

Data Detective Math

Use data displays to solve one- and two-step problems.

GRADE 4 • TEKS 4.9.B

4.9.B “solve one- and two-step problems using data in whole number, decimal, and fraction form in a frequency table, dot plot, or stem-and-leaf plot.”

NAME _____

DATE _____

READ, COUNT, SOLVE

A frequency tells how many times a data value appears. Read the values and their frequencies carefully. For a two-step problem, find each needed amount first, then combine or compare the amounts.

WORKED EXAMPLE

The fraction bars show the parts of a nature trail that Jalen walked before lunch and after lunch. What part of the whole trail did Jalen walk?

Before lunch 

After lunch 

1. Before lunch, Jalen walked $\frac{2}{5}$ of the trail.
2. After lunch, Jalen walked $\frac{1}{5}$ of the trail.
3. Add the shaded parts: $\frac{2}{5} + \frac{1}{5} = \frac{3}{5}$.

Answer: $\frac{3}{5}$ of the trail

PRACTICE 6 problems

- 1** Favorite puzzle | Frequency Maze | 8 Word search | 6 Logic grid | 7 How many students chose a maze or a logic grid?

ANSWER _____

- 2** Jump length (m) | Frequency 1.3 | 4 1.6 | 7 1.9 | 3 How many jumps were longer than 1.3 m?

ANSWER _____

- 3** Part of book read | Frequency $\frac{1}{4}$ | 9 $\frac{1}{2}$ | 6 $\frac{3}{4}$ | 4 How many readers had read $\frac{1}{2}$ of a book or more?

ANSWER _____

- 4** Points earned | Frequency 12 | 5 15 | 8 18 | 6 How many more players earned 15 points than 18 points?

ANSWER _____

- 5** Drink amount (L) | Frequency 0.8 | 6 1.1 | 5 1.4 | 9 How many students drank 1.1 L or 1.4 L?

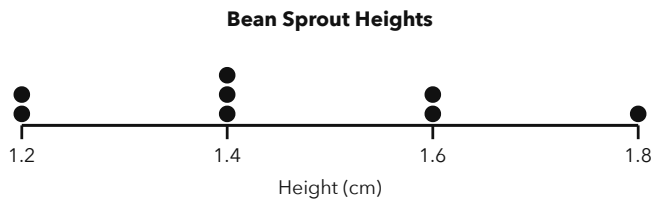
ANSWER _____

- 6** Sticker sheets completed | Frequency $\frac{1}{3}$ | 3 $\frac{2}{3}$ | 6 1 | 4 How many students completed less than 1 whole sticker sheet?

ANSWER _____

APPLY IT Show your work

- 1** A science club measured the heights of bean sprouts in centimeters. How many more sprouts were 1.4 cm or taller than were 1.2 cm?



ANSWER _____

- 2** At an arcade game club, students recorded their token scores. The stem-and-leaf plot is below. Stem | Leaves 1 | 2 4 4 7 2 | 0 1 3 3 5 Key: 1 | 2 means 12 tokens. How many more scores were 14 tokens or greater than were below 14 tokens?

WORK SPACE

ANSWER _____

CHALLENGE One step up

The frequency table shows ribbon pieces used for a poster project. How many meters of ribbon were used for the $\frac{1}{2}$ -meter pieces and the 1-meter pieces together? Explain how you found the total.

RIBBON PIECES USED

Ribbon length (m)	Frequency
$\frac{1}{4}$	3
$\frac{1}{2}$	5
$\frac{3}{4}$	2
1	4

WORK SPACE AND ANSWER

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	Favorite puzzle Frequency Maze 8 Word search 6 Logic grid 7 How many students chose a maze or a logic grid?	15 students
2	Jump length (m) Frequency 1.3 4 1.6 7 1.9 3 How many jumps were longer than 1.3 m?	10 jumps
3	Part of book read Frequency $\frac{1}{4}$ 9 $\frac{1}{2}$ 6 $\frac{3}{4}$ 4 How many readers had read $\frac{1}{2}$ of a book or more?	10 readers
4	Points earned Frequency 12 5 15 8 18 6 How many more players earned 15 points than 18 points?	2 more players
5	Drink amount (L) Frequency 0.8 6 1.1 5 1.4 9 How many students drank 1.1 L or 1.4 L?	14 students
6	Sticker sheets completed Frequency $\frac{1}{3}$ 3 $\frac{2}{3}$ 6 1 4 How many students completed less than 1 whole sticker sheet?	9 students

PART 2 • APPLY IT

- 4 more sprouts** There are 6 sprouts at 1.4 cm or taller and 2 sprouts at 1.2 cm. Subtract 2 from 6.
- 7 more scores** There are 8 scores that are 14 or greater and 1 score below 14. Subtract 1 from 8.

CHALLENGE

$6\frac{1}{2}$ meters. Five $\frac{1}{2}$ -meter pieces make $2\frac{1}{2}$ meters, and four 1-meter pieces make 4 meters. $2\frac{1}{2} + 4 = 6\frac{1}{2}$.

Accept equivalent fraction forms when they represent the same amount. For the challenge, accept a correct explanation using repeated addition or multiplication to find 5 groups of $\frac{1}{2}$ meter.