Board –IGCSE	Class – 6th	Topic – Data Handling

Exercise - 9.1

1. In a Mathematics test, the following marks were obtained by 40 students.

Arrange these marks in a table using tally marks.

8	1	3	7	6	5	5	4	4	2
4	9	5	3	7	1	6	5	2	7
7	3	8	4	2	8	9	5	8	6
7	4	5	6	9	6	4	4	6	6

(a) Find how many students obtained marks equal to or more than 7.

(b) How many students obtained marks below 4?

Ans. From the given data, we have the following table.

(a) Number of students who obtained marks equal to or more than $7 = 5 + 4 + 3 = 12$

(b) Number of students who obtained marks below $4 = 2 + 3 + 3 = 8$.

2. Following is the choice of sweets of 30 students of Class VI.

Ladoo, Barfi, Ladoo, Jalebi, Ladoo, Rasgulla, Jalebi, Ladoo, Barfi, Rasgulla, Ladoo, Jalebi, Jalebi, Rasgulla, Ladoo, Rasgulla, Jalebi, Ladoo, Rasgulla, Ladoo, Ladoo, Barfi, Rasgulla, Rasgulla, Jalebi, Rasgulla, Ladoo, Rasgulla, Jalebi, Ladoo.

Arrange the names of sweets in a table using tally marks.

Which sweet is preferred by most of the students?

Ans. (a) We have the following table:

Sweets	Tally marks	Number of students
Ladoo	卌 卌 |	11
Barfi	|||	3
Jalebi	卌 ||	7
Rasgulla	卌 ||||	9
Total		30

(b) Ladoo is preferred by most of the students, i.e., 11 students.

3. Catherine threw a dice 40 times and noted the number appearing each time as shown below:

1	3	5	6	6	3	5	4	1	6
2	5	3	4	6	1	5	5	6	1
1	2	2	3	5	2	4	5	5	6
5	1	6	2	3	5	2	4	1	5

Make a table and enter the data using tally marks. Find the number that appeared.

(a) The minimum number of times

(b) The maximum number of times

(c) Find those numbers that appear an equal number of times.

Ans. We have the following table:

Number on the dice	Tally marks	Number of times
1	卌 ||	7
2	卌 |	6
3	卌	5
4	||||	4
5	卌 卌 |	11
6	卌 ||	7

From the above table, we get

(a) The number 4 appeared 4 times which is the minimum.

(b) The number 5 appeared 11 times which is the maximum.

(c) The numbers 1 and 6 appear the same number of times, i.e., 7.

4. Following pictograph shows the number of tractors in five villages.

Villages	Number of Tractors	= 1 Tractor
Village A		
Village B		
Village C		
Village D		
Village E		

Observe the pictograph and answer the following questions.

(a) Which village has the minimum number of tractors?

(b) Which village has the maximum number of tractors?

(c) How many more tractors village C has as compared to village B?

(d) What is the total number of tractors in all. the five villages?

Ans. From the given pictograph, we have

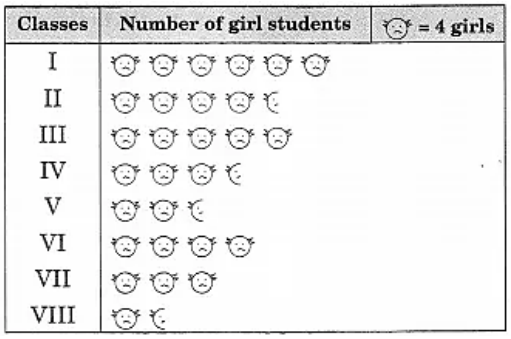
(a) Village D has the minimum number of tractors, i.e., 3.

(б) Village C has the maximum number of tractors, i.e., 8.

(c) Village C has 3 tractors more than that of village B.

(d) Total number of tractors in all the villages is 28.

5. The number of girl students in each class of a co-educational middle school is depicted by the pictograph:



Observe this pictograph and answer the following questions:

(a) Which class has the minimum number of girl students?

(b) Is the number of girls in Class VI less than the number of girls in Class V?

(c) How many girls are there in Class VII?

Ans. (a) Class VIII has the minimum number of girl students

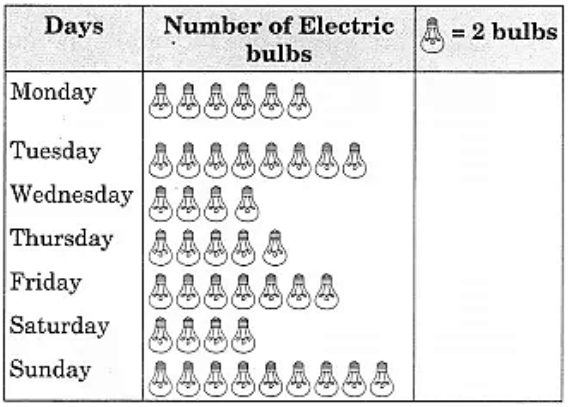
$$\text{i,e } 1\frac{1}{2} \times 4 = 6$$

(b) No, number of girls in Class VI = 4 × 4 = 16 and number of girls in Class V = $2 \times \frac{1}{2} \times 4 = 10$

So, the number of girl students in Class VI is not less than that of in Class V.

(c) Number of girls in Class VII = 3 × 4 = 12

6. The sale of electric bulbs on different days of a week is shown below:



Observe the pictograph and answer the following questions:

(a) How many bulbs were sold on Friday?

(b) On which day were the maximum number of bulbs sold?

(c) On which of the days the same number of bulbs were sold?

(d) On which of the days the minimum number of bulbs were sold?

(e) If one big carton can hold 9 bulbs. How many cartons were needed in the given week?

Ans. (a) Number of bulbs sold on Friday = 7 x 2 = 14

(b) On Sunday, the number of bulbs sold = 9 x 2 = 18 which is the maximum in number.

(c) On Wednesday and Saturday, the same number of bulbs were sold, i.e., $4 \times 2 = 8$

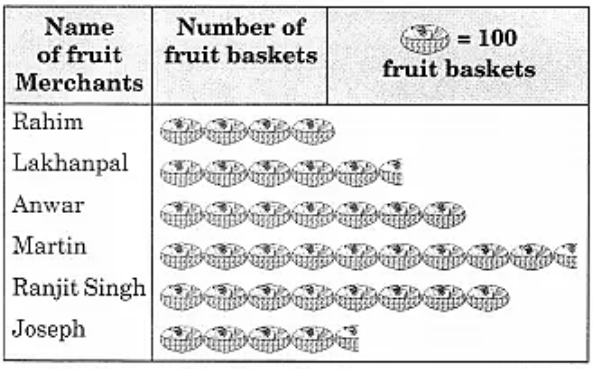
(d) The minimum number of bulbs were sold on Wednesday and Saturday, i.e., $4 \times 2 = 8$

(e) Total number of bulbs sold in a week = 43

Number of cartons needed 5

$= (43 \times 2) \div 9 = 86 \div 9 = 9\frac{5}{9} = 10$ cartons.

7. In a village six fruit merchants sold the following number of fruit baskets in a particular season:



Observe this pictograph and answer the following questions:

(a) Which merchant sold the maximum number of baskets?

(b) How many fruit baskets were sold by Anwar?

(c) The merchants who have sold 600 or more baskets are planning to buy a godown for the next season. Can you name them?

Ans. (a) Martin sold the maximum number of fruit baskets, i.e., $9\frac{1}{2}$ x 100 = 950

(c) Number of fruit baskets sold by Anwar is $7 \times 100 = 700$.

(c) Anwar, Martin and Ranjit Singh have sold 600 or more fruit baskets and planning to buy a godown.

Exercise - 9.2

1. the Total number of animals in five villages are as follows:

Village A : 80

Village B : 120

Village C : 90

Village D : 40

Village E : 60

Prepare a pictograph of these animals using one symbol ⊗ to represent 10 animals and answer the following questions:

(a) How many symbols represent animals of village E?

(b) Which village has the maximum number of animals?

(c) Which village has more animals: village A or village C?

Ans. From the given information, we have

Villages	Number of animals	⊗ = 10 animals
A	⊗⊗⊗⊗⊗⊗⊗⊗	
B	⊗⊗⊗⊗⊗⊗⊗⊗⊗⊗⊗⊗	
C	⊗⊗⊗⊗⊗⊗⊗⊗⊗	
D	⊗⊗⊗⊗	
E	⊗⊗⊗⊗⊗⊗	

(a) Six symbols are used to represent the number of animals in village E.

(6) Village B has the maximum number of animals, i.e., 120

(c) Village C has more animals.

2. Total number of students of a school in different years is shown in the following table:

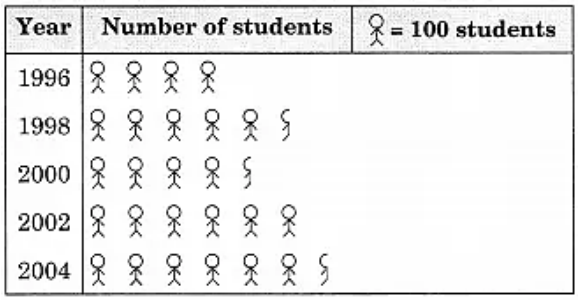
Years	Number of students
1996	400
1998	535
2000	472
2002	600
2004	623

A. Prepare a pictograph of students using one symbol to represent 100 students and answer the following questions

(b) How many symbols represent the total number of students for the year 1998?

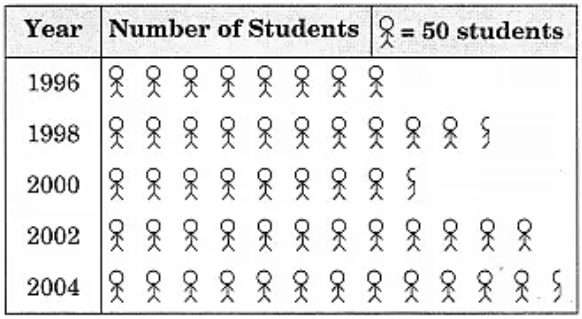
B. Prepare another pictograph of students using any other symbol each representing 50 students. Which pictograph do you find more informative?

Ans. A. From the given information, we have



(a) Six symbols represent the total number of students in the year 2002.

(b) 5 complete and 1 incomplete symbols represent total number of students for the year 1998.



Photograph(B) is more informative.

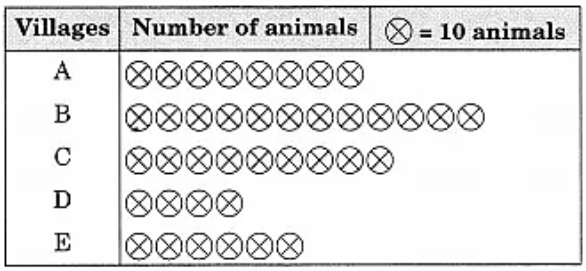
Exercise - 9.3

1. The bar graph given below shows the amount of wheat purchased by the government during the year 1998-2002.

Read the bar graph and write down your Observations. In Which year was

(a) the wheat production maximum?

(b) the wheat production minimum?



Ans. (a) In the year 2002, wheat production was maximum.

(b) In the year 1998, wheat production was minimum.

2. Observe this bar graph which is showing the sale of shirts in a ready-made shop from Monday to Saturday

Years	Number of students
1996	400
1998	535
2000	472
2002	600
2004	623

Now answer the following questions:

(a) What information does the above bar graph give?

(b) What is the scale chosen on the horizontal line representing the number of shirts?

(c) On which day were the maximum number of shirts sold? How many shirts were sold on that day?

(d) On which day were the minimum number of shirts sold?

(e) How many shirts were sold on Thursday?

Ans. (a) The given bar graph shows the sale of shirts in a ready-made shop from Monday to Saturday.

(b) 1-unit length = 5 shirts, the scale chosen on the horizontal line.

(c) On Saturday maximum number of shirts were sold. 60 shirts were sold on that day.

(d) On Tuesday the minimum number of shirts were sold.

(e) 35 shirts were sold on Thursday.

3. Observe this bar graph which shows the marks obtained by Aziz in half-yearly examination in different subjects.

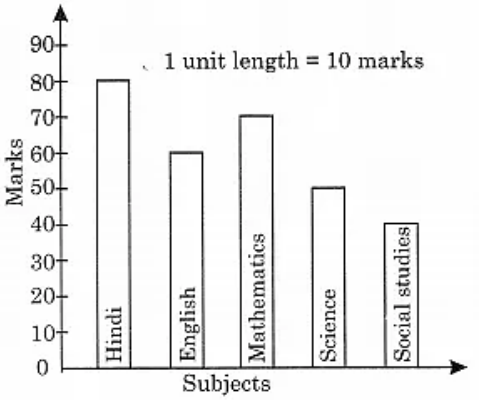
Answer the given questions.

(a) What information does the bar graph give?

(b) Name the subject in which Aziz scored maximum marks.

(c) Name the subject in which he has scored minimum marks.

(d) State the name of the subjects and marks obtained in each of them.



Ans. (a) This bar graph shows the marks obtained by Aziz in half-yearly examination in different subjects.

(b) In Hindi, Aziz has scored the maximum marks.

(c) In social studies, he has scored the minimum marks.

Subjects	Marks obtained
1. Hindi	80
2. English	60
3. Mathematics	70
4. Science	50
5. Social studies	40

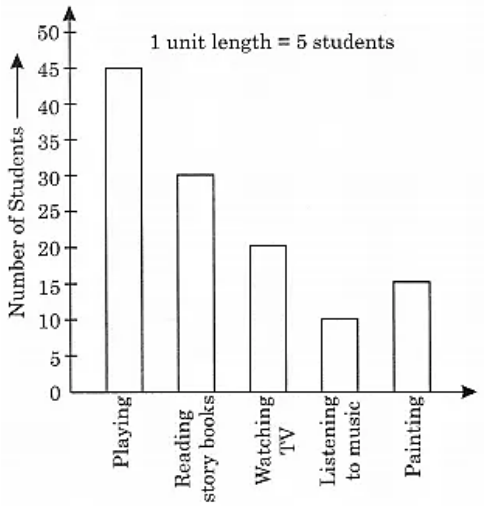
Exercise - 9.3

1. A survey of 120 school students was done to find which activity they prefer to do in their free time.

Preferred activity	Number of students
Playing	45
Reading storybooks	30
Watching TV	20
Listening to music	10
Painting	15

Draw a bar graph to illustrate the above data taking scale of 1 unit length = 5 students. Which activity is preferred by most of the students other than playing?

Ans. From the given information, we have the following bar graph.



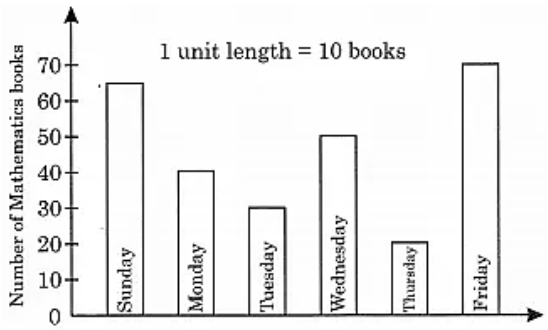
Activity reading storybooks is preferred by most of the students other than playing

2. The number of Mathematics books sold by a shopkeeper on six consecutive days is shown below:

Days	Number of books sold
Sunday	65
Monday	40
Tuesday	30
Wednesday	50
Thursday	20
Friday	70

Draw a bar graph to represent the above information choosing the scale of your choice.

Ans. From the given information, we have the following bar graph:



3. Following table shows the number of bicycles manufactured in a factory during the years 1998 to 2002. Illustrate this data using a bar graph. Choose a scale of your choice.

Years	Number of bicycles manufactured
1998	800
1999	600
2000	900
2001	1100
2002	1200

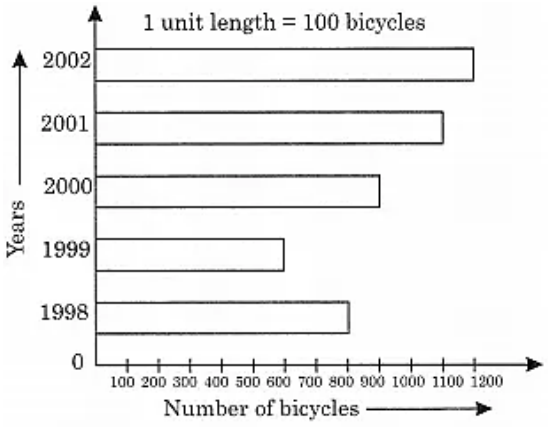
(a) In which year was the maximum number of bicycles manufactured?

(b) In which year was the minimum number of bicycles manufactured?

Ans. From the given information, we have:

(a) In the year 2002, the maximum number of bicycles were manufactured.

(b) In the year 1999, the minimum number of bicycles were manufactured.



4. Number of persons in various age groups in a town is given in the following table.

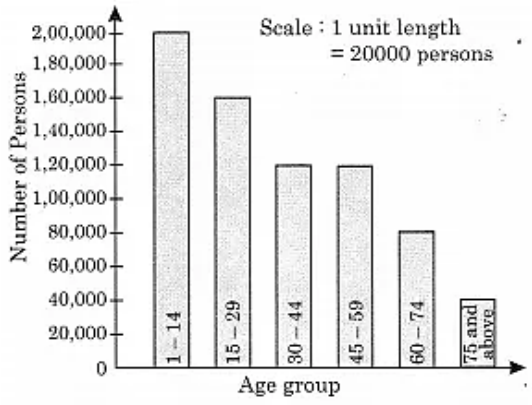
Age group	Number of Persons
1–14	2 Lakhs
15–29	1 Lakhs 60 thousand
30–44	1 Lakhs 20 thousand
45–59	1 Lakhs 60 thousand
60–74	80 thousand
75 and above	40 thousand

Draw a bar graph to represent the above information and answer the following questions, (take 1 unit length = 20 thousand)

(a) Which two age groups have the same population?

(b) All persons in the age group of 60 and above are called senior citizens. How many senior citizens are there in the town?

Ans. From the above information, we have the bar graph.



(a) Age groups of 30 – 44 and 45 – 59 have the same population.

(b) Number of Senior citizens are 80,000 + 40,000 = 1,20,000