

Comparing data sets and drawing inferences

WHAT THIS LESSON TEACHES

The mean shows a typical value but sets with the same mean can have very different spreads or ranges.

→ Two classes each have a mean test score of 15.

→ 14, 15, 16 against 8, 12, 15, 15, 20, 20 have the same mean but different ranges.

MODEL THIS ON THE BOARD

FIND THE MEAN AND COMPARE SPREADS

- 1 Add all the scores then divide by how many scores there are to find the mean.
- 2 Subtract the smallest from the largest to find the range.
- 3 The set with the smaller range is more consistent.

DISCUSSION STARTER

REFLECT Could two data sets have the same mean but look very different? How?

ANSWER KEY

Scaffold: visual check on the page

Q1: 15

Q2: 15

Q3: means 15 and 15; ranges 2 and 20

Q4: means 16 and 15; ranges 2 and 10

a) **Never** — Ranges can differ even when means are equal.

b) **Always** — This is always how the mean is calculated.

c) **Always** — Less spread shows values are closer together.

d) **Always** — The mean alone does not show spread.

EXTENSION SHEET · STRETCH ANSWERS

S1: 32

S2: 30.5

S3: 9

S4: 33.5

S5: 40