

2016 Grant Report

Asombro Institute for Science Education

Summary

The Asombro Institute for Science Education received a \$500 grant from the Native Plant Society of New Mexico in February 2016. The purpose of the grant was to provide 2nd or 3rd grade classes with ten lessons from Asombro's Desert Stories Project. The goal of Desert Stories is to increase students' excitement about science and the desert while providing a model for teachers that simultaneously helps student learn about the desert while they address grade-specific language arts and math standards.

Accomplishments

With the generous grant from the Native Plant Society of New Mexico, we focused on launching the new Desert Stories 2nd grade module. This three-lesson module was developed during 2016 by Asombro Institute for Science Education staff members. Following the model of the successful 3rd grade Desert Stories project, the new 2nd grade module guides students through science, math, and language arts activities as they focus on a fascinating desert theme: plant seed dispersal. A more detailed description of each lesson is listed below.

Lesson 1 – The lesson begins with students examining samples of common desert plant seeds and trying to determine which seeds are dispersed by wind and which seeds are dispersed by animals. They then go through an entire scientific experiment about animal seed dispersal. Students wear Velcro bracelets with pom-pom “seeds” attached, and then model some common behaviors of jackrabbits. They collect data on the number of “seeds” lost and then graph and form conclusions based on their data. Finally, students participate in a guided reading of Flip, Float, Fly by JoAnn Macken to reinforce ideas about types of seed dispersal.

Lesson 2 – During the second Asombro classroom visit, students begin with a hands-on, role-playing activity where they experience the importance of seed dispersal by yucca seeds trying to access limited water resources. They complete a full experiment comparing the distance traveled by yucca seeds and honey mesquite seeds dropped in front of a fan, which represents wind. They measure distances, record data in a table, summarize data from each group that simultaneously collected data, and make conclusions. For most students, this is their first experience conducting a full science experiment in small groups led by students rather than the teacher, and it is amazing to see their enthusiasm and diligence.

Lesson 3 – This lesson begins with a guided reading of Gopher to the Rescue: A Volcano Recovery Story by Terry Jennings. The story focuses on re-vegetation of an area following a volcano eruption, which involves seed dispersal via multiple pathways. Then students receive cards with various size and decoration descriptions and get to design a seed that matches the characteristics. They gain fluency with adjectives and adverbs as they create and describe their seed to their classmates. The lesson ends with students participating in

an adjective / adverb relay game where they identify parts of speech in sentences that came from the books we read in the previous two lessons.

In addition to the grant from the Native Plant Society of New Mexico (which funded ten class visits), Asombro also received grants from two foundations. These latter two grants provided funds to develop and pilot test the new 2nd grade module and then provide 17 class visits. Collectively, we provided the full Desert Stories 2nd grade module to nine classes (x 3 lessons each = 27 class visits) at elementary schools in Las Cruces on October 11, 13, 14, 20, 21 and November 2, 3, 9, and 10, 2016.

On anonymous evaluations of the program, every teacher rated all seven major activities in the module as “very effective” or “extremely effective.” Teachers said:

“The students really enjoyed having you and seemed to retain the information. Thank you so much!”

“Thank you so much for this wonderful opportunity! Our students learned so much. They were very excited when they knew we were going to have an Asombro science lesson.”

At the end of the module, we asked students to draw and write about what they learned and/or their favorite part of the three-lesson module. As you can see from the sample of letters attached, students were enthusiastic about their new knowledge and all of the activities they participated in with Asombro staff members.

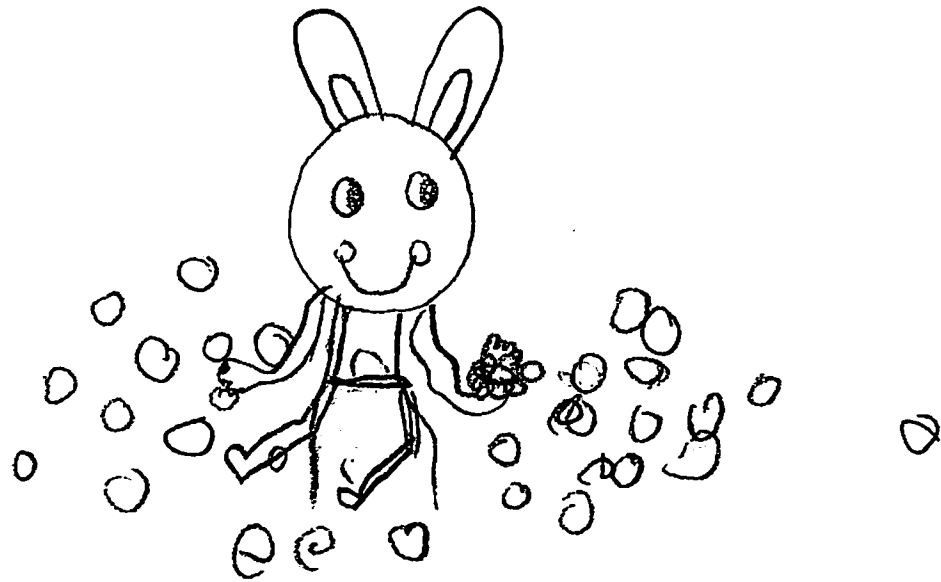
Next Steps

Now that the Desert Stories 2nd grade module has been developed, fully tested with nine classes (234 student), and refined, it is ready to become a full part of the Asombro Institute for Science Education menu of program offerings. We gave a preview of the new module at a Las Cruces Public Schools teacher professional development workshop this fall where it was met with great enthusiasm. Several teachers have already asked us for available dates to schedule the program in the spring semester. Thanks to the Native Plant Society of New Mexico, this innovative, multidisciplinary unit will continue to teach 2nd graders about plant seed dispersal, while incorporating important math and language arts skills, for many years.

For More Information

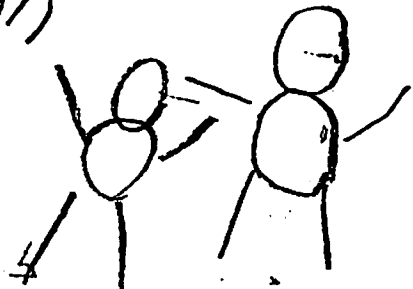
For more information, please contact:
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and wind

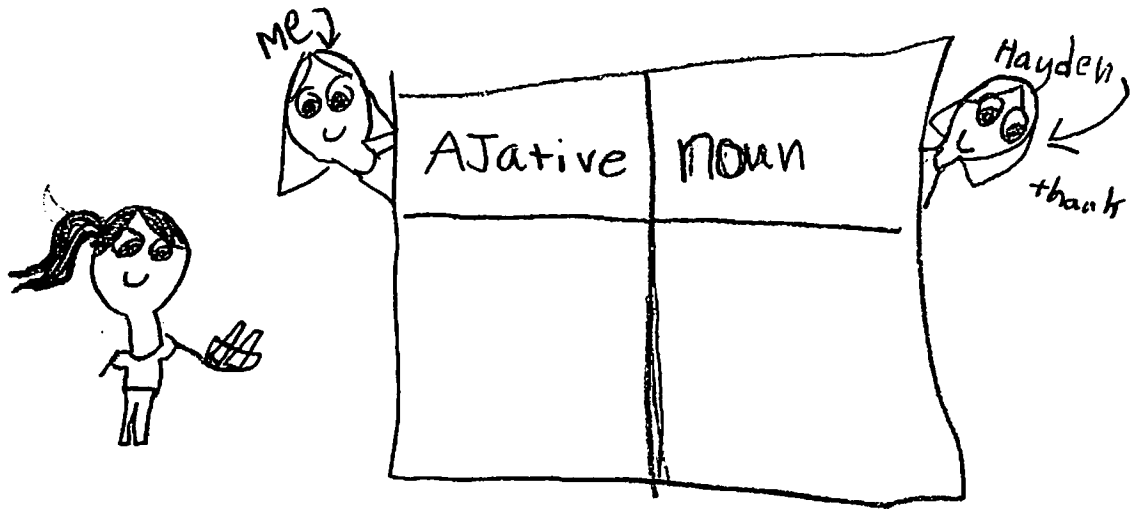


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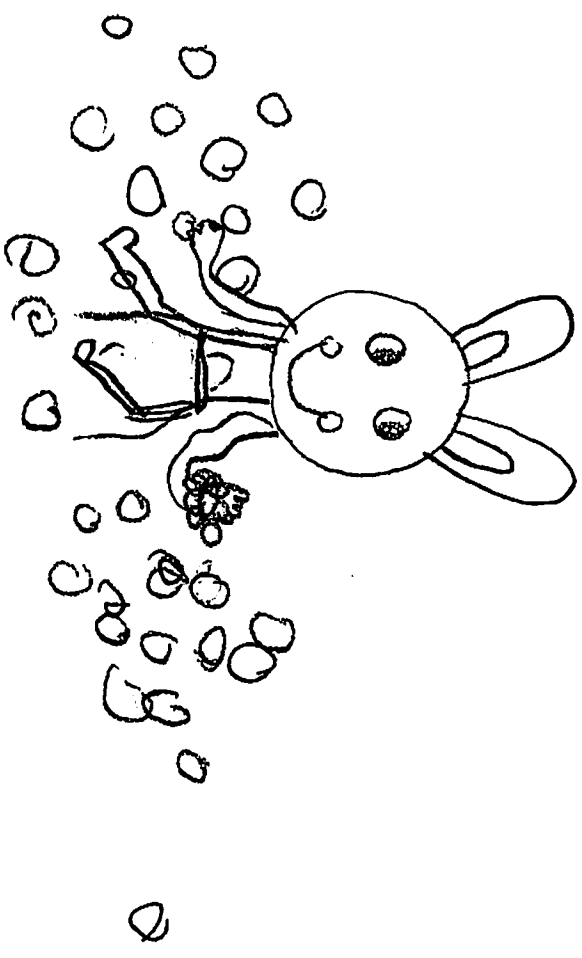
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