Choosing a chart: worked examples

Name: _____ Class: _____ Date: _____

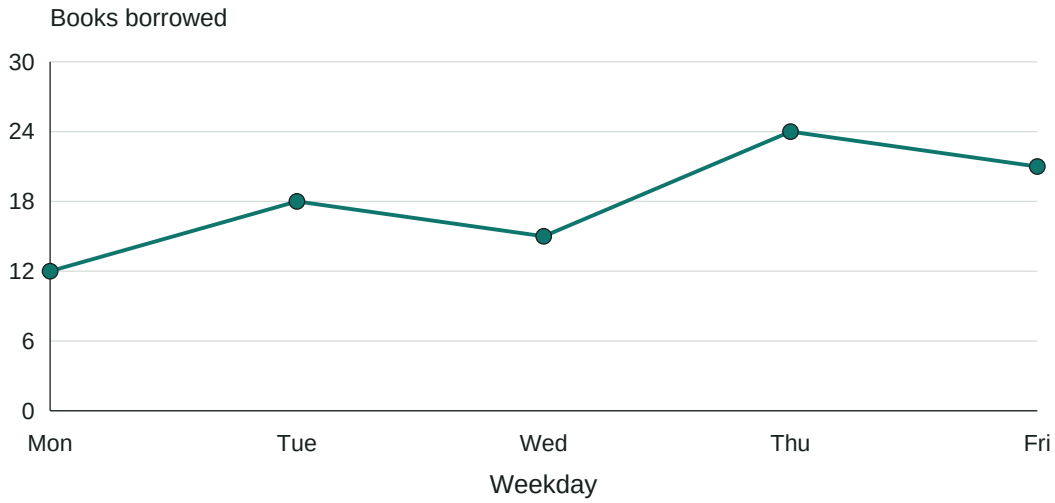
Use a bar chart to compare distinct categories. Use a line graph to show a pattern across an ordered sequence, often time, when connecting neighbouring observations is meaningful. Choose by what the data represents and the question you want to answer.

Compare favourite genres with bars



Thirty-six fictional readers each choose one favourite genre: fiction 12, mystery 8, science 10 and poetry 6. These are categories rather than successive points in time.

Follow library borrowing over a week



A separate fictional dataset records loans on five consecutive weekdays: Monday 12, Tuesday 18, Wednesday 15, Thursday 24 and Friday 21. A line graph highlights the ordered changes.

Original fictional data. Full explanations and copyable datasets: chartmaker.tools/lessons/bar-chart-vs-line-graph

Five practice questions

Name: _____ Class: _____

1. Which chart would you choose for favourite genres, and why?

2. How many more readers choose fiction than poetry?

3. On which day are the most books borrowed?

4. What is the largest increase between consecutive days?

5. Would sorting the weekdays from lowest to highest loan count preserve the time pattern? Explain.

Teacher answers and working

Bar Chart vs Line Graph: Which Should You Choose?

Keep this page separate when handing out student pages 1-2.

Question 1

A bar chart: genres are distinct categories, and separate bars compare their counts without implying a time sequence.

Question 2

12 - 6 = 6 readers.

Question 3

Thursday, with 24 books.

Question 4

From Wednesday to Thursday, loans increase from 15 to 24: an increase of 9 books.

Question 5

No. The time pattern depends on chronological order. Sorting by count changes which days are neighbours and misrepresents the sequence.

Teaching notes

Connecting unordered category names as though they form a numerical sequence.

Sorting time observations by their measured value.

Treating a missing observation as zero or as a known value on a connecting line.

All data is fictional. Accept equivalent notation and explanations. Encourage students to show calculations, units and the conventions used.