Misleading Graph Detective

SD-B150 / THINKERS · AGES 13+

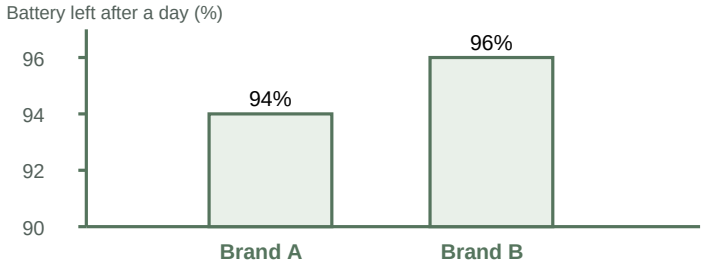
Find how three graphs mislead and redraw one honestly.

YOU NEED: Pencil; two more graphs from news or school (one is on this sheet)

ANALYZE	Look at Graph 1. What does it seem to say about Brand A and Brand B?
CHOOSE	Check the numbers and the left scale. Does it start at zero? What gets stretched?
TEST	Redraw it honestly with a scale starting at 0 in the box.
REFLECT	Now check your two other graphs for tricks: cut axes, odd scales, missing labels.

GRAPH 1

GRAPH 1: Which phone battery lasts longer?



WHAT TO NOTICE

The bars look very different.

Read the numbers: 94 and 96.

Where does the left scale start?

How tall would the bars look if it started at 0?

Redraw it honestly (start at 0)

Draw the two bars from 0 to 100.

Tricks I found

Trick:

What it makes you think:

Misleading Graph Detective

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A little help beside the learner. Read this page first; keep the answers here.

LEARNING GOAL
Practice reading graphs critically and spotting distortion.

BEFORE YOU BEGIN
You need: Pencil; two more graphs from news or school (one is on this sheet). None needed beyond pencil and paper.

HOW TO GUIDE
On Graph 1 the bars are 94 and 96, yet the left scale starts at 90, so Brand B looks about one and a half times as tall as Brand A. On an honest scale from 0 they look almost the same. Look for cut axes, uneven scales and missing labels in other graphs.

WHY IT MATTERS
Graphs feel objective, so tricks work. Reading the scale is a basic habit for reading data.

LOOK FOR THIS REASONING
Look for the starting point of the axis named, an honest redraw and a note on what impression the original gave.

IF THEY GET STUCK
Ask: what number is at the bottom of the scale? How tall would 94 and 96 be if the scale began at 0?

MAKE IT GENTLER
Just redraw Graph 1.

ADD A LITTLE STRETCH
Find a misleading graph in the news.

A USEFUL STOPPING POINT
Check the axis of the next graph you see.