



Science teachers as community eclipse outreach agents

BY ANDREW FRAKNOI AND DENNIS SCHATZ

As the public slowly becomes aware of the August 21 solar eclipse in 2017, there is a need for knowledgeable people who can explain the eclipse and prepare families and the public to safely view the event. Science teachers are among the people in

the best position to be of assistance. They can help far beyond the walls of their own schools by becoming “eclipse outreach agents” for their communities.

There are four realms in which science teachers can help inform others about eclipse science and eclipse viewing:

1. within their own classes;
2. within their schools;
3. within their communities; and
4. in the published, broadcast, and social media.

From an informal survey of teachers, roughly half of the country’s schools will still be enjoying summer vacation on August 21, 2017, while the other half will have recently started school. Thus, the time to prepare classes for understanding and observing the eclipse is during the last few months of the spring 2017 semester. The accompanying *Science Scope* article in this issue (see “The August 2017 Total Solar Eclipse,” p. 40) identifies classroom experiences to help students prepare for the eclipse. In

addition, the insert found in this issue includes an eclipse observing guide that provides a variety of viewing techniques to safely observe the eclipse.

Once students think they understand both eclipse science and safety, they can become eclipse outreach agents to others in the school. It is best to first give students some time to practice their explanation of what’s coming with their families. Then, perhaps for extra credit, students with the best communication skills can go into other classes (with handouts) to spread the news to other students. You might also work with the school library and the principal’s office to organize a schoolwide assembly and set up exhibits or bulletin boards to provide information to everyone in the school about how to safely view the eclipse.

If there is an amateur astronomy club in the community, their members may be willing to come to the school and work with science teachers and students in the months before the school year ends. A list of U.S. astronomy clubs that are interested in doing school and public outreach can

Safety note: Be sure your students remind other students and members of the community that the partially eclipsed Sun is dangerous to look at without a way to protect your eyes. This is why a key purpose of “eclipse outreach agents” is to provide others with safe observing techniques. This should include effective ways to put something protective between the eclipse and your eyes (e.g., special eclipse-viewing glasses) so that the Sun’s light is highly reduced and thus safe to view [see Figure 1] or by projecting an image of the Sun. [See suggestions in the insert provided in this issue of *Science Scope*, or on the NSTA website at <http://bit.ly/2bkGSvA>.]

be found through NASA's and the Astronomical Society of the Pacific's Night Sky Network (see Resources).

Don't forget to get the school's Parent Student Teacher Association involved early when thinking about eclipse programs. The companies that manufacture safe eclipse-viewing glasses (see Resources) offer substantial discounts for bulk orders in advance. The PSTA could either fund eclipse glasses for the whole school or buy glasses in bulk and then sell them (at reasonable prices) to families and neighbors, making the project a fundraiser for school needs.

As the news about the upcoming eclipse gets out to people, there will be growing public interest in finding information, eclipse glasses, and other safe-viewing methods. Astronomers and NASA are increasingly thinking that public libraries are likely to be effective centers for community information, particularly in towns that do not have easy access to college astronomy departments or science museums.

STAR_Net (see Figure 2) is a program funded by both the National Science Foundation and NASA, at the Space Science Institute in Boulder, Colorado. It provides libraries with information and resources on space science in general and on the 2017 solar eclipse in particular (see Resources).

Libraries that join the STAR_Net receive an information kit and a small supply of eclipse-watching glasses, and are encouraged to

FIGURE 1: Safe Sun viewing with glasses



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find partners to help with community eclipse events—including local middle school science teachers. For more on the STAR_Net and a list of libraries involved, visit their website (see Resources). Check whether your library is taking part. If so, you and your students can volunteer to help. If the library is not part of STAR_Net, encourage the local library to join the network and tell them you will be available to help when they are ready to provide eclipse programs for the community.

If your community has a college or university with an astronomy department or a science museum that hosts astronomy programs, they may already be making plans for public or community events, and are more than likely to be delighted if you and some student volunteers want to help.

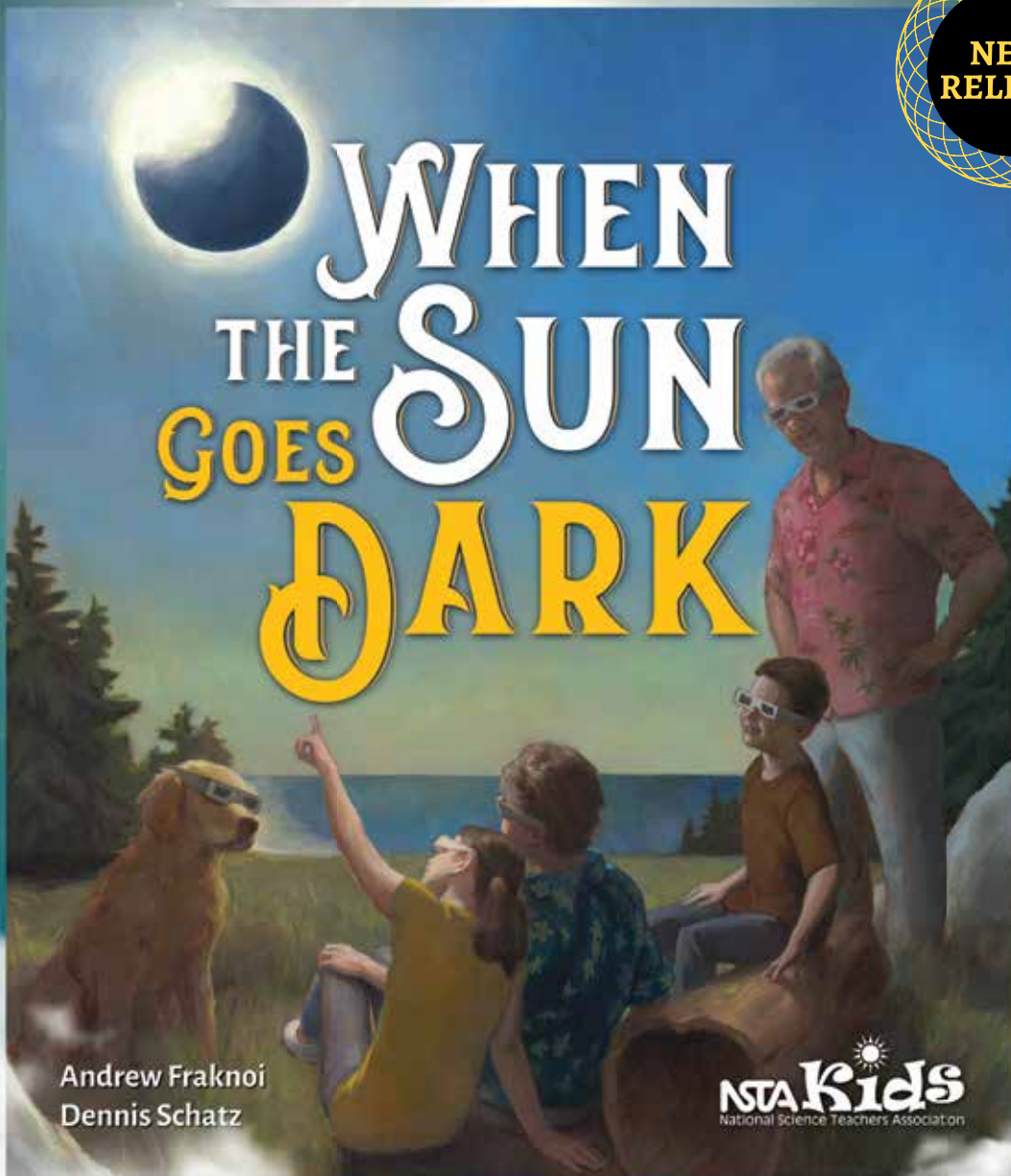
One final note about the traditional media: If past practice is any indication, TV, radio, and

FIGURE 2: STAR_Net image



newspapers may be among the last to "tune in" to the eclipse. Astronomers are already working with TV weather-casters to provide them information in advance, but most other reporters are likely to find out about the eclipse pretty late from their national sources. There is no reason you can't approach a local media outlet and give them an early heads-up about the eclipse a few months in advance. Just be sure you include enough background information so that a nonscientist

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can understand what will be happening in August. You could ask them to come to your school or the local library when eclipse events are happening and make it a special occasion for everyone.

Don't worry that you will need to pass up your own opportunity to view the eclipse. To be effective, most of the prep work, such as community outreach, training sessions, and the distribution of eclipse glasses, will need to be done in the months prior to the event. On August 21, you should be free to view the eclipse from a location of your choosing.

We know that people learn the most about something when they teach it to others, so this is the perfect time to practice this strategy. We hope you and your students find plenty of opportunities to work with others in your school and community. Most importantly, we hope you enjoy clear skies and safe eclipse viewing on August 21, 2017. ●

RESOURCES

NASA and the Astronomical Society of the Pacific's Night Sky Network—<https://nightsky.jpl.nasa.gov>
NSTA book of eclipse activities—www.nsta.org/solarscience

NASA eclipse 2017 website—<http://eclipse2017.nasa.gov>
NSTA eclipse observing brochure for the public—<http://bit.ly/2bkGSvA>
NSTA webinar on the eclipse—<http://bit.ly/2i7KdR7>
Resource guide to eclipses in general and the 2017 eclipse—www.astrosociety.org/eclipse
Safe eclipse viewing glasses—www.eclipsediscount.com
STAR_Net—<http://bit.ly/2iftz28>
The Great American Eclipse website [with good maps]—www.greatamericaneclipse.com
Universe in the Classroom newsletter with eclipse activities and teaching hints—<http://bit.ly/2ijpS7M>

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