LESSON MAKER PRO

What Do Numbers Measure?

Find a mean and explain it in context.

GRADE 6 · 6.SP.5b

6.SP.5b "Summarize numerical data sets in relation to their real-world context. Describe the context of the data under investigation, including how it was measured and its units of measurement."

NAME _____ DATE _____

MEAN WITH MEANING

To find a mean, add the measurements and divide by the number of measurements. When you report a mean, name what was measured, how it was measured, and its unit.

WORKED EXAMPLE

A thermometer measured the air temperature at noon on three days. Find the mean temperature.

NOON AIR TEMPERATURE

Day	Temperature (°C)
Monday	11
Tuesday	13
Wednesday	15

1. Add the readings: 11 + 13 + 15 = 39.
2. Divide by the number of readings: 39 / 3 = 13.
3. These are noon air temperatures measured by a thermometer in °C.

Answer: The mean noon air temperature was 13 °C.

PRACTICE 4 problems

1 A ruler measured three seedlings: 7, 9, and 14 cm tall. Find the mean. State what was measured, how, and in what units.

ANSWER _____

2 A marked cup measured three smoothie servings: 120, 150, and 180 mL. Find the mean. State what was measured, how, and in what units.

ANSWER _____

3 A timer measured three game rounds: 20, 25, and 30 seconds. Find the mean. State what was measured, how, and in what units.

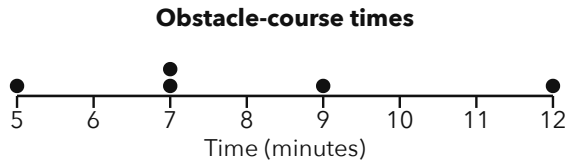
ANSWER _____

4 A scale measured three backpacks: 2, 5, and 8 kg. Find the mean. State what was measured, how, and in what units.

ANSWER _____

APPLY IT Show your work

1 A stopwatch timed five students on an obstacle course. Use the plot to find the mean time. Explain what the mean tells you and give its unit.



ANSWER _____

2 A digital scale measured the masses of four skateboards: 2, 3, 3, and 4 kg. Find the mean mass. Explain what was measured, how, and in what units.

WORK SPACE

ANSWER _____

CHALLENGE One step up

A timer recorded four video-loading times: 6, 8, 10, and x seconds. Their mean was 9 seconds. Find x. Explain what the mean describes, including how it was measured and its unit.

WORK SPACE AND ANSWER

ANSWER KEY

What Do Numbers Measure?

GRADE 6 · 6.SP.5b

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	A ruler measured three seedlings: 7, 9, and 14 cm tall. Find the mean. State what was measured, how, and in what units.	**The mean seedling height was 10 cm, measured with a ruler.**
2	A marked cup measured three smoothie servings: 120, 150, and 180 mL. Find the mean. State what was measured, how, and in what units.	**The mean smoothie volume was 150 mL, measured with a marked cup.**
3	A timer measured three game rounds: 20, 25, and 30 seconds. Find the mean. State what was measured, how, and in what units.	**The mean game-round time was 25 seconds, measured with a timer.**
4	A scale measured three backpacks: 2, 5, and 8 kg. Find the mean. State what was measured, how, and in what units.	**The mean backpack mass was 5 kg, measured with a scale.**

PART 2 · APPLY IT

1. **The mean obstacle-course time was 8 minutes, measured with a stopwatch.** The times total 40 minutes. Divide by 5 students to get 8 minutes.
2. **The mean skateboard mass was 3 kg, measured with a digital scale.** The masses total 12 kg. Divide by 4 skateboards to get 3 kg.

CHALLENGE

x = 12 seconds. The mean video-loading time was 9 seconds, measured with a timer.

Accept equivalent wording that correctly names the quantity measured, the measuring tool, and the unit. For the challenge, the four times must total 36 seconds, so x = 12 seconds.