

Selecting Appropriate Displays - Notes and Steps

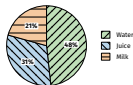


Key idea



Categorical data (drink, sport) suits a **bar graph**, **pie chart**, or **pictogram** — no numerical scale between categories.

Pie chart



Pie chart or pictogram?

A **pie chart** shows proportions of a whole; a **pictogram** shows a count of repeated icons.

Common mistake

A pie chart with many categories gets crowded — a bar graph reads frequencies more clearly.



= copy this into your book. Boxes without a pencil are just to read.

Grouped Numbers: Histogram vs Dot Plot

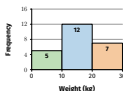
8

Key idea



A **histogram** groups continuous numbers into equal intervals, so its bars **touch**. A **dot plot** shows individual values, one dot each.

Histogram



Quick test

Small data set, values matter $\Rightarrow$ dot plot. Larger/grouped data $\Rightarrow$ histogram.

Common mistake

A histogram's bars touch (continuous scale); a bar graph's have gaps (categories).



= copy this into your book. Boxes without a pencil are just to read.

Change Over Time and Relationships

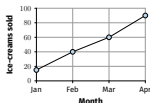


Key idea



A **line graph (time series)** tracks one variable over time. A **scatter plot** looks for a link between **two** variables on the same subjects.

Line graph



Scatter plot

Needs two numerical variables on the same subjects, e.g. sleep hours and a concentration score.

Common mistake

A pie chart cannot show change over time — it only shows proportions at one moment.



= copy this into your book. Boxes without a pencil are just to read.

Comparing Groups: Box-and-Whisker Graph

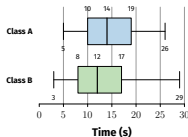


Key idea



A **box-and-whisker graph** shows the five-number summary (min, Q_1 , median, Q_3 , max). Put groups on the same scale to compare their centre and spread.

Side-by-side box-and-whisker plots



= copy this into your book. Boxes without a pencil are just to read.