# Unit 14 · Presentation of Data

STUDY NOTES

## Key terms

**Data** (तथ्याङ्क): facts or numbers that we collect.

**Table**: data sorted, each answer with how many times it comes.

**Tabulation** (तालिकीकरण): making a table from a list.

**Frequency**: how many times an answer comes.

**Frequency table**: a table of answers and their frequencies.

**Tally marks**: one short stroke (|) for each answer counted.

**Bar diagram** (स्तम्भचित्र): numbers shown as bars on squared paper, easy to compare.

**Scale**: what one square up stands for.

## From a list to a table

1. a row for each **different** answer (marks or numbers: smallest first)
2. go through the list **once**, from the start
3. a tally mark in that answer's row for each answer
4. count the marks; write the number
5. **check**: the numbers add up to the number of answers

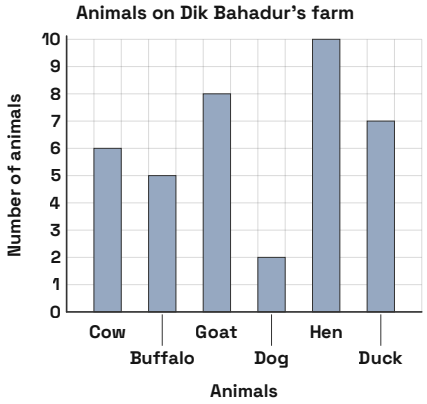
| Surname | Tally | Number |
|---|---|---|
| Acharya | 𝍸 \| | 6 |
| Gurung | 𝍸 | 5 |
| Pariyar | \|\| | 2 |
| Yadav | \|\|\|\| | 4 |
| Bhandari | \|\|\| | 3 |
| Shrestha | 𝍸 | 5 |
| Total | | 25 |

Every fifth stroke goes **across** the four before it: bundles of five, quick to count.

- two bundles and three more: $5 + 5 + 3 = \mathbf{13}$
- sum too big → an answer counted twice; too small → one missed: count again

## Drawing a bar diagram

1. names along the bottom: the **horizontal axis**
2. numbers up the side: the **vertical axis**, from **0**
3. choose a **scale** so the tallest bar fits
4. one bar for each name, up to its number
5. bars the **same width**, the **same gap** between them
6. a **title**; name both axes




One bar for each animal; 1 square = 1 animal. Tallest bar: hens, 10.

## Choosing the scale

| Numbers | Scale | Example |
|---|---|---|
| small, up to about 12 | 1 square = 1 | 9 students → 9 squares |
| all multiples of 2 | 1 square = 2 | 22 taxis → 11 squares |
| all multiples of 5 | 1 square = 5 | 55 hens → 11 squares |
| all multiples of 10 | 1 square = 10 | 40 comics → 4 squares |

- bar height in squares = number ÷ scale; number = squares × scale
- not a multiple (7 or 3 with 5 a square) → the bar ends inside a square: use a smaller scale

## Reading a bar diagram

- tallest bar → the most
- shortest → the fewest
- equal bars → the same number
- "how many more?" → take the smaller number from the bigger
- bar diagram → table: read each bar's top against the scale, a column for each name
- in order of size (ascending): smallest number first
- the **table** answers "how many?" exactly; the **bars** answer "which is most?" at a glance

### COMMON MISTAKES

✗ table not checked
✓ its numbers must add up to the number of answers.

✗ vertical axis starting at 20
✓ start at 0, in equal steps.

✗ 7 squares at 5 a square read as 7
✓ $7 \times 5 = 35$.

✗ bars of different widths
✓ the same width, the same gap.