

GRADE 8

DATA HANDLING & GRAPHS

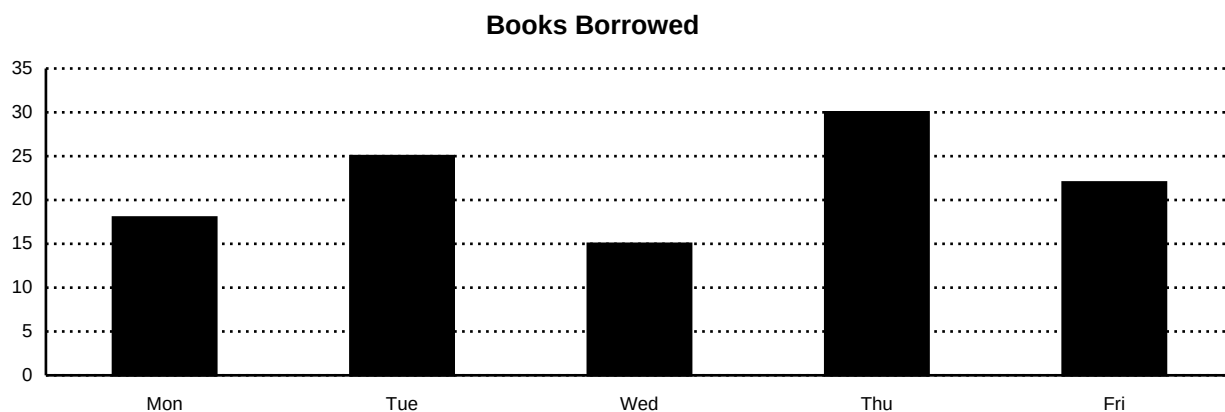
Complete Worksheet Pack

6 Practice Worksheets • 6 Answer Keys

Worksheet 1 — Reading Tables & Data

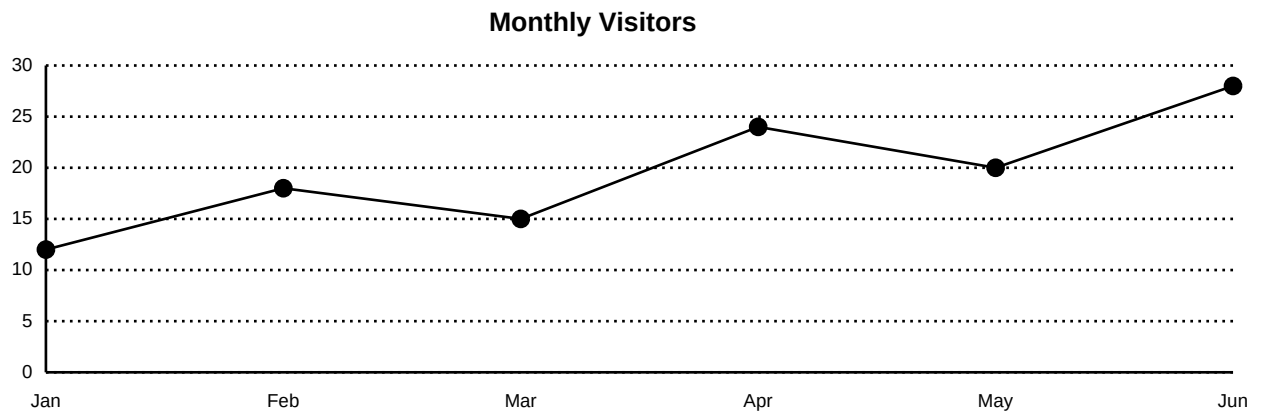
1. A school recorded books borrowed: Monday 18, Tuesday 25, Wednesday 15, Thursday 30, Friday 22. Find the total and the difference between the highest and lowest values.
2. Which day was exactly 10 books higher than Wednesday?
3. The target was 120 books. How many more were needed?
4. A survey of 80 students found 46 preferred digital books. How many preferred printed books?
5. 35% walk, 25% cycle, 30% travel by bus and the rest by car. Find the percentage travelling by car.
6. Explain why a data table can sometimes be more useful than a graph.
7. A shop sold 125, 148, 132 and 175 notebooks. Find the total and identify the largest sales value.
8. The mean of five daily values is 24. Four values are 18, 21, 27 and 30. Find the fifth value.

Worksheet 2 — Bar & Double-Bar Graphs



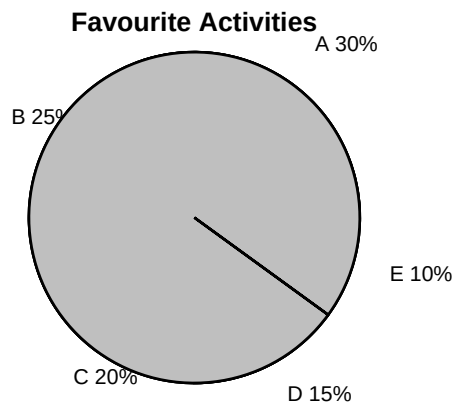
1. Which day had the greatest number of books borrowed?
2. Find the total number borrowed Monday to Friday.
3. How many more were borrowed Thursday than Wednesday?
4. Draw a bar graph for Red 24, Blue 18, Green 30, Yellow 12, Purple 21.
5. Class A has 24, 31, 18, 27 visits; Class B has 20, 26, 25, 22. Which total is larger?
6. Challenge: Give one conclusion supported by the data and one conclusion that cannot be justified.

Worksheet 3 — Line Graphs



1. During which month was the number of visitors highest?
2. Between which consecutive months was the largest increase?
3. Find the difference between June and January.
4. Temperatures were 14, 17, 19, 16, 21 and 24 degrees. Draw a line graph.
5. Why are line graphs useful for data that changes over time?
6. Challenge: A line rises sharply and then becomes almost flat. What does this say about the rate of change?

Worksheet 4 — Pie Charts & Percentages



1. What percentage chose activity A or B?
2. What percentage chose C, D or E?
3. In a group of 240, how many chose A?
4. A pie chart has sectors 40%, 30%, 20% and 10%. State each sector angle.
5. Explain why all sectors must add to 360 degrees.
6. Of 200 people, 35% choose tea, 40% coffee and the rest juice. Find each number.
7. A sector represents 72 degrees. What percentage is it?

Worksheet 5 — Choosing & Analysing Graphs

1. Choose the most suitable graph for monthly website visitors and explain.
2. Choose the most suitable graph for how a fixed budget is divided among categories and explain.
3. A graph starts its vertical axis at 80 and shows 84 and 88 with a large visual difference. Why can this mislead?
4. Why could a pie chart suit favourite sports for 300 students?
5. Which graph would you choose to compare boys and girls choosing four clubs? Explain.
6. Data: 52, 55, 61, 58, 54. Describe the overall pattern without calculating an average.
7. Challenge: Give two questions a graph can answer quickly and one question that needs the original data table.

Worksheet 6 — Data Detective Challenge

1. Café customers: Week 1 = 420, Week 2 = 510, Week 3 = 495, Week 4 = 575. Find the total and percentage increase from Week 1 to Week 4.
2. Of 360 students: 40% sports, 25% music, 20% art and the rest drama. Find each number.
3. Sales rise from 240 to 300 units. Find the absolute and percentage increases.
4. Team A: 18, 24, 21, 30, 27. Team B: 22, 20, 25, 26, 29. Find each total and their difference.
5. A pie chart has sectors 25%, 35%, 15% and the remainder. Find the missing percentage and angle.
6. Explain why the tallest bar does not necessarily mean a category is twice as popular.
7. Challenge: Design a small investigation about students' study habits. State the question, sample size, data and graph.

Answer Key 1 — Reading Tables & Data

1. 110; range 15.
2. Tuesday.
3. 10 books.
4. 34 students.
5. 10%.
6. Tables give exact values and detailed comparisons.
7. 580; largest value 175.
8. 24.

Answer Key 2 — Bar & Double-Bar Graphs

1. Thursday.
2. 110.
3. 15.
4. Bars match the five values.
5. Class A = 100; Class B = 93; difference 7.
6. Example: Thursday had the highest borrowing. The data alone does not prove why.

Answer Key 3 — Line Graphs

1. June.
2. May to June, +8.
3. 16.
4. Plot the six stated points and join consecutive points.
5. They show trends and changes over time clearly.
6. The quantity is increasing quickly, then much more slowly.

Answer Key 4 — Pie Charts & Percentages

1. 55%.
2. 45%.
3. 72.
4. 144° , 108° , 72° , 36° . (Degree symbol is used only here in answer text.)
5. The whole circle represents 100%, equal to 360° .
6. Tea 70, coffee 80, juice 50.
7. 20%.

Answer Key 5 — Choosing & Analysing Graphs

1. Line graph.
2. Pie chart.
3. A truncated axis exaggerates visual differences.
4. It shows each sport's share of the whole.
5. Double-bar graph.
6. Values fluctuate within a fairly narrow range, peaking at 61.
7. Graphs quickly show comparisons/trends; an exact underlying value may require the table.

Answer Key 6 — Data Detective Challenge

1. Total 2,000; increase 155; percentage increase about 36.9%.
2. Sports 144, music 90, art 72, drama 54.
3. Increase 60; percentage increase 25%.
4. Team A 120; Team B 122; difference 2.
5. Missing 25%; angle 90 degrees.
6. Bar height depends on the scale and actual values; tallest does not automatically mean twice as many.
7. Answers vary; the investigation should include a clear question, sample, variables and suitable graph.