

Graph Detective

Read, build, and explain data graphs.

GRADE 3 • 3.PS.1

3.PS.1 "The student will apply the data cycle (formulate questions; collect or acquire data; organize and represent data; and analyze data and communicate results) with a focus on pictographs and bar graphs..."

NAME _____

DATE _____

READ GRAPH CLUES

A pictograph uses a key to show what each symbol means. A bar graph needs a title, labeled axes, and a scale that matches the data.

WORKED EXAMPLE

A bar graph shows 15 red kites and 25 blue kites. How many kites are shown?

1. Read red kites: 15.
2. Read blue kites: 25.
3. Add: $15 + 25 = 40$.

Answer: 40 kites

PRACTICE 5 problems

- 1** Key: 1 star = 2 votes. Music has 4 stars. How many votes does Music have?

ANSWER _____

- 2** A bar graph shows 3 votes for skating, 9 for biking, and 12 for swimming. Which activity has the greatest number of votes?

ANSWER _____

- 3** A graph shows 11 students chose apples and 7 chose oranges. How many fewer chose oranges?

ANSWER _____

- 4** Data: tag 8, jump rope 4, chalk 2. Write graph details using a scale of 2.

ANSWER _____

- 5** Write a question, the data needed, and a way to collect the data to learn which after-school club third graders choose most.

ANSWER _____

APPLY IT Show your work

- 1** A pet club pictograph has this key: 1 paw = 1 vote. Cats have 9 paw symbols, dogs have 12 paw symbols, and rabbits have 3 paw symbols. How many votes did cats and rabbits get altogether?

WORK SPACE

ANSWER _____

- 2** A school garden bar graph shows 9 sunflower plants, 7 carrot plants, and 4 pea plants. How many more sunflower and carrot plants are there than pea plants?

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

Mia used a scale of 5 for bar graph data of 7, 9, and 13. Explain why the scale does not work. Give a scale that does work.

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	Key: 1 star = 2 votes. Music has 4 stars. How many votes does Music have?	8 votes
2	A bar graph shows 3 votes for skating, 9 for biking, and 12 for swimming. Which activity has the greatest number of votes?	swimming
3	A graph shows 11 students chose apples and 7 chose oranges. How many fewer chose oranges?	4 fewer students
4	Data: tag 8, jump rope 4, chalk 2. Write graph details using a scale of 2.	Title: Recess Choices. x-axis: Activity. y-axis: Students. Scale: 0, 2, 4, 6, 8.
5	Write a question, the data needed, and a way to collect the data to learn which after-school club third graders choose most.	Question: Which after-school club do third graders choose most? Data: one club choice from each third grader. Method: poll.

PART 2 • APPLY IT

- 12 votes** Add the cat votes and rabbit votes: $9 + 3 = 12$.
- 12 more plants** Add sunflower and carrot plants: $9 + 7 = 16$. Then subtract pea plants: $16 - 4 = 12$.

CHALLENGE

Use a scale of 1. A scale of 5 marks 0, 5, 10, and 15, so it cannot show 7, 9, and 13 exactly.

Accept equivalent clear titles and axis labels for problem 4. For problem 5, accept any measurable question, needed data, and reasonable collection method such as a poll or tally.