

UI Extension Water Outreach reaches students with groundwater education

AT A GLANCE

University of Idaho Extension Water Outreach introduced groundwater curriculum into Boise School District's Environmental Field Experiences for 6th graders.

The Situation

Rapid urbanization, land-use change and changing environmental factors are impacting Treasure Valley's water resources. Community water education is necessary to inform and empower residents to make "water-wise" choices and to understand effective water management policies. Reaching youth audiences with water education not only makes scientific concepts tangible through relevant, place-based education, but also empowers young people to understand and navigate community concerns.

In addition to classroom visits and STEM nights, many school districts in the valley support field environmental education opportunities for their students. UI Extension Water Outreach has participated in both Caldwell School District's 7th grade water quality sampling field day at Lake Lowell (200 students) and Nampa School District's 4th grade One Water field days (600 students). Boise School District is in its third year of 6th grade Environmental Field Experiences (EFE), in which classes visit three field sites during a week-long exploration of topics like water, climate, soils and sustainability, and urban forestry. This year, the Boise School District was able



6th grade students explore nitrate contamination using aquifer models during an Environmental Field Experience.

to support every single 6th grade class — over 1,000 students — through these field experiences.

About 600 of these students participate in the Water Strand Environmental Field Experience, facilitated by partners from UI Extension Water Outreach, City of Boise Public Works, Bogus Basin Environmental Education Program and the MK Nature Center. The Water Strand curriculum introduces students to surface water quality and resource topics in the Treasure Valley. About 30% of the City of Boise's drinking water supply comes from the Boise River. The other 70%, however, comes from groundwater sources. Until this year, a groundwater component was missing from the curriculum.

Our Response

The UI Extension assistant water educator designed a 90-minute groundwater lesson for the EFE Water Strand and partnered with the Department of Environmental Quality (DEQ) to deliver the lesson to over 300 6th graders.

The lesson begins with orienting students to place by answering questions using a map of the Boise River Watershed. We discuss where water comes from and how it moves into our aquifer — the vocab word of the day. Students model the movement of water through gravel, sand and clay, and then measure out a 300 feet length to image the distance that water travels through underground materials to reach the aquifer. Students work in small groups to pump “clean water” from their aquifer models, parts of which have been contaminated by nitrates. The lesson concludes with a reflective discussion about groundwater movement, contamination prevention and over-withdrawal.



The assistant water educator introduces drinking water at an Environmental Field Experience.

Program Outcomes

Of the 1,000+ Boise School District 6th graders participating in the EFE's, UI Extension Water Outreach reached over 300 with groundwater education. At the end of the field day, students completed journal questions about where their drinking water comes from and what it takes to keep that supply safe. Teachers use this as a knowledge-check post-field trip. UI Extension Water Outreach will incorporate a simple group learning assessment into future EFE field days for a quick, day-of check.

The Future

These groundwater lessons will remain an important part of future EFE's and future UI Extension Water outreach throughout the Treasure Valley and southern Idaho. The assistant water educator will work with DEQ to adapt these lessons for high school audiences participating in The Confluence Project program.



6th grade students measure the length of a 300' well during their Environmental Field Experience.

FOR MORE INFORMATION

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