“The Missing Link”

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2019 Extern at Bayer in Muscatine

Part I: Overview of Workplace

Bayer is an agricultural company that supplies innovation and technology to help farmers around the world produce more while conserving more. The plant is located near both rail and the Mississippi River for barge traffic of products. The company began in the 1960s with an anhydrous ammonia storage terminal. The plant is now comprised with hundreds of acres and manufactures a variety of weed control products including Roundup.
Native plants have been reintroduced to a nearby wetland and prairie which has been a major project for Bayer. A butterfly garden is cared for by employees with the help of Muscatine Conservation Board.

Part II: Workplace Focus

Merle has been working at Bayer in Muscatine. She is a middle school science teacher at Wapello Community Schools. Merle has been completing her externship program in the Central Lab. Her duties have been learning how to use various equipment, data collecting, and using the filing system for different products. Besides observing and learning safety procedures in a high-tech lab, she enjoys working in a collaborating environment. She is striving for cost-cutting measures which may be implemented at Bayer in the future.

Part III: Introduce the Problem

After conducting pH labs in groups: Students will be able to apply their knowledge of pH values by choosing an organism from land, water, or sky (yes, they overlap).
If the organism cannot exist because of a changed environment (pH): How would the ecosystem be changed without the “missing link” organism if the organism no longer exists?
Students will present their project using slides about the importance of the “missing link” organism and ecosystem they chose. Nature sketches and drawings may also be used for a presentation.

Part IV: Background

-At Bayer, Merle tested many products for pH values using 2 different instruments. Data was collected and the information used to decide if product data could be collected using only 1 probe which could save Bayer equipment costs.

For students:
-Safety in the lab always comes first.
-Students will need to understand what the pH values are used for and how they are important in products and in nature.
-Students will collect data from labs and use Google Sheets to compare with other groups and classes.

Part V: Workplace Solution

Many products were documented with pH values and put into Excel. Results were shared with Bayer scientists. Decisions will be made if only one probe will be used in the future.

Part VI: Educational Pathways

2 year degree with experience and training, BS or Masters in Science background preferred & to advance in company.