

Case Study: School Canteen Survey

Case Study Worksheet — Set 1

Name:	Class: 6	Section:	Date:
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Instructions: Read the case study carefully, then answer the questions that follow. Total Marks: 10

Case Study

The Student Council of a CBSE school in Delhi wanted to improve the canteen menu. They surveyed 40 students of Class 6 and asked them to name their favourite snack. The responses collected were as follows:

Samosa, Sandwich, Samosa, Idli, Sandwich, Samosa, Fruit Chaat, Idli, Sandwich, Samosa, Idli, Fruit Chaat, Samosa, Sandwich, Idli, Samosa, Fruit Chaat, Sandwich, Samosa, Idli, Sandwich, Samosa, Fruit Chaat, Idli, Samosa, Sandwich, Samosa, Idli, Fruit Chaat, Sandwich, Samosa, Idli, Sandwich, Samosa, Fruit Chaat, Idli, Samosa, Sandwich, Samosa, Idli.

The council decided to record the data using tally marks so that they could decide how much of each snack to prepare every day.

Questions (5 × 2 = 10 Marks)

1. Prepare a frequency distribution table for the above data using tally marks.
2. Which snack is the most popular among the students surveyed?
3. Which snack is the least popular among the students surveyed?
4. If the canteen wants to prepare food in the same ratio as the survey results for 200 students, how many samosas should be prepared? (Hint: use the frequency of samosa out of 40 students.)
5. Suggest one advantage of collecting this data before deciding the canteen menu.

Answer Key — Case Study Worksheet — Set 1

1. Samosa:  = 14; Sandwich:  = 10;
 Idli:  = 10; Fruit Chaat:  = 6. (Total = 40)

2. Samosa is the most popular snack, chosen by 14 students.
3. Fruit Chaat is the least popular snack, chosen by 6 students.
4. Samosa fraction = $14/40$. For 200 students: $(14/40) \times 200 = 70$ samosas.
5. It helps the canteen avoid wastage of food and prepare the right quantity of each snack that students actually like, saving both money and resources. (Any valid reasoned answer may be accepted.)

Case Study: Rainfall Recorded by a Weather Station

Case Study Worksheet — Set 2

Name:	Class: 6	Section:	Date:
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Instructions: Read the case study carefully, then answer the questions that follow. Total Marks: 10

Case Study

The India Meteorological Department (IMD) station in a small town recorded the rainfall (in mm) for six months of the monsoon and post-monsoon season using a pictograph.

The key used was:  = 20 mm of rainfall.

The pictograph showed: June — 3 symbols; July — 5 symbols; August — 4.5 symbols; September — 3.5 symbols; October — 1 symbol; November — 0.5 symbol.

A local farmer wanted to use this data to decide the best months for sowing and harvesting crops, since rainfall greatly affects farming decisions.

Questions (5 × 2 = 10 Marks)

1. Find the rainfall (in mm) recorded in June and July.
2. Find the rainfall (in mm) recorded in August and September.
3. Which month received the highest rainfall, and how much was it?
4. Find the total rainfall recorded over all six months.
5. Based on this data, which two consecutive months would you suggest are least suitable for outdoor farming activities that need dry weather, and why?

Answer Key — Case Study Worksheet — Set 2

1. June = $3 \times 20 = 60$ mm; July = $5 \times 20 = 100$ mm.
2. August = $4.5 \times 20 = 90$ mm; September = $3.5 \times 20 = 70$ mm.
3. July received the highest rainfall — 100 mm.
4. $60 + 100 + 90 + 70 + 20 + 10 = 350$ mm.
5. June and July, since they received the highest rainfall (60 mm and 100 mm) and the ground would likely be too wet for activities requiring dry weather. (Reasoned alternative answers may be accepted.)

Case Study: Tracking Steps for a Fitness Challenge

Case Study Worksheet — Set 3

Name:	Class: 6	Section:	Date:
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Instructions: Read the case study carefully, then answer the questions that follow. Total Marks: 10

Case Study

As part of a 'Fit India' week activity, a Class 6 teacher asked five students to record the number of steps they walked each day using a pedometer, for one week (7 days). The data (in thousands of steps) for one student, Aarav, was: 6, 8, 5, 9, 7, 10, 4.

The class decided to represent this data using a bar graph, with the scale 1 unit length = 1000 steps, so they could compare Aarav's activity across the week and encourage him to walk at least 8000 steps a day, as recommended for children his age.

Questions (5 × 2 = 10 Marks)

1. Arrange Aarav's daily step data in ascending order.
2. On how many days did Aarav walk 8000 steps or more?
3. Find the total number of steps Aarav walked during the whole week.
4. Find the average (mean) number of steps Aarav walked per day during the week.
(Hint: Total steps ÷ 7 days)
5. If Aarav wants to draw a bar graph for this data using the scale 1 unit length = 1000 steps, what would be the height (in units) of the bar for the day he walked the most steps?

Answer Key — Case Study Worksheet — Set 3

1. Ascending order: 4, 5, 6, 7, 8, 9, 10 (in thousands of steps).
2. 3 days (8, 9 and 10 thousand steps).
3. $6+8+5+9+7+10+4 = 49$ thousand steps = 49,000 steps.
4. $49 \div 7 = 7$ thousand steps = 7,000 steps per day on average.
5. The maximum was 10 thousand steps, so the bar height = 10 units.