Franklin Elementary School

Science Fair

Thursday March 21, 2024 at 5:00 pm

ALL Franklin students are encouraged to participate!

Dear Franklin Community,

It is time again for our annual Franklin Science Fair! This is an incredible opportunity to learn something new with your child and spark their interest in science. Inside this packet are some sample experiments that are easy to follow. Keep it simple and let's make science fun!

WHAT TO DO:

Step 1 – Come up with a project idea - Projects can be a research topic or an

experiment Step 2 – Research the topic, run the experiment, and draw your conclusions

Step 3 – Create a poster board showcasing your project

Step 4 – Drop off your board outside the Cafetorium on Friday March 15th between 8:00 and 9:00 am

Step 5 – Come to the Science Fair Open House on Thursday March 21, 5:00 pm to see all of the posters!

KEY DATES & TIMES

Friday March 15	**Science Project Board Drop-Off**	8:00 – 9:00 am outside the Cafetorium Don't bring boards to your classroom! scientists!
Thursday March 21	**Science Fair Open House** The entire Franklin community is invited to support our young	5:00 – 7:00 pm in the Cafetorium (During Open House)

Please contact Franklin Science Club Co-Chairs Dolly Hodes, Svetlana Nagiel, Elana Norman, and Jeff Ovadya

(franklinsciclub@gmail.com) with any questions or comments.

A. Participation

Every student who wishes to participate in the Science Fair **must do three (3) things:**

- Complete a Science Fair project. Come up with an idea for a project and see it through. ● Create a Science Fair Board. Make sure to put your name on it! **Students may work in teams, each team member will receive credit – write all student names on the board**
- Bring the board to school on Friday, March 15th between 8-9 am and drop it off in the Cafetorium.

Come to Science Fair Open House **Thursday, March 21th at 5:00 pm**

**** NO LIQUIDS PLEASE!! DO NOT BRING ANY MODELS or any objects to the Science Fair – photographs of the project can be mounted on the Boards.**

B. Categories

There are 2 Science Fair Categories to choose from:

1. Experiment
2. Research topic/Exhibit/Demonstration

1. Experiment: This category is generally considered the traditional science project fair entry. Students conduct experiments to evaluate an idea or problem (the hypothesis). The level of scientific experimentation and reporting depends on the age and ability of the student. This is where the parent is needed to "guide" the student through the process. If the concept is difficult to explain or understand, then take a step back and simplify. Keep it Simple!! When conducting experiments, the Scientific Method is employed (see below). Such concepts as controls, hypotheses, and results are introduced. Review these concepts and give examples to assist the young scientist. If possible, try to use *measurements* of time, water, growth, etc. – data are critical to learning the scientific method. **PLEASE DO NOT BRING ANY MATERIALS, MODELS, OR WORK THAT IS NOT ATTACHED TO YOUR PROJECT BOARD TO THE SCIENCE FAIR.**

2. Research Topic/Exhibit/Demonstration: This category is intended for students who want to research a topic and present their knowledge and understanding. A student can provide a graphic display, written report, or build a model, however we ask that you take pictures, draw graphs or diagrams of your work. **PLEASE DO NOT BRING ANY MATERIALS, MODELS, OR WORK THAT IS NOT ATTACHED TO YOUR PROJECT BOARD TO THE SCIENCE FAIR.** You need to turn your research project into a question like, "What are Fossils", "How Does the Human Heart Work", "What is Radical Symmetry", "What is a Triangle", "How Do Humans Touch", etc. Students can take a school research project that was completed in their classroom one step further and employ the Scientific Method. Examples of demonstration projects include human heart models, "how does a cell phone work?", photosynthesis, solar energy, recycling, "how does an

airplane fly?”

C. **The Scientific Method**

The scientific method is the primary tool that scientists use to find answers to questions. The scientific method involves the following steps:

- Research -- Select and understand the topic
- Problem -- Identify scientific questions or problems to be solved
- Hypothesis -- Come up with an idea about the solution to the problem
- Project Experimentation -- Test your hypothesis with appropriate experiments and collect data
- Project Conclusion -- Summary of the experimental results and statement of how the results relate to your hypothesis

Please use the Scientific Method where you can. Younger students may not understand it and you can simplify it where needed. The Exhibit/Demonstration Category uses the Scientific Method when the topic is posed as a question. Again, the parent is the best judge of where and when to apply it. For students in Grades 3, 4 and 5 who chose to do an experiment; we highly recommend attempting to follow the Scientific Method to the best of the students’ ability (We already know Mom and Dad can do it! ☺)

D. **Science Fair Project Board**

The Science Fair Board represents all the work that was done on the project. **The student’s name, grade, project category, and project title should be clearly displayed on the FRONT of the board. If this information is not on the board, you may not receive credit for participation.** Drop off the board on the morning of March 15th.

All participants must submit a Science Fair Board. This is free-standing TRI-FOLD board that can be purchased at Staples Office Supply store OR will be available at the front office (please keep an eye out in the Franklin FLASH for when they are available). The Board MUST be able to stand on its own. No models, objects, etc. are allowed to be dropped off with the board. NO EXCEPTIONS. Take photos of the project and the students actively experimenting and attach them to the board. No glass, scalpels, batteries, wires attached to batteries, or hazardous materials, etc. are allowed for safety reasons, and yes, every year someone tries to bring them. If your child builds a battery – great!! Take a picture of it and put it on the board. Do not have the child bring the battery to school. **Any items brought to the Fair will be discarded.**

E.**Sample Science Fair Projects**

Here is an example of a simple experiment, as well as some pictures of past posters, as a guide. Be creative, think of some interesting questions, keep it simple, and HAVE FUN! The intent is to enjoy the Science Project

with your child, and to nurture your child's curiosity in Science!

Sample Experiment --

● Topic **Parking Meters in Santa Monica: Honest or Crooked??** ● Problem/Question Do You Get the Time You Pay For??
● Hypothesis Parking Meters in Santa Monica are NOT Accurate ● Project Experimentation: Materials: 10 quarters
Digital watch
Parental chauffer
Notebook

Procedure:
I selected 10 parking meters throughout the City of Santa Monica. I inserted 2 quarters into each of the meters when they were empty (this is a control measure). I measured the time on my digital watch and noted the start and end times on my notebook. I repeated this experiment for each of the 10 parking meters

● Project Conclusion
I made a bar chart of actual time for each of the ten parking meters. I found out that 5 meters were accurate. 3 meters gave me several extra minutes and 2 meters robbed me of 1 minute. In conclusion, only 50 % of the parking meters in Santa Monica are accurate. However, if I measure the accuracy to be in terms of receiving a parking ticket, then they are accurate 80% of the time.

Note – This can quickly become an advanced Science Fair Project if the student measures more parking meters, prepares a pie chart, and performs more substantial math calculations. Research could also include internet sites that explain the mechanisms for parking meters and perhaps a letter to the manufacturer. In fact, a more complex version of this was a winning project in the Bay Area Science Fair several years ago. Among other things, the student contacted the city parking authority, which donated a large number of quarters to her project in return for receiving a copy of her results and conclusions.

F. Resources

There are many great resources in the internet and in your library to help you with your Science Fair project. A few are listed here:

● Janice Van Cleave, *Guide to the Best Science Fair Project* (Scholastic 1997). Much of the material in this packet is drawn from this book.

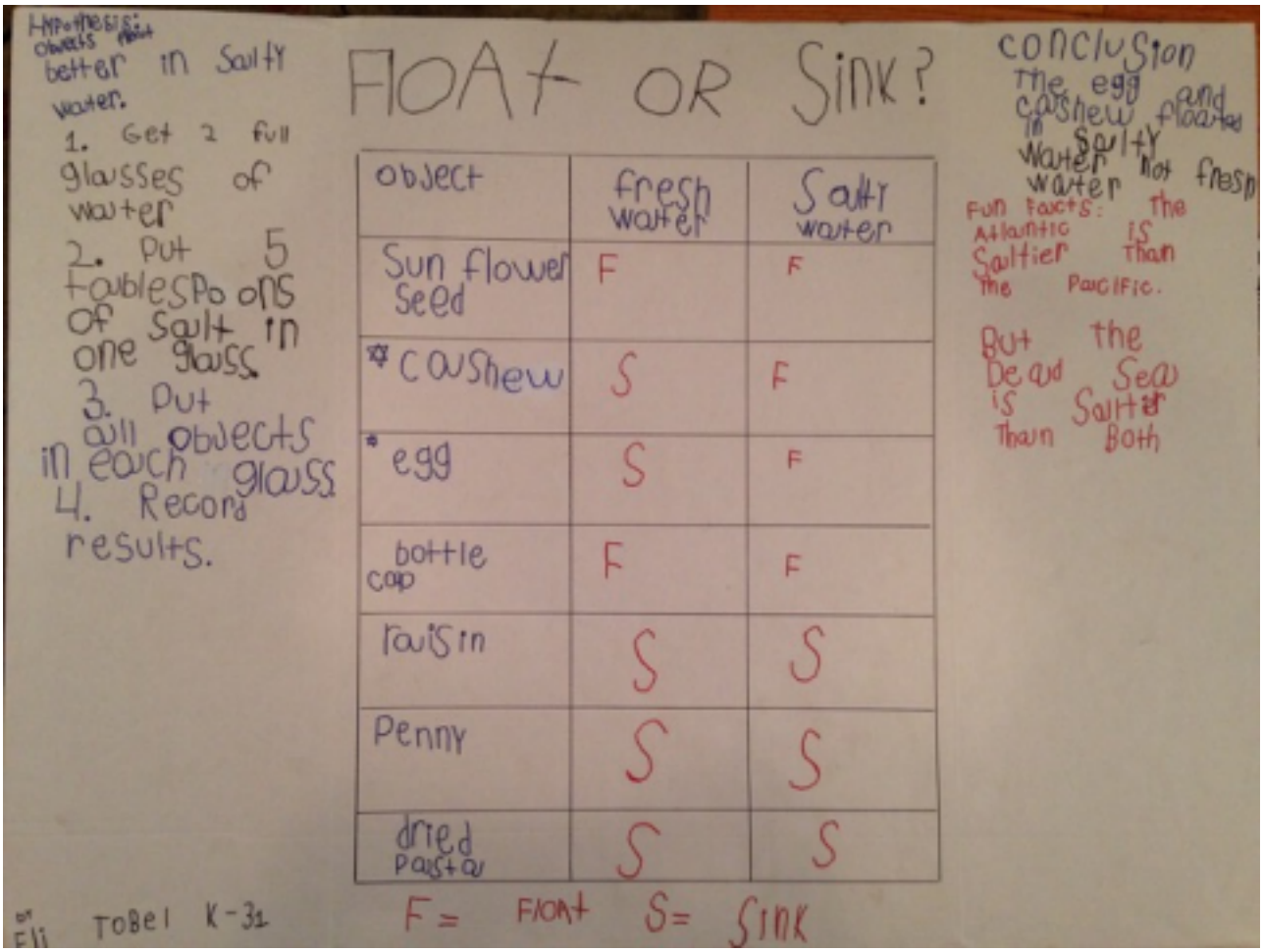
● www.all-science-fair-projects.com

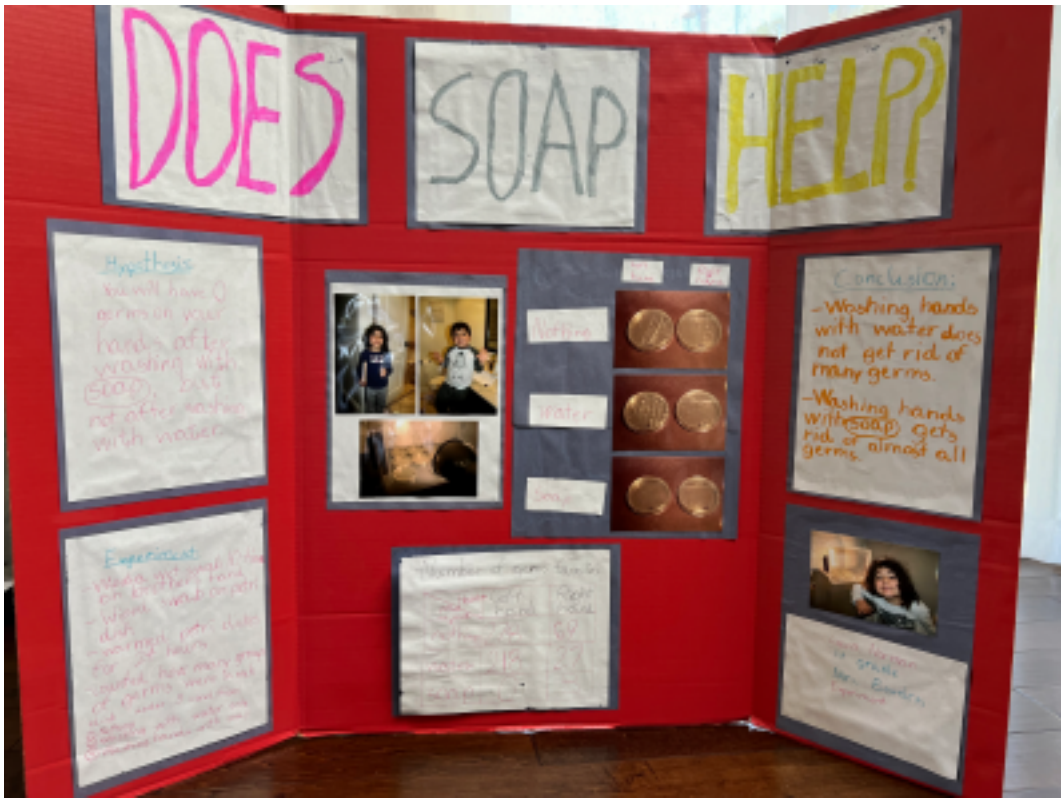
● www.howstuffworks.com/fun-science-projects-for-kids.htm

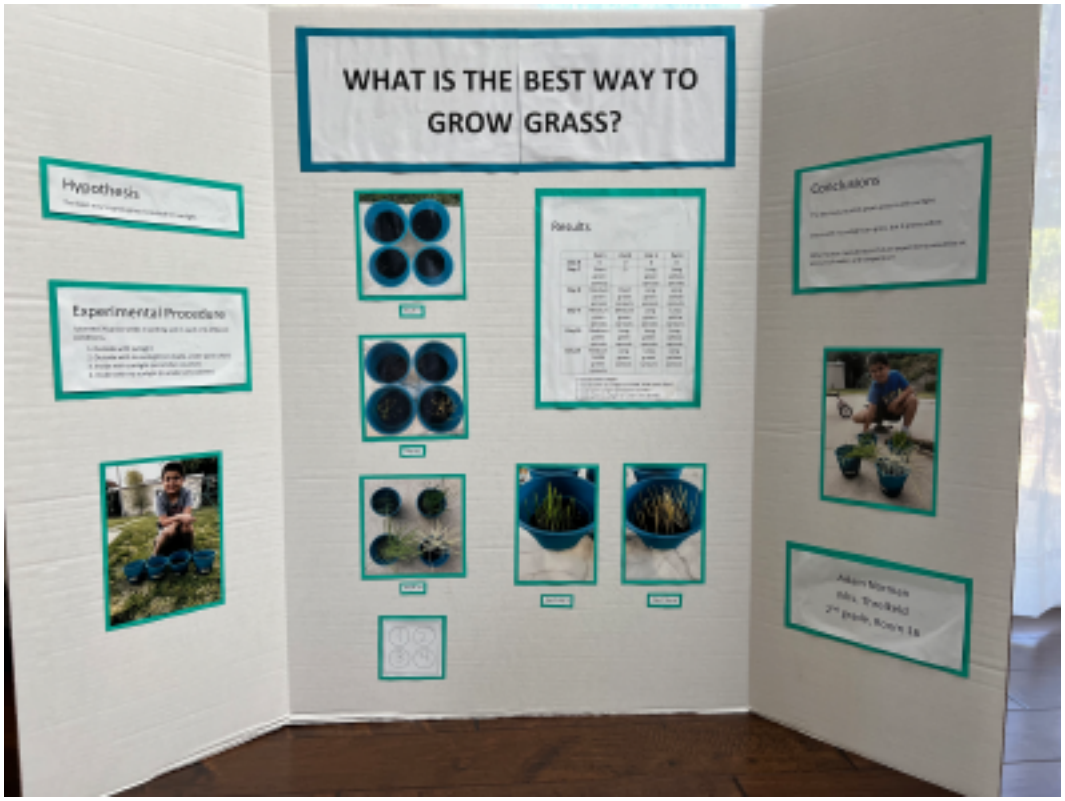
● www.sciencebuddies.org: You can find hundreds of ideas for Science Fair projects at these sites and others like them.

- Julianne Blair Bochinski, *The Complete Handbook of Science Fair Projects* (Wiley, 2003).
- Joe Rhatigan, *Prize-Winning Science Fair Projects for Curious Kids* (Lark, 2006).

Some pictures of past projects:




DOES
SOAP
HELP?
Hypothesis
Conclusion:
-Washing hands with water does not get rid of many germs.
-Washing hands with soap gets rid of almost all germs.



Research Project: