Dear Families of Travilah ES,

We are pleased to announce that our Science, Technology, Engineering, and Math Expo at Travilah Elementary School is scheduled for February 18, 2015. Similar to the STEM EXPO held last year at school, this is an enriching opportunity to explore the areas of Science, Technology, Engineering and Mathematics. This is a non-competitive event where students are encouraged to explore topics that are interesting to them and share the findings from their investigations.

This is an enrichment activity where all steps of the process are to be completed at home. “STEM EXPO Tips and Links” with more information are attached on the following pages of this packet. Students will have the opportunity to receive feedback and help from me, if needed.

Student projects will be displayed in the gym for all students to see during the day on Wednesday, February 18th. That evening, students and families will be invited back to hear directly from the students about their projects.

All 5th grade students are expected to participate in the STEM EXPO. All students in grades K-4 are encouraged to participate as well, though it is not mandatory. Working in small groups is strongly encouraged as the collaborative process is an important part of the STEM pedagogy. We are hoping to see same level groups, neighbors, and sibling pairings all represented at the EXPO.

What you need to do to participate:

- Find a few friends, neighbors, or siblings who enjoy STEM subjects as much as you do. (Limit 4 students per group)
- With an adult’s help, complete the attached entry form and return it to school no later than Wednesday, January, 28th. (one form per group)
- Get ready to start thinking of ideas and have fun!

Please send questions to Mrs. Egan at Calleen_B_Egan@mcpsmd.org or stop by her classroom, Room 139.
Do you want to do a science project, but don’t know how to get started? Here’s a great website that explains the scientific process in kid-friendly language!  
http://www.education.com/science-fair/elementary-school/

It is pretty simple, but first you need to think of a question that you would like to answer, such as “I wonder why clouds are different shapes?” or “I wonder why my cat sleeps in that window?” or “Why does snow stick to the driveway sometimes but not grass?” or “How does soap work, anyway?” If you had to guess the answer to your question, what would you guess? How do you test your prediction or find more information to answer your question? Check out the method below—it’s the one used around the world by scientists to find answers to all sorts of questions! But, before you get started, here is another science tip for you: always take good notes on your research and experiments…without them, you can not show what you learned.

Steps of the Scientific Method for Kids
Scientists use the scientific method to find answers to questions and to solve problems. Although there are many different versions of it in use today, you will find that what they are really based on is making observations, asking questions and looking for answers to questions through science experiments. In order to use the scientific method to find answers to your own questions, you will need to first ask a question, and then:

- Make Observations
- Do Some Research
- Form a Hypothesis
- Test Your Hypothesis
- Draw Conclusions
Displaying Your Science Project

It’s simple to present your project on a trifold display board (like the cardboard ones sold in craft stores). How fancy you make your display is up to you, but your display should include:

- Your project title, your name, and grade
- The Question you are investigating
- Hypothesis (you can have one for a group or each student can make their own)
- Materials that you used
- Procedure with numbered steps (how you conducted your investigation)
- Results
- Conclusion

If you have photographs or illustrations, or samples that you can show, include them to make your project attract more interest. But, remember that no dangerous materials or live animals can be displayed—use photographs to show any parts of your research that can’t be safely displayed in the gym!

Final Tips

So what happens if you plan this GREAT project, but then something goes wrong? Guess what…that’s science too! Figure out what you can learn from the failure, what you would do differently if you tried it again, and present those conclusions with your project. Science is a process of learning from the things that turn out unexpectedly, so just be honest about what happened, and start asking more questions!

No question about it, science can take time, energy and hard work. But- science is also fun, so grab a friend or parent, or (gasp!) brother or sister, think about what you’d like to learn, and we will see you at the SCIENCE EXPO on February 18th!
A Break Down of the Scientific Method

The Scientific Method is used by scientists, engineers, and mathematicians all over the world. It ensures that your investigation is done fairly and allows others to try the same experiment following your steps. Below is a summary of the Scientific Method.

**Scientific Method**

**Step 1.** Ask a question. This will help guide your research and should be testable.

**Step 2.** Make a prediction. A prediction is a guess about what you think will happen during your experiment. It is okay if your prediction is not correct!

**Step 3.** List the materials you used. This should include all the supplies you used and amount or number of each supply

**Step 4.** Tell the procedure. A procedure is step by step instruction of how you conducted your investigation just like a recipe for cooking. You will want to use numbered steps.

**Step 5.** Display your results. This is where you display all the data you collected. It is often helpful to put this information into the chart or table to make it easier for your reader.

**Step 6.** Write a conclusion. The conclusion summarized your experiment. It should include the following:

- Tell if your hypothesis was right/wrong
- Offer a summary of your results
- Share what else you would like to know about the topic or a future investigation you would like to conduct.
TRAVILAH STEM (Science, Technology, Engineering and Mathematics)

EXPO ENTRY FORM

Entry Form deadline is Wednesday, 1/28/15
Expo date is Wednesday, 2/18/15

Student Info: (only one entry form needs to be submitted for each project for group projects)

PLEASE PRINT

Name/Grade/Teacher ____________________________
Name/Grade/Teacher ____________________________
Name/Grade/Teacher ____________________________
Name/Grade/Teacher ____________________________

Parent Info: (At least one parent contact is necessary per entry)

Name/Phone # ________________________________________________
e-mail address ________________________________________________

Is a parent willing to volunteer for set-up, clean-up, or monitoring during EXPO class visits?

YES _______ NO _______

PROJECT TITLE: ________________________________________________

BRIEF PROJECT SUMMARY: ______________________________________

________________________________________________________________

________________________________________________________________

________________________________________________________________

________________________________________________________________

I/we would like to request a display board from the school. Yes _______ No _______
(If no, you are responsible for providing your own display board)

Will project require an electrical outlet? Yes _______ No _______

Outlets are limited, so please let the organizers know ASAP if project needs change.

Please state any other special project needs or location requests. Organizers will contact
parent if requests cannot be accommodated.

PLEASE RETURN FORM TO SCHOOL BY: Wednesday, January 28, 2015
Questions? Please contact Mrs. Egan at Calleen_B_Egan@mcpsmd.org #301-840-7153