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## Program Summary

*Advancing Science* is a “science-on-wheels” outreach program developed and administered by Dr. Kay Etheridge, a biology professor at Gettysburg College. The program serves K-12 teachers and classrooms in Adams, Cumberland, Dauphin, Franklin, Perry, and York Counties in Pennsylvania. The overarching goals of *Advancing Science* are to improve students’ understanding of scientific concepts and to excite them about science. This is accomplished by helping teachers maintain and update their own knowledge of science, providing them with classroom resources and equipment, and modeling hands-on inquiry-based learning techniques.

The core of *Advancing Science* consists of (a) a training program for teachers; (b) three cargo vehicles stocked with science materials and equipment such as microscopes, computers, spectrophotometers (infrared, ultraviolet, and visible light), water test kits, and other modern scientific instrumentation; and (c) two full-time and three part-time, certified and experienced teachers (Mobile Educators). Teacher training sessions provide background on scientific concepts explored in *Advancing Science* activities, inquiry-based pedagogical techniques, and the opportunity to become familiar with program equipment and resources. After training, teachers invite the Mobile Educators into their classrooms to help supplement the teachers’ existing curriculum. Mobile Educators deliver equipment and assist classroom teachers with laboratory activities giving students the opportunity to *do science*, rather than observe as passive learners. Mobile Educators also deliver equipment to teachers who elect to use it on their own.

## Facts and Statistics

- Since the program’s inception in 1994, AS has visited more than 17,000 classrooms and worked with over 350,000 students. [For graphs showing program growth](#), please visit our website.
- Teacher training programs are offered several times a year at Gettysburg College. AS can also provide in-service teacher training programs at your school. AS is an authorized Act 48 professional development provider. [To see when the next teacher training is offered](#), please visit our website.
- AS maintains an inventory of scientific equipment worth over \$400,000. [For a list of available equipment](#), please visit our website.
- Lab activities meet the PA Science and Technology and/or Environment and Ecology academic standards. [For a list of lab activities](#), please visit our website.
- AS staff includes the program director, program coordinator, two full-time mobile educators, three part-time mobile educators, and two student lab assistants. [To read staff bios](#), please visit our website.
- Thanks to our current funders: the National Oceanic and Atmospheric Administration, the PA Department of Education, the PA Department of Environmental Protection, and Gettysburg College. [For the complete funding history](#), please visit our website.



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## How to Use *Advancing Science* in Your Classroom

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### How to Schedule

1. Choose your activity. [View our list of activities here](#) and then [preview the lab handout here](#).
2. Decide if you would like a visit or loan. If you are new to the program or haven't done this activity before, we recommend a visit. If this is an activity that you've done several times, we recommend a loan.
3. Complete the online request form. Please only request one lab per form. Please submit your request as far in advance as possible. We will be in touch to schedule several weeks to one month in advance. [The request form is located here](#).
4. Provide several possible dates for the lab activity. Many of our activities work well as an introduction, conclusion, or the "meat" of a unit.
5. Plan enough time for setup. Setup can vary from 15 min to one hour depending on the equipment and the number of stations.

### Preparing for the Visit

1. Let your office personnel know that you are expecting a visitor from *Advancing Science*.
2. Have backup plans ready – we've got an excellent record, but emergencies do happen.
3. Keep us informed of any changes to your schedule. We will need to cancel if you are absent or if your class period has been significantly shortened. Remember that we probably leave our homes earlier than you.
4. Prepare your students by reviewing the lab and expectations prior to the scheduled visit.

### On the Day of the Visit

1. Direct us to an easy unloading spot.
2. Help us load/unload.
3. Team-teach during the class period. You know your students and we know the lab – together we can do a great job!

### Tips for Loan Use

1. Tell students that the equipment is borrowed.
2. Put the equipment away properly. If there is an inventory sheet – complete it!
3. Let us know immediately if there is a problem with the equipment or lab tub (broken and/or missing equipment, supplies to replenish, etc). Please email, tell us verbally, and tape a note to the specific item/tub that has a problem. We may be taking the equipment straight to another school.
4. Have equipment ready at the agreed time.

### After the Visit/Loan

1. If you have any suggestions for improvements, additional questions, etc for any of the lab activities [please complete the form found here](#).
2. We will email evaluation forms at the end of each semester to ask for your input on the overall effectiveness of the program.

### Publicity

1. Help us maintain funding by promoting the program. Invite your legislators, the press, and school administrators to see the program in action.
2. Encourage your colleagues to get involved with *Advancing Science*.

