# Construction of Bar Graphs

## Understanding Notes

- Bar graph construction means representing given data visually using bars of equal width.
- Each bar represents a category and its height or length shows the frequency or value.
- Bars can be drawn vertically (most common) or horizontally.
- Steps to construct a bar graph:
  - Draw two axes (x–axis and y–axis).
  - Mark categories on the x–axis and frequency or value on the y–axis.
  - Choose a proper scale depending on the highest value.
  - Draw bars of equal width and appropriate height as per the values.
  - Leave equal space between the bars.
    - Write the title of the graph and label the axes properly.
    - The scale must be mentioned clearly to show how units on the axis relate to real values.

## Different Types of Examples with Solutions
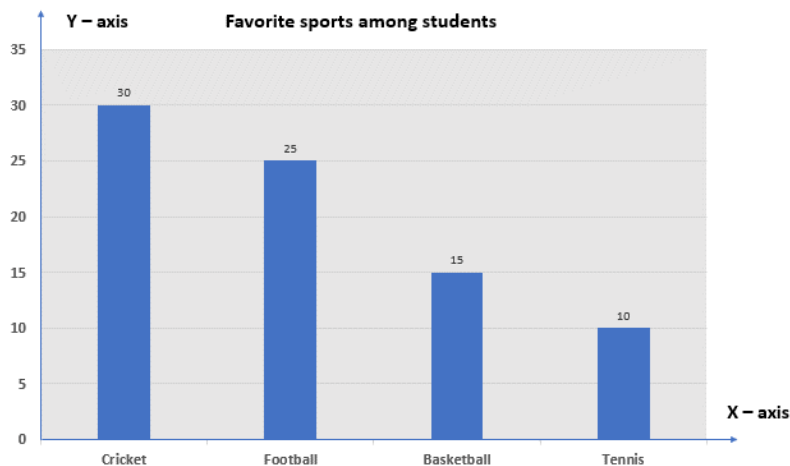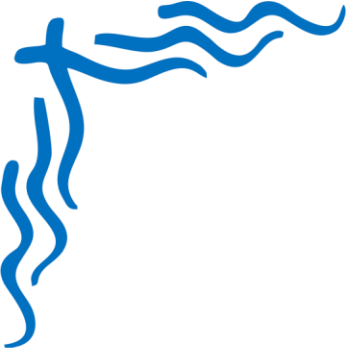
### Example:

**Data:**

Favorite sports among students:

- Cricket: 30
- Football: 25
- Basketball: 15
- Tennis: 10

**Solution:**

Draw x–axis with sports names and y–axis with number of students.

Choose a scale of 1 unit = 5 students.

Draw bars up to heights 30, 25, 15, and 10 respectively.

Favorite sports among students

## Example:

**Data:**
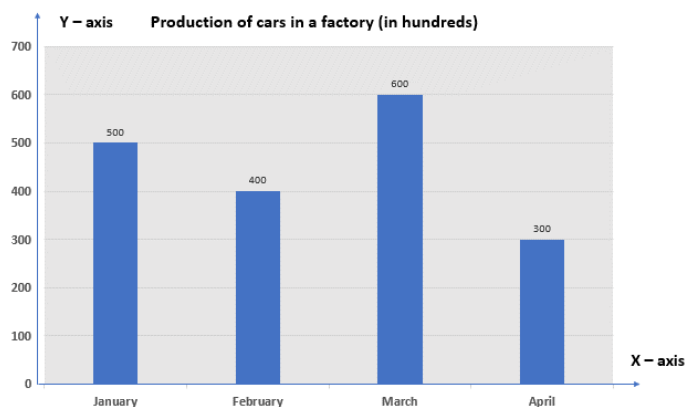
Production of cars in a factory (in hundreds):

- January: 500
- February: 400
- March: 600
- April: 300

**Solution:**

Choose a scale where 1 cm = 100 cars.

Mark months on the x–axis and number of cars on the y–axis.

Draw bars of heights 500, 400, 600, and 300.



## Example:

**Data:**

Marks in Science and Maths;

Student A – Science: 80, Maths: 70
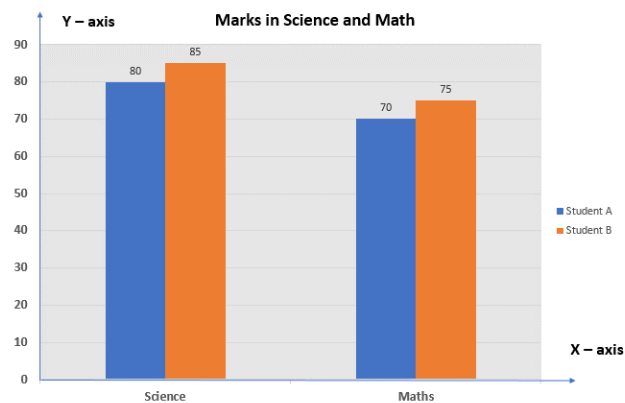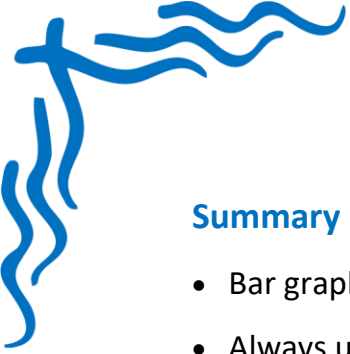
Student B – Science: 85, Maths: 75

**Solution:**

Draw x–axis with subject names.

Draw two bars side by side for each student in each subject.

Use different colors or shading for different students.

Label the bars properly and provide a key.

**Summary Points**

- Bar graphs are constructed to represent categorical data visually.

- Always use bars of equal width and equal spacing.

- Choose the scale according to the data values.

- Label the x–axis, y–axis, and provide a title for the bar graph.

- Bars can be vertical or horizontal depending on the situation.