Jornada Schoolyard LTER: Promoting Ecological Literacy in the Changing K-12 Classroom

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Summer Vacation!
Kids’ average almost **53 hours per week** with electronic media exposure

Kaiser Family Foundation Report
Pokémon Rules?

8 year olds’ mean identification success:

Wildlife: 53%
Pokémon: 78%

United States Education

Failed to meet **basic** level of science proficiency

4\textsuperscript{th} grade: 28%

8\textsuperscript{th} grade: 37%

12\textsuperscript{th} grade: 40%

(National Assessment of Educational Progress, NRC 2011)
NM Education

National Assessment of Educational Progress (science)

4th graders: significantly lower than 37 states

8th graders: significantly lower than 42 states
Why Care about Science Literacy?

National Research Council report (2011)

• Future voters need science literacy to make decisions on important issues

• Increasing number of jobs require STEM knowledge

• If US could significantly increase students’ STEM skills, an estimated $100 trillion would be added to US economy in next 80 years
Focus on standardized testing in language arts and math

Reduced budgets
“Field” site

“Field” equipment

Typical science class
We know how to increase science literacy!


Enhanced context strategies

- Relate learning to students’ previous experiences or students’ school environment
- Field trips and using the schoolyard for lessons

Inquiry-based teaching
Jornada Basin Schoolyard LTER

- **Goal**: Increase science literacy by fostering an understanding of the Chihuahuan Desert

- Long-term view of education

- Common program features
  - Inquiry-based
  - Aligned with standards
  - Ongoing support for teachers, including supplies
  - Locally relevant & tied to ongoing research
K-4th Grades

• Keep inherent science interest high
• Infuse more science into day
• Remove misperceptions of science and scientists
What does a scientist look like?
What does a scientist do?

...SCIENTIST
5th Grade
Near-peer teaching (Science Interns)
Middle School
Long-term schoolyard studies
(Stepping Out for Science Inquiry)

Schoolyard Desert Discovery
A Project to Unlock the Excitement of Science Right Outside Your Classroom

Produced by the Chihuahuan Desert Nature Park (www.cdnp.org) and the Jornada Basin LTER (http://jornada-www.nmsu.edu) with funding from the National Science Foundation.
High School Desert Data Jam

The challenge:
Use creativity to design a “product” that conveys long-term data and the conclusions from that data to a non-scientist audience
How You Can Help

• Contribute 10 hours to assist with K-12 education and outreach

• Many options: field trips, class/schoollyard programs, public field tours, newsletter articles

• Please see “menu”
Simple Steps

1. Meet with Asombro staff

2. Write one-page plan

3. Plan approval by advisor and Asombro

4. Have FUN educating!

5. Submit 1-2 page report
Benefits to you

1. Experience communicating science to non-scientists

2. Resume-building experiences

3. Knowledge that you are inspiring children to become future scientists and/or scientifically literate citizens
“Typical” Science Class
“Science is everywhere. Why didn’t anyone ever tell me this before? I’m going to go check out nature in my back yard. I bet there’s some good stuff out there too.”