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That's A Wrap! Concluding The Water Conservation Data Jam

By Emilia Linley

Asombro recently concluded the Water Conservation Data Jam, a 2.5-year project funded by the Environmental Protection Agency. This project was based on our Desert Data Jam model, where students are challenged to find interesting ways to present scientific data to non-scientist audiences. Unlike other data jams, these lessons asked students to go one step further to make an action plan to address water use issues.

Creation of this module began in 2019 and was halted momentarily with the outbreak of COVID-19 and school closures. Due to the pandemic, we saw a great need for flexibility in this project. Of course, we at Asombro quickly took this as an excellent opportunity for expanding our outreach.

We were able to directly teach the Water Conservation Data Jam module to classrooms further away from Las Cruces for the first time. In pilot tests, Asombro taught 599 students all over New Mexico.

Feedback from students and teachers helped us refine and streamline the Water Conservation Data Jam. These refinements brought about programs that work when students are in classrooms, learning at home, and in hybrid-learning situations.

This high level of flexibility within a module was a first for Asombro and was well received in two workshops for New Mexico educators. Both workshops introduced educators to the Water Conservation Data Jam and explained how to apply for subgrants to expand on this project. Eight subgrant recipient schools were selected with 499 additional students participating in the Water Conservation Data Jam.

These students and subgrant recipients implemented action projects to reduce water use. Most of the recipients installed rain harvesting systems at their schools or replaced water-intensive plants with low-water-use native plants.



Students installing "water is life" and "el agua es vida" messages on their school fence.

One subgrant recipient focused on reducing plastic waste and found additional funding to install messages of "water is life" and "el agua es vida" on their school fence (pictured above).

The success of this program is evident in the stewardship of these students and educators, the outreach we've established beyond Las Cruces, and the continued availability of this program to increase students' knowledge about water availability, use, and conservation.

Save The Date! Spread The Word!



April 22 is Southern New Mexico Giving Day! You can be part of the celebration by giving to your favorite nonprofit. Donations received on this day will be matched 1:1 up to \$1,500.

Visit:
bit.ly/AsombroGivingDay
or scan the QR code below

How You Can Help:

- Donate to Asombro by midnight on April 22.
- Share our posts on Facebook, Instagram, or Twitter.
- Forward emails from Asombro.

Scan Me!



Designing Homes with Advice from Plants and Animals

Upcoming Opportunities

By Anne Hoylman

Yucca bowling! What? You may soon understand this if you're a first-grader in Las Cruces. Our newest Desert Stories lessons are making their way into classrooms with surprising outcomes. Each lesson in the module ends with students designing a home that incorporates desert plant and animal adaptations they learned about in the day's class.

I recently had the chance to observe one of the new lessons and was surprised to see first graders draw houses with yucca roots to anchor their homes and make them more stable. Students got these ideas from a hands-on game, similar to bowling, where they used model roots as bowling pins. The objective was to determine which type of root: short, medium, or long, allows the yucca to grow tall and be more stable.

By day three, their designs have evolved into complicated masterpieces! Students include thorns and camouflage for protection. One student added an underground moth room "because it would be cool to have one!"

The Asombro lesson development process is long: brainstorming ideas, testing material, editing and revising, screening, and piloting. But seeing students experience the lesson and respond in unimaginable, novel ways is delightful.



First-grade students creatively design homes using desert plant and animal adaptations..



Asombro Anywhere Kits

Asombro Anywhere lessons are fun, engaging, and hands-on for elementary and secondary students! Lessons include kits and interactive instructional video, and are accessible to students regardless of geographic location.

Do you know a teacher who may be interested in receiving science kits for their class? Please contact kelly@asombro.org for more information!

Teacher Workshops

Teachers, please join us for these interactive summer workshops! Stipends are available for participants.

Apply today at:

asombro.org/teacher-workshops

Climate Change and Wildfire

🔥 6th - 12th grade teachers

🔥 Choose in-person or virtual

Engage your students in hands-on activities to explore climate change and wildfire in the Southwest!

In-Person
June 27
8:30AM - 3PM

Virtual
June 28
9AM - 11:30AM

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🌡️ 5th - 8th grade teachers

In Las Cruces
July 7 and 8
9AM - 4PM

Inspire and empower your students to turn climate change knowledge into community action plans!

Get Involved with Asombro!

What's the secret to Asombro bringing exciting science to so many students throughout New Mexico? VOLUNTEERS of course! Our amazing volunteers allow us to support far more students and teachers than we could with just our small staff.

- Support Asombro staff in **CLASSROOMS** and **FIELD TRIPS** as an extra pair of hands and eyes to answer student questions. Each student gets more attention, support, and time to get excited about science and the desert.
- Help behind the scenes by **PREPARING CLASSROOM MATERIALS** for teachers and students, staple booklets, cut out cards, assemble kits and more. Pick up materials to assemble at home. These materials get sent to schools throughout New Mexico, including rural schools that don't have groups like Asombro to visit them.
- **JUDGE DESERT DATA JAM** projects at home on your computer for our April middle school science competition.
- Join the Trailkeepers and help **MAINTAIN TRAILS AND FACILITIES** at the Chihuahuan Desert Nature Park.

Contact
Kelly Steinberg at
575-524-3334 or
kelly@asombro.org
to get involved!



The Teachers Become The Students

By Gabriela Franco

While developing a new middle school field trip, the staff at Asombro took a couple of their own field trips to the Chihuahuan Desert Nature Park with local experts, Dr. Curtis Monger and Dr. Nicole Pietrasiak.

When settlers first arrived to the Chihuahuan Desert, they claimed the grass was so tall it touched their horses' bellies. Hiking today along trails you will likely pass shrub after shrub, and it's hard to imagine a sea of grass.

Dr. Monger and other researchers use stored carbon as "soil memory" to identify the types of plants that historically grew in the area, confirming the transition from grassland to shrubland. Caliche is another important tool for understanding past climate; ~10,000 years is captured in less than an inch of caliche layers. Sediment layers act much like tree rings in other ecosystems, telling a story of the desert's past.

The desert is the opposite of barren. There are millions of microscopic symbiotic organisms forming complex communities with desert soil, holding it together, preventing erosion, and making it possible for plants to grow.

Dr. Pietrasiak showed us thin, palm-sized soil sections to study with magnifying lenses. These ecologically important biocrusts have distinctly textured surfaces and stringy filaments hanging off the bottoms. These delicate biocrusts are easily lost when stomped on. We scanned the path, focusing on the bases of plants, and finally someone spotted a quarter-sized pale fuzzy "rock" at the base of a creosote. It's a mossy biocrust. Now that's a million good reasons to stay on trails!



Dr. Curtis Monger points out soil layers and discusses how they store carbon.



Ryan uses a hand lens to examine a soil crust sample.



Dr. Nicole Pietrasiak brought examples of soil crust types.



Soil crust sample through a magnifying lens.

THANK YOU!

We are grateful to our generous donors from the first quarter of 2022.

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Where's The Fence?



During a recent pilot test of a new lesson supported by the Sustainable Southwest Beef research project, a student builds a model fence aimed at keeping cattle away from an overgrazed area.

YES! I want to support the
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