LESSON MAKER PRO

Sample to School

Estimate a whole-school count from one random sample.

GRADE 7 · 7.DS.A.2.a

7.DS.A.2.a "Use data from a single random sample to estimate an unknown characteristic of a population."

NAME _____ DATE _____

FROM PART TO WHOLE

A random sample can help you estimate a count for a whole group. Find the fraction of the sample with the trait, then multiply by the population size.

WORKED EXAMPLE

A school has 150 students. The table shows one random sample. About how many students would choose a mural?

MURAL VOTE

Choice	Students
Mural	8
Other	12

1. 8 + 12 = 20 students sampled.
2. 8/20 = 2/5 chose a mural.
3. 2/5 * 150 = 60.

Answer: About 60 students.

PRACTICE 4 problems

1 In a random sample, 6 of 15 students want a garden. About how many of the school's 120 students would want a garden?

ANSWER _____

2 In a random sample, 9 of 30 students bring lunch. About how many of the school's 240 students would bring lunch?

ANSWER _____

3 In a random sample, 12 of 24 students bike to school. About how many of the school's 180 students would bike to school?

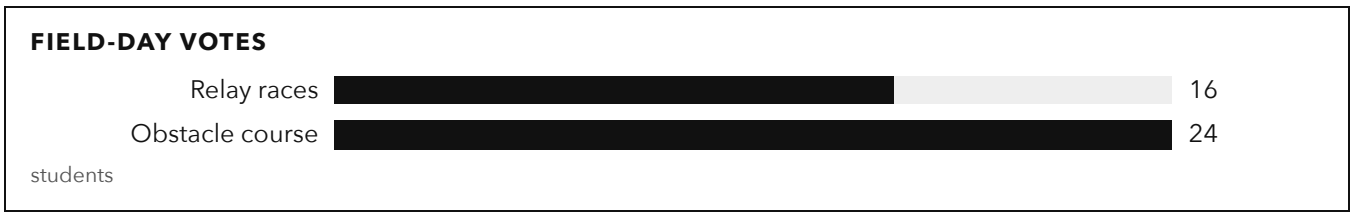
ANSWER _____

4 In a random sample, 14 of 35 students like the new mascot. About how many of the school's 250 students would like it?

ANSWER _____

APPLY IT Show your work

1 A school has 300 students. The graph shows one random sample's field-day votes. About how many students would choose relay races?



ANSWER _____

2 A school has 350 students. The table shows one random sample's club choices. About how many students would choose the puzzle club?

CLUB CHOICES

Club	Students
Puzzle	18
Games	27

ANSWER _____

CHALLENGE One step up

A school has 400 students. In one random sample of 50 students, 15 choose a morning event and 35 choose an afternoon event. About how many more students at the school would choose the afternoon event? Explain your estimate.

WORK SPACE AND ANSWER

ANSWER KEY

Sample to School

GRADE 7 · 7.DS.A.2.a

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	In a random sample, 6 of 15 students want a garden. About how many of the school's 120 students would want a garden?	**About 48 students.**
2	In a random sample, 9 of 30 students bring lunch. About how many of the school's 240 students would bring lunch?	**About 72 students.**
3	In a random sample, 12 of 24 students bike to school. About how many of the school's 180 students would bike to school?	**About 90 students.**
4	In a random sample, 14 of 35 students like the new mascot. About how many of the school's 250 students would like it?	**About 100 students.**

PART 2 · APPLY IT

1. **About 120 students.** The sample has 16 + 24 = 40 students. Estimate 16/40 * 300 = 120.
2. **About 140 students.** The sample has 18 + 27 = 45 students. Estimate 18/45 * 350 = 140.

CHALLENGE

About 160 more students. The sample difference is 35 - 15 = 20, so 20/50 * 400 = 160.

Accept equivalent fractions or proportions that produce the same estimates. These are estimates, even when the calculations give whole numbers.