**Analyzing Community Issues via the Flint, MI Water Contamination Crisis**

**CLASS NOTES SHEET**

**Instructions:**

🞟 Use this worksheet for 3 lessons.

🞟 Write your answers in the space provided. (Some questions include sample answers as models, and most do not.)

🞟 This worksheet is for you to write down notes and ideas from our discussions, the readings, and the videos. Write down your own thoughts and answers your classmates give that you find interesting and helpful in understanding the topics.

🞟 The homework assignment instructions are found at the end of each lesson section.

🞟Write down new vocabulary words at the end of this handout. Some are provided and you will add to the list.

🞟 At the end of the 3 lessons, you will turn in this Class Notes Sheet.

**Focus for all 3 Lessons:**

We are going to focus on Flint, MI where their city water system is not working properly and so citizens have been exposed to lead and other toxins and bacteria. We are going to discuss (1) the reasons why this has happened, (2) the effects on the citizens, and (3) the strategies that are being used to solve the problem, and (4) how we can use this situation in Michigan to think about our own communities.

**Lesson #1**

**Part I: Community Issues in our Lives**

1. Have you been in a situation when city or state services were not provided well? (think about utilities, road and highway maintenance, school systems and school buildings, natural disaster cleanup, etc.) Briefly describe the problem and how it affected you, your family, or your community.

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| Sample:   * Hurricane that flooded neighborhoods and destroyed homes and businesses * Garbage collectors went on strike, trash piled up for weeks |

1. How did you, your family, or your community try to solve this problem or improve the situation?

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| Sample:   * Our neighbors met together to talk about the things that needed to be done. A group went to City Hall to complain about how slow the city was fixing things.   Sample:   * A neighbor with a pick-up truck volunteered to take garbage to the dump. We gave him money for gas. |

1. What were the results when you, your family, or your community tried to solve the problem or improve the situation?

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| Sample:   * We did not see any change when the group complained at City Hall. Then a community organizer helped us write up all the problems and we submitted it to our council member. We have started to see clean up in the neighborhood.   Sample:   * People in our neighborhood got to know each other better so that we could help each other in the future. |

**Focus for our Lessons**

Before we begin the lesson on the Flint Water Crisis, please jot down answers to the questions below about lead.

**Part 2: What do we know about lead?**

**What do you know about lead?**

1. How does lead figure into your everyday life?

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1. What have you heard about lead in the news related to Flint, MI or another location in the United States?

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1. Why is lead in our water, air, and soil an important issue for Americans to think about?

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The Agency for Toxic Substances and Disease Registry is a federal public health agency of the U.S. Department of Health and Human Services. It describes lead in our environment in the United States like this:

Lead is a naturally occurring bluish-gray metal found in small amounts in the earth's crust. Lead can be found in all parts of our environment. Much of it comes from human activities including burning fossil fuels, mining, and manufacturing. Lead has many different uses. It is used in the production of batteries, ammunition, metal products (solder and pipes), and devices to shield X-rays. Because of health concerns, lead from gasoline, paints and ceramic products, caulking, and pipe solder has been dramatically reduced in recent years. <http://www.atsdr.cdc.gov/substances/toxsubstance.asp?toxid=22>

**Part 3: Lead in our drinking water**

Sample:

Based on the video, is the water coming from the water plant contaminated with lead or does the contamination happen at a different point? Where does the lead in our water come from?

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| Model:  The water is not contaminated at the water plant. The water is contaminated by lead when it runs through pipes that are corroding. The pipes leach led into the water when the pipes start to fall apart. |

As a class, we will answer the questions below on How Lead Gets into Drinking Water. When answering the questions, think about the information in the video and the information in the readings.

The readings are from a section of the Environmental Protection Agency (EPA) website, ‘How Lead Gets into Drinking Water’

Questions:

Thinking about the video and the section of the EPA website about how lead gets into the drinking water, think about the following questions:

1) What is corrosion and how can it affect water pipes?

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2)      How is the corrosion of water pipes usually prevented?

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3)      The year a house, school, or apartment building was built can make the quality of the drinking water better or worse.  Why is this the case?

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In small groups, read the section of the EPA website, ‘Health Effects of Being Exposed to Lead in Drinking Water.’

Group 1 will focus on question #1.

Group 2 will focus on question #2.

Group 3 will focus on question #3.

Questions:

After reading the section of the EPA website about health effects of being exposed to lead in drinking water, answer the questions below:

1)      What effects can lead have on development in young children?

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2)      What effects can lead have on pregnant women and their unborn children?

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3)      What effects can lead have on adults?

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**Homework Assignment:**

Create a consumer safety flyer about lead in drinking water.  Go to the EPA websites that we looked at, and look up the Centers for Disease Control (CDC) page that provides information on the City or State Lead Programs.  Look up your state and go to the website provided. In your flyer, include the dangers of lead in the water, how it gets in the water, who should be contacted to learn more about lead levels in your community.  If you can find it, include how you can get tests done on local water systems to find out if lead is in the water.  On this flyer, you can use images, drawings, words, clippings from magazines, newspapers, video, audio, etc. -- whatever you want to use to present the information that is useful on the flyer.

**Lesson #2**

**Review of Lesson #1**

What did you learn from our discussions, the reading, and the video in lesson #1? What was new to you?

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**Part 1: Flint, MI Water Crisis**

As a class, we will answer the following questions.

1. What decisions and mistakes were made by officials in the city of Flint, Michigan that made the water unsafe to drink and use for washing and cooking?

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1. Why did the city officials make these decisions about the water supply?

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1. How did the water supply get contaminated with lead and other poisons?

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1. How did the water problem get identified?

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Work in small groups to answer these questions. You will be assigned to your group and your group will be assigned a few questions from the list below. Write your answers on the chart paper at the front of the room labeled for your group.

1. The decisions to change the water supply affected many things in Flint, MI.  Below are some of the ways the city and its residents were affected.  Identify two effects for each category below.
   1. Water quality

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* 1. Health of the residents

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* 1. Economic issues in the city

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* 1. The way the residents view their local and state government

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1. What strategies were used to address the water issues in Flint, MI? Which were helpful and which were not?

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**Homework Assignment:**

Do an Internet search and read at least one article on Madison, WI and how that city managed the lead in their water.  Compare what happened in Madison and what happened in Flint, in 1-2 paragraphs.

Search term ideas:

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**Lesson #3:**

**Strategies**

From doing your homework, what did you learn about Madison, WI and their water pipes?What could Flint learn from Madison?

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In your small group, think about what you would do if your water didn't taste, smell, or look right.  Who or what organizations would you talk to or ask for help?  What would you want your neighbors and community to do?

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Lead in our water, air, and soil an important issue for Americans to think about. A lot of different stakeholders have opinions about how to handle the same problem. What would each of these stakeholders focus on in a letter to a council member about lead contamination?

* Scientist
* Parents of small children
* Community activist
* School teacher
* Medical doctor
* City official in charge of finances
* Water plant employee

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In your small groups, brainstorm Ideas: If your community were to face a problem like Flint’s water crisis, or one similar to it, what are good approaches to fix the problem? Report out to the full class.

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Expand on 2 strategies from the full class brainstorm or from your own ideas and explain why they are good approaches writing your notes below and your final answers on the Community Problem Strategy Planning sheet.

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**Homework Assignment:**

Finish writing up your strategies and your explanations for why they are good approaches.

**New Vocabulary Words and Terms:**

* Lead
* Corrosion
* Leach
* Solder
* Toxic/Toxins
* Contamination
* Emergency Manager
* Public Health
* Infrastructure
* Stakeholder
* Community crisis