

Zawitoski, John

To: Thomas G. Hartsock
Subject: RE: agricultural mobile science lab proposal

Attachment G

From: Thomas G. Hartsock [mailto:tgh@umd.edu]
Sent: Thursday, February 26, 2015 1:49 PM
To: Leventhal's Office, Councilmember; Caroline Taylor
Cc: Criss, Jeremy; Charles Schuster; Sesker, Jacob; McGuire, Essie; #CCL.Leventhal Staff
Subject: RE: agricultural mobile science lab proposal

Dear George,

Thanks for your continued attention to this important agricultural initiative. The documents are attached.

Would you like Caroline and I to poll all parties to find a day and time the week of March 9 to hold the meeting?

Tom

Thomas G. Hartsock
25518 Burnt Hill Road
Clarksburg, MD 20871
301-253-9528
tgh@umd.edu

From: Leventhal's Office, Councilmember [Councilmember.Leventhal@montgomerycountymd.gov]
Sent: Thursday, February 26, 2015 11:57 AM
To: Caroline Taylor; Thomas G. Hartsock
Cc: Criss, Jeremy; Charles Schuster; Sesker, Jacob; McGuire, Essie; #CCL.Leventhal Staff
Subject: RE: agricultural mobile science lab proposal

Dear Caroline and Tom,

Please resend the proposal that Tom sent me in December and let's schedule a meeting in early March with all parties copied on this message to make sure we at the County Council clearly understand what is required.

Thanks,
George Leventhal

From: Caroline Taylor [mailto:caroline@mocoalliance.org]
Sent: Wednesday, February 18, 2015 8:26 AM
To: Thomas G. Hartsock
Cc: Leventhal's Office, Councilmember; Criss, Jeremy; Charles Schuster
Subject: Re: agricultural mobile science lab proposal

George,

Please advise if we need to get more correspondence supporting this initiative. I am adding Jeremy Criss and Chuck Schuster to the thread as Tom and I have met with them and they have expressed eagerness in helping to make this great program happen.

Warm regards though thermometer reads -1,

C

Caroline Taylor, Executive Director
Montgomery Countryside Alliance
P.O. Box 24, Poolesville, Maryland 20837
301-461-9831
<http://mocoalliance.org/>

Chosen as "one of the best" charities in Greater Washington by the Catalogue for Philanthropy

"Whether we and our politicians know it or not, Nature is party to all our deals and designs, and she has more votes, a larger memory, and a sterner sense of justice than we do." ~ Wendell Berry

Sent from my iPhone.

On Feb 18, 2015, at 5:25 AM, Thomas G. Hartsock <tgh@umd.edu> wrote:

Dear George,

I'm normally a guy who likes to spend a lot of time outdoors, but even I'm enjoying the warm comfort of the indoors!

As a followup to our earlier communication, we (Caroline Taylor, on behalf of Montgomery Countryside Alliance, and I, on behalf of Montgomery County Farm Bureau) contacted Mr. Leggett's office regarding your suggestion to attempt getting this item in the Executive's budget. We have not heard back, so I'm suspecting that it was not inserted.

Your "Plan B", as you suggested, would be for you to put it in the budget when it came to Council. Given the positive responses we received when we presented the results of the Farming at Metro's Edge conference to Council, we're sure that several other Council members would be very supportive of your effort to include this item in the budget. Caroline Taylor and I offer our support and assistance as we take this small step forward in support of Montgomery County agriculture.

Stay warm and let us know how we can help you.

Tom

Thomas G. Hartsock
25518 Burnt Hill Road
Clarksburg, MD 20871
301-253-9528
tgh@umd.edu

From: Leventhal's Office, Councilmember [Councilmember.Leventhal@montgomerycountymd.gov]
Sent: Sunday, December 21, 2014 2:13 PM
To: Thomas G. Hartsock
Cc: Sesker, Jacob; McGuire, Essie; #CCL.Leventhal Staff; Criss, Jeremy
Subject: Fw: agricultural mobile science lab proposal

Dear Tom,

Thanks for following up on our conversation at the Farm Bureau dinner. I'm copying Jacob Sesker and Essie McGuire of the County Council staff on this reply so we can discuss how best to ensure this receives appropriate attention in the County Council's budget deliberations in the spring.

I hope you and your family enjoy the holidays.

Cordially,

George Leventhal

President, Montgomery County Council

From: Thomas G. Hartsock <tgh@umd.edu>
Sent: Monday, December 15, 2014 6:19 PM
To: Leventhal's Office, Councilmember
Cc: Caroline Taylor
Subject: agricultural mobile science lab proposal

Dear Mr. Leventhal,

Attached are two documents. The first is the proposal itself and the second is a list of the laboratory exercises currently offered on the "Food, Fiber and You" Mobile Lab, the lab on which our Montgomery County lab will be based. We included that list because, as an educator myself, I'm sure that educational content will be one of the first things that Andy Zuckerman will ask about when he looks this over.

Per your suggestion, we will be contacting Mr. Leggett's office about the proposal so they will be aware of this effort. We'll let it up to you and Andy as to whether someone from his office should be included in any future meetings.

We are so pleased to have you help us move forward on a key recommendation that came from the Farming at Metro's Edge conference. And on behalf of Montgomery Farm Bureau and Montgomery Countryside Alliance, we give you our sincere thanks.

We look forward to hearing from you and Andy.

Tom

Thomas G. Hartsock
25518 Burnt Hill Road

Clarksburg, MD 20871
301-253-9528
tgh@umd.edu

A proposal to bring the Maryland Agricultural Education Foundation's Mobile Science Labs to Montgomery County elementary schools.

Submitted by:

Thomas G. Hartsock, on behalf of the Montgomery County Farm Bureau
Caroline Taylor, on behalf of the Montgomery Countryside Alliance

A major recommendation coming out of the Farming at Metro's Edge (FAME) Conference was the need to educate the non-farming community, especially children, about agriculture. The Maryland Agricultural Education Foundation, Inc. (MAEF), as part of the Maryland Ag in the Classroom program, has already developed quality, hands-on workshops and classroom-ready resources and made them available to elementary schools through their Mobile Science Labs.

Each of the three Mobile Labs (one focused on agricultural products, one on aquatics and the third titled "Food, Fiber and You") and the professional lab instructor visits a school for a full week (four days during weeks containing a holiday). The lab instructor can conduct five or six, 50-minute, hands-on lab sessions for third, fourth and fifth grade students. And 25-minute mini sessions can be substituted for some of the 50-minute sessions for K through second grade students. Students will get one or more visits to the lab, depending on the size of the school. The laboratory sessions can be "stand alone" or be supplemented with classroom instruction by the classroom teacher, depending on the time available and the teacher's preference. The lab instructor, with the assistance of a parent volunteer, can create a flexible schedule to meet the specific needs of each school.

For \$1,800 a week (\$1,500 for a four-day week) MAEF transports the lab-on-wheels to the school, provides a full-time professional lab instructor, develops and provides investigations and experiments matched to Maryland State Curriculum and makes materials available to extend lessons into the classroom, if desired by the teacher. The weekly rental covers only about half of the cost of building labs and running the program, with the rest covered by donations, as well as with revenue from MAEF's popular "Ag Tag", the attractive, farm-themed license plate available to Maryland drivers.

In addition to the rental fee, the school or school system supplies a level, student-accessible space (minimum 20' x 50') to park the lab trailer, a 220 volt, 50 amp "RV-type" (NEMA #14-50R) electrical hookup within 75 feet of the center of the mobile lab space, water (hose bib) hookup and a parent volunteer for each day.

In past years Montgomery County Farm Bureau has offered to subsidize the cost of bringing the Mobile Science Labs to elementary schools, but each school varies as to how such activities are organized and funded, making the logistics complex and difficult. In addition, many schools' parent organizations simply don't have even the modest financial means to support this effort, even when subsidized.

We propose to have MAEF build a fourth Mobile Science Lab to be used exclusively in Montgomery County. MAEF would build this new lab at its expense; there would be no upfront costs to the county. It would be based on the existing “Food, Fiber and You” lab currently in use, but the curriculum would be modified to include hands-on lab exercises focused on Montgomery County agriculture (crops/foods produced here, our Agricultural Reserve, farmers markets etc.). The Montgomery Mobile Science Lab would visit about 30 schools per year, making it possible for the lab to visit each school every 4-5 years. This would enable every student to visit a lab at least once while in elementary school.

The ideal funding scenario would be to include the annual cost in the budget (MCPS) as it comes out of Mr. Leggett’s office, with the Council supporting this budget item when it goes before them. The cost would be modest. MCPS would need \$51,000 per year to pay MAEF for 20, full-week visits and 10, four-day (holiday) week visits, so 30 schools per year would get the benefit of this program. We assume MCPS would need some additional funds for the costs related to administering the program (schedule all lab visits before the beginning of the school year, request Lab transport, make sure the school provides a parent volunteer for each lab day, develop and administer an evaluation tool, occasional oversight visits to host schools, etc.). We estimate this to be about .1 FTE but this needs to be discussed with MCPS administrators to determine a dollar amount.

Approval and funding of this project would give the County Executive, the Council and Montgomery County Public Schools the opportunity to act on a key recommendation from the FAME conference.

Below is a summary of responsibilities for the parties involved in this project:

The Montgomery County Executive and Council would:

- appropriate \$51,000 of new funding per year for the Mobile Science Lab annual rental cost and
- appropriate additional funding for approximately .1 FTE for staff cost required to administer the new program (actual cost to be determined in consultation with MCPS administration).

Montgomery County Public Schools would:

- administer, oversee and evaluate the MAEF Mobile Science Lab program.
- schedule lab visits prior to the beginning of the school year,
- initiate requests for transport of the lab, and
- pay MAEF for services rendered with the newly appropriated funds.

Maryland Agricultural Education Foundation would:

- build and equip a new Mobile Science Lab for Montgomery County,
- modify the “Food, Fiber and You” curriculum for Montgomery County agriculture and supply both the laboratory and classroom materials needed by each school,
- provide a professional instructor on the lab and
- transport the Mobile Science Lab from school to school, as directed by MCPS.

Each elementary school would provide:

- a level site (minimum 20' x 50'), to park the Lab, that is accessible to students,
- a 220V, 50 amp “RV-type” electrical hookup (NEMA #14-R) within 75' of the center of the Mobile Lab space,
- water (hose bib) hookup and
- a parent volunteer for each day.

Food, Fiber & You Lab Choices

2014-2015

Farmers Protect the Environment (Env)* (Grades 4-5)

This lesson supports the new Environmental Literacy standards as students discover four of the ways (manure pits, fencing, cover crops, and buffers) farmers protect the environment and the Chesapeake Bay. The team designs their own environmentally friendly farm.



The Science of Chocolate (Chocolate)* (Grades 3-5)

Students act as food scientists as they discover the properties of chocolate, investigate the taste and production of chocolate, and explore the concept of viscosity. *(Students will be taste-testing less than 1/16 of a teaspoon of cocoa and sugar and a drop of vanilla.)*



The Art of Making Cheese (Cheese)* (Grades 3-5)

Milk is used to make familiar products that we eat such as ice cream, yogurt, and cheese. In this experiment, students make cottage cheese using a process that causes the casein in milk to curdle. *(With the classroom teacher's permission, students may be allowed to taste a sample of the cottage cheese they make.)*



Banana DNA (DNA)* (Grades 4-5)

Students put their scientific skills to work as they create banana slurry and extract the DNA from the banana in an effort to understand how biotechnology enables scientists to change characteristics in food products.



Fiber Up for a Clean Sweep (Fiber)* (Grades 3-5)

Nutrition and the fiber content of favorite foods are explored in this scientific investigation as students act as food nutritionists and test 6 different foods in order to determine if fiber is present.



How Well Do You Wash? (Wash)* (Grades 3-5)

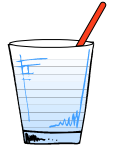
Students apply "germs (glitterbug lotion)" to their hands and then perform several hand washing tests to determine which method most effectively removes the "germs". A special light source helps to detect the "germs" remaining. *(Knowledge of percent is beneficial.)*





Sugar Sheriffs (Sugar)* (Grades 3-5)

Students discover the nutritional content of some of their favorite beverages as they experiment with density. The lesson ends with learning how to read nutrition labels on beverages and hopefully selecting drinks that will be good for you.



Snack Attack (Snack)* (Grades 3-5)

Students discover the nutritional content of some of their favorite foods as they experiment to discover which ones contain fat. The lessons ends with learning how to read nutrition labels and hopefully selecting snacks that are good for you!



Spinning and Dyeing Wool (Wool)* (Grades 3-5)

Students try their hand at replicating the spinning process and then dye the wool to make a bookmark to take home.



Sticky Bean (Sticky)* (Grades 3-5)

Isolated soy protein and calcium hydroxide are used to produce a vegetable based glue made from soybeans. The glue because of its long polymer chains makes a good adhesive. Students test the strength of their glue against Elmer's glue using a peel test, tensile strength test, and shear strength test.



Yeast Action (Yeast)* (Grades 3-5)

Fungi organisms called yeast are used in bread making. Students set up an experiment to observe the conditions that create the best environment for yeast to grow.

Using Genetics to Improve Agriculture (Genetics)* (Grades 3-5)

Hands-on activities introduce students to the fundamentals of genetics as they develop a basic understanding of the role of chromosomes and how genes are inherited from parent to offspring.



Important Scheduling Information

When planning a schedule, allow a minimum of **50-60 minutes** for scientific investigations. Allow 10 minutes between classes for clean up and set up. If the need arises to change entirely from one experiment to another (this is NOT recommended) an additional 30 minute break must be allotted for the change-over. A 30 minute lunch break for the teacher must be included.

***When listing your selections on the class schedule, just use the shortened (Title)* for lab choice. Our teachers have the option of changing a lab selection when it seems not to be age appropriate.**

A parent volunteer is needed for each morning and afternoon (not each class) to help prepare materials, cut yarn, refill containers, and assist with classes.

Food, Fiber & You Walk-Through Selections

Prior to coming out to the lab, please divide your class into 12 equal teams for each of the 12 work stations.

1. **Football and Agriculture (Foot)*** (Grades K-5)

Students learn how football and agriculture are connected and make their own Football Charm. Super Bowl Ravens' gear is connected to the farm! (offered September to first week in February)



2. **Take Me Out to the Ball Game (Ball)*** (Grades K-5)

Students learn how the world of baseball and agriculture are connected and make a Baseball Charm to take home. (offered 2nd week in February through June)



3. **Forest & Me (F&M)*** (Grades 2-5)

Through interaction with a story, pictures, text and discussion, students will realize the many benefits trees provide. The lesson closes with students making a bracelet to remind them of these benefits.



4. **Extra Cheese Please (ExCh)*** (Grades 2-5)

This story line shares mozzarella's journey from calf to pizza and explains how cheese is actually produced. Session includes a cheese making demonstration and a sequencing activity.



5. **How Groundhog's Garden Grew (GGG)*** (Grades K-4)

Students participate in telling a story using props and puppets and culminate the activity as they recall story elements and make a "healthy hand" reminding them to eat more fruits and vegetables each day.



6. **Sheep Surprise (SS)*** (Grades K-4)

A delightful "wordless" tale about a sheep on his motorcycle that help students understand the production process from sheep to sweater. This session ends with students making a colorful sticker bookmark.



7. **Seeds, Seeds, Seeds (Seeds)*** (Grades K-5)

Students examine seeds and match them to the foods they eat.



8. **Beanie Baby (BB)*** (Grades K-5)

Students plant seeds in a new growing medium (soil moist) and watch for the first signs of growth.

When planning walk-throughs, allow **25-30 minutes** per class. Allow **10 minutes** between classes for clean-up and set up time. **Kindergarten classes may only visit the lab one time. Lab experiences are not appropriate for Pre-K classes.**