

Graph Detectives

Grades 3-4 | 36 tasks

Move beyond reading a single bar. Learners connect values and frequencies, construct representations and explain why a graph or conclusion does not match its source table.

Bar graphs, pictographs and line plots

8 read + 8 build + 12 repair + 8 compare tasks

8 fictional data sets, worked support and keys

Start with the value-and-frequency example, then choose read/build tasks for guided practice or compare/repair tasks for discussion and assessment. Use Starter before Stretch when fraction labels are unfamiliar.

The following pages are actual excerpts from the resource.
A4 + US Letter | Version 1.3
Printable PDF with teacher support



P04-01

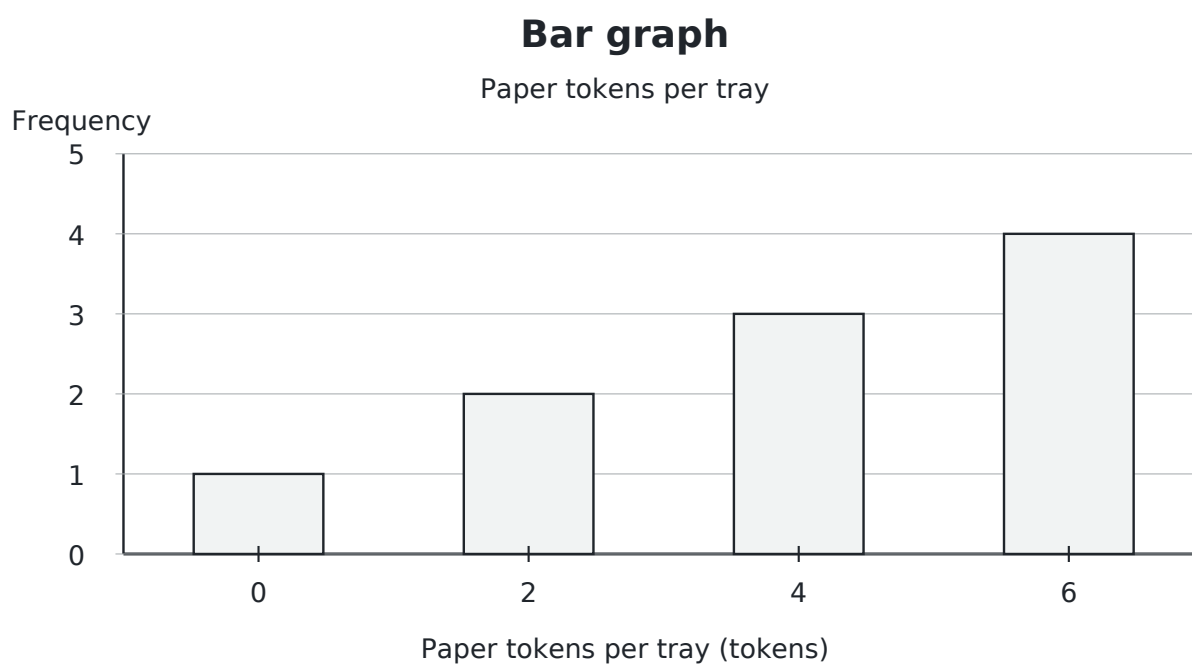
Starter

Read the graph

How many observations are shown altogether? Show how you counted.

DS01 • Fictional practice data

Read the graph below. Every observation is represented.



Answer / repair:



P04-05

Starter

Build and check

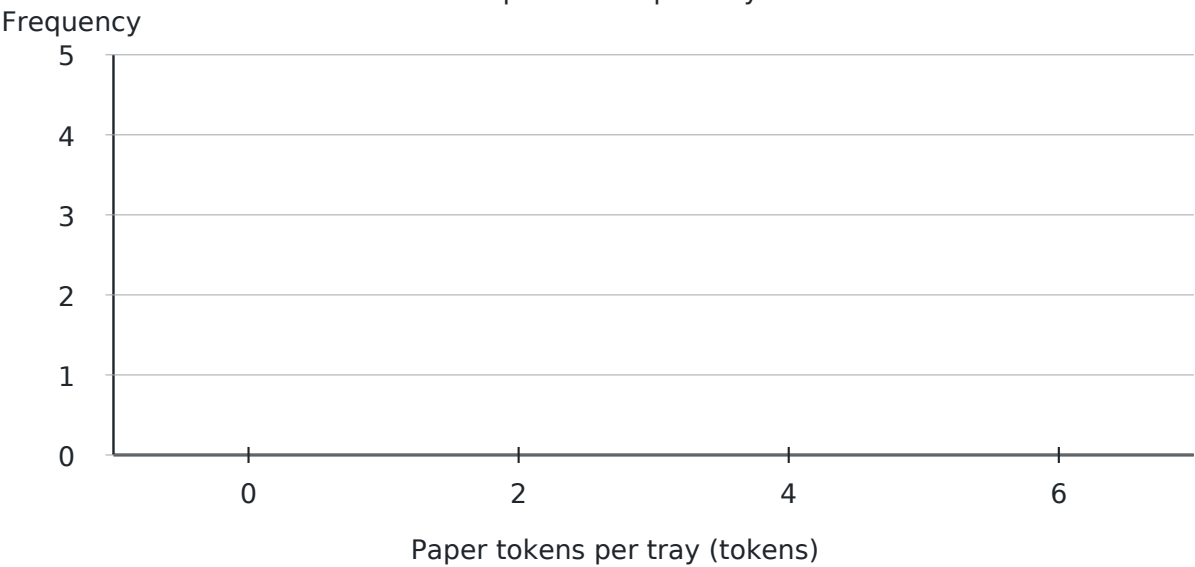
Build the bar graph from the table. Each bar must start at zero.

DS01 • Fictional practice data

Value (tokens)	0	2	4	6
Frequency	1	2	3	4

Bar graph

Paper tokens per tray



Check your labels, scale and every frequency.



P04-15

Starter

Compare representations

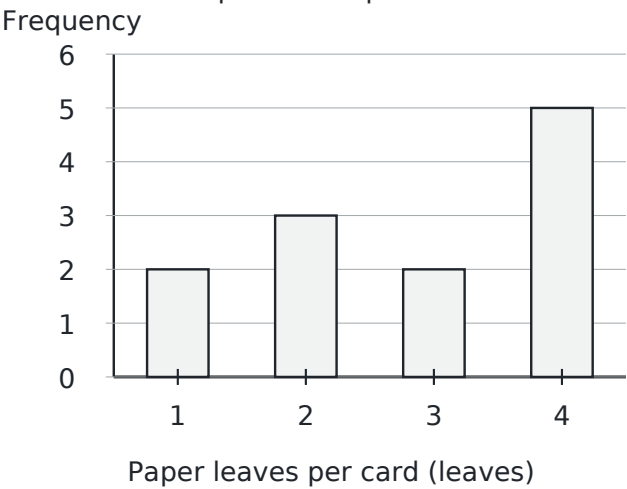
Which graph matches every source-table frequency? Circle A only, B only, Both or Neither. Explain.

DS02 • Fictional practice data

Value (leaves)	1	2	3	4
Frequency	2	3	2	5

A Bar graph

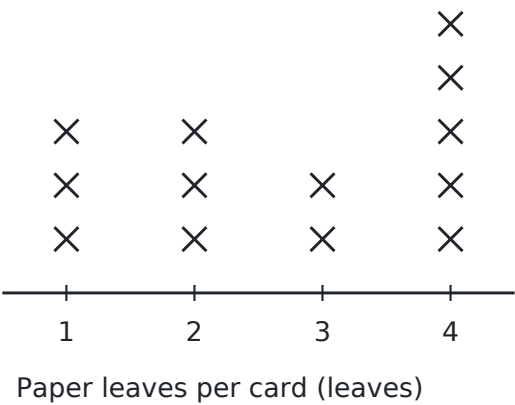
Paper leaves per card



B Line plot

Paper leaves per card

Each X = 1 observation



A only B only Both Neither



P04-28

Stretch

Find and repair

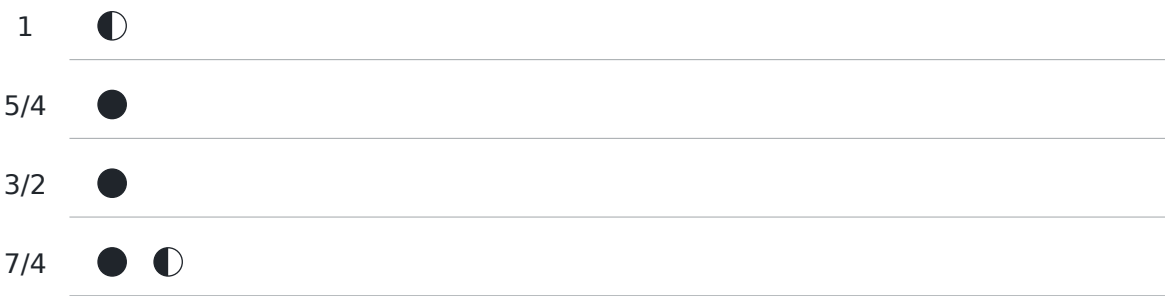
The symbols match the table, but the key is wrong. Correct both key values: the full circle and the half circle.

DS06 • Fictional practice data

Value (cm)	1	5/4	3/2	7/4
Frequency	1	2	2	3

Pictograph

Paper strip lengths



Key: full circle = 3 observations
Half circle = 3/2 observations

Values in cm

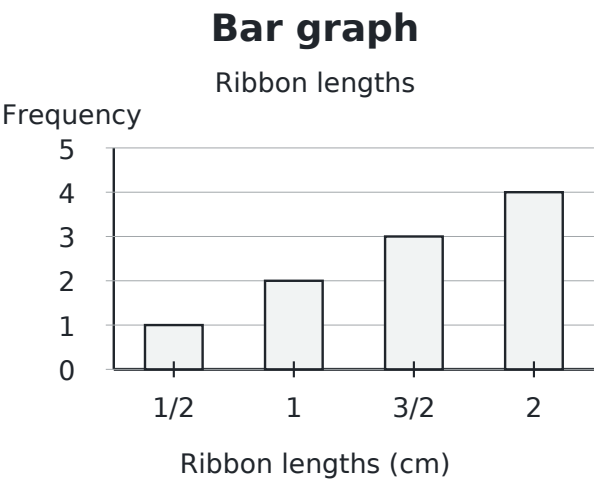
Answer / repair:



P04-27

Stretch

Find and repair



Source: DS05 • Fictional practice data

Answer

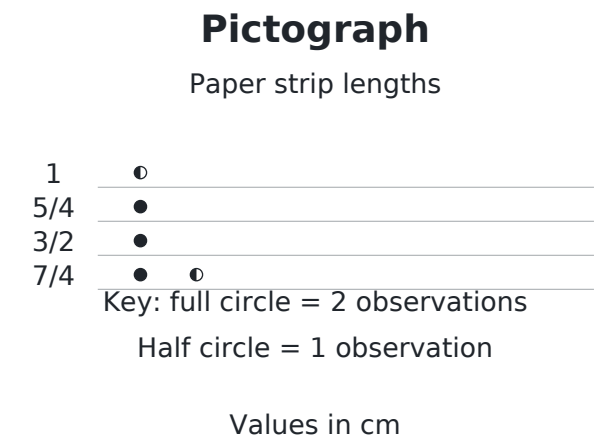
Replace the label 3 at the second tick above zero with 2.

The evenly spaced vertical ticks increase by one: 0, 1, 2, 3, and so on.

P04-28

Stretch

Find and repair



Source: DS06 • Fictional practice data

Answer

Each full symbol = 2 observations; each half symbol = 1 observation.

Count full symbols and halves; a weight of 2 reproduces all table frequencies.