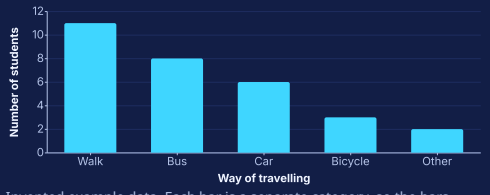
CHOOSING THE RIGHT CHART · PART 3 OF 8 · AGES 11–16

Bar Chart vs Histogram

They look alike, but one compares categories and the other shows how measurements are spread.

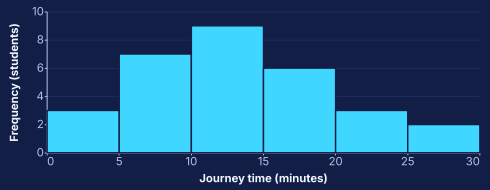
	Bar chart	Histogram
QUESTION IT ANSWERS	Which category is biggest or smallest?	How are the values spread out, and where do most of them fall?
TYPE OF DATA	Categories, such as bus or car, or discrete counts	Continuous measurements, such as time or height, grouped into classes
HORIZONTAL AXIS	A label under each bar	A number scale with class boundaries marked
GAPS BETWEEN BARS	Yes: each bar is a separate category	No: the bars touch because the number scale has no gaps
ORDER OF BARS	Any order; often sorted largest to smallest	Fixed: classes stay in number order
BAR WIDTH	All the same; width means nothing	Width is the class interval; unequal widths need frequency density

Bar chart: how 30 students travel to school



Invented example data. Each bar is a separate category, so the bars have gaps and are sorted from largest to smallest.

Histogram: how long the same 30 journeys take



Invented example data. Classes are 5 minutes wide and include their lower bound ($0 \le t < 5$, $5 \le t < 10$ …), so the bars touch.

Unequal class widths

If classes have different widths, a histogram's bar height is frequency density (frequency ÷ class width), so each bar's area shows its frequency.

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4. How to Read a Graph in 7 Steps

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