The Pump Decision

Weigh competing explanations against historical evidence

11-12.RH.3 "Evaluate various explanations for events, ideas, or individual actions. Determine what text(s) state expressly and inferentially, acknowledging where the text is open for interpretation."

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Underline the two explanations for how cholera spread, circle details used to evaluate them, and place a question mark beside a cause or motive the passage leaves uncertain.

Why Remove the Broad Street Pump Handle?

1 In late August 1854, cholera swept through a neighborhood around Broad Street in London. Hundreds died within days. Many physicians then blamed cholera on miasma, foul air rising from crowded, dirty streets. Under that explanation, a person could fall ill by breathing the neighborhood air. Physician John Snow proposed a rival explanation: people were swallowing something harmful in water drawn from the Broad Street pump. The two accounts pointed to different responses. Cleaning streets might address bad air; stopping use of the pump might limit exposure through drinking water. Neither explanation could be tested by looking at a single sick person.

2 Snow mapped deaths around the pump. Most of the deaths he plotted clustered nearby, although some households near the pump escaped illness. He also identified people who lived farther away but had obtained water from Broad Street. Those patterns favored his water explanation. Still, the cluster alone did not rule out bad air: nearby houses also shared streets and surroundings. Snow presented his findings to the local Board of Guardians, which removed the pump handle on September 8. Removing the handle matched Snow's proposed response, but that action alone did not show whether the board fully accepted his theory.

3 Deaths fell after the handle was removed, a fact sometimes offered as proof that Snow's request stopped the outbreak. Yet the number of new cases had already begun falling before September 8. Some residents had fled, and others may have avoided the pump as news spread, although this account cannot establish how much either change mattered. Removing the handle therefore might have prevented additional infections without being the main reason the outbreak waned. The timing leaves room for more than one explanation of the decline. It also cannot reveal whether board members acted from conviction, caution, or both.

2 ANSWER WITH EVIDENCE

Use the passage

1. What does the passage explicitly say about how each explanation claimed people became ill? What response did each suggest?

2. How do Snow's findings favor his explanation without completely ruling out the rival explanation?

3. A reader claims that removing the handle ended the outbreak. Evaluate that claim using two details about the timing of cases.

4. Why might the board have removed the handle without being certain Snow was right? Separate what the passage states from what you infer.

3 YOUR TURN

Your own words

Write a museum label of 65 to 85 words offering two plausible explanations for the board's decision. Use two different details from the passage, distinguish stated facts from your inferences, and identify what remains unknown.

ANSWER KEY

The Pump Decision

HIGH SCHOOL · 11-12.RH.3

PART 1 · READ AND MARK

Underline the two explanations for how cholera spread, circle details used to evaluate them, and place a question mark beside a cause or motive the passage leaves uncertain. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	What does the passage explicitly say about how each explanation claimed people became ill? What response did each suggest?	**The miasma explanation blamed breathing foul air and suggested cleaning streets. Snow's explanation blamed drinking harmful pump water and suggested stopping use of the pump.**
2	How do Snow's findings favor his explanation without completely ruling out the rival explanation?	**Deaths clustered near the pump, and some people farther away who obtained its water became ill. The cluster alone did not rule out bad air because nearby houses also shared streets and surroundings.**
3	A reader claims that removing the handle ended the outbreak. Evaluate that claim using two details about the timing of cases.	**Deaths fell after the handle was removed, which is consistent with the claim. But new cases had already begun falling before September 8, so the timing does not prove that removing the handle ended the outbreak.**
4	Why might the board have removed the handle without being certain Snow was right? Separate what the passage states from what you infer.	**The passage states that Snow presented his findings and the board removed the handle. One inference is that the board wanted to reduce a possible risk even if its members had not settled the debate.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

The board removed the Broad Street pump handle on September 8, after Snow presented his findings. Perhaps members accepted his theory: deaths clustered near the pump, and some distant patients had obtained its water. Or perhaps they acted cautiously because disabling one pump could reduce a possible risk without settling the debate over bad air. Both motives are inferences, not stated facts. The passage does not establish what persuaded individual members, so neither explanation can be confirmed as their reason.

Accept different reasonable inferences when students anchor them in passage details and distinguish them from explicit statements. Do not accept claims that the handle's removal is proved to have ended the outbreak or that the board's motive is known.