

# Soil Science Division

## Soil Survey Region 8

### Globe, Arizona, Soil Survey Office

## "Science on the Rez" STEM Festival

By Jan Pertruzzi, Whiteriver District Conservationist. Contributions by NRCS Soil Scientists Greg Anderson, Paul Cattellino, Amber Riordan, and Rob Wilson; San Carlos District Conservationist Millie Titla; and Arizona State Soil Scientist D'Andre Yancey.

### Purpose

On June 13, NRCS soils staff and district conservationists from the San Carlos and Whiteriver Field Offices participated in Science on the Rez, the STEM festival held at the Apache Gold Casino Pavilion in San Carlos. STEM events promote interest and study in science, technology, engineering, and mathematics. NRCS was among the many exhibitors that helped provide an educational experience for students and the local community.

When Millie Titla asked the State soils team to demonstrate the big rainfall simulator at the STEM Festival on the reservation, D'Andre Yancey readily agreed. The rainfall simulator is used to demonstrate the relationship between rainfall intensity and soil erosion, soil erosion potential on different soil types, and methods by which soil erosion may be controlled. D'Andre Yancey and Paul Cattellino provided group demonstrations using the simulator.

Greg Anderson and Amber Riordan hosted the Globe MLRA Soil Survey Office's booth. The booth included a hands-on activity for participants, as well as informational materials about soil survey and Federal career opportunities in NRCS. Our main goal was to introduce visitors to a soil profile and the soil horizons that occur within the soil profile and then have them recreate the soil profile on a card that they could take home. After viewing a large photo of a soil profile (similar to the Partri soil series), participants asked several questions, including *Why is the soil surface so dark?*, *Why is the middle of the soil profile red?*, and *Why is the bottom soil horizon white?* Once the basic concepts were introduced, participants were handed 2" x 4" cards on which they incrementally peeled back double-sided tape to match the depths on the soil profile photo. They then selected soil to match the soil horizons in the photo, spooning it from the appropriate bin onto the card. Children, and even some adults, really enjoyed creating these "mini" soil profiles, all while learning about soil below their feet! Paul Cattellino and Rob Wilson had collected several soil samples under different land uses on the San Carlos reservation for comparison.

Millie Titla and Jan Pertruzzi staffed an informational booth, which was visited by all age ranges. Posters for American Indian Heritage month and the coloring book "Mighty Mini's Microbe Tale" were especially popular. In addition to brochures, flower seeds specifically blended to attract pollinators were handed out.



## Key Outcomes

At the event's conclusion, the organizer calculated that 450 students and community members were in attendance. A great turnout for the first year of the event!

The Science on the Rez is sponsored by the San Carlos Apache Health Care Corporation. It aims to promote interest among the local youth in STEM concepts and future STEM-related careers.



*D'Andre Yancy and Paul Cattelino fielding questions from students and participants.*



*Greg Anderson and Amber Riordan get ready for another group demonstration.*