Data Handling - Class 8 Study Material

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1. What is Data?

Data is a collection of facts or information. Examples include marks of students, daily temperatures, or number of people in different age groups.

2. Organizing Data

Instead of writing random numbers, we organize them using:
- Tables
- Tally Marks
- Pictographs
- Bar Graphs

3. Tally Marks

Tally marks help quickly count data in groups of 5.

Example:

Fruit	Tally	Frequency
Apple	||||	4
Banana	|||| ||	7
Orange	|||| ||||	9

4. Pictograph

A pictograph uses pictures to show data.

Example: One apple symbol = 2 apples. So three apple symbols = 6 apples.

5. Bar Graph

A bar graph uses bars (rectangles) to show data. Each bar's height represents the value.

6. Histogram (Advanced)

A histogram is like a bar graph but used for continuous data such as marks or heights.

7. Circle Graph (Pie Chart)

A circle graph is divided into sectors. Each sector represents a part of the whole.

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8. Measures of Central Tendency

These are used to find the average or middle value.

- **Mean (Average):** Sum of values ÷ Number of values
  Example: 10, 15, 20 Mean = (10+15+20)/3 = 15

- **Median:** Middle value when data is arranged in order.
  Example: 10, 15, 20 Median = 15
  If even number of values: 10, 20, 30, 40 Median = (20+30)/2 = 25

- **Mode:** Value that appears most often.
  Example: 10, 15, 15, 20 Mode = 15

9. Probability (Introduction)

Probability tells how likely something is to happen.

Example: Tossing a coin Chance of Heads = 1/2

Formula: Probability = Favourable Outcomes / Total Outcomes

Example: Dice roll Probability of 3 = 1/6

10. Summary Table

Concept	Meaning
Data	Information in numbers
Tally Marks	Counting in 5s
Pictograph	Data using pictures
Bar Graph	Bars for comparison
Mean	Average
Median	Middle value
Mode	Most frequent number
Probability	Likelihood of an event

11. Example Questions

1. Find the mean of 12, 15, 10, 13 (12+15+10+13)/4 = 12.5
2. Find the mode of 5, 7, 7, 8, 9 Mode = 7
3. Median of 2, 4, 6, 8 (4+6)/2 = 5
4. Probability of red ball from 3 red, 2 blue 3/5