

## **Exploring the Natural World with Life Science Standards in Southeast Kansas Middle School Classrooms**

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### **Abstract**

At least 12 middle school teachers from southeast Kansas LEA's will attend five workshops in three years. Through these workshops, the following objectives will be met: 1) tie ecological concepts with scientific skills in order to build participants' biological knowledge 2) provide an investigational (inquiry) model to teaching science concepts 3) correlate biological concepts to Kansas Science Standards 4) incorporate an immersion-learning experience 5) demonstrate process skills by peer teaching techniques and activities 6) develop presentation of workshop concepts through participation in a state-wide conference 7) instill teaching confidence to springboard into further scientific investigations.

Two instructors from the Pittsburg State University (PSU) Department of Biology will conduct the workshops using biological content and scientific methodology. An instructor from the PSU Department of Curriculum & Instruction will serve as an education evaluator and contribute to the assessment aspect of the project. The project will be guided by a steering committee made up of the Pittsburg State University personnel, two middle school teachers, and a public school administrator. Four of the teacher workshops will be attended by pre-service university education majors from either elementary education or secondary biology education areas of study.

Biological concepts will center around life science standards as they apply to such topics as relating structures of organisms to their functions through learning about bones and cells, observing the diversity of living things and relating their adaptations to their survival by learning about birds and amphibians, and learning about the correlations between populations and ecosystems by collecting and analyzing data through an immersion experience. Using the teaching model used in the project workshops and application of the workshop concepts in their classrooms, teams of teachers will present findings and teaching strategies at the Kansas Association for Conservation & Environmental Education (KACEE) State Conference.

This project will impact approximately 12 middle school teachers, 1,200 middle school students in southeast Kansas, as well as the influence that the project teachers have on peer teachers and students in their districts years to come.

The cost for the proposed project is \$53,926.51.