

SUPPLEMENT



Data Handling

Objective

By the end of this lesson, students will understand the concept of data handling, including organizing data, representing data using bar graphs, double bar graphs, histograms, and pie charts, and interpreting data.

Introduction to Data Handling

What is Data?

Data refers to facts and statistics collected together for reference or analysis. Examples: Exam scores, temperatures, survey results, etc.

Types of Data

There are two types of data.

1. Quantitative Data: Numerical data (e.g., age, height, marks)
2. Qualitative Data: Descriptive data (e.g., colors, names, categories)

Organizing Data

Steps to Organize Data:

1. Collection of Data:

Gather information related to a specific topic. Example: Number of books read by students in a month.

2. Recording Data

Write down the collected data in a systematic way, often in a table. Example:

Student Name	Number of Books
Rahul	5
Priya	7
Aryan	4
Ananya	6

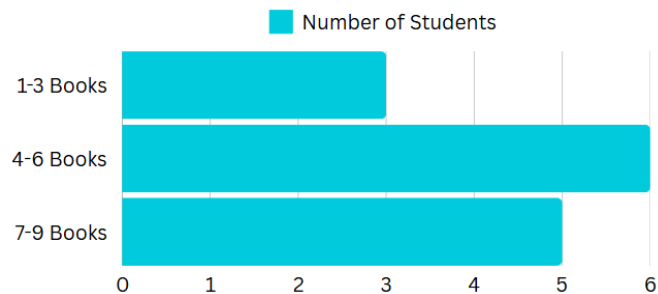
Representing Data

Bar Graphs:

A bar graph represents data with rectangular bars. Let us learn how to draw a bar graph.

Example:

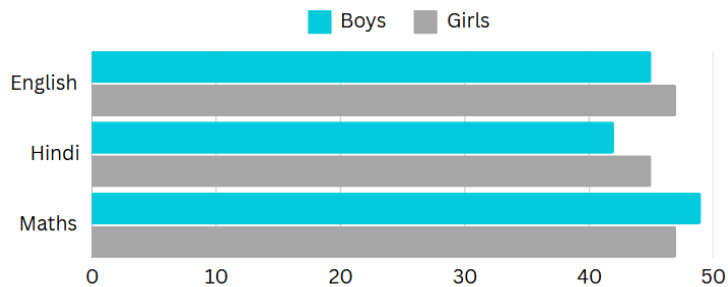
Book Readings	Number of Students
1-3 Books	3
4-6 Books	6
7-9 Books	5



Double Bar Graphs:

Used to compare two sets of data. Example: Comparing boys' and girls' performance in a test.

Example:

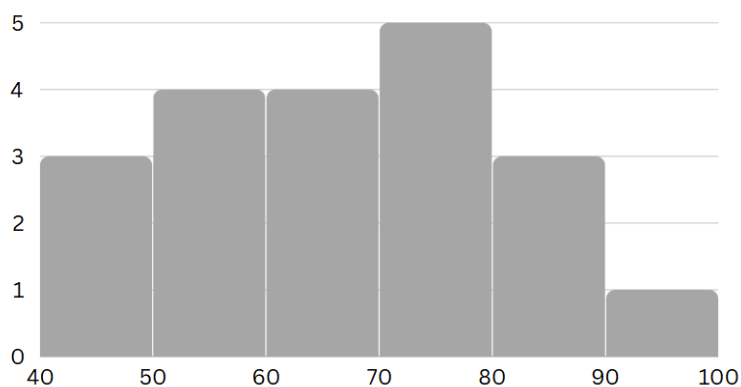


Histograms:

A type of bar graph that represents the frequency distribution of continuous data. Example: Marks obtained by students in a test.

Example:

Student	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
Marks	45	72	88	67	55	49	73	81	59	64	91	78	62	85	74	69	56	70	48	53

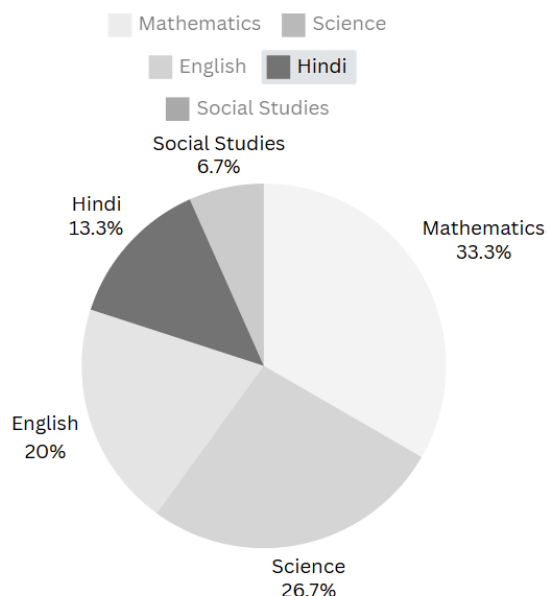


Pie Charts:

A circular chart divided into sectors representing proportions. Example: Favorite subjects of students.

Subject	Mathematics	Science	English	Hindi	Social Studies
Number of Students	10	8	6	4	2

Each section of the pie chart represents the proportion of students who prefer each subject.



This visual representation makes it easier to see which subjects are the most and least popular among the students.

Interpreting Data

Analyzing and drawing conclusions from graphs and charts. Example: Determining the most popular subject based on a pie chart.

Example: In above pie chart, we see the following proportions:

Mathematics: 33.33% students

Science: 26.67% students

English: 20% students

Hindi: 13.33% students

Social Studies: 6.67% students

Conclusion:

- The most popular subject among the students is Mathematics, as it has the largest section in the pie chart, representing 33.33% of the students.
- The least popular subject is Social Studies, with only 6.67% of the students choosing it as their favorite.

Group Activity

- Divide students into groups.
- Provide each group with data to organize in a table.
- Ask each group to represent the data using different types of graphs (bar graphs, double bar graphs, histograms, pie charts).

For the Teacher:

- Recap key points of data handling.
- Emphasize the importance of organizing and representing data for better understanding and analysis.

Additional Examples

Example 1: Monthly Rainfall Data

Collected Data:

January: 50 mm

February: 30 mm

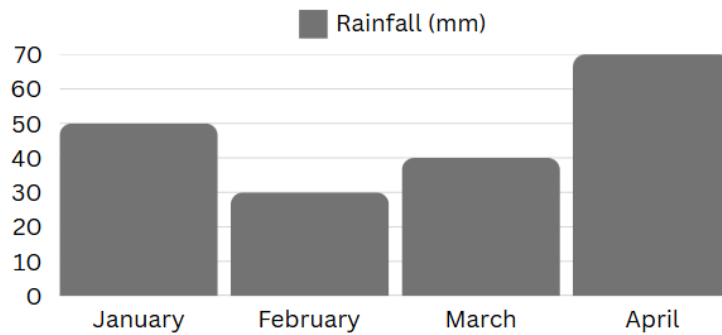
March: 40 mm

April: 70 mm

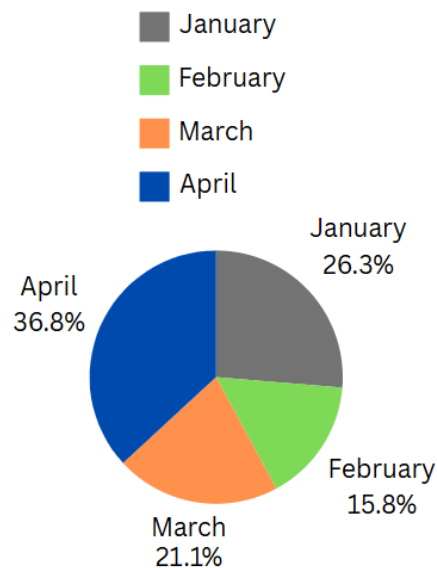
Table:

Month	Rainfall (mm)
January	50
February	30
March	40
April	70

Bar Graph



Pie Chart:



Example 2: Student Attendance

Collected Data

- Boys: 25
- Girls: 20

Double Bar Graph



Activities

Activity 1: Favorite Subjects Survey

Objective: Conduct a survey on favorite subjects and represent the data using a pie chart.

Materials Needed: Paper and pencils, Chart paper, Markers or crayons

Steps:

1. Conduct a survey on favorite subjects of students.
2. Record the data in a table.
3. Create a pie chart to represent the data.

Activity 2: Exam Scores Analysis

Objective: Analyze exam scores and represent the data using a histogram.

Materials Needed: Paper and pencils, Chart paper, Markers or crayons

Steps:

1. Collect data on exam scores.
2. Record the data in a table.
3. Create a histogram to represent the frequency distribution of scores.

Activity 3: Weekly Temperature Tracking

Objective: Track weekly temperatures and represent the data using a line graph.

Materials Needed: Paper and pencils, Chart paper, Markers or crayons

Steps:

1. Collect daily temperature data for a week.
2. Record the data in a table.
3. Create a line graph to represent the temperature changes over the week.



Exercise 1: Organizing Data

1. Collect data on the number of pets owned by students in your class. Record the data in the table below:

Student Name	Number of Pets

2. Create a table to show the favorite sports of students in your class. Collect data and fill in the table:

Sport	Number of Students
Cricket	
Football	
Basketball	
Badminton	

Exercise 2: Drawing Graphs

1. Using the data collected in Exercise 1, create a bar graph to show the number of pets owned by students.
2. Using the data collected in Exercise 1, create a pie chart to show the favorite sports of students.

Exercise 3: Interpreting Data

1. The table below shows the number of books read by students in a month. Answer the questions that follow:

Student Name	Number of Books Read
Rahul	5
Priya	7
Aryan	4
Ananya	6
Sneha	8

- a. Who read the most books?
 - b. Who read the least books?
 - c. How many books were read in total?
 - d. What is the average number of books read by the students?
2. The table below shows the favorite fruits of students in a class. Answer the questions that follow:

Fruit	Number of Students
Apple	8
Banana	5
Mango	7
Orange	4

- a. Which fruit is the most popular?
- b. How many students chose a fruit in total?
- c. What is the percentage of students who chose Mango? (Round to the nearest whole number)

Exercise 4: Creating Your Own Data

1. Think of a topic you are interested in (e.g., favorite movies, types of vehicles, hobbies). Collect data from your classmates and record it in a table.

Category	Number of Students

2. Create a bar graph, pie chart, or histogram to represent the data you collected. Be sure to label the axes and choose suitable symbols.