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Sharing Fellows' Research and Doing Research with Middle School Students: Examples from the University of Tennessee GK-12 Earth Project

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The University of Tennessee's NSF GK-12 Earth Project is collaborating with seven rural, East Tennessee schools to bring the excitement of geoscience research into middle school classrooms. This poster highlights four ongoing research projects that were developed by graduate fellows and collaborating teachers and conducted with middle school students during the 2007–2008 year. Students at Carpenters Middle School are investigating a wetland on the school property. This project has allowed the fellow to share her research on how biotic and abiotic components of ecosystems are intimately related, while introducing students to the concepts of biodiversity and scale. Students at Seymour Middle School completed a tree-ring activity that familiarized them with basic dendrochronological techniques used to research changes in forest disturbance, climate, and land-use history. At Halls Middle School, students learned basic paleontological techniques and put them to work to assess the diversity, paleoecology, and taphonomy of the Pennington Formation in South-central Kentucky. In a project implemented at several schools, students examined marine microfossils in sediment cores collected by the Joides Resolution for the Integrated Ocean Drilling Project. The microfossils were sieved by the students from core samples from the Pacific Ocean and range in age from 7 to 15.7 million years old. Projects such as these expose middle school students and teachers to the research of GK-12 fellows and faculty advisors, and to the active application of the scientific method.