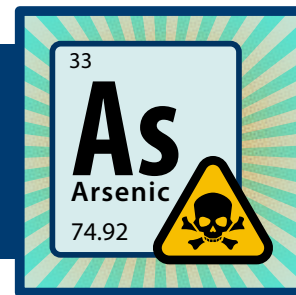


Processing Out

UNIT: DNA

LESSON: ARSENIC – THE SILENT TOXIN THAT KEEPS ON GIVING

ACTIVITY 1B: TO DRINK OR NOT TO DRINK: EVALUATING WATER QUALITY



**TEXAS BIOMEDICAL
RESEARCH INSTITUTE**
HEALTH STARTS WITH SCIENCE

Directions

You and your team of scientists have been hired by rural communities in the Western US to investigate why they are experiencing an increase in Type 2 Diabetes (T2D). Recently, you read an article about a possible connection between arsenic found in drinking water and T2D. Based on this information, you and your team decide to evaluate the drinking water. You conducted water quality tests on samples from the three main sources of drinking water for these communities. You now have the results of these water quality tests.

You and your team need to develop policies which will ensure safe drinking water for these communities. But before you can make any policies, you need to understand the topography of the area to find the source of toxins.

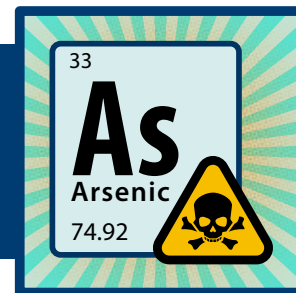
1. What toxins did you discover in the water samples?
2. What do you know about these toxins? Consult resources, such as the periodic table and the transformed article. Identify the sources you use.

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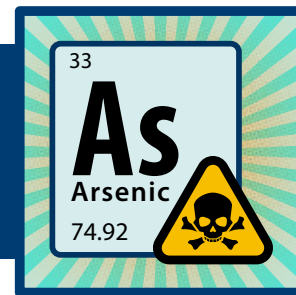


3. On the topographic map, indicate the origin of any toxins by placing the identified toxin's element symbol in the location. Next draw an arrow to indicate the flow of water through the watershed.

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4. Based on the data, you and your team need to write a recommendation to present to the communities to treat their drinking water supply. Communities will require you to provide evidence for the recommendation. After all, they will not make a policy without scientific evidence! Keep in mind building a water treatment plant is too expensive for the communities.

Develop a policy which will help the communities improve the quality of their water.

- a. List the experts on your team. Each expert will apply their expertise to research the water contamination situation and provide information which contributes to the policy suggestion.

Team Member Name	Area of expertise <i>(e.g., geologist, medical doctor, hydrologist, public health, etc.)</i>

Recommendation

In the table below, each expert briefly records their findings and suggestions. The team of scientists discuss each finding. Using the recommendations from each expert, the team will write a proposed policy to address how to address the water issues.

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Team Member Name Area of expertise	Findings/Suggestions

Recommendation