



## How Does the Mobile Science Lab Work?

Mobile labs visit schools for an entire week. Hands-on investigations are completed around particular themes: water quality, wetlands, well contamination, the foods we eat, healthy snacks and environmentally friendly products. Each lesson follows the scientific method. Up to five classes can visit each day for a 50 minute hands-on investigation. Other classes can visit for a 25 minute mini-lesson. Scheduling is flexible depending on the needs and size of the school.

Schools select investigations that can be integrated into their curriculum. Activity schedules are tailored to meet individual school needs. Lab investigations match the Maryland State Curriculum. Related resource materials are available for teachers to use in their classrooms to supplement, integrate, and extend lab lessons.

Mobile Science Labs are presented by the Maryland Agricultural Education Foundation, Inc. as part of the Maryland *Ag in the Classroom* program. Since 1989, the Foundation has provided quality hands-on workshops and classroom-ready resources to educators.

**Maryland Agricultural Education Foundation, Inc.**

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[www.maefonline.com](http://www.maefonline.com)



## Other MAEF Programs Include:

### AITC Elementary Summer Workshop

A chance for K-5 teachers to experience a workshop filled with hands-on activities, field trips, numerous resources, lesson plans, and models **plus** the opportunity to earn 3 MSDE credits or 3 McDaniel College graduate credits. For more information contact

Jeanne Mueller at 410-848-4745 or [jmueller@maefonline.com](mailto:jmueller@maefonline.com)

### Maryland Resource Kit

Matched to state standards, these resources aid in teaching about Maryland and include "Take Me Out to the Corn Field" DVD, Maryland Commodity Map in both wall and desk sizes, and teacher's guide with 21 student lessons.

### Ag Returns to the City

This new program exposes both students and teachers to agriculture and the food system, and includes classroom activities, hands-on urban gardening, nutrition education, and teacher training using MAEF resources.

### Showcase

The Maryland Agricultural Showcase is a way to reach children and adults outside of school. The highly visible mobile unit travels to fairs and festivals throughout Maryland. The showcase offers hands-on learning about agriculture and its importance in daily living. Some of its features include a cow that can be milked, a horse tail that can be brushed, and a landscaping activity.

### Ag on the Moo-ve

"Agriculture on the Moo-ve" is an alternative for organizations that are unable accommodate the Ag Showcase at their event. MAEF sends a qualified staff member to attend the event and discuss agriculture with those in attendance. In addition to handing out literature on agriculture, our staff member will help promote and teach agriculture to children with an exciting hands-on activity.



## *Ag in the Classroom* Mobile Science Labs for Hands-On Learning



- \* **Lessons Matched to Maryland State Curriculum**
- \* **Hands-on Investigations**
- \* **Unique Learning Environment**
- \* **Provides a Field Trip on School Grounds**

Meet educational goals with this innovative and effective learning experience for students.



## A trip on the mobile science lab allows students to work like real scientists!

Working in teams, the students investigate problems using the scientific method and scientific equipment.

Students hypothesize, experiment, collect data and draw conclusions during hands-on activities that are related to everyday life.

*"You let us do really fun projects that I will never forget! But best of all, you taught me that science can be fun."*

Carroll Manor Elementary School student

*"The lessons and the instructor related everything to real life experience for the students."*

Calvert Elementary School teacher

*"The kids loved it!"*

Hickory Elementary School teacher

Early reservations allow schools to secure the date and lab of their choice!

To reserve a lab, contact:

**Diana Tyler,**

**Education Outreach Coordinator**

**410-939-9030 (phone) 410-939-9035 (fax)**

**dtyler@maefonline.com**

Schools may choose from a variety of investigations and demonstrations. All of these lessons are matched to the Maryland State Curriculum.

## AGRICULTURAL PRODUCTS

- \* Create and assemble a model of a plant and observe the process of capillary action
- \* Examine and record grain properties
- \* Examine environmental impact of petroleum and corn packing foams; make plastic from corn
- \* Produce glue from milk; test its strength against a commercial glue
- \* Act as egg inspectors to candle, weigh and measure eggs; test for freshness
- \* Explore how lip balm can be made from soybeans and beeswax

## AQUATICS

- \* Measure pH, dissolved oxygen, nitrates and ammonia to determine habitat water quality
- \* Determine which ground water wells might be influenced by a point-source pollutant
- \* Observe water holding capacity of a corn based product to determine how it can promote growth in seeds and plants as well as help clean up oil spills
- \* Experiment, observe and collect data on how fresh, brackish and salty water effect animal life
- \* Build a terra aqua column to investigate terrestrial and aquatic ecosystems
- \* Set up water recycling experiment to see if polluted water can be cleaned
- \* Discover how Integrated Pest Management helps farmers while protecting our water supply
- \* Experiment with a wetland model to discover the benefits wetlands provide and the consequences of destroying them

## FOOD, FIBER AND YOU

- \* Discover the fat content of some favorite foods and learn to read nutrition labels
- \* Discover sugar content of beverages while experimenting with density
- \* Use the scientific method to test petroleum based and soybean crayons for certain properties
- \* Produce a vegetable-based glue; compare it to a commercial glue testing viscosity and strength
- \* Test milk products to determine which one will produce butter
- \* Replicate wool plying process and dye wool
- \* Experiment with hand-washing techniques to determine how to control bacteria causing illness
- \* Observe the conditions that create the best environment for fungi organisms (yeasts) to grow
- \* Develop an understanding of genes and how genetics can improve a plant's characteristics

### SCIENCE LAB PROVIDES:

- \* Engaging hands-on investigations matched to Maryland's State Curriculum
- \* Well designed experiments that excite students about science and its connection to their world
- \* Professional instructor on board
- \* Materials and handouts for use before, during, and after lab visit
- \* Transportation of lab to your school

### SCHOOL PROVIDES:

- \* Level site easily accessible to students and a minimal space of 20' x 50'
- \* Electrical 220v 50 amp "RV Type" hook-up (NEMA #14-50R) within 75' of the center of the mobile lab space
- \* Water (hose) hook-up
- \* Parent volunteer each day
- \* Registration fee: \$1,800 for a week or \$1,500 for a 3-4 day week