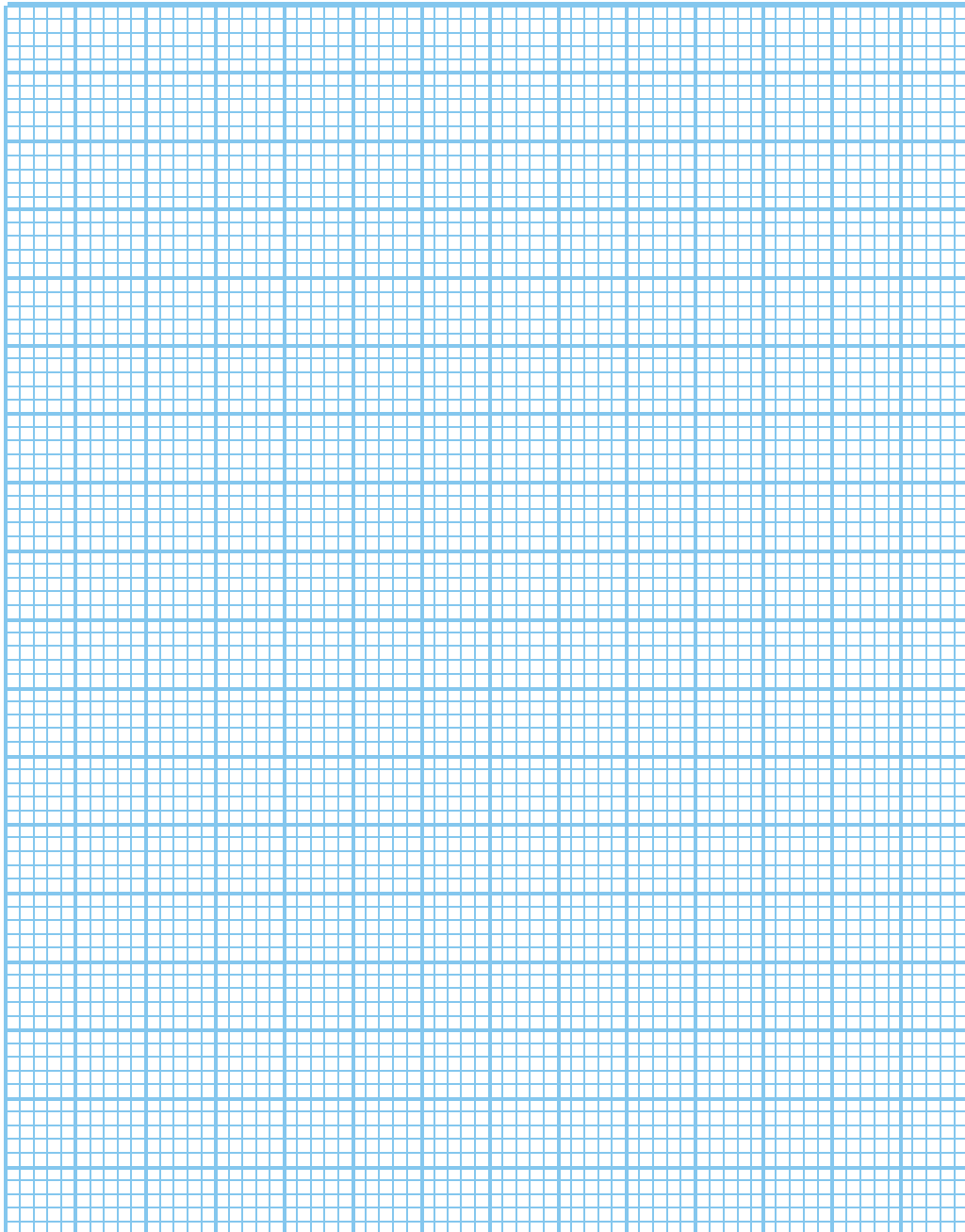| President	Dr. Rajendra Prasad	Dr. S. Radhakrishnan	Dr. Zakir Hussain	V. V. Giri	Fakruddin Ali Ahmed
Working Period	1950-1962	1962-1967	1967-1969	1969-1974	1974-1977
Total Years					
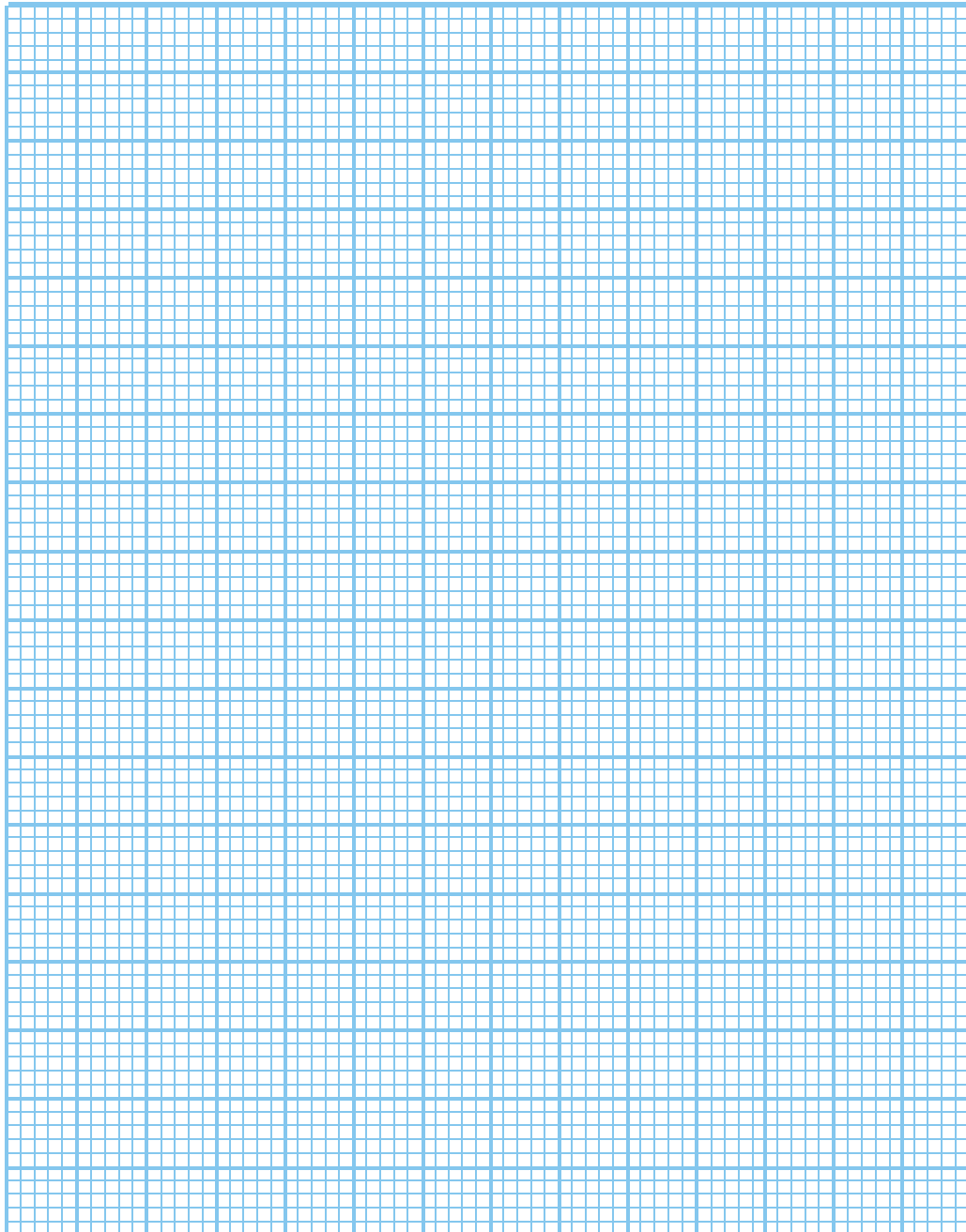
4. Prepare bar graph by collecting information :

Days	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
No. of students present in std. 6 and std. 7 in your school						

5. Prepare bar graph from the following data :

Crop	Wheat	Bajra	Corn	Rice	Groundnut
Height	50 cm	150 cm	160 cm	40 cm	20 cm
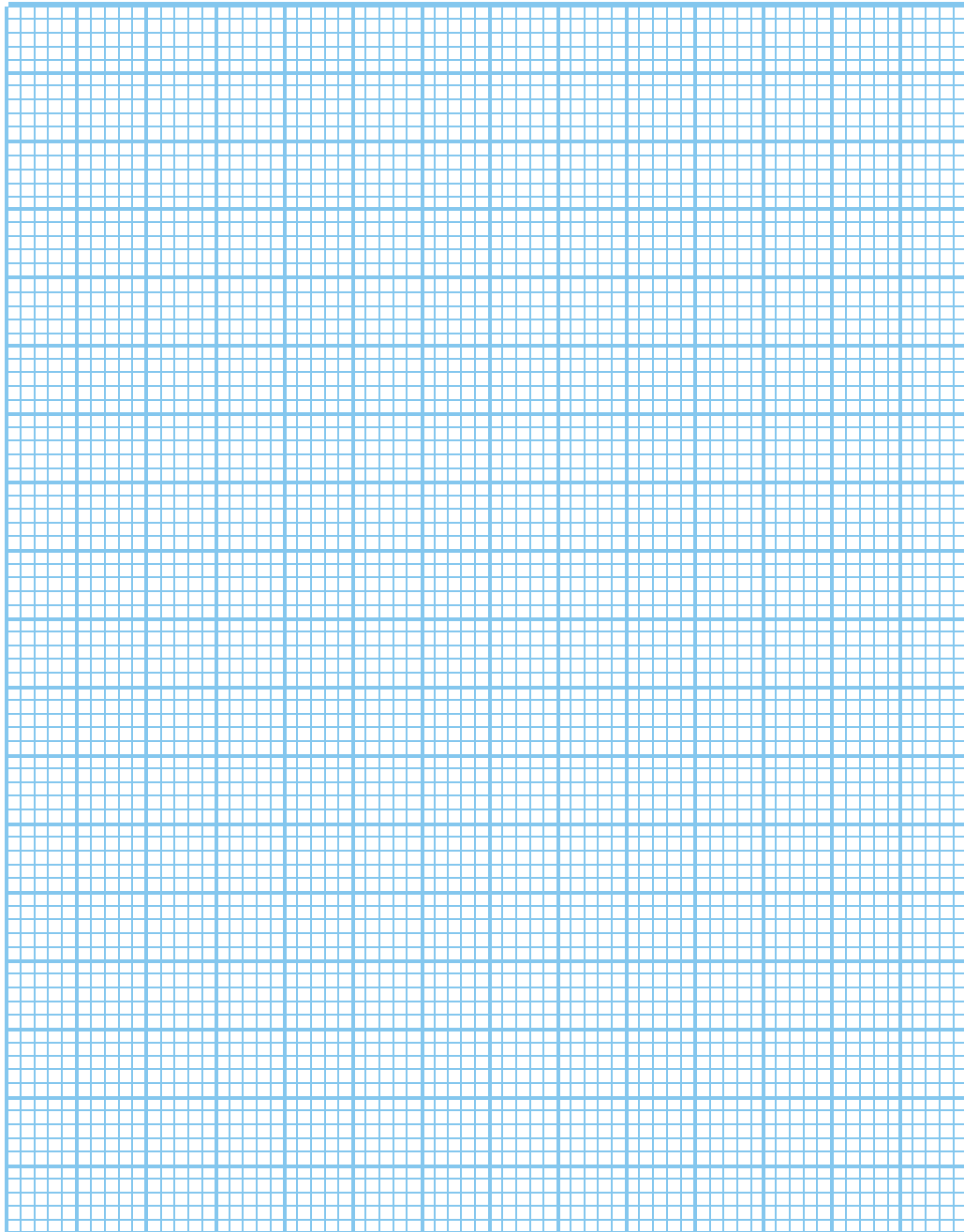
6. Note down the height of your five friends in the following table and on the basis of this prepare bar graph :

Name of friend					
Height (in cm)					