

CASE STUDY #2:

THE FLINT, MICHIGAN WATER CRISIS

COLLECT EVIDENCE • ESTABLISH LINKS • MAKE AN ARGUMENT



*An exploration of how water quality shapes
our communities and how everyday citizens
can become empowered by science.*

Name: _____

DOCUMENT A: THE FLINT FAILURE

Do you drink water right from the sink at home? While that might be a normal thing for you to do, for many people, drinking tap water can be dangerous. When city officials neglect water quality, it can create problems for everyone in a community. In the city of Flint, Michigan, something just like this happened.

When the city failed its people, citizens stood up for themselves and fought for justice.

The story starts on April 25, 2014. The city of Flint was facing a budget crisis, and the



The Flint River. (newsela.com)

government needed to find a way to save money. They decided to switch the city's water source from the Detroit water system to the Flint River. When the switch happened, city

officials did not properly treat the water. The old city pipes and untreated water exposed citizens across Flint to unsafe levels of lead. The people of Flint reported that their water smelled and looked weird, but they were ignored by their government.



Flint's tap water compared to Detroit's. (Virginia Tech Magazine)

Without the help of the government, citizens had to step up and find a solution themselves. In the rest of this case study, you'll learn about five people who used science and relied on their community to help those affected by the water crisis. Thanks to their hard work, Flint switched back to the Detroit water system. 90% of the homes in Flint have access to safe drinking water. The former governor of Michigan has been punished for his actions, and payments have been sent to citizens who were affected by lead exposure.

DOCUMENT B: LEEANNE WALTERS

LeeAnne Walters is a stay-at-home mother of 4 who became a hero to her community of Flint, Michigan. After the city changed its water source in 2014, LeeAnne noticed many alarming changes in her children, including rashes and hair loss. LeeAnne was worried about her kids, so she contacted the city to come and test her water. The city found that the tap water at LeeAnne's house had almost 7 times more lead than what is safe to drink! The city officials were supposed to warn the citizens of Flint, but instead, they continued to tell everyone that the water would be safe to drink.



LeeAnne Walters. (The Goldman Environmental Prize)

LeeAnne was not happy with how the city was handling the issue. She decided to take matters into her own hands. LeeAnne learned as much as she could about water quality and the Flint River. During her research, she discovered that the water in the Flint River is corrosive. When something is corrosive, that means it can break down metals, like when a car rusts. She also learned that Flint had not treated the water to prevent corrosion. LeeAnne concluded that the water was breaking down the lead in the pipes, which was polluting their drinking water.



Corroded pipes from Flint. (Virginia Tech Magazine)

With the help of Miguel Del Toral (Document C) and Dr. Marc Edwards (Document D), LeeAnne learned more about water testing. She reached out to her friends and neighbors to test their water at home. At the end of her experiment, she had collected 800 water samples! The results showed that the water was unsafe to drink in 1 of 6 homes in Flint. Many government officials and scientists credit LeeAnne for raising national awareness about the Flint water crisis.

DOCUMENT C: MIGUEL DEL TORAL

Miguel Del Toral was an employee of the Environmental Protection Agency (EPA) when the Flint water crisis began in 2014. He first learned about Flint's water quality



Miguel Del Toral. (Deadline Detroit)

issues when LeeAnne Walters (Document A) reached out to the EPA. She said that her children had been exposed to lead, but the agency did not listen to her. When Miguel met LeeAnne, he decided to learn more about how Flint was treating the water.

At first, Miguel was told that the city was having trouble with the chemicals that prevented corrosion. Corrosion is the process where metals are broken down, like when a

car rusts. As Miguel and LeeAnne kept learning more, they discovered that the city used no corrosion treatments at all! Without the treatments, there was nothing to stop the lead from the pipes from getting into the water.

Miguel was scared when he found out about this. Exposure to lead is very bad for humans, especially children. He decided to write a report, but Miguel's bosses did not want the truth to come out. Miguel sent his report to LeeAnne, and the report was eventually spread around the news. As more and more people learned about the crisis, water quality officials in Flint tried to convince people the report was false.

Although changes were made, progress is slow. Miguel continues to support Flint, and he wrote a letter to the EPA describing his frustration. Even as more research shows that citizens have been hurt by lead exposure, the people in power are slow to believe the facts. Without Miguel's knowledge, research, and writing, we would know much less about what went wrong in Flint. Miguel says he's not a hero, though. He thinks LeeAnne is!

**“This is no surprise. lead lines + no treatment = high lead in water = lead poisoned children.”
-Quote from Miguel's letter**

DOCUMENT D: MARC EDWARDS

Dr. Marc Edwards is a professor of engineering at Virginia Tech University. He is one of the nation's experts of the water systems in America. The water systems in American cities have started to age, and it's important to understand how old pipes might affect communities. When communities notice that something is wrong with their water, they often call on Dr. Edwards for help.

After LeeAnne Walters (Document A) reached out to Miguel Del Toral (Document B), Miguel put her in contact with Dr. Edwards. LeeAnne sent him a few water samples from her home in Flint. The results scared Dr. Edwards. Some of the water from her home had enough lead to qualify as dangerous waste!



Marc Edwards. (The New York Times)

LeeAnne and Dr. Edwards worked together to test the water of homes in Flint. After they finished their research, they held a rally at city hall. Dr. Edwards announced that their study estimated that 5,000 homes had unsafe drinking water. With the facts on their side, it seemed that officials would have no choice but to address the issue. The Environmental



Dr. Edwards carries water samples. (The New York Times)

Protection Agency (EPA) and other water quality control groups continued to deny Dr. Edwards' research.

Even with his job as a scientist done, Dr. Edwards continued to fight for Flint. He used his knowledge and trustworthiness to convince people that Flint needed help. Without the help of a scientist, it would have been easier for the EPA to write off people's worries. When Dr. Edwards joined the fight, it became more serious.

DOCUMENT E: MONA HANNA-ATTISHA

Dr. Mona Hanna-Attisha is a doctor and scientist who works in Flint, Michigan. When she learned about the city's issue with lead pollution, she became worried. As a pediatrician, or children's doctor, Dr. Hanna-Attisha knew that lead is very dangerous for



Dr. Mona Hanna-Attisha.
(www.monahannaattisha.com)

kids. She decided to investigate if her patients' lead levels had changed. After looking through her records, Dr. Hanna-Attisha realized that more of her patients had high lead levels following the switch to the Flint River. When she tried to tell more people about the issue, they told her that her data was inaccurate or that she wasn't telling the full story.

Dr. Hanna-Attisha refused to give up. She decided to hold a news conference. When she revealed her findings to the public, the city government had no choice but to listen. Her data matched perfectly with the high-risk areas that Dr. Marc Edwards (Document D) and his team had found. No one could tell Dr. Hanna-Attisha that her data was inaccurate. Following her conference, the city of Flint switched back to using water from Detroit.

Even though the city has switched back to safe water, the effects of the Flint water crisis have not gone away. Dr. Mona Hanna-Attisha continues to support and fight for her community. She wrote a book called *What the Eyes Don't See*, which explains what happened to Flint. Dr. Hanna-Attisha also raises money for Flint children who were hurt by the lead in the water. Her charity helps connect these kids to doctors who can treat difficulties that can come from lead exposure. Her continued support of Flint is important for kids who may have long-term effects.



Dr. Hanna-Attisha speaks at a conference. (National Public Radio)

DOCUMENT F: MARI COPENY

Mari Copeny was only 7 years old when the Flint water crisis started. She might have been just a kid, but she had a huge impact on her community! When her and her neighbors' water began to change, she knew something had to be done. Mari wrote a letter to President Obama and asked him if he would talk to her and other citizens of Flint when they were in Washington, D.C. Instead, President Obama told Mari that he would come and visit the city of Flint. After his visit, the president sent \$100 million of aid to Flint. President Obama's visit also made more people aware of the situation. The visit became so popular that Mari earned the nickname "Little Miss Flint." Mari's letter was very important, but she didn't stop there!

Mari continues to raise funds for her community. She leads the Flint Kids project, which helps people her age that were affected by the water crisis. Mari's project has raised more than \$600,000, which she uses to provide kids with backpacks, school supplies, and other things they need. Little Miss Flint also raises money to donate bottles of water to her community. So far, she has given out over a million water bottles!



Mari Copeny, (www.maricopeny.com)



Mari and her filter.
(www.hydroviv.com)

Mari recently partnered with a water filter company to help Flint even more. The company's filter is designed to remove lead from tap water. The filter helps reduce the amount of plastic used by Flint and allows families to have a clean water source in their home. Although Mari is young, her dedication to her community helped them get access to clean water. She continues her fight for Flint on social media.

QUESTIONS

What did the person in your document do to help the people in Flint?

How did they use science to help their community?

How did your person use their talents or skills?

How are you and your person like each other?

HOW DID THEY MAKE A SPLASH?

After reading about your person, fill out this diagram with your group to present to the class.

Name

Job

Connection to Flint

How do you relate to your person?

How did they help? How did they use science?

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