14. Pictographs

The table below gives some bowling figures related to a cricket match.

Bowler	Overs	Runs given	Wickets taken
Chandrakant		18	4
Ramakant		20	–
Ahmed		12	2

Scale: 1 picture = 1 over (6 balls)

Answer the following questions by referring to the table above.

(1) About how many bowlers does the table give information?

(2) Who gave away the most runs?

(3) How many overs did Chandrakant bowl?

(4) How many wickets did Ramakant take?

(5) How many balls did Ahmed bowl?

(6) How many runs did Chandrakant give?

(7) How many overs were bowled altogether?

(8) Who gave away the least runs per over?

Thus, we can see that a lot of information can be obtained from the pictures in this table. Such tables which represent information using pictures or icons are called **pictographs** or **pictograms**.

❒ Pictorial representation of numerical data

Example (1) During a survey, the numbers of students living in different types of houses were listed as shown below.

Type of house	Number of students
Bungalow	4
Apartment	20
Row House	8

Let us make a pictograph based on this. For the cricket data, cricket balls were used. What icon shall we use for students? Surely, a smiley ☺ will be just right.

Should we draw 20 faces for 20 children?

That is not necessary. It is easier to use an appropriate scale for the numbers in the information or data. For example, here all three numbers in the given data are divisible by 4. So, using one picture for 4 students, the students living in bungalows will be shown by 1 picture, those in apartments by 5, and those in row houses, by 2 pictures. After drawing the pictures, our pictograph will look like this :

Type of house	Number of students
Bungalow	
Apartment	
Row House	

Scale : 1 picture = 4 students

The aim of pictographs is to make numerical information easier to understand. Note that all the numbers given here are also divisible by 2. So, we could use a scale of 2 students per picture. In that case, the number of pictures will increase. As a result, it will not be as easy to understand the given numerical information.

To make a pictograph, we must –

- Study the numerical information given.
- Find out the factors of all the numbers to be represented.
- Choose an appropriate scale.
- Choose an appropriate symbol.
- Make the right columns for the pictograph.
- Below the pictograph, write the scale used.

Example (2) Information collected from 150 students about their parents' occupations is given below. Make a pictograph based on it.

Occupations of students' parents	Number of students
Farming	60
Private Job	20
Government Job	30
Other	40

All the given numbers can be divided by 2, 5 and 10. ‘ 1 picture for 10 students’ will be a convenient scale. So, we will draw 6 pictures for 60 students, 2 for 20, 3 for 30 and 4 for 40 students.

Keeping in mind the type of information, this picture  will be appropriate.

Our pictograph will look like the one given below.

Occupations of students’ parents	Number of students
Farming	
Private Job	
Government Job	
Other	

Scale: 1 picture = 10 students

Problem Set 52

1. Stocks of various types of grains stored in a warehouse are as given below. Make a pictograph based on the information given.

Grain	Sacks
Rice	40
Wheat	56
Bajra	8
Jowar	32

2. Information about the various types of vehicles in Wadgaon is given below. Make a pictograph for this data.

Types of vehicles	Number
Bicycles	84
Automatic two-wheelers	60
Four-wheelers (cars / jeeps)	24
Heavy vehicles (truck, bus, etc.)	12
Tractors	24

3. The numbers of the various books kept in a cupboard in the school library are given below. Make a pictograph showing the information given.

Type of book	Number
Science	28
Sports	14
Poetry	21
Literature	35
History	7

Activity

Collect information based on the points given below and make a pictograph for each.

(1) Which crops are grown on the farms owned by students in your class? (Vegetables, grains, pulses, fruits, etc.)

(2) Which storybooks do your classmates like? (fairytales, stories about kings and queens, historical stories, stories about saints, picture stories, etc.)

(3) What do your classmates want to be when they grow up? (doctor, teacher, farmer, engineer, officer, etc.)