

Arizona Trail Seeds of Stewardship Program

The Wonders of Biodiversity

by Matthew J. Nelson



On Friday, March 15, students from Vail Blended Learning gathered at the Gabe Zimmerman Memorial Trailhead for their second educational outing on the Arizona Trail. With biodiversity as a core theme for their science curriculum, teachers from Vail School District and outdoor educators from the Arizona Trail Association collaborated to integrate activities, discussions and experiences into the hike to reinforce the wonders of biodiversity.

After hiking south on the Arizona Trail for one mile, students paused to study the area intensively. A 10-meter-square test plot was established and students were given one hour to record every living thing within the area. Using a variety of field guides to plants, shrubs, cacti and wildflowers, students identified nearly all of the unique members of the Upper Sonoran Desert biotic community. Some plants, such as creosote bush (*Larrea tridentata*) and agave (*Agave deserti*) were featured in discussions for their medicinal and utilitarian attributes.

Scientific data such as high and low temperatures and relative humidity were recorded within the test plot; various types of rocks were identified; small piles of scat were identified as belonging to a desert cottontail rabbit and bobcat; and most were amazed at how many different plants were growing in one small area.



Students continued hiking south along the Arizona Trail, sharing the path with mountain bikers and hikers out for a morning adventure. They looped back to the north on an equestrian bypass route through Davidson Canyon, and walked for miles through the sandy *arroyo* in the heat of the day. Scientific data was collected in Davidson Canyon, and to everyone's surprise, the surface temperature in the arroyo was 40 degrees warmer than in the shade of the mesquite *bosque* only 100 feet away.

Eventually, students walked north to discover Cienega Creek, where the dry wash entered a dense stand of cottonwood trees. The importance of water in the desert was never more evident than this amazing oasis. Students took their shoes off and walked through the shallow water in search of fish,



frogs and invertebrates. Another 10m x 10m test plot was established and students recorded a new set of plants – nothing like what they had seen in the uplands.

Water use and the importance of conserving this precious resource was discussed just as a vermilion flycatcher flew by, showing off its brilliant colors for all to see. Students walked away from Cienega Creek Natural Preserve with a greater understanding (and hopefully, appreciation) for the biodiversity of the Sonoran Desert.

This outing was made possible by grant funds from Recreational Equipment Inc. (REI) in Tucson and Freeport McMoRan Copper & Gold Foundation. Students from Vail Blended Learning are already looking forward to more springtime outings, including a mountain bike outing and service project along the Arizona Trail.

