Follow the Evidence

Weigh sources before drawing a conclusion

8.6.R.3 "Students will determine the relevance, reliability, and validity of the information gathered."

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Underline one detail that makes a source useful or trustworthy, and circle one detail that makes a claim harder to prove. Number the two sources you would check first to decide whether the refill station reduced bottle waste at lunch.

Did the Refill Station Make a Difference?

1. At Cedar Grove Middle School, the student council wants to know whether a new water refill station cut the number of single-use plastic bottles thrown away at lunch. Custodian Ms. Chen counted bottles in the cafeteria recycling bin during five lunch periods before installation and five lunch periods afterward. She recorded 180 bottles before and 125 afterward, using the same bin and lunch schedule. The station's display showed 240 fills during the second week. On one day that week, 80 eighth graders ate lunch off campus during a field trip.

2. The council also found a city water report released in September. City lab staff collected samples at 30 locations, named their testing methods, and reported that every sample met the safety limits listed in the report. Cedar Grove gets its tap water from that city system. A company that sells refill stations handed the council a flyer claiming its stations "cut bottle waste by 70 percent." The flyer cites interviews with 12 principals whose schools bought stations; each principal estimated how many fewer bottles students discarded afterward.

3. Finally, the environmental club asked 24 members whether they would use the station instead of buying bottled water. Twenty said yes. Cedar Grove has 620 students, and club members volunteered to join because they care about environmental projects. One student who uses the station said she sometimes fills a reusable bottle in the morning but still buys a drink at lunch. The council will use these sources to decide what it can tell families about the station's effect on bottle waste at school.

2 ANSWER WITH EVIDENCE

Use the passage

1. Do the station's 240 fills prove that 240 fewer bottles were thrown away at lunch? Explain using a detail from the passage.

2. Which gives stronger evidence that bottle waste changed at Cedar Grove, Ms. Chen's counts or the company flyer? Compare how each got its numbers.

3. Can the club poll support a claim about what most Cedar Grove students would do? Explain why or why not.

4. Would the city water report help determine whether the station reduced lunch bottle waste? Name one question it is better suited to answer.

3 YOUR TURN

Your own words

Write 3 or 4 sentences planning a follow-up investigation at Cedar Grove. State what you would measure, how you would make the records trustworthy, and one factor you would account for before claiming the station reduced lunch bottle waste.

ANSWER KEY

Follow the Evidence

GRADE 8 · 8.6.R.3

PART 1 · READ AND MARK

Underline one detail that makes a source useful or trustworthy, and circle one detail that makes a claim harder to prove. Number the two sources you would check first to decide whether the refill station reduced bottle waste at lunch. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	Do the station's 240 fills prove that 240 fewer bottles were thrown away at lunch? Explain using a detail from the passage.	**No. A fill does not necessarily replace a bottle thrown away at lunch; one student fills a bottle in the morning but still buys a drink at lunch.**
2	Which gives stronger evidence that bottle waste changed at Cedar Grove, Ms. Chen's counts or the company flyer? Compare how each got its numbers.	**Ms. Chen's counts are stronger evidence for Cedar Grove because she counted bottles in the same cafeteria bin before and after installation. The company's figure comes from principals' estimates at other schools.**
3	Can the club poll support a claim about what most Cedar Grove students would do? Explain why or why not.	**Not well. The 24 students were environmental club members, not a representative sample of the school's 620 students.**
4	Would the city water report help determine whether the station reduced lunch bottle waste? Name one question it is better suited to answer.	**It would not measure a change in lunch bottle waste. It is better suited to answering whether the tested city water met the report's safety limits.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

For five more school days, I would count single-use bottles in the same cafeteria recycling bin Ms. Chen used. I would write a counting rule and have a second person check each day's count. I would get daily lunch attendance for those days and for Ms. Chen's earlier counts. Then I would compare days with similar attendance so a field trip would not explain the difference.

Accept other evidence plans that directly measure lunch bottle waste, describe a way to keep records consistent or checkable, and account for a plausible alternative explanation. Students need not conclude that the station did or did not reduce waste.