When Water Changed

Evaluate evidence and responses to a public health crisis

MWH.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 sources of evidence and circle a limit of each. Write 1 beside an individual action and 2 beside a collective action so you can compare what each could accomplish.

Flint's Water Crisis

1. In April 2014, Flint, Michigan, changed its drinking-water source from water supplied by Detroit to the Flint River. The city did not use adequate corrosion control, a treatment that helps keep metals in pipes from entering water. Lead from older plumbing then reached some household taps. Lead can harm children's developing brains, and it cannot be seen, smelled, or tasted in water. The problem crossed home and city boundaries: one family could use a filter, but no family could change the treatment at the city plant. Residents needed reliable information before anyone could judge the danger or the response.

2. Flint residents reported discolored water and other problems, but color alone could not show how much lead was present. Some residents collected tap-water samples and contacted officials. In 2015, researchers from Virginia Tech tested water from Flint homes and reported high lead levels in many samples. A local doctor, Mona Hanna-Attisha, compared children's blood lead test results from before and after the switch and found that the share with elevated levels had risen. These sources reinforced one another, yet each had limits: household samples did not test every tap, and blood tests alone could not identify each child's exact source of exposure.

3. Many residents used bottled water or certified filters to reduce exposure, actions that protected households but cost time and money. Community organizers shared results and pressed for action; researchers and health workers added independent evidence. Officials initially disputed some findings. In October 2015, Flint returned to Detroit-supplied water, and state and federal agencies later expanded testing and support. Reconnecting did not remove lead from affected pipes or plumbing overnight. Replacing lead service lines, the pipes connecting water mains to homes, took years. The case shows why public decisions need both evidence from affected people and independent checks of what policies actually change.

2 ANSWER WITH EVIDENCE

Use the passage

1. How did the water tests and blood tests provide different information about the crisis? Give one limit of each.

2. Compare one household action with one collective action. Why was the household action not enough to solve the citywide problem?

3. Residents reported discolored water and collected samples. Which finding in the passage gave more direct evidence of lead in tap water, and why?

4. Assess the decision to return to Detroit-supplied water. What problem did this collective action address, and why was further action needed?

3 YOUR TURN

Your own words

A school learns that one drinking fountain may have lead in its water. Write a short advisory that names two kinds of evidence to gather, one limit of each, an immediate individual action, a collective action, and a way to check whether the collective action worked.

ANSWER KEY

When Water Changed

HIGH SCHOOL · MWH.P.1.1.C

PART 1 · READ AND MARK

Underline two sources of evidence and circle a limit of each. Write 1 beside an individual action and 2 beside a collective action so you can compare what each could accomplish. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	How did the water tests and blood tests provide different information about the crisis? Give one limit of each.	**The water tests found high lead levels in many sampled homes, but they did not test every tap. The blood tests showed a rise in the share of children with elevated lead levels, but they could not identify each child's exact source of exposure.**
2	Compare one household action with one collective action. Why was the household action not enough to solve the citywide problem?	**Using a certified filter could reduce a household's exposure. Pressing officials to act helped seek a citywide response. One household could not change the city's water treatment.**
3	Residents reported discolored water and collected samples. Which finding in the passage gave more direct evidence of lead in tap water, and why?	**The Virginia Tech researchers' water tests gave more direct evidence because they measured lead in sampled tap water. Color alone could not show how much lead was present.**
4	Assess the decision to return to Detroit-supplied water. What problem did this collective action address, and why was further action needed?	**Returning to Detroit-supplied water addressed the city's water supply, but it did not remove lead from affected pipes or plumbing overnight. Further testing and replacement of lead service lines were needed.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

Students should use another fountain that has been confirmed safe while the school investigates. The school should collect water samples from the suspected fountain and other fountains. One sample may not represent lead levels at every time of day. Staff should also check maintenance records for information about the fountain's pipes and fittings, although records cannot show current lead levels. If tests find lead, the school should shut off the fountain and replace the affected parts. After repairs, an independent lab should test the water again before the fountain reopens.

For the school fountain advisory, accept other plausible evidence sources and actions if the response explains each source's limit and checks whether the collective action worked. For the passage questions, do not treat residents' collected samples as samples submitted to officials.