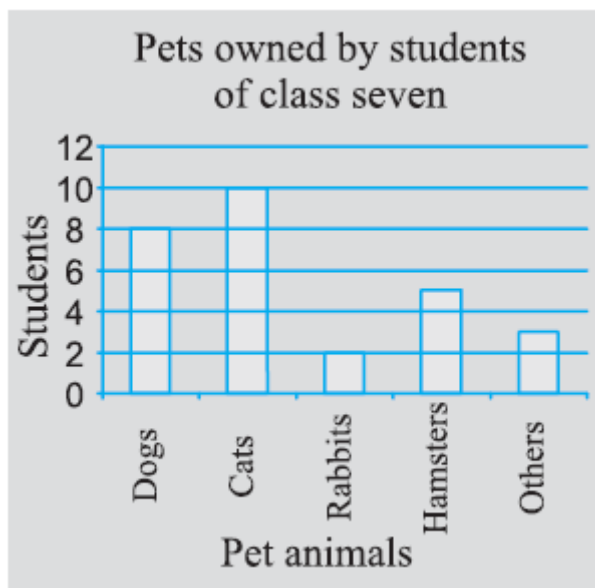EXERCISE 3.3   PAGE: 72

1. Use the bar graph (Fig 3.3) to answer the following questions.

(a) Which is the most popular pet? (b) How many students have dogs as a pet?

Solution:-

The bar graph represents the pets owned by the students.

(a) From the bar graph, the most popular pet is cat. It is owned by 10 students out of 12 students.

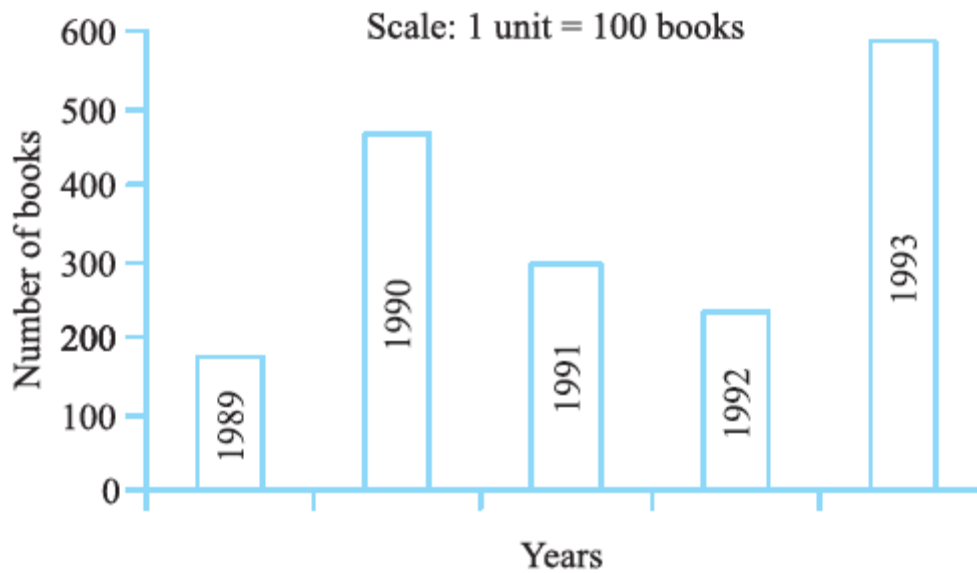(b) From the bar graph, 8 students have dogs as a pet out of 12 students.

2. Read the bar graph (Fig 3.4), which shows the number of books sold by a bookstore during five consecutive years, and answer the following questions.

(i) About how many books were sold in 1989, 1990 and 1992?

(ii) In which year was about 475 books and 225 books sold?

(iii) In which years were fewer than 250 books sold?

(iv) Can you explain how you would estimate the number of books sold in 1989?

Solution:-

(i) By observing the bar graph,

175 books were sold in the year 1989.

475 books were sold in the year 1990.

225 books were sold in the year 1992.

(ii) By observing the bar graph,

475 books were sold in the year 1990.

225 books were sold in the year 1992.

(iii) By observing the bar graph,

In the years 1989 and 1992, the number of books sold was less than 250.

(iv) By observing the bar graph, we can conclude that

The number of books sold in the year 1989 is about 1 and ¾th part of 1 cm.

WKT, Scale is taken as 1 cm = 100 books

= 100 + (¾ × 100)

= 100 + (3 × 25)

= 100 + 75

= 175

3. Number of children in six different classes is given below. Represent the data on a bar graph.

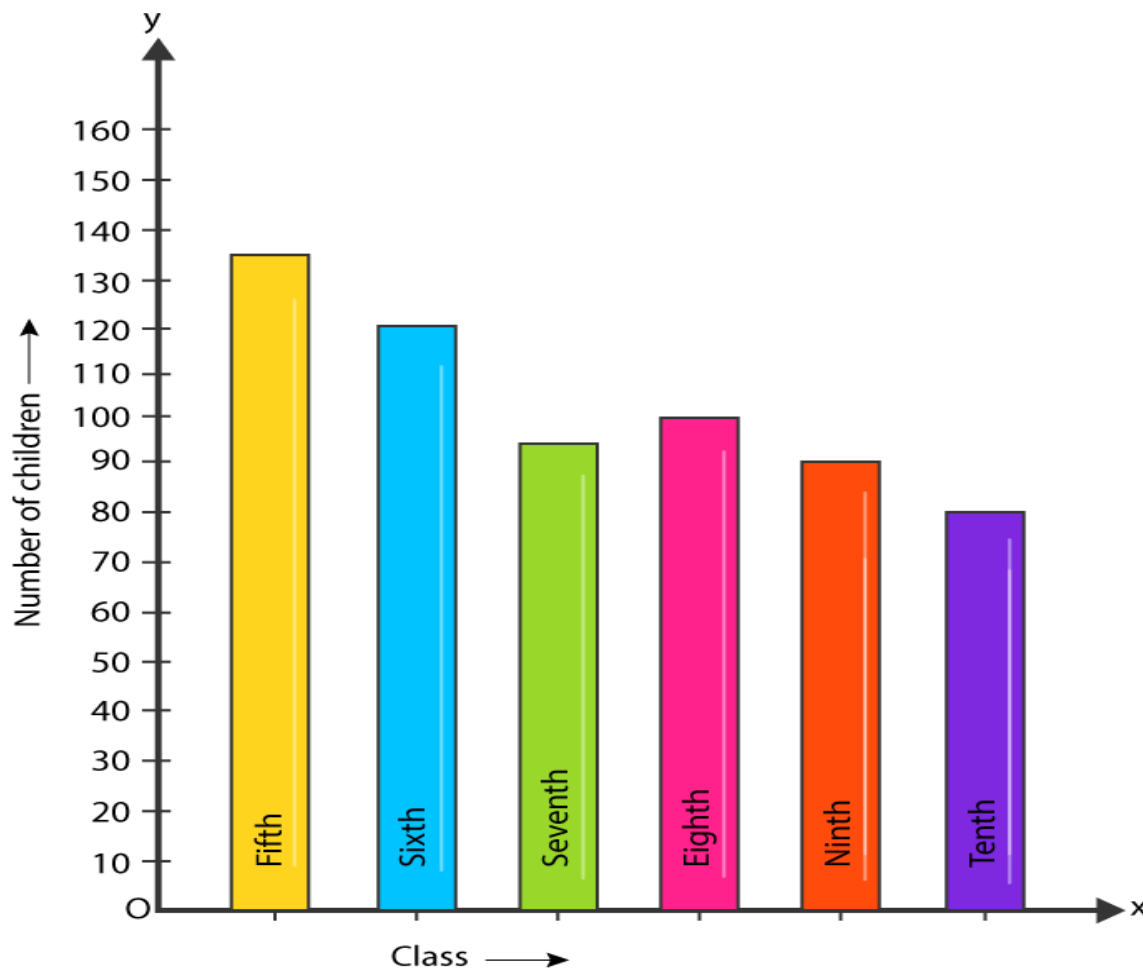| Class	Fifth	Sixth	Seventh	Eighth	Ninth	Tenth
Number of Children	135	120	95	100	90	80

(a) How would you choose a scale?

(b) Answer the following questions:

(i) Which class has the maximum number of children? And the minimum?

(ii) Find the ratio of students of Class six to the students of Class eight.

Solution:-

(a) We will take the scale as 1 unit = 10 children because we can represent a bigger and clear difference between the number of students in Class 7th and Class 9th.

(b) (i) Class 5th has the maximum number of children, i.e. 135, and Class 7th has the minimum number of children, i.e. 95.

(ii) The total number of students in Class 6th is 120, and the total number of students in Class 8th is 100.

Then,

The ratio between the number of students in Classes 6th and 8th,

= (120/100)

= 6/5

= 6: 5

4. The performance of a student in the 1st Term and 2nd Term is given. Draw a double bar graph by choosing an appropriate scale and answer the following:
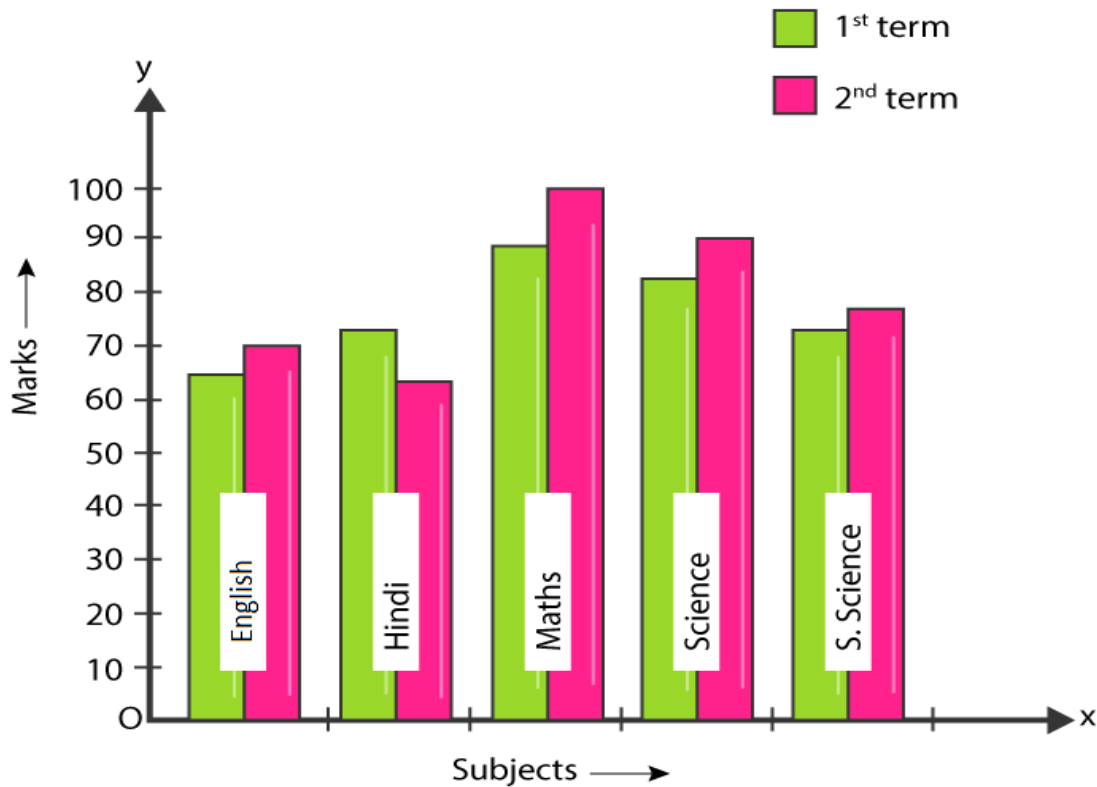
Subject	English	Hindi	Maths	Science	S. Science
1st Term (M.M. 100)	67	72	88	81	73
2nd Term (M.M. 100)	70	65	95	85	75

(i) In which subject has the child improved his performance the most?

(ii) In which subject is the improvement the least?

(iii) Has the performance gone down in any subject?

Solution:-

(i) By observing the double bar graph, there was a maximum mark increase in the Maths subject. So, the child has improved his performance in Maths.

(ii) By observing the double bar graph, the improvement was the least in S. Science.

(iii) By observing the double bar graph, the performance in Hindi has gone down.

5. Consider this data collected from a survey of a colony.

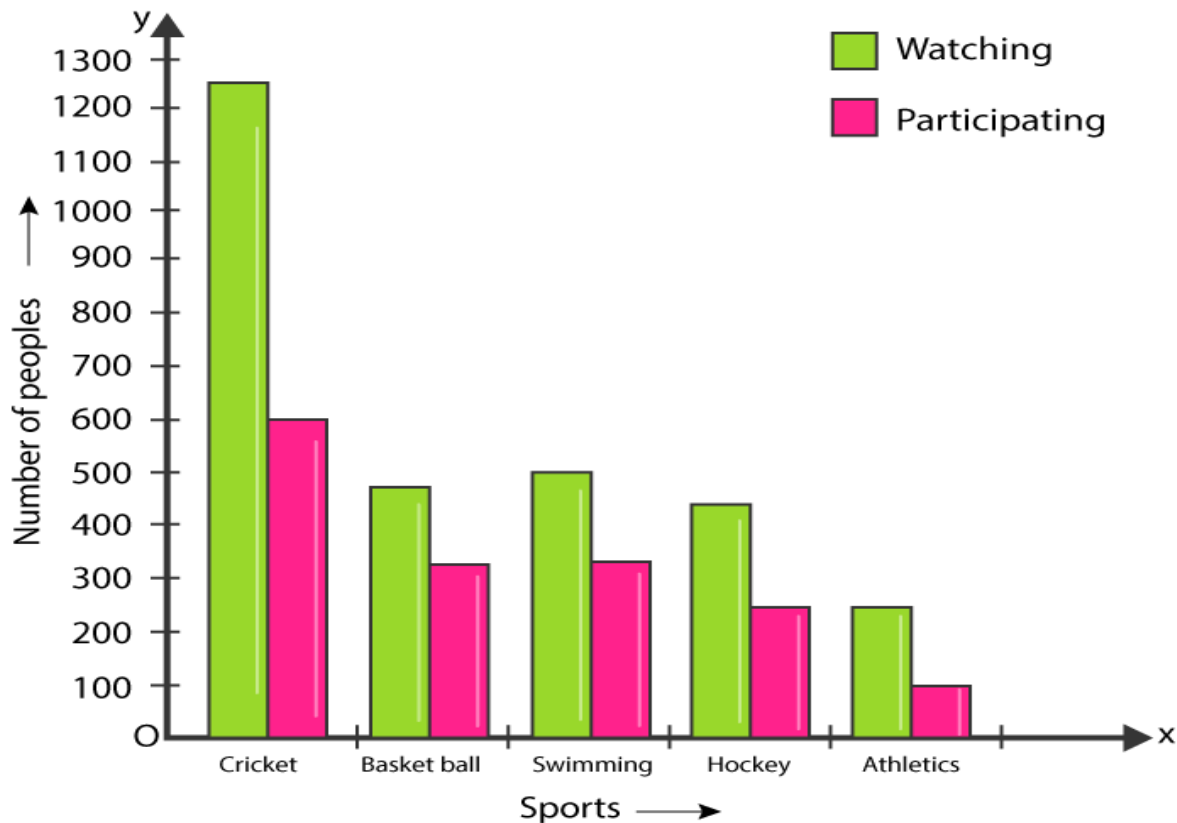| Favourite Sport	Cricket	Basket Ball	swimming	Hockey	Athletics
Watching	1240	470	510	430	250
Participating	620	320	320	250	105

(i) Draw a double bar graph choosing an appropriate scale.

What do you infer from the bar graph?

(ii) Which sport is most popular?

(iii) Which is more preferred, watching or participating in sports?

Solution:-

(i) The figure above is the double bar graph, which represents the people who prefer either watching or participating in different sports. By observing the double bar graph, we came to conclude that most people like watching and participating in cricket, while the least number of people like watching and participating in athletics.

(ii) By observing the double bar graph, we came to conclude that the people who like watching and participating in cricket are the tallest among all the bars. So, cricket is the most popular sport.

(iii) By observing the double bar graph, we came to conclude that watching sports has more preference, rather than participating in sports.

6. Take the data giving the minimum and the maximum temperature of various cities given in the beginning of this Chapter (Table 3.1). Plot a double bar graph using the data and answer the following:
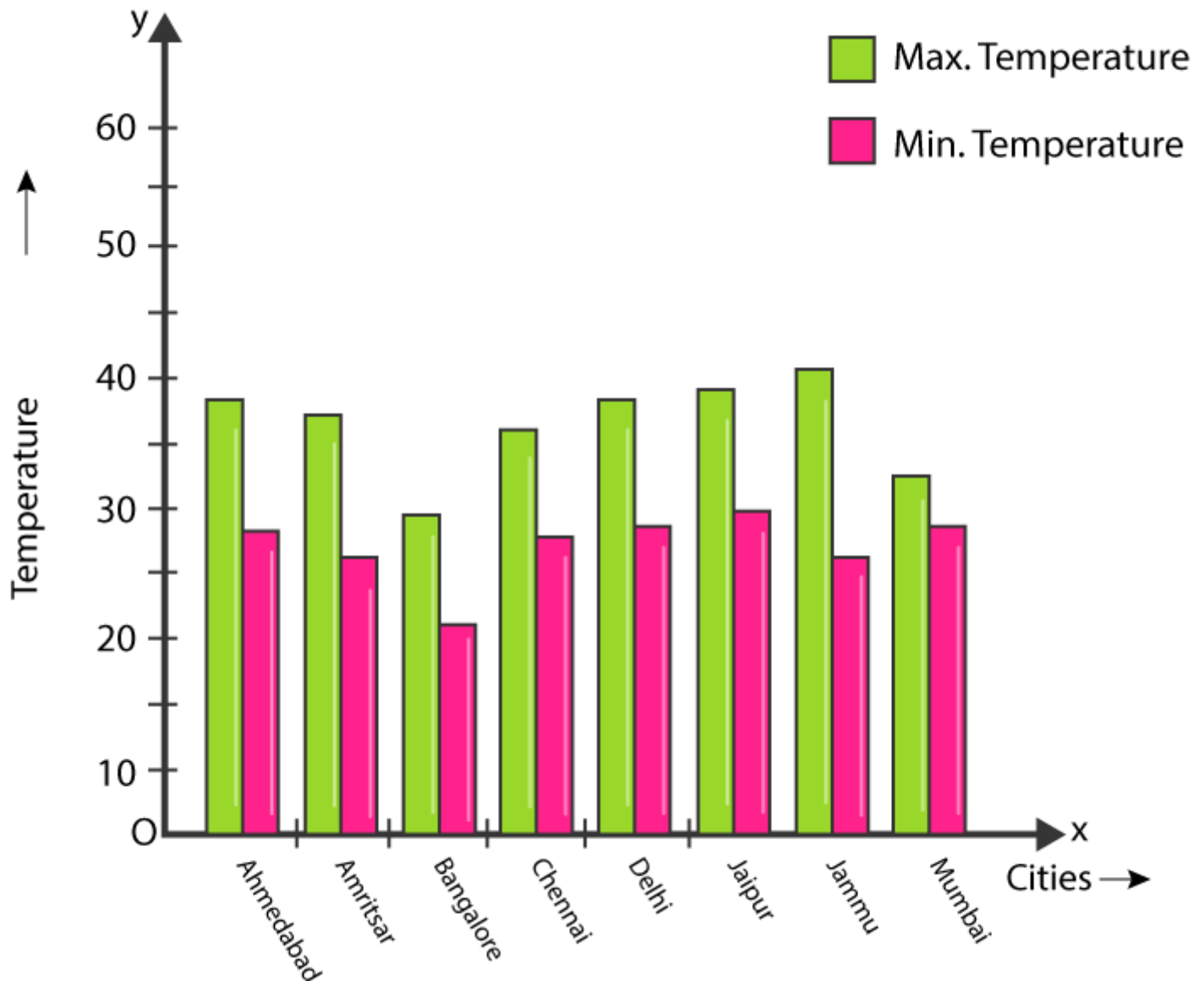
(i) Which city has the largest difference in the minimum and maximum temperature on the given date?

(ii) Which is the hottest city and which is the coldest city?

(iii) Name two cities where the maximum temperature of one was less than the minimum temperature of the other.

(iv) Name the city which has the least difference between its minimum and the maximum temperature.

Solution:-

(i) By observing the double bar graph, we came to conclude that Jammu has the largest difference in the minimum and maximum temperature on 20.6.2006.

(ii) By observing the double bar graph, we came to conclude that Jammu is the hottest city and Bangalore is the coldest city.

(iii) By observing the double bar graph, Bangalore and Jaipur, and Bangalore and Ahmedabad, we can see that for Bangalore, the maximum temperature was 28°C, while the minimum temperature of both Ahmadabad and Jaipur was 29°C.

(iv) By observing the double bar graph, Mumbai has the least difference between its minimum and maximum temperature.