Tracing the Evidence

Investigate a historical public health claim

TOT.P.1.2 "Develop practices which demonstrate an understanding that social studies involves the evaluation of evidence. Develop, investigate, and evaluate plausible answers to essential questions that reflect enduring understandings across time..."

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Underline two pieces of evidence for Snow's claim, circle one reason to question it, and number two places where someone investigates a possible exception. Use your marks to compare the claim with the doubts about it.

The Broad Street Pump

1. In late August 1854, cholera struck London's Soho neighborhood. Cholera can spread when people drink water contaminated with the bacteria that cause it, but that mechanism was not yet established. Physician John Snow plotted deaths near a public water pump on Broad Street. Many victims lived close to it, suggesting a link between the pump and illness. Still, a cluster on a street could reflect another shared exposure, such as crowded housing. Snow needed more than a pattern of dots to argue that the pump water, rather than the neighborhood itself, explained the deaths.

2. Snow compared places that seemed to be exceptions. A nearby workhouse had relatively few cholera deaths; it used its own well. Workers at a local brewery also had few deaths and generally drank beer or water from a separate source. These comparisons supported Snow's view, although other differences among these groups might matter. Reverend Henry Whitehead, who knew the neighborhood well, initially doubted Snow's pump theory and investigated victims who lived far away. Both men took those distant cases seriously. Whitehead interviewed residents and found that some people far from Broad Street had drunk water carried from its pump.

3. Officials removed the pump handle in September, but deaths had already begun to fall. That timing prevents a confident claim that removing the handle ended the outbreak. Later investigations linked the pump's water to a leaking cesspool, strengthening the case for contaminated water, although they could not reconstruct every person's exposure. The case raises a lasting question for public health: when is evidence strong enough to justify action before every doubt is resolved? A researcher could compare household accounts of drinking water with dates of illness, while noting that memory can be incomplete during a crisis.

2 ANSWER WITH EVIDENCE

Use the passage

1. Why do the workhouse and brewery comparisons support Snow's claim? What limits those comparisons?

2. What disagreement did Whitehead's investigation address, and how did his findings affect Snow's explanation?

3. Why would it be faulty reasoning to say that removing the pump handle ended the outbreak?

4. Write a supporting question that could test whether the pump water made people ill. Name a source from the passage that could help answer it.

3 YOUR TURN

Your own words

Choose a different community claim about what caused a change, and write a four-sentence inquiry plan for a public meeting. State your question, identify two different records or expert sources and what each might reveal, offer a competing explanation, and describe a finding that would make you revise your first idea.

ANSWER KEY

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HIGH SCHOOL · TOT.P.1.2

PART 1 · READ AND MARK

Underline two pieces of evidence for Snow's claim, circle one reason to question it, and number two places where someone investigates a possible exception. Use your marks to compare the claim with the doubts about it. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	Why do the workhouse and brewery comparisons support Snow's claim? What limits those comparisons?	**Both groups had relatively few deaths and used water sources other than the pump. Other differences among the groups might also have affected their risk.**
2	What disagreement did Whitehead's investigation address, and how did his findings affect Snow's explanation?	**Whitehead investigated victims who lived far from the pump, a challenge to Snow's theory. He found that some had drunk water carried from the pump, so distance from it did not rule out exposure.**
3	Why would it be faulty reasoning to say that removing the pump handle ended the outbreak?	**Deaths had already begun to fall before officials removed the handle, so the timing does not show that removal caused the decline.**
4	Write a supporting question that could test whether the pump water made people ill. Name a source from the passage that could help answer it.	**For example: Did people who became ill drink water from the Broad Street pump? Household accounts of drinking water, compared with dates of illness, could help answer this.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

Did adding shade trees make a city block safer during heat waves? I would compare emergency-call records before and after planting to look for changes in heat illness, and ask public health workers whether those calls capture most cases. A cooler summer could also explain fewer calls. If nearby blocks without new trees showed the same decline during similar weather, I would weaken my claim that the trees caused it.

Accept other passage-based supporting questions and sources in question 4. For the open task, look for two sources with distinct uses, a plausible alternative cause, and a finding that would change the student's interpretation.