

Project: Afterschool Universe  
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Project Website: <http://universe.nasa.gov/afterschool/>

Project Categories: Programs, Staff/Professional Development, Curriculum Development

Primary Target: Youth Workers

How to Reach Primary Target: Through afterschool program leaders that we train to implement the program.

Secondary Target: Youth (Middle)

How to Reach Secondary Target: We provide training workshops to either train the afterschool program leaders who will actually implement the program or we train someone who can train them.

General Demographics: No specific demographic by gender or economic/ethnic status. But it is strictly for students of middle school age. It was pilot tested in many different settings - urban, rural, foriegn (Australia), as summer programming, as summer camps, etc.

#### Funders

Funders:

#### Evaluation and Field Testing

Evaluators: Magnolia Consulting LLC  
3171 Courthouse Road  
Louisa, VA 23093  
<http://www.magnoliaconsulting.org>

Evaluation Strategy: Evaluation methods during the project period included conducting (1) a post-training feedback survey of program leaders, (2) a post-program evaluation for program leaders, (3) an implementation log for program leaders, and (4) a pre/post student attitude survey.

#### Project Descriptions

Summary: Afterschool Universe is a fun, hands-on afterschool astronomy program for middle-schoolers that explores basic astronomy concepts through engaging activities and takes participants on a journey through the Universe beyond the solar system. Middle school students are fascinated by topics such as star birth, star death, and black holes, but rarely have an opportunity to explore that interest at school. By offering astronomy content in out-of-school-time where schedules are less constrained, we can engage students at this critical age in science they find naturally engaging. The program currently consists of 12

sessions and begins with an assessment of participants' existing mental models of the Universe. It then moves into a series of sessions about astronomy basics – size and scale, light and the electromagnetic spectrum, and tools astronomers use (such as telescopes and spectrosopes). After these essentials are covered, the remaining sessions provide exciting hands-on exploration of topics that children (and adults) are curious to investigate, such as stars, galaxies, and more. A visit by a scientist or engineer is built into the program so that participants can ask any questions that may have arisen during the program and also interact with a scientist or engineer. The program ends with participants re-creating a model of the Universe, which allows a measure of perspective changes that occurred as a result of the program.

Impact: According to our pilot evaluations, the program got most participants excited about science, and over 85% said that they would like to have a program like this again. The majority of students said at the end of the program that they felt science was “interesting”, “fun”, and “important for me to learn even if I don't become a scientist”. The leaders stated that they felt more knowledgeable about astronomy, and that the program had increased their own interest in the subject.

Lessons: There is a great interest and need for quality science programming that addresses student's interest in content. It was also extremely important to partner with a community partner from the very beginning. Strategic partnerships to help disseminate the program have also been key.