Do you enjoy Science Technology Engineering & Math?
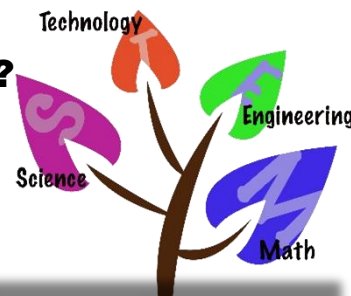
Check It Out!

You are officially invited to participate in Somers Point School's 5th annual

SCIENCE FAIR STEM EXPO!!

Students in grades 4 – 8 are invited to participate in a SCIENCE FAIR STEM EXPO. The Expo will allow students to study a science or engineering topic. Students will develop a question they wish to answer and present their findings at the SCIENCE FAIR STEM Expo.

Students can enter as individuals or group with up to 3 members.

- Attached you will find resources to help you develop a topic and research question.
- There will be after school assistance to help you develop your project if needed.

Important Dates…

November 21st
Kick-off assemblies Distribution of approval forms

November 28th
Approval forms due. Submit at **https://goo.gl/forms/ArQARhpJX6flCwyi2**

This form is also available on sptsd.org

February 1st
Lab report / Research paper due

Feb 15th
SCIENCE FAIR STEM Expo – Projects presented

YOU CAN CHOOSE TO BE INVOLVED IN…

The Research Division

In this division, students will choose a topic and develop a research question to answer. Through research, from at least five sources, students will answer the question in a written paper. Students will be judged on the written components, tri-fold board display, and a 2 minute oral presentation.

The Investigative Division

In this division, students will choose a topic and develop a research question and hypothesis. Students will then design and conduct an experiment following the scientific method to test their hypothesis. Students will be judged on the written components, tri-fold board display, and a 2 minute oral presentation.

STUDENTS MUST:
1. Obtain approval **BEFORE** beginning any project.
2. Have adult supervision when using equipment, sharp objects or chemicals (including household chemicals).
3. Observe proper safety protocol at all times.
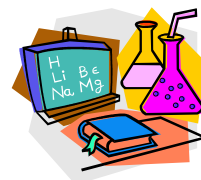
STEM EXPO

November 14, 2016

Dear Parents/Guardians,

We are excited to announce Somers Point School's fourth annual SCIENCE FAIR STEM Expo to take place at the Jordan Road School on February 15th, 2017. STEM is the integration of Science, Technology, Engineering, and Mathematics. Why is STEM important? U.S. Labor Department projections show that of the 20 fastest growing occupations projected for 2016, 15 of them require significant mathematics or science preparation to successfully compete for a job.

Students in grades fourth through eighth are invited to participate in the SCIENCE FAIR STEM Expo. This Expo draws upon student's interests and the skills that have been taught and emphasized in your child's education. Students may choose to enter in either the research or investigative division.

Your help may be needed throughout your child's project. Please go over the information that was provided and discuss it with your child. We hope that, with your enthusiastic encouragement, your student will participate in the SCIENCE FAIR STEM Expo. This will be an exciting experience for your child!

Sincerely,

Kimberly Tucker

Supervisor of Curriculum

SCIENCE FAIR STEM EXPO Idea Websites

www.sciencebuddies.org

www.sciencefairadventure.com

Similar to Science Buddies. Provides a searchable list of science fair projects with detailed help for each project.   Provides time estimate for duration of set up and how long for results.

www.all-science-fair-projects.com

Similar to Science Buddies. Provides a searchable list of science fair projects with detailed help for each project. Rates difficulty of projects by school level (elementary, middle, high school).

www.sciencebob.com/sciencefair/ideas.php

Site has a list of ideas, but does not have supporting information on how to conduct the study. The site does have a research link with information on many different science topics.

www.sciencemadesimple.com

This site does not have specific science fair ideas but does have a lot of information on how to do a science fair project.

SAMPLE DISPLAY

TESTABLE QUESTION	TITLE	DATA/RESULTS
ABSTRACT	MATERIALS USED	• GRAPHS • DATA TABLES • PICTURES
	PROCEDURE	DATA ANALYSIS
HYPOTHESIS		CONCLUSION

*All above items **must be included** on your display board. However, they **DO NOT** have to be organized in that order. This is a project *be creative!!!!!*

**Awards will be given for 1st, 2nd, and 3rd, place projects for each grade level. Only projects approved and submitted on time will be judged and eligible for awards.

Science Fair Project Abstract

An **abstract** is an abbreviated version of your science fair project final report. For most science fairs it is limited to a maximum of 250 words (check the rules for your competition). The science fair project abstract appears at the beginning of the report as well as on your display board.

Almost all scientists and engineers agree that an abstract should have the following five pieces:

- **Introduction**. This is where you describe the purpose for doing your science fair project or invention. Why should anyone care about the work you did? You have to tell them why. Did you explain something that should cause people to change the way they go about their daily business? If you made an invention or developed a new procedure how is it better, faster, or cheaper than what is already out there? **Motivate** the reader to finish the abstract and read the entire paper or display board.

- **Problem Statement**. Identify the problem you solved or the hypothesis you investigated.

- **Procedures**. What was your approach for investigating the problem? Don't go into detail about materials unless they were critical to your success. Do describe the most important variables if you have room.

- **Results**. What answer did you obtain? Be specific and use numbers to describe your results. Do not use vague terms like "most" or "some."

- **Conclusions**. State what your science fair project or invention contributes to the area you worked in. Did you meet your objectives? For an engineering project state whether you met your design criteria.

Things to Avoid

- Avoid jargon or any technical terms that most readers won't understand.
- Avoid abbreviations or acronyms that are not commonly understood unless you describe what they mean.
- Abstracts do not have a bibliography or citations.
- Abstracts do not contain tables or graphs.
- For most science fairs, the abstract must focus on the previous 12 months' research (or less), and give only minimal reference to any earlier work.
- If you are working with a scientist or mentor, your abstract should only include procedures done by you, and you should not put acknowledgements to anyone in your abstract.

Why Is an Abstract Important?

Your science fair project abstract lets people quickly determine if they want to read the entire report. Consequently, at least ten times as many people will read your abstract as any other part of your work. It's like an advertisement for what you've done. If you want judges and the public to be excited about your science fair project, then write an exciting, engaging abstract!

Since an abstract is so short, each section is usually only one or two sentences long. Consequently, every word is important to conveying your message. If a word is boring or vague, refer to a thesaurus and find a better one! If a word is not adding something important, cut it! But, even with the abstract's brief length, don't be afraid to reinforce a key point by stating it in more than one way or referring to it in more than one section.

How to Meet the Word Limit

Most authors agree that it is harder to write a short description of something than a long one. Here's a tip: for your first draft, don't be overly concerned about the length. Just make sure you include all the key information. Then take your draft and start crossing out words, phrases, and sentences that are less important than others. Look for places where you can combine sentences in ways that shorten the total length. Put it aside for a while, then come back and re-read your draft. With a fresh eye, you'll probably find new places to cut. Before you know it you will have a tightly written abstract.

What Makes for a Good Science Fair Project Abstract?	For a Good Science Fair Project Abstract, You Should Answer "Yes" to Every Question
Does your science fair project abstract include: • Introduction • Problem Statement • Procedures • Results • Conclusions	Yes / No
Did you review the list of "Things to Avoid" in a science fair project abstract?	Yes / No
Did you write the abstract so that the reader is motivated to learn more about your science fair project?	Yes / No

Science Fair Rubric

PROJECT #	Expert	Proficient	Emergent	Novice
Research Question	-Clear & focused purpose -Identifies contribution to field of study -Testable using scientific methods	-Research question has minor clarity and focus issues -Research question is not fully testable	-Research question is not answerable or does not fit with the actual experiment performed	-No attempt to define a research question
Design & Methodology	-Well designed plan and data collection methods -Variables and controls defined, appropriate, and complete	-Method had minor flaws, but an attempt for control or comparison was made	-Method was inappropriate, but an attempt for control or comparison was made	-Experimentation was not performed (i.e. demonstration or exhibit) -No control group present
Execution: Data Collection, Analysis, & Interpretation	-Systematic data collection and analysis -Reproducibility of results -Appropriate application of mathematical and statistical methods -Sufficient data collected to support integration and conclusions	-Minor errors or flaws in technique(s) -Measurements mostly accurate and precise	-Major errors or flaw in technique(s) -Little attention paid to accuracy and/or precision -Too few trials or sample size too small	-No techniques reported -No accuracy or precision in measurements
Originality	-Project demonstrates significant creativity and originality in two or more of the above criteria	-Project demonstrates creativity or originality in one of the above criteria	-Project demonstrates some originality – a new twist on an old experiment	-Project lacks originality: experiment copied exactly from a published source
Presentation: Poster	-Logical organization of material -Clarify of graphics and legends -Supporting documentation displayed	-Information and results displayed somewhat organized, some difficulty in following -Minor errors in graphics or legend -Some background information given	-Information and results could be more organized, major difficulty in following -Major errors in graphics or legends -Little or irrelevant background information given	-Unorganized poster -Graphics or data tables missing -No supporting documentation or research provided
Presentation: Interview	-Clear, concise, thoughtful responses to questions -Understanding of basic science relevant to project -Understanding interpretations and limitations of results and conclusions -Degree of independence in conducting project -Recognition of potential impact in science, society, and/or economics -Quality of ideas for further research	-Clear, concise, thoughtful responses to almost all of the questions -Student has some misconceptions about the science related to the project -Student can answer most questions posed, but had not really given ideas much thought prior to interviews	-Information and results could be more organized, major difficulty in following -Major errors in graphics or legends -Little or irrelevant background information given	-Unorganized poster -Graphics or data tables missing -No supporting documentation of research provided

TEAM #:

NAME(S):