The Pump Question

Weigh evidence and expert interpretations of a cholera outbreak

TOT.P.1.2.B "Evaluate points of agreement and disagreement from reliable information and expert interpretations used to answer supporting questions related to content knowledge."

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Underline two pieces of evidence, circle each expert group's interpretation, and write 1 beside a point of agreement and 2 beside a point of disagreement.

Did Removing the Handle End the Outbreak?

1. In September 1854, cholera spread rapidly near Broad Street in London. Physician John Snow investigated a public water pump after noticing that many people who died had lived nearby. His published account described households that used the pump, including some farther away, and nearby institutions whose residents mostly drank other water and had fewer deaths. These observations supported his claim that contaminated water, rather than bad air, spread the disease. Snow's account is useful evidence of his investigation, but it does not prove that every person who drank from the pump became ill.

2. The question is not just what caused the outbreak, but whether removing the pump handle ended it. Snow wrote that officials removed the handle on September 8, making the pump unusable. Official death records show that deaths had already begun to fall before that date. Some public health researchers interpret the removal as a sensible step that may have prevented more infections. Historians who study the records warn that the falling death count makes it difficult to credit the handle removal with ending the outbreak. Both groups accept the same timeline; they disagree about what it proves.

3. Death counts and infections are not the same thing: a person can die days after becoming infected. That delay means a decline in deaths before September 8 does not tell us exactly when new infections began to slow. Snow's household observations and the official death records answer different parts of the question. The observations help explain why the pump was suspected; the dated records help test claims about the handle's effect. A careful conclusion separates strong evidence that the pump's water spread cholera from a less certain claim that removing its handle ended the outbreak.

2 ANSWER WITH EVIDENCE

Use the passage

1. What do the public health researchers and historians agree the records show, and how do their interpretations differ?

2. How do Snow's observations and the official death records help answer different parts of the question about the pump?

3. A student says removing the handle definitely ended the outbreak. Which expert interpretation challenges that claim, and what evidence supports it?

4. Do the death records prove that removing the handle prevented no infections? Compare the expert interpretations and explain why the records cannot settle this point.

3 YOUR TURN

Your own words

A city council finds a suspect water source during a new outbreak, but the death count is already falling. Write four sentences that pose a supporting question about what the council should do, compare the two expert interpretations from the passage, and recommend an action while acknowledging a limit of the evidence.

ANSWER KEY

The Pump Question

HIGH SCHOOL · TOT.P.1.2.B

PART 1 · READ AND MARK

Underline two pieces of evidence, circle each expert group's interpretation, and write 1 beside a point of agreement and 2 beside a point of disagreement. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	What do the public health researchers and historians agree the records show, and how do their interpretations differ?	**Both accept that deaths were falling before the handle was removed. Researchers say removal may have prevented more infections; historians say the records cannot establish that it ended the outbreak.**
2	How do Snow's observations and the official death records help answer different parts of the question about the pump?	**Snow's observations support the claim that the pump's water spread cholera. The dated death records help assess claims about the effect of removing the handle.**
3	A student says removing the handle definitely ended the outbreak. Which expert interpretation challenges that claim, and what evidence supports it?	**The historians' interpretation challenges it. Official records show that deaths had begun to fall before the handle was removed.**
4	Do the death records prove that removing the handle prevented no infections? Compare the expert interpretations and explain why the records cannot settle this point.	**No. Researchers say removal may have prevented infections, while historians caution against crediting it with ending the outbreak. Deaths can occur days after infection, so the death records do not show exactly when new infections slowed.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

Should the council close the suspected water source even though deaths are falling? The public health researchers' view suggests that closing it could prevent infections that the death count has not yet revealed. The historians' caution shows that a later decline in deaths would not prove the closure ended the outbreak. The council should close the source while investigating further, since the action may help even if its exact effect cannot be measured.

Accept answers that distinguish evidence of waterborne spread from evidence about the handle's effect. Students should recognize that the falling death count limits claims that removal ended the outbreak but does not rule out prevented infections.