

zach

H 6516 ☺  
P 1062

Friends of Volo Bog

Niles North High School

The Niles North High School STEM Research and Inquiry science program has allowed me to develop an independent science project under the guidance of a STEM instructor and a community mentor. Sophomore year I designed my project in hopes of furthering the research in the use of microbes to aid in man-made oil spill cleanup. My project focused on increasing the efficiency of oil degradation in oil eating microbes native to Lake Michigan by increasing outside variables such as oxygen, nitrogen and temperature. After conducting my experiment my Junior year, I was able to present my project at the regional science expo where I won Gold and then at the State expo where I won Silver in the area of Environmental Science. I was also awarded the Regional Stockholm Junior Water Prize. This year I am testing what forms of nitrogen the microbes favor most and have just won Gold at the Regional Science Fair and will compete at the State level in April.

The STEM program allowed me to explore my interest in Environmental Science and inspired me to pursue it as a major. The program allowed me to think outside the box and use several scientific approaches to tackle my particular research problem. My environmental science STEM project involved specialized microorganisms (biology), independent variables such as nitrogen and oxygen (chemical elements), and a specific ecosystem which is the Lake Michigan region. I find this area of science to be both interesting, creative, and truly beneficial to the world.

Ultimately my goal is to pursue environmental science as a career. I believe that it is our generation's job to fix some of the problems in our environment left by past generations. I believe that society's Achilles heel as it pertains to the environment is our difficulty changing the ways we use natural resources even though we are aware of the damage it is causing. This includes our current methods of oil cleanup such as skimming and burning; our careless use of petroleum; the

Zach

H 6516

Friends of Volo Bog

page-2 of 2

Niles North High School

constant release of greenhouse gasses; and the still very present abuse of fertilizers that creates runoff that changes and harms delicate ecosystems. I have been steadfast in my area of research for the last three years and hope that my work will someday lead to the solutions we seek. I think my beliefs and my dedication will help me to be successful in this field.