Focus in the Numbers

Read a survey table and judge what it can show.

PS.1.4 "Identify and evaluate psychological concepts in representations of data, including tables, graphs, charts, figures, and diagrams."

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Underline the words that explain how focus was measured, circle two numbers you can compare, and number two reasons the table cannot prove cause and effect. These marks will help you evaluate the claim the data supports.

Does Sleep Change Focus?

1. A school counselor wants to know whether sleep and students' sense of focus move together. Thirty volunteers report how long they slept last night and rate their focus during first period on a scale from 0 (not focused) to 10 (very focused). The table groups their answers and shows each group's average focus rating.

ILLUSTRATIVE STUDENT SURVEY: SLEEP AND NEXT-DAY FOCUS

Sleep last night	Students	Mean focus rating (0 to 10)
5 hours or less	8	4.0
6 to 7 hours	12	6.0
8 hours or more	10	7.0

2. The highest average focus rating belongs to the group reporting at least eight hours of sleep. This pattern suggests an association between reported sleep and reported focus, not a rule for every student. An average can hide wide differences among individuals, and a rating describes a student's perception rather than a direct test of attention.

3. The table cannot show that extra sleep caused stronger focus. Students chose their own sleep schedules, and other factors, such as stress or a loud classroom, could affect their ratings. Only thirty volunteers took part, so the results may not represent the whole school. Before recommending a change, the counselor should seek more evidence.

2 ANSWER WITH EVIDENCE

Use the passage

1. What psychological experience does the focus column represent, and how did the counselor measure it?

2. Compare the average focus ratings of the shortest-sleep and longest-sleep groups. What pattern do the numbers show?

3. Why do the averages not prove that more sleep caused better focus? Use one possible influence named in the passage.

4. Can you tell whether every student in the longest-sleep group rated their focus higher than every student in the shortest-sleep group? Explain what the table leaves out.

3 YOUR TURN

Your own words

Write four sentences proposing a new column for a psychological factor other than focus or stress. Explain how you would measure it, predict how its values might differ across the sleep groups, and tell how that pattern would affect your interpretation of the focus averages.

ANSWER KEY

Focus in the Numbers

PART 1 · READ AND MARK

Underline the words that explain how focus was measured, circle two numbers you can compare, and number two reasons the table cannot prove cause and effect. These marks will help you evaluate the claim the data supports. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	What psychological experience does the focus column represent, and how did the counselor measure it?	**It represents students' perceived focus during first period, measured by their own ratings from 0 to 10.**
2	Compare the average focus ratings of the shortest-sleep and longest-sleep groups. What pattern do the numbers show?	**The longest-sleep group averaged 7.0, compared with 4.0 for the shortest-sleep group. Higher reported sleep goes with higher average reported focus in this survey.**
3	Why do the averages not prove that more sleep caused better focus? Use one possible influence named in the passage.	**Students chose their own sleep schedules, and another influence, such as stress or a loud classroom, could have affected their focus ratings.**
4	Can you tell whether every student in the longest-sleep group rated their focus higher than every student in the shortest-sleep group? Explain what the table leaves out.	**No. The table shows group averages, not individual ratings, so the groups' ratings could overlap.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

I would add a column for each group's average test anxiety. Students could rate their test anxiety from 0 to 10 before first period. If the shortest-sleep group also reported the most anxiety, anxiety might help explain its lower average focus rating. That pattern would weaken a claim that sleep alone explains the differences in focus.

Accept other measurable psychological factors, such as mood or motivation, if the response predicts a group pattern and explains how it would affect interpretation. Predictions should not be presented as findings from the printed table.