The Pump Puzzle

Trace how a historical explanation builds and limits its claim.

11-12.RH.5 "Analyze in detail how a complex primary or secondary source is structured to advance an explanation or analysis."

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Underline the question the first paragraph sets up, circle the comparisons in the second, and number the main moves in the order they appear. Use your marks to track how the passage builds its explanation.

What the Broad Street Outbreak Could Prove

1 In late August 1854, cholera swept through a crowded district of London. Families near Broad Street watched neighbors fall ill, while city officials still commonly blamed the disease on foul air. Physician John Snow suspected contaminated drinking water instead. That suspicion alone could not explain why one street suffered so heavily while places close by seemed safer. Snow needed to connect particular illnesses to a particular source of water. The contrast between the accepted theory and the uneven pattern of deaths turns a frightening event into a question that evidence might answer.

2 Snow plotted deaths on a map and found many clustered near the Broad Street pump. But distance from the pump did not tell the whole story. A nearby workhouse had relatively few cholera deaths; its residents drew water from a separate well. Workers at a brewery close to the pump also had few deaths and generally drank beer rather than pump water. Snow traced some victims living farther away to Broad Street water sent to their homes. Together, these comparisons shifted attention from where people lived to what they drank.

3 Officials removed the pump handle on September 8, making its water harder to obtain. Yet the number of new cases had already begun to fall. It would overstate the evidence to claim that removing the handle ended the outbreak. The action matters for a different reason: it shows officials acting on Snow's water-based explanation even though the timing cannot prove the action's effect. Later investigation found that waste from a nearby cesspool had contaminated the well. By ending with a limit on what the intervention proves, this account separates an explanation of the outbreak's pattern from a simple victory story about one public health measure.

2 ANSWER WITH EVIDENCE

Use the passage

1. How does the contrast between foul air and contaminated water in the first paragraph set up the explanation that follows?

2. Why does the second paragraph place the workhouse and brewery examples after the cluster of deaths near the pump?

3. What does adding victims who lived farther away contribute to the second paragraph's analysis?

4. How does the timing detail near the start of the final paragraph change what the reader can conclude from the pump-handle removal?

3 YOUR TURN

Your own words

Propose a new order for the passage's three main moves: the initial puzzle, the water-use comparisons, and the timing caveat. In 3 to 4 sentences, explain how your order would shift the reader's view of Snow's explanation and identify one trade-off compared with the original order.

The Pump Puzzle

PART 1 · READ AND MARK

Underline the question the first paragraph sets up, circle the comparisons in the second, and number the main moves in the order they appear. Use your marks to track how the passage builds its explanation. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	How does the contrast between foul air and contaminated water in the first paragraph set up the explanation that follows?	**It presents competing explanations and makes the uneven pattern of illness a question that evidence about water use can test.**
2	Why does the second paragraph place the workhouse and brewery examples after the cluster of deaths near the pump?	**The nearby deaths suggest the pump matters, but the nearby groups with few deaths show that distance alone is not enough. Their different water use strengthens Snow's explanation.**
3	What does adding victims who lived farther away contribute to the second paragraph's analysis?	**It completes the comparison: some people far from the pump became ill after obtaining its water, so exposure matters more than residence.**
4	How does the timing detail near the start of the final paragraph change what the reader can conclude from the pump-handle removal?	**Because cases were already falling, the removal cannot be credited with ending the outbreak. The paragraph limits that claim while preserving the evidence for Snow's water-based explanation.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

I would open with the timing caveat, move to the initial puzzle, and end with the water-use comparisons. Starting with uncertainty would keep readers from treating the pump removal as proof that Snow stopped the outbreak. Ending with the comparisons would leave readers focused on why his explanation fits the pattern of illness, though the opening would be less vivid than the original.

Accept other evidence-based analyses of each paragraph's function. For Part 3, the proposed order must differ from the passage's order and include a plausible effect and trade-off.