



Hannah Koerperich
Life/ Environmental Sciences
Western Dubuque High School
2019 extern at DMASWA

Part I: Overview of Workplace

- Dubuque Metropolitan Area Solid Waste Agency or DMASWA formed in 1973.
- Formed originally to own and operate a sanitary landfill, has since broadened.
- The landfill is divided into nine cells or designated areas where the land is prepared for trash disposal.
- DMASWA offers curbside collection of garbage, recycle, and yard waste in addition to business and residential drop off collections for the following:
 - Metal, appliances, electronics
 - Bicycles and small engines
 - Tires
 - Household hazardous materials

Part II: Workplace Focus

- Education and Outreach
- This department is responsible for the education and programming for community members and educators to share the practices and processes in place to ensure a sustainable environment.
- Education and programming could look like participating in a landfill tour, an educator visit into the classroom, availability of online resources, participation in the Green Vision Education Program or a grant.

Part III: Introduce the Problem

- Students will participate in in water quality testing of surface and drinking water sources
- Students will submit findings and proposal to improve or maintain water quality
- Students will identify and evaluate environmental and human impacts of water quality

Part IV: Background

- Understanding of the water cycle, the properties of water, and process of the scientific method
- Students will need specific instruction on how to use water quality testing equipment, analyzing data, and standard practices.
- Helpful links:
<https://www.ag.ndsu.edu/publications/environment-natural-resources/grounwater>
<https://www.iowadnr.gov/Environmental-Protection/Water-Quality/Watershed-Improvement>
<https://www.extension.iastate.edu/waterquality/conservation>

Part V: Workplace Solution

DMASWA has their groundwater tested once in the spring and once in the fall. Follow up testing is needed if a test result is found out of the acceptable range as outlined by the Iowa DNR. If the test results are statistically significant, the source of the contamination would need to be identified (which substance and how much of, varies by contaminant) and appropriately solved (testing more frequently, removal),.

Part VI: Educational Pathways

Water testing (Eurofins Test America)
Civil Tech: 2 year degree
Civil Engineer: 4 year degree
Analyst: BS/BA chemistry or 3+ years of laboratory experience
Sample Control Tech: high school diploma or GED
City of Dubuque Flow Inspector: high school diploma or GED some college courses related to Environmental engineering, Civil engineering, construction