Introduction to Data Handling

Data handling involves collecting, recording, organizing, and interpreting information in the form of numbers or figures. For example, in cricket, scoreboards record detailed statistics such as runs scored, balls faced, overs bowled, maiden overs, and wickets taken. These data help analyze player performance and game progress.

Understanding Cricket Scoreboard Data

Name of the bowlers	Overs	Maiden overs	Runs given	Wickets taken
A	10	2	40	3
B	10	1	30	2
C	10	2	20	1
D	10	1	50	4

Explanation:

- **Overs:** One over consists of 6 balls bowled by a bowler. Each bowler here bowled 10 overs, i.e., 60 balls.
- **Maiden overs:** Overs in which no runs are scored.
- **Runs given:** Total runs conceded by the bowler.
- **Wickets taken:** Number of batsmen dismissed by the bowler.

Name of the batsmen	Runs	Balls faced	Time (in min.)
E	45	62	75
F	55	70	81
G	37	53	67
H	22	41	55

Explanation:

- **Runs:** Total runs scored by the batsman.
- **Balls faced:** Number of balls the batsman faced.
- **Time:** Duration the batsman was at the crease.

This data helps analyze player performance and game strategy.

Summary

- **Overs:** Sets of 6 balls bowled.
- **Maiden overs:** Overs with zero runs.
- **Runs given:** Runs conceded by bowler.
- **Wickets taken:** Number of batsmen dismissed.
- **Runs:** Runs scored by batsman.
- **Balls faced:** Balls faced by batsman.
- **Time:** Time spent batting.

Recording Data

Recording data involves collecting information systematically. For example, a teacher may record students' fruit preferences in a list, matching each student's name with their chosen fruit.

Name		Fruit Preference
Raghav	—	Banana
Preeti	—	Apple
Amar	—	Guava
Fatima	—	Orange
Amita	—	Apple
Raman	—	Banana
Radha	—	Orange
Farida	—	Guava
Anuradha	—	Banana
Rati	—	Banana
Bhawana	—	Apple
Manoj	—	Banana
Donald	—	Apple
Maria	—	Banana
Uma	—	Orange
Akhtar	—	Guava
Ritu	—	Apple
Salma	—	Banana
Kavita	—	Guava
Javed	—	Banana

This list helps in distributing fruits according to preferences.

Data Visualization Using Dots

Data can be visualized by representing each data point as a dot in a box labeled with the category name. For example:

- Banana box contains 7 dots.
- Orange box contains 3 dots.
- Apple box contains 6 dots arranged in a grid.

This helps in understanding the distribution and frequency of data points.

Organizing Data Using Pebbles

Instead of listing, data can be organized by placing tokens (like pebbles) in boxes representing categories. Counting tokens quickly gives the frequency of each category.

Organisation of Data

Data organization involves summarizing and representing data in a structured form such as tables or tally charts for easy interpretation.

Fruit	Tally marks	Number
Banana	XXXXXXXX	8
Orange	XXX	3
Apple	XXXXX	5
Guava	XXXX	4

Tally marks are a simple counting method where each mark represents one unit.

Example 1: Food Choice Data Collection

Choice	Tally marks	Number of students
Rice only	||||||||||||||||	16
Chapati only	|||||||||||	11
Both rice and chapati	||||||||||||||||||||	20

Total students surveyed: $16 + 11 + 20 = 47$

Improved Tally Mark Grouping

Grouping tally marks in fives makes counting easier. For example, three groups of five plus two marks represent 17.

Choice	Tally marks	Number of students
Rice only	$VV\ VV\ VV$ ||	17
Chapati only	$VV\ VV$ |||	13
Both rice and chapati	$VV\ VV\ VV\ VV$	20

Example 2: Shoe Size Data

Shoe size	Tally marks	Number of students
4	V	5
5	V |||	8
6	$V\ V$	10
7	V ||	7
8	||	2

This table helps identify the most and least common shoe sizes.

Practice Exercises

1. Collect data on the number of family members of your classmates and represent it in a table using tally marks.
2. Find which family size category has the maximum and minimum number of students.
3. Using the cricket data, calculate the average runs given by each bowler.
4. From the batsmen's data, find the strike rate of each batsman using the formula:

$$\text{Strike Rate} = \frac{\text{Runs scored} \times 100}{\text{Balls faced}}$$

5. Organize the following data into a tally chart: Number of books read by 20 students: 2,3,2,4,3,3,2,5,4,3,2,3,4,5,3,2,4,3,5,2.

Answer Key

1. Answers will vary based on collected data.
2. Answers will vary; identify max and min from the tally chart.
3. Average runs given by bowler A: 40 runs in 10 overs; average per over = 4 runs.
4. Strike rate of batsman E:

$$\frac{45 \times 100}{62} \approx 72.58$$

   Similarly calculate for others.
5. Tally chart example:
   - 2 books: 6 students
   - 3 books: 7 students
   - 4 books: 4 students
   - 5 books: 3 students

Quick Reference

- **Data:** Collection of information.

- **Tally marks:** Counting method grouping in fives.
- **Organizing data:** Using tables and charts.
- **Average:** Sum of values divided by number of values.
- **Strike rate:** Runs scored per 100 balls faced.

Glossary

- **Data:** Numbers or information collected for analysis.
- **Tally marks:** Marks used to count in groups of five.
- **Over:** Six consecutive balls bowled by a bowler.
- **Maiden over:** Over with zero runs conceded.
- **Wicket:** Dismissal of a batsman.
- **Strike rate:** Measure of scoring efficiency in cricket.