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WEST GK-12 in UTAH

ABSTRACT

Project WEST (Water, the Environment, Science, and Teaching) is a graduate student fellowship program funded by a grant from the National Science Foundation. WEST links the University of Utah, the Utah Museum of Natural History, and the Salt Lake City school district in enhancing inquiry based science teaching in grades 4, 8, and 9 and the interdisciplinary training of university graduate students. The unifying theme of WEST (water and the environment) emerges because of its simplicity and significance for human survival and livelihood in the arid west. National standards and Utah standards for teaching science in this grade range lend themselves to focusing on the environment and particularly on the role of water.

Teaching fellows share scientific insight with K-12 educators and students, develop inquiry based science activities, participate in science fairs, and lead field trips throughout the Wasatch Front watershed. Educators, in turn, share teaching methodologies and experiences with the teaching fellows and serve as mentors for those interested in science education. The partnership between teaching fellows and educators aims to inspire excitement about the process of scientific discovery.

WEST GOALS

Goal 1 Foster inquiry-based learning in each of 12 schools by establishing partnerships between public school teachers, University of Utah faculty, and graduate student fellows.

Goal 2 Effectively communicate to public school students the place of humans in nature. Accomplish this goal in a manner that: (1) fulfills core curriculum requirements and educational standards; (2) communicates the interdisciplinary nature of science; (3) delves into relevant societal issues; and (4) instills a sense of wonder and passion about nature.

Goal 3 Generate productive mentoring relationships between science graduate students and public school students.

Goal 4 Provide professional development tools (workshops, materials, partnerships) to public school teachers that enable more effective science teaching.

Goal 5 Enhance graduate student training by conducting interdisciplinary, collaborative research, providing instruction on communication and teaching skills, and encouraging active involvement in public school education and science mentoring.

PARTICIPATING SCHOOLS

- * Escalante Elementary
- * Bonneville Elementary
- * Nibley Park Elementary
- * Glendale Intermediate School
- * Parkview Elementary
- * Indian Hills Elementary
- * Bryant Intermediate School

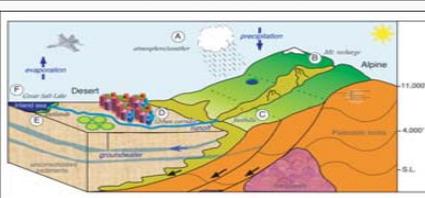


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THEMES & FACULTY AND FELLOWS



WEST partners the University of Utah, the Utah Museum of Natural History and the Salt Lake City school district to enhance inquiry-based science teaching in grades 4, 8, and 9 together with interdisciplinary training of university students in geosciences, biology and meteorology.



The critical mountain recharge to desert regime of the Wasatch front provides an ideal outdoor laboratory for WEST's water and the environment theme.



University of Utah Faculty, Museum of Natural History and Salt Lake City School District Participants. WEST is distinguished by its research based component, faculty involvement and the integration of student-teacher-fellow interactions to further the assimilation of science and education.



WEST GK-12 Fellows 04-05

NUGGETS & ACCOMPLISHMENTS (Year 0.5)



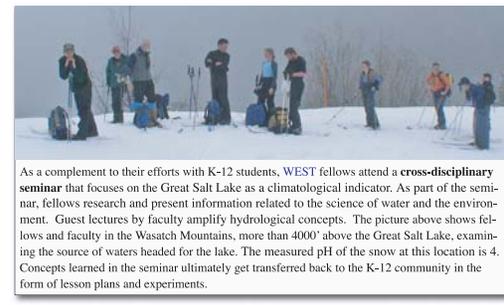
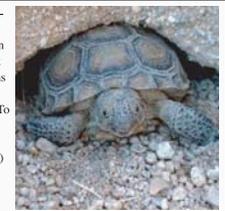
Fellows took 75 fourth-graders on a field trip to **Rock Cliff Nature Preserve** to conduct experiments on water chemistry, animal foraging behavior and river processes. The field trip was preceded by a teacher-fellow scouting trip.



WEST fellows installed **weather stations** at three schools in Salt Lake City School District. These stations will be used to observe differences in microclimates between schools, natural daily variations of temperature, pressure and wind, and how measurements change with the passage of large-scale weather systems. These data will be available on a common webpage and will be displayed publicly at each school.

Overheard- What kids say! "I hope we are doing science today!" After a lesson on pressure, wind and weather, one student said, "I can't wait to go outside and see what types of clouds there are!" These experiences suggest that WEST fellows are increasingly becoming effective mentors and positive role models thus enhancing students' interest in science and curiosity of the natural world.

In collaboration with the Salt Lake City School District and Escalante Elementary, WEST fellows submitted two grant proposals to transform an atrium in the center of the school into a desert tortoise habitat with a wide range of native flora. This endeavor has been appropriately named the "**Escalante Desert**" project. The project has three main objectives: 1) To expose students to flora and fauna native to the Mojave desert, 2) Involve students in the planning and creation of their own "Escalante Desert", and 3) Teach students about environmental responsibility and endangered / threatened species of plants and animals.



As a complement to their efforts with K-12 students, WEST fellows attend a **cross-disciplinary seminar** that focuses on the Great Salt Lake as a climatological indicator. As part of the seminar, fellows research and present information related to the science of water and the environment. Guest lectures by faculty amplify hydrological concepts. The picture above shows fellows and faculty in the Wasatch Mountains, more than 4000' above the Great Salt Lake, examining the source of waters headed for the lake. The measured pH of the snow at this location is 4. Concepts learned in the seminar ultimately get transferred back to the K-12 community in the form of lesson plans and experiments.