When Water Changed

Weigh evidence and responses to a public health problem

OKH.P.1.1.C "Gather and evaluate information regarding complex problems, assessing individual and collective actions taken to address them."

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Underline two kinds of evidence about the water problem and put a question mark beside a limit of each kind. Circle individual actions and number collective actions so you can compare what each response could accomplish.

How Flint Responded

1. In April 2014, Flint, Michigan, began drawing drinking water from the Flint River while a new regional water system was being built. The city did not use corrosion control treatment needed to keep lead from leaching out of some older pipes. Residents reported strange color, smell, and taste, and some bought bottled water or installed filters. Those reports gave officials a reason to investigate, but color and taste alone could not show how much lead, if any, came from a tap. Lead can be present even when water looks clear.

2. Residents gathered tap-water samples, and a Virginia Tech research team tested samples from many Flint homes in 2015. Some samples showed lead levels above the federal action level used to trigger steps by water systems. A local pediatrician also compared children's blood-lead test results from before and after the switch and found a rise in the share with elevated levels. Water tests directly measured lead at sampled taps, but they could not describe every home on every day. Blood tests showed exposure, but they could not prove which tap or other source exposed each child.

3. Community groups shared test results and pressed officials to act. In October 2015, Flint switched back to Detroit's water supply, but lead did not immediately disappear from all household plumbing. Public agencies distributed bottled water and lead-certified filters, which reduced exposure for people who could obtain and use them correctly. Replacing lead service lines offered a longer-term approach because it removed one source of lead rather than working around it. Yet replacing lines takes money and time, and other sources of lead can remain inside homes. Comparing these responses means asking who benefits, how quickly, and what problem remains.

2 ANSWER WITH EVIDENCE

Use the passage

1. Why were tap-water tests stronger evidence of lead than residents' reports about color and taste? What could the tests still not show?

2. What did the children's blood-lead results add to the investigation, and what could they not prove?

3. Compare a resident's use of bottled water or a filter with the collective effort to replace lead service lines. What can each action do, and what limits each one?

4. Flint switched back to Detroit's water supply in October 2015. Why was that action alone not enough to end the problem?

3 YOUR TURN

Your own words

Your school receives reports that several drinking fountains taste metallic, but no test results are available. In 80 to 110 words, name two kinds of information you would gather and how you would check one source's reliability, then recommend one individual and one collective action with a limit of each.

ANSWER KEY

When Water Changed

HIGH SCHOOL · OKH.P.1.1.C

PART 1 · READ AND MARK

Underline two kinds of evidence about the water problem and put a question mark beside a limit of each kind. Circle individual actions and number collective actions so you can compare what each response could accomplish. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	Why were tap-water tests stronger evidence of lead than residents' reports about color and taste? What could the tests still not show?	**The tests measured lead at sampled taps, while color and taste could not establish lead levels. The tests could not describe every home on every day.**
2	What did the children's blood-lead results add to the investigation, and what could they not prove?	**They showed a rise in the share of children with elevated blood-lead levels after the switch, but could not prove which tap or other source exposed each child.**
3	Compare a resident's use of bottled water or a filter with the collective effort to replace lead service lines. What can each action do, and what limits each one?	**Bottled water or a suitable filter can reduce one resident's exposure quickly but does not remove the source. Replacing service lines removes one source for households served, but takes money and time, and lead may remain inside homes.**
4	Flint switched back to Detroit's water supply in October 2015. Why was that action alone not enough to end the problem?	**Lead did not immediately disappear from household plumbing after the switch. Lead service lines and possible sources inside homes still needed attention.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

First, I would collect reports from students about which fountains taste metallic and when, then request water tests from a certified laboratory at several fountains. I would check the lab's certification and whether its report lists the sampling locations and methods. Until results arrive, I would bring sealed bottled water; that reduces my possible exposure but does not protect everyone. The school should provide safe alternate drinking water, publish the test results, and repair any confirmed source of contamination. Alternate water protects students now, while repairs address the cause only if testing identifies it.

Accept responses that distinguish direct measurements from reports or exposure data and identify what each cannot establish. For Part 3, look for two information sources, a specific reliability check, and realistic individual and collective actions with limits.