Data Handling Class 6 Maths Formulas

Maths Formulas for Class 6 Data Handling

Recording Data

Sometimes some information is required very quickly. It is possible only when we adopt some suitable system of collecting data.

Raghav	Banana
Preeti	Apple
Amar	Guava
Bawana	Apple
Manoj	Banana
Donald	Apple
Fatima	Orange
Raman	Banana
Radha	Orange
Rarida	Guava
Anuradha	Banana
Rati	Banana
Maria	Banana
Akhtar	Orange
Ritu	Apple
Salma	Banana
Kavita	Guava

Javed	Banana

Organising Data

If we want to get particular information from the given data quickly, die data can be arranged in a tabular form using tally marks.

Fruits	No. of Students	Tally Marks
Banana	8	� |||
Orange	3	|||
Apple	5	612
Guava	4	||||

Frequency

- Frequency is the number of times a particular value occurs in a given data.
- Eg : Marks scored by different students in a class: 1, 2, 2, 4, 3, 3.

Marks	Frequency
1	1
2	2
3	2
4	1

Tally Marks

Tally marks are used to show the frequency of the data. Tally marks are represented as

1	I	6	卌 I
2	II	7	卌 II
3	III	8	卌 III
4	IIII	9	卌 IIII
5	卌	10	卌 卌

Example

There are 30 students in a class. They have to choose one sport each for the sports period.5 took badminton, 10 took cricket, 4 took football, 1 took hockey, 3 took tennis and 7 went for volleyball. Represent this data in the frequency distribution table.

Solution

To make a frequency distribution table-

- Make a table with three columns.
- Write the name of sports in the first column.
- Write the respective frequencies in front of each sport.
- Mark the tally marks according to the frequency given.

| Sports	Number of Students = frequency	Tally Marks
Badminton	5	卌
Cricket	10	卌 卌
Football	4	IIII
Hockey	1	I
Tennis	3	III
Volleyball	7	卌 II

Pictograph

A pictograph represents data in the form of pictures, objects or parts of objects. The picture usually helps to understand the data. It helps answer the questions on the data at a glance. Pictographs are often used by dailies and magazines to attract the attention of the readers. However, it requires some practice to understand the information given by a pictograph.

Number of strawberries with each student

January	🍓 🍓 🍓 🍓
february	🍓 🍓
March	🍓 🍓 🍓
April	🍓 🍓 🍓 🍓 🍓 🍓
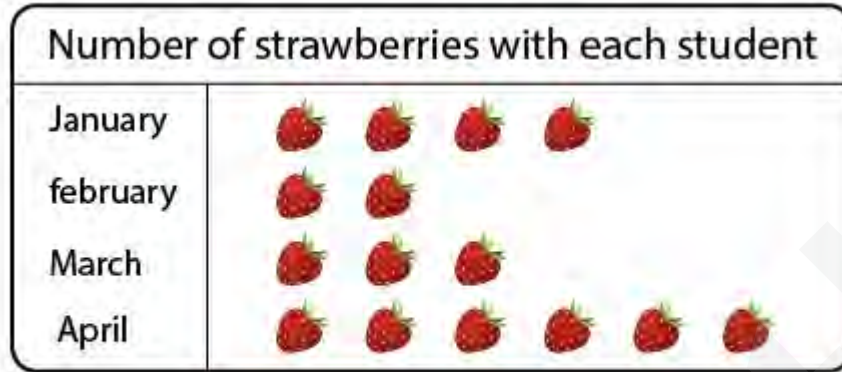
Key: 🍓 represents 2 strawberries

Interpretation of a Pictograph

Simply by observing a pictograph, one can answer the related questions very quickly.

Number of strawberries with each student

January	🍓 🍓 🍓 🍓
february	🍓 🍓
March	🍓 🍓 🍓
April	🍓 🍓 🍓 🍓 🍓 🍓
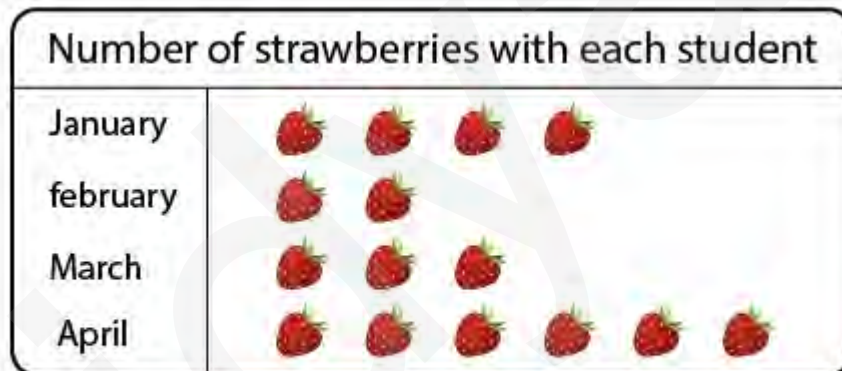
Key: 🍓 represents 2 strawberries

Question. Find the number of apples eaten by Margaret, Susan, Maria and Dorothy.

Solution: Here each symbol of strawberry represents two strawberries.
⇒ Margaret ate 8 strawberries, Susan ate 4 strawberries,
Maria ate 2 strawberries and Dorothy ate 12 strawberries.
So, the total number of strawberries eaten by all the four is 30.

Drawing a Pictograph

Drawing a pictograph is an interesting task but it may be difficult to draw some difficult pictures repeatedly as we had used cars in the above example so we can use easy symbols to draw a pictograph.

We must use a proper key of the symbols so that it could be easily understood by anyone.

Example

The following table shows the choice of the fruits of the 35 students of class 3.represent the data in a pictograph.

Name of fruit	Number of students
Mango	5
Apple	12
Guava	3
Litchi	7
Grapes	8

Solution:

Let's take 1 ⚥ = 2 students and ⚥ = 1 student

Name of fruit	Number of students
Mango	⚥ ⚥ ⚥
Apple	⚥ ⚥ ⚥ ⚥ ⚥ ⚥
Guava	⚥ ⚥
Litchi	⚥ ⚥ ⚥ ⚥
Grapes	⚥ ⚥ ⚥ ⚥

A Bar Graph

Representing data by pictograph is tedious and time-consuming. So, a bar graph supplies with another way of representing data visually.

In a bar graph or a bar diagram, bars of unsiform width is erected horizontally or vertically with equal spacing between them. The length of the bar gives the required information.

- The graphical representation of data using bars of uniform width drawn vertically or horizontally with different lengths is called as bar graphs/bar diagrams.
- Bar diagrams consist of two axes: X-axis and Y-axis.
- The following is a bar graph showing the birthday of students in a class.

Birthday of students
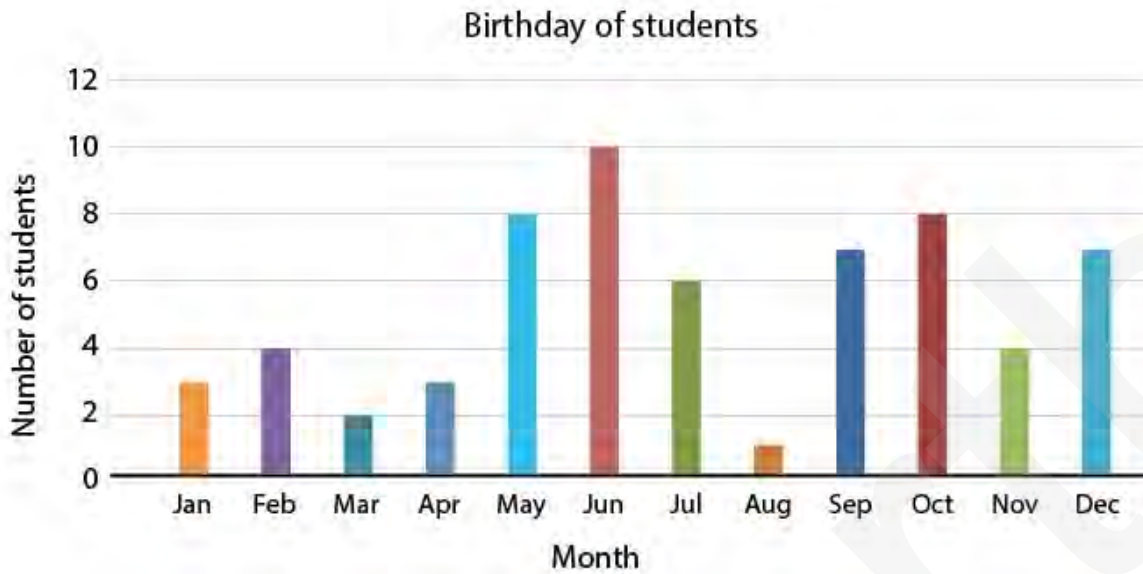
Interpretation of a bar graph

Looking at the bar graph; we can answer the related questions quite easily.

> Given below are the marks scored by students in mathematics. Calculate the sum of marks scored by A and C.
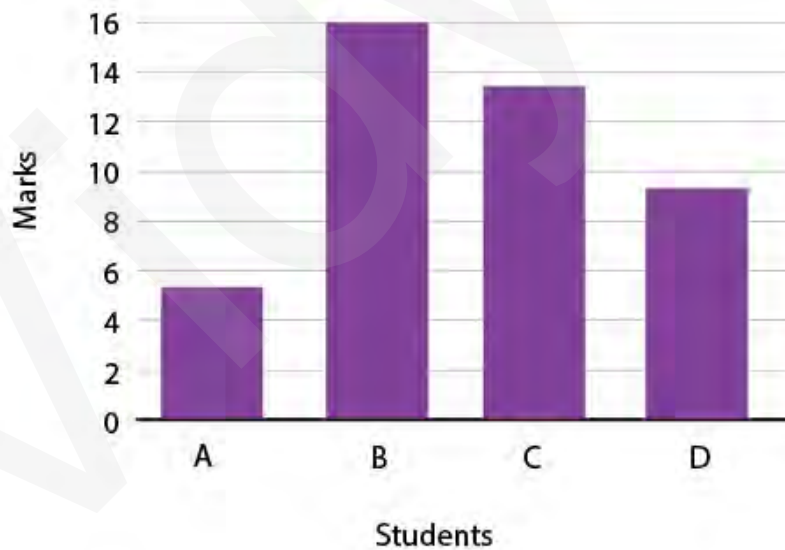
Drawing a Bar graph

First of all, we draw a horizontal line and a vertical line on the horizontal line, we drawbars and on vertical line, we write the numerals. However, we choose a proper scale. For example, 1 unit =100 students. Good practice helps reading a given bar graph a lot.

Example

The daily sale of mobile phones in Vicky production is given below. Draw the bar graph to represent the data.

Days	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
No. of phones sold	25	13	32	14	42	55

Solution

Steps to make a bar graph-

- Draw two lines, one horizontal and one vertical in L shape.
- Mark days on the horizontal line and no. of phones on the vertical line.
- Take a suitable scale for the number of phones and mark on the vertical line. Let 1 unit = 10 phones.
- Use the bars of equal width and draw them with the frequency given at the same distance.

The height of the bars tells the sale of the mobile phones in Vicky production.

Sale of Mobile phones in Vicky Production
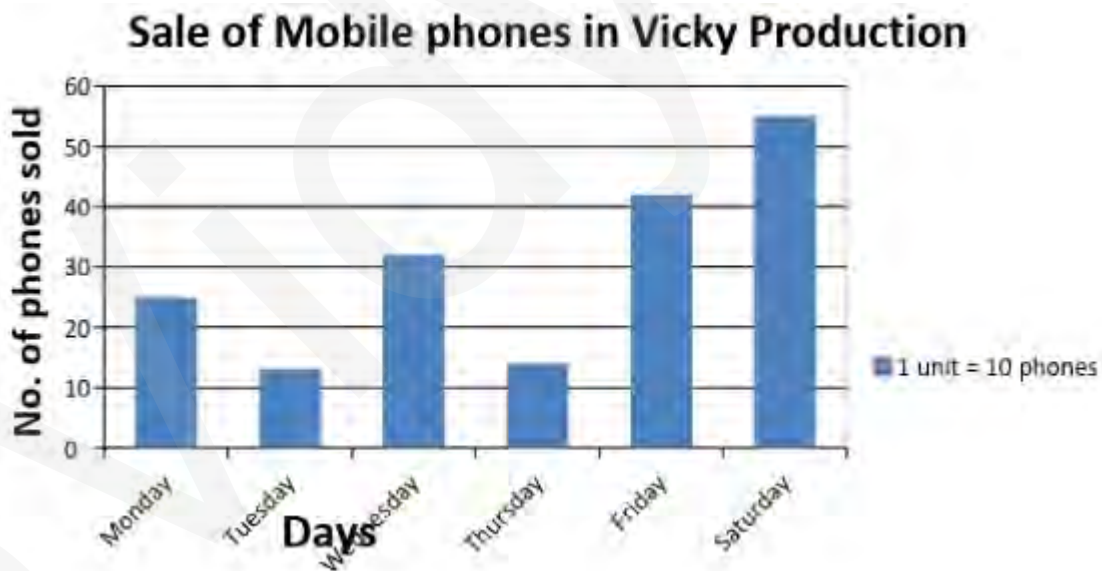
This same bar graph can be made by interchanging the positions of the days and the number of phones.

Sale of Mobile phones in Vicky Production

Days (y-axis)

No. of phones sold (x-axis)

1 unit = 10 phones