Data Analysis Power Pack

Tables, Graphs & Average Questions for PSLE Confidence

Complete Guide for Singapore Primary 6 Students

Pie Charts Bar Graphs Line Graphs Averages

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Chapter 1: Understanding PSLE Data Analysis

What is Data Analysis in PSLE?

Data Analysis is a crucial component of the PSLE Mathematics syllabus that tests your ability to read, interpret, and solve problems using various types of graphs, charts, and tables. This topic typically accounts for approximately 10-15% of the PSLE Math paper.

What You'll Learn

- ✓ Reading and interpreting bar graphs
- ✓ Understanding pie charts and percentages
- ✓ Analysing line graphs and trends
- ✓ Working with data tables
- ✓ Calculating averages and means

PSLE Success Keys

- → Careful reading of questions
- → Identifying key information
- → Understanding scale and units
- → Showing clear working
- → Double-checking answers

Types of Data Analysis Questions

Bar Graphs
Comparing quantities across categories

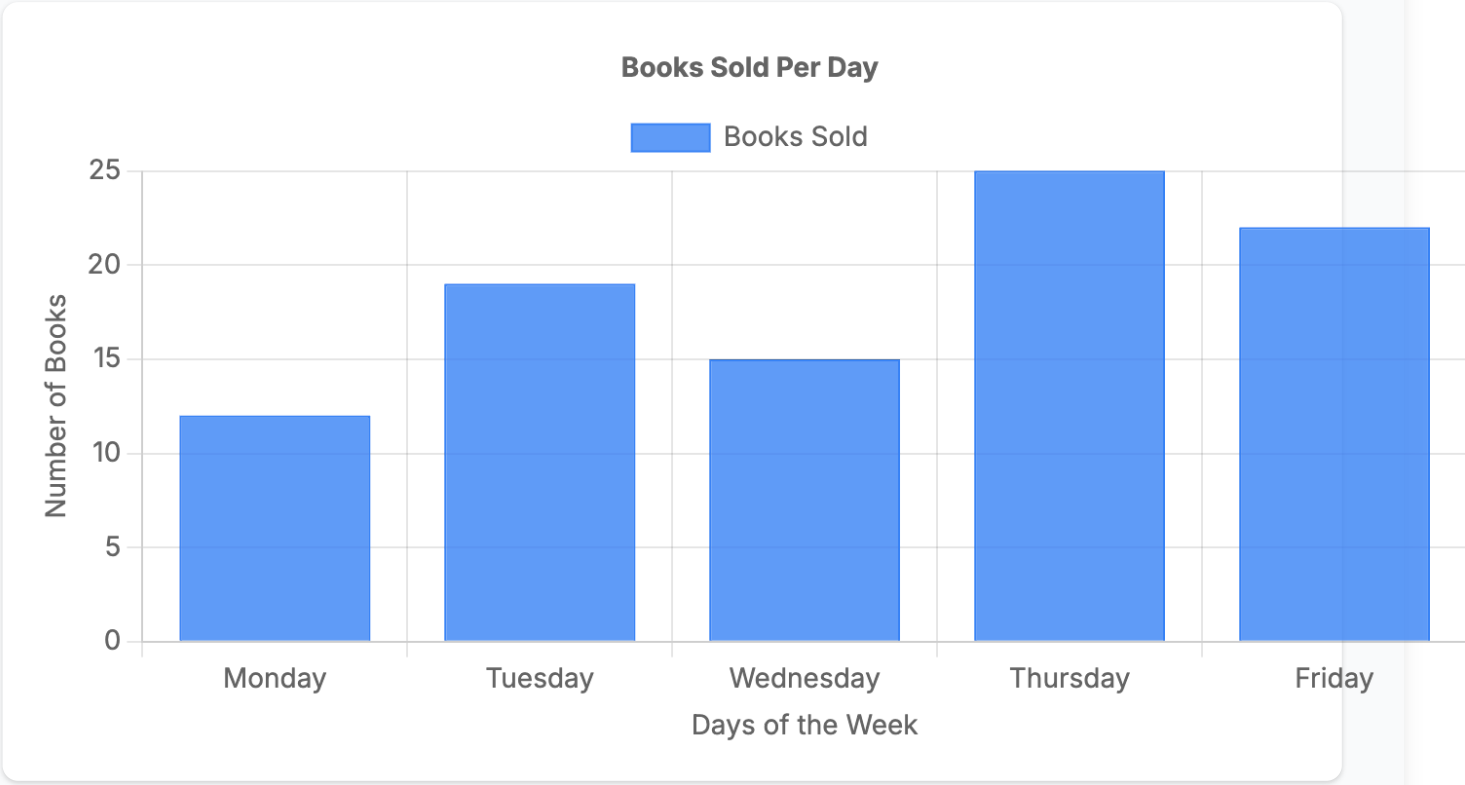
Pie Charts
Parts of a whole using fractions/percentages

Line Graphs
Changes over time and trends

Chapter 2: Mastering Bar Graphs

Understanding Bar Graphs

Bar graphs use rectangular bars to show and compare data. The height or length of each bar represents the value for that category.



Key Components of Bar Graphs

Essential Elements

Title: Tells you what the graph is about

X-axis (horizontal): Shows categories

Reading Tips

- Always read the title first
- Check the scale carefully
- Read values from the top of bars

Y-axis (vertical): Shows values or quantities

Scale: Shows the value of each unit

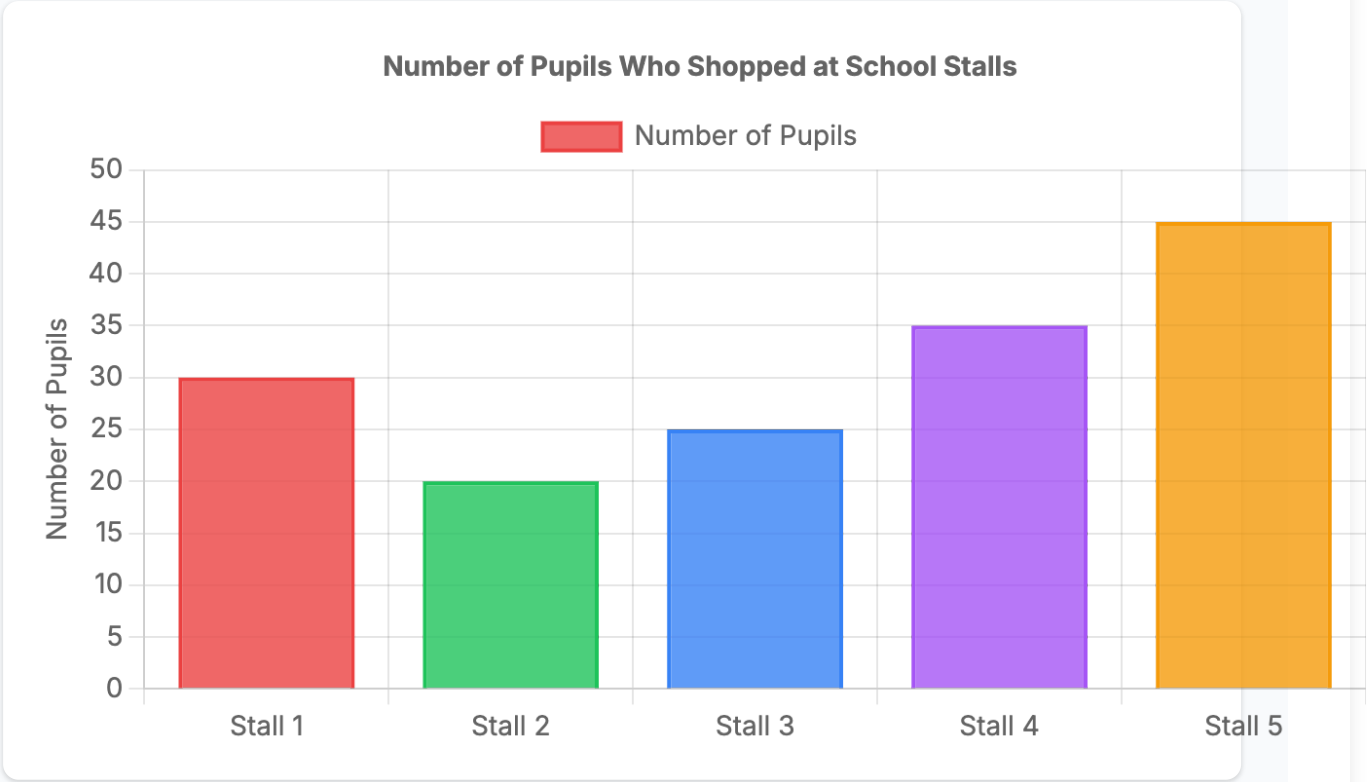
Bars: Represent the data values

Look for patterns and trends

PSLE-Style Example: School Stalls

Question

The bar graph below shows the number of pupils who shopped at 5 stalls in a school on Friday.



(a) How many more pupils preferred Stall 5 to Stall 3?
(b) What was the percentage of pupils who shopped at Stall 2?
(c) Which stall was the most popular?
(d) How many pupils were surveyed in total?

Step-by-Step Solution

(a) Difference between Stall 5 and Stall 3:
From the graph: Stall 5 = 45 pupils, Stall 3 = 25 pupils
Difference = 45 - 25 = **20 pupils**

(b) Percentage for Stall 2:
Step 1: Find total pupils = 30 + 20 + 25 + 35 + 45 = 155 pupils
Step 2: Stall 2 = 20 pupils
Step 3: Percentage = (20 ÷ 155) × 100% = **12.9%**

(c) Most popular stall:
Looking at the highest bar: **Stall 5** (45 pupils)

(d) Total pupils surveyed:
30 + 20 + 25 + 35 + 45 = **155 pupils**

Chapter 3: Conquering Pie Charts

Understanding Pie Charts

Pie charts show how a whole is divided into parts. Each slice represents a fraction or percentage of the total.

Key Relationships

Full circle = 360°

Half circle = 180°

Quarter circle = 90°

Right angle = 90°

Straight line = 180°

Fraction to Angle

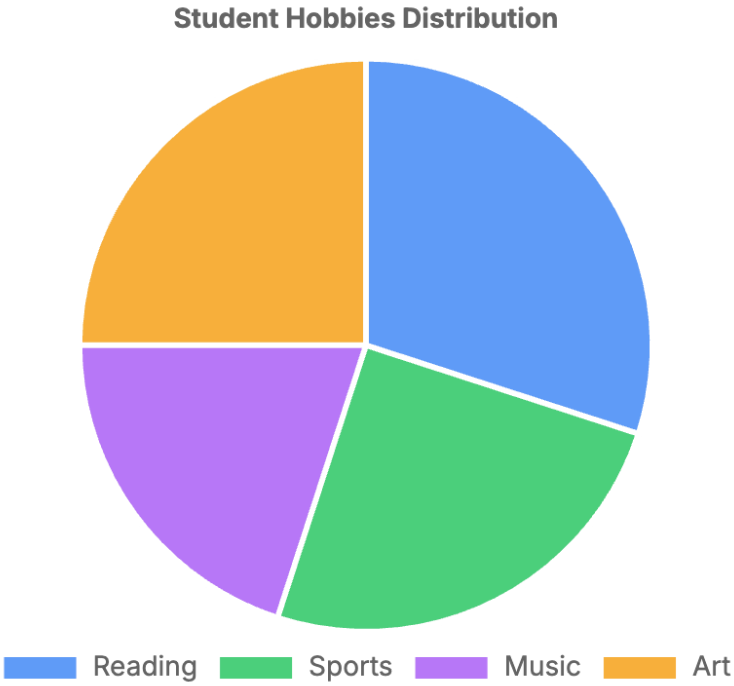
1/2 = 180°

1/3 = 120°

1/4 = 90°

1/6 = 60°

1/8 = 45°



PSLE-Style Example: Jessica's Spending

Question

The pie chart shows how Jessica spent her $3,200 during her holiday trip.

Hotel: $500

Food: $800

Airfare: $500

Shopping: ?

Questions:
(a) How much did Jessica spend on shopping?
(b) What fraction of her money was spent on food?

Step-by-Step Solution

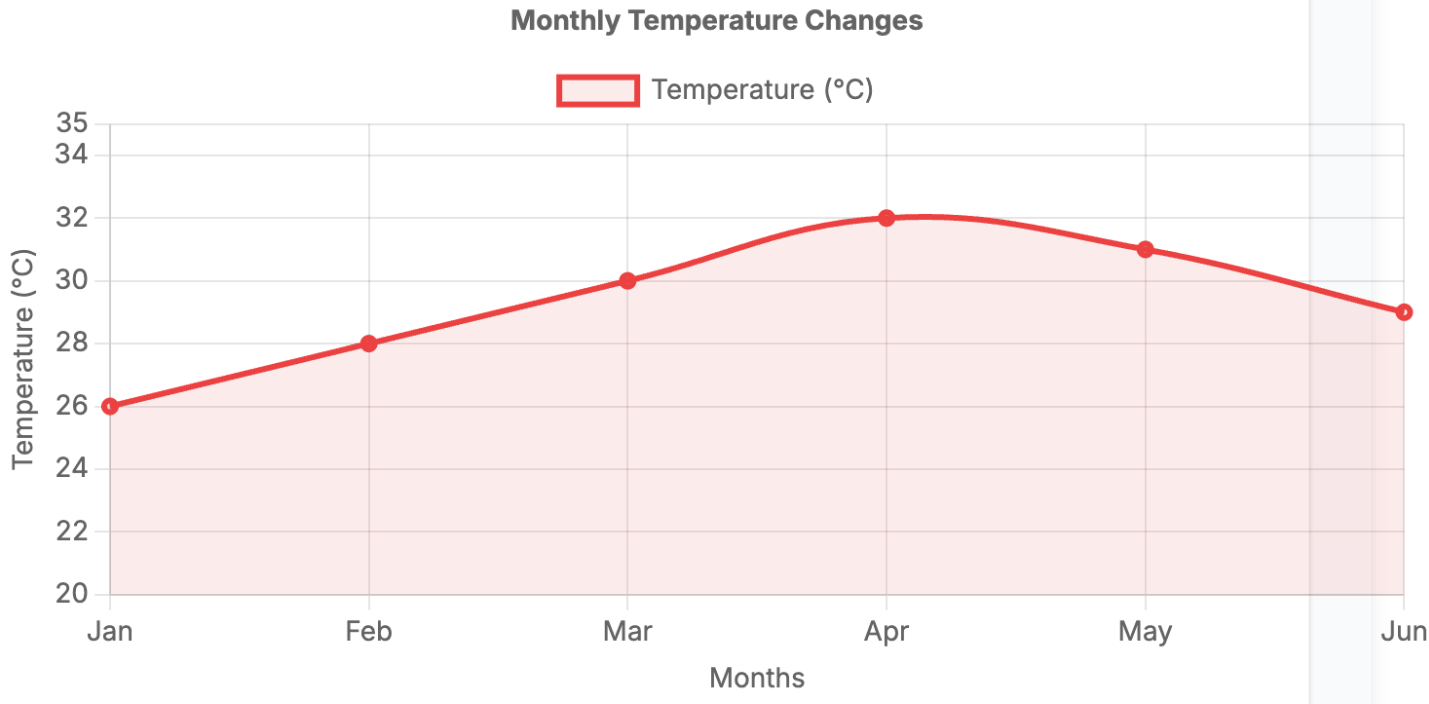
(a) Shopping amount:
Step 1: Find total of known expenses
Hotel + Food + Airfare = $500 + $800 + $500 = $1,800
Step 2: Find shopping amount
Shopping = Total - Known expenses = $3,200 - $1,800 = **$1,400**

(b) Fraction spent on food:
Step 1: Food amount = $800
Step 2: Total amount = $3,200
Step 3: Fraction = $800 ÷ $3,200 = 1/4
Answer: **1/4** of her money was spent on food

Chapter 4: Line Graphs Made Simple

Understanding Line Graphs

Line graphs show how data changes over time. Points are connected by lines to show trends and patterns.



Reading Line Graphs

- ↑ **Rising line:** Increasing values
- ↓ **Falling line:** Decreasing values
- ↔ **Flat line:** No change
- ● **Points:** Exact values

Common Questions

Find values at specific times

Calculate increases/decreases

Identify highest/lowest points

Determine trends and patterns

Chapter 5: Table Interpretation Skills

Working with Data Tables

Tables organise data in rows and columns, making it easy to find and compare specific information.

Example: Weekly Temperature Record

Day	Monday	Tuesday	Wednesday	Thursday	Friday
Temperature (°C)	28	30	32	29	31

Sample Questions

(a) What was the temperature on Wednesday?

(b) Which day had the highest temperature?

(c) What was the average temperature?

(d) By how much did temperature change from Monday to Tuesday?

Answers

(a) 32°C

(b) Wednesday

(c) (28+30+32+29+31)÷5 = 30°C

(d) 30-28 = 2°C increase

Chapter 6: Average & Mean Calculations

Understanding Averages

The average (or mean) is found by adding all values and dividing by the number of values.

Average Formula

Average = Sum of all values ÷ Number of values

Type 1: Find Average

Given: All values

Find: Average

Add all values, then divide by count

Type 2: Find Total

Given: Average & count

Find: Total

Multiply average by count

Type 3: Find Missing Value

Given: Average & some values

Find: Missing value

Use algebra to solve

PSLE-Style Average Problems

Example 1: Finding the Average

Mary scored 85, 90, 78, 92, and 85 marks in her 5 mathematics tests. What was her average score?

Solution:

Step 1: Add all scores = 85 + 90 + 78 + 92 + 85 = 430
Step 2: Count number of tests = 5
Step 3: Average = 430 ÷ 5 = **86 marks**

Example 2: Finding the Total

The average weight of 8 pupils is 42 kg. What is the total weight of all 8 pupils?

Solution:

Step 1: Use the formula - Total = Average × Number of items
Step 2: Total weight = 42 × 8 = **336 kg**

Example 3: Finding Missing Value

Tom's average score for 4 tests is 85. His first three scores were 80, 88, and 82. What was his fourth score?

Solution:

Step 1: Find total of all 4 scores = 85 × 4 = 340
Step 2: Find total of first 3 scores = 80 + 88 + 82 = 250
Step 3: Fourth score = 340 - 250 = **90 marks**

Chapter 7: Problem-Solving Strategies

The PSLE Data Analysis Approach

Step 1: OBSERVE

Read the title and labels carefully

Identify the type of graph/chart

Check the scale and units

Note any special features

Step 3: CALCULATE

Show your working clearly

Use appropriate methods

Include units in your answer

Round appropriately if needed

Step 2: ANALYSE

Identify what the question is asking

Find the relevant data

Determine the required calculation

Plan your approach

Step 4: VERIFY

Check if your answer makes sense

Verify calculations

Ensure you answered the question

Include proper units

Common Mistakes to Avoid

Reading Errors

Wrong scale: Not checking the scale properly

Wrong axis: Confusing x and y axes

Misreading values: Reading between grid lines

Wrong units: Missing or incorrect units

Calculation Errors

Wrong operation: Adding instead of subtracting

Percentage mistakes: Forgetting to multiply by 100

Average errors: Wrong formula application

Rounding mistakes: Inappropriate rounding

Chapter 8: Exam Success Tips

Your PSLE Data Analysis Success Plan

Time Management

Spend 1-2 minutes reading the graph

Allocate time based on marks

Don't get stuck on one question

Leave time for checking

Working Clearly

Show all calculations

Use proper mathematical notation

Circle or highlight final answers

Include units in answers

Accuracy Tips

Double-check scale readings

Verify percentage calculations

Check average formulas

Ensure answers are reasonable

Your 4-Week Practice Plan

Week 1: Foundations

- Master bar graph reading
- Practice basic average calculations
- Learn pie chart fractions

Week 2: Building Skills

- Line graph interpretation
- Table data extraction
- Intermediate averages

Week 3: Application

- Complex pie chart problems
- Multi-step calculations
- Combined graph questions

Week 4: Exam Ready

- Timed practice tests
- Past PSLE questions
- Error analysis and review

You're Ready to Excel!

With consistent practice and these proven strategies, you'll master PSLE Data Analysis with confidence.

Bar Graphs
Mastered ✓

Pie Charts
Mastered ✓

Averages
Mastered ✓

Data Analysis Power Pack

Your complete guide to PSLE Data Analysis success

8 Comprehensive Chapters | Step-by-Step Solutions | Exam-Ready Strategies