

Circle Graph Quest

Ask clear questions, then use the data.

GRADE 6 • 6.PS.1.a

6.PS.1.a "Formulate questions that require the collection or acquisition of data with a focus on circle graphs."

NAME _____

DATE _____

ONE WHOLE

Use a circle graph when categories are parts of one whole. Ask about one choice, then collect a count for every category and the total.

WORKED EXAMPLE

A cafeteria asks 30 students, "Which one lunch side do you prefer most?" Fruit 15, vegetables 9, yogurt 6. Find each percent for a circle graph.

1. Total responses: $15 + 9 + 6 = 30$.
2. Fruit: $15/30 = 1/2 = 50\%$.
3. Vegetables: $9/30 = 3/10 = 30\%$.
4. Yogurt: $6/30 = 1/5 = 20\%$.

Answer: Fruit 50%, vegetables 30%, yogurt 20%.

PRACTICE 5 problems

- 1** Which question can be answered with one circle graph? A. How many minutes do you read each night? B. Which one way do you usually travel to school? C. What is your shoe size?

ANSWER _____

- 2** Twenty students choose one hobby. Coding 5, drawing 8, music 7. What percent chose drawing?

ANSWER _____

- 3** Twenty-five students choose one school activity. Art 10, drama 5, music 10. What percent chose drama?

ANSWER _____

- 4** Forty students choose one movie type. Action 18, comedy 12, animation 10. What percent should comedy take in a circle graph?

ANSWER _____

- 5** Rewrite this question so each student gives one answer: "Which sports do you play?"

ANSWER _____

APPLY IT Show your work

- 1** The library club surveys 32 students. Twelve choose fantasy, 8 choose mystery, 8 choose graphic novels, and 4 choose realistic fiction. Write one survey question that would produce these categories. Then find each percent for a circle graph.

WORK SPACE

ANSWER _____

- 2** A class is making a shared playlist. Forty students each choose one style: pop 16, rock 12, electronic 8, jazz 4. Write a survey question, then find each percent for a circle graph.

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

A survey of 48 students asks, "Which apps do you use?" Video 24, chat 18, music 12, games 8. Can this data make one circle graph? Explain, then write a better survey question.

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	Which question can be answered with one circle graph? A. How many minutes do you read each night? B. Which one way do you usually travel to school? C. What is your shoe size?	B. Which one way do you usually travel to school?
2	Twenty students choose one hobby. Coding 5, drawing 8, music 7. What percent chose drawing?	40%
3	Twenty-five students choose one school activity. Art 10, drama 5, music 10. What percent chose drama?	20%
4	Forty students choose one movie type. Action 18, comedy 12, animation 10. What percent should comedy take in a circle graph?	30%
5	Rewrite this question so each student gives one answer: "Which sports do you play?"	Which one sport do you play most often?

PART 2 • APPLY IT

- Question: Which one book type would you most like to read next? Fantasy 37.5%, mystery 25%, graphic novels 25%, realistic fiction 12.5%.** Divide each count by 32. The question must ask each student to choose one book type.
- Question: Which one music style do you want on the playlist? Pop 40%, rock 30%, electronic 20%, jazz 10%.** Divide each count by 40. A one-choice question makes the categories parts of one whole.

CHALLENGE

No. The counts total 62, not 48, so some students chose more than one category. Better question: Which one app do you use most often?

Accept equivalent one-choice survey questions. Accept $37\frac{1}{2}\%$ for 37.5% and $12\frac{1}{2}\%$ for 12.5%.