

**Hawaii International Conference on Education  
Proceedings Submission**

**“Integrating the Environment and the Maryland Learning Outcomes in Science as a  
Vehicle to Enhance Teaching & Learning in the Elementary Classroom”**

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**Abstract:** The fundamental goal of this project is to improve the science literacy of elementary level teachers and enhance their ability to apply concepts of physics, chemistry, and life science in the classroom. Both pre-service and in-service elementary teachers will receive direct training in science content inherent in the study of the environment. The Maryland Learning Outcomes of science will be integrated into this process. The first component of the program will consisted of five days of direct training and inquiry activities that will focused on the chemistry, physics, and life science of environmental studies. The instructional framework was designed around the *engage, explore, and explain* elements of the 5E constructivist learning model. Activities were field-based. The second component was conducted in SciTech labs, Baltimore. Participants performed hands-on lab-based investigations that replicated authentic research in science, and drew upon skills learned in the field. The activities at SciTech emphasized the fourth E, *elaborate*, of the 5E Learning Cycle and the combination of questions and opportunities for elaboration allowed participants to use science process skills in the application of science content. The third component, occurring throughout the academic year, consists of teacher visits to SciTech, direct training of participants in *Project Wild* and *Project Wet*, and participant meetings that focus on the continued application of the learning experiences to the elementary classroom, the planning of in-service and pre-service teacher mini-units that focus on student inquiry activities, and the planning of a Kid’s Inquiry Conference (KIC) as a culminating event. Upon completion of this project, all participants will demonstrate increased understanding of environmental science content and processes as these relate to the Chesapeake Bay watershed. Participants will prepare and implement lessons that integrate

environmental science across the curriculum with a focus on *Best Practice* in science. The content knowledge and process skills in environmental science will be enhanced for both pre-service and in- service teachers. Each participant will be better able to design and implement age appropriate science curriculum.

