

Long Questions

Proposal Summary

Briefly summarize the important points of the project proposal. Note: The summary is critical as it is the first exposure the judging committee will have to your proposal.

New research is emerging about the effects of exotic earthworm invasions and the potential destruction of indigenous forests. Very little is known about the distributions of exotic earthworm species across the Great Lakes region. Distributional information is very valuable to understanding the environmental impact of exotic earthworm species. It is very labor intensive and difficult for university researchers to get funding to do this kind of work, this is why the University of Minnesota Duluth enlists citizen scientists to help gather data. This project will empower my students to make a significant impact on our community through the practical application of scientific research. Students will contribute to the advancement of environmental science, as they work cooperatively with graduate students from the University of Minnesota Duluth in on-going research involving the impact of earth worms on the Eco system. The intention of this project is to provide my students with the opportunity to work with university scientists to plan and design a specific research question as it relates to the current research in our region involving earth worms. A graduate student from the University of Minnesota Duluth will come to my class to collaborate on the research process. They will build worm solariums to be used for observation and experiments of worm habitats. Together the students will learn the steps towards defining research and developing a scientific question. In the spring my students will go to several local parks and collect data by conducting actual worm extractions. In the final step of the project my students will enter their data, observations, and conclusions into the University of Minnesota Duluth data base. By creating a collaborative partnership with the university and the elementary students, my students will gain a deeper understanding of the process of science as it applies to "real life." The graduate students will gain a deeper understanding of elementary students as they influence the next generation of scientists.

Description

Provide a thorough description of the activities involved in your proposed project.

My first grade students will team up with a University of Minnesota Duluth (UMD) graduate student under the direction of Cindy Hale, PhD, Director of The Great Lakes Worm Watch. The graduate student will visit my students approximately seven times over a three month period. In the classroom, my students will build worm solariums and study them under the direction of a graduate student. They will learn how earthworms feed, burrow and multiply in their solarium habitats. Together the graduate student and my first graders will define the specific question they want to answer after observing and collecting data from the worm solariums. In the spring several trips will be taken to local parks. The students will extract earth worm samples and record the data. The students will extract, measure, observe and preserve the worms. They will identify species, worm populations, and effect on location of habitat. The students will enter their data, observations, and conclusions into the university's research website at <http://greatlakeswormwatch.org>. The data will be used as part of the on-going research regarding the threat exotic earthworm species may pose to the long term stability of the Great Lakes ecosystem. The funds for this project will be deposited into a special account through the building principal, and administered solely to Elizabeth Kersting-Peterson - Project Director.

This project addresses several district educational outcomes and state standards. The learning goals include math, reading, writing and science. My students will gain an understanding of ecology as they explore how things are interconnected in the physical environment. They will also gain knowledge of biology as they learn about the structures and functions of living things and different observable characteristics. In addition to these academic skills, my students will learn to be contributors to the local community. They will practice critical thinking and problem solving skills demonstrating that students as young as first grade can be critical thinkers and especially practicing scientists.