



# Rolling Hills 2018 Annual Science and Engineering Fair!

Monday, March 5<sup>th</sup>, 2018



We are excited that your child is interested in the Rolling Hills Elementary School Science and Engineering Fair! This will be an optional HOME-BASED project offered to all students (K-5<sup>th</sup>).

**Registration for the Fair is online at the following site:**

<https://tinyurl.com/RHScienceEngineeringFair2018>

**The registration must be submitted by Friday, February 16<sup>th</sup>, 2018 (this is an extended deadline). It is possible to make small changes to the registration after that time.**

Please contact Kirsten Kung, VP of Science, Rolling Hills Foundation, with any questions: [RHVPofScience@gmail.com](mailto:RHVPofScience@gmail.com)

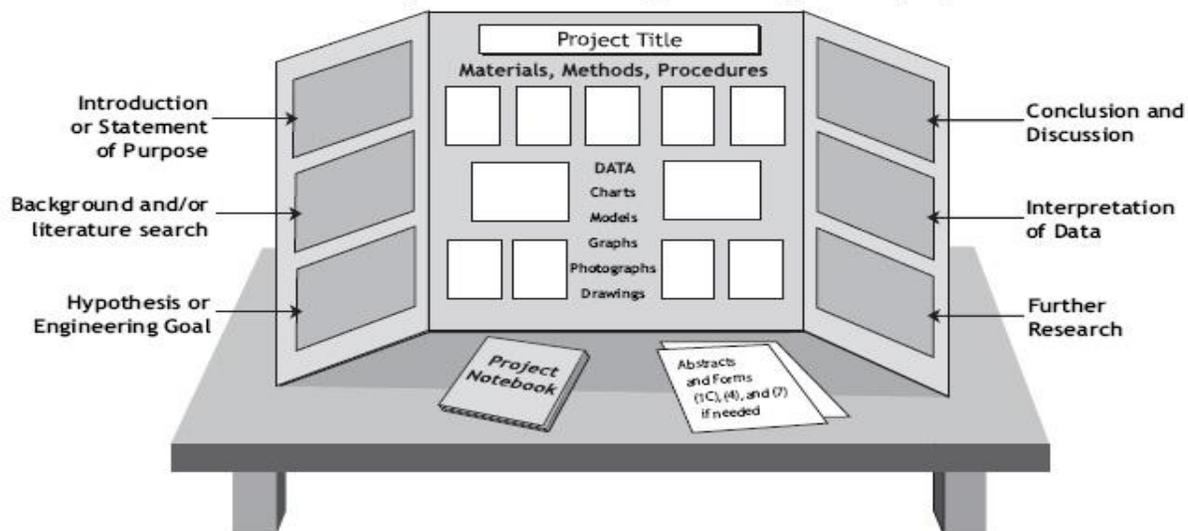
This document offers quite a bit of information in terms of guidelines and rules, and it is important that you and your student read through it carefully. Here is some basic information about the Fair:

- The Science and Engineering Fair is designed to give students an opportunity to explore scientific and/or engineering concepts in depth and to have some hands-on experiences with those concepts.
- The projects do not need to be elaborate. The primary goal is for the participants to learn and to have fun.
- The projects will be displayed in the Multipurpose Room throughout the day on March 5<sup>th</sup>, 2018. A panel of judges will evaluate the projects and offer some feedback. Each classroom at Rolling Hills will also visit the Fair and have a chance to view the projects.
- The students will NOT be with their projects while they are being viewed, either by the judges or by the classes. Thus, the projects should be self-explanatory and should not need the student there to explain or demonstrate.
- Friends and family are invited to the Science and Engineering Fair Night on Monday, March 5<sup>th</sup> from 5:30-6:30 pm. At this time if the students would like to stand next to their project and describe it to the visitors they may.
- Students may work in groups of up to three students. Each student must register separately and indicate the names of the other group member(s).

# Science and Engineering Fair Guidelines and Rules

Size limit: 36" x 48" (this is a standard display board). It must stand on its own. While a display board works well, it is not a requirement. You may also cut a display board across the width and share the other half with a friend. Below is an example of a display board.

**Material Normally Included on a Typical Project Display Board**



You are encouraged to keep a Project Notebook and display it along with your display board.

Choose either a Science Project or an Engineering Project. Science Projects may be in any of a variety of subfields, including but not limited to geology, meteorology/weather, biology, botany, zoology, chemistry, physics, or astronomy (not to be confused with astrology).

No open flames, dangerous chemicals, mold/bacteria growth or live animals permitted. The projects will not be attended at all times; do not include items of high value as part of the project.

If you need electricity, you must provide your own LONG extension cord. You will be limited to a certain area of the MPR.

Projects should be completed by the student. Parent support and engagement is welcome as long as the learning and work that takes place in the project is that of the student. (Please see the Guidelines for Parent Involvement section.)

The project should explain itself on its own; the students will not be present during judging.

Projects are expected to stay in the MPR until 6:30pm on Monday, March 5<sup>th</sup>, 2018 so that friends, family and classmates may view them all.

Projects will be set up according to grade level.

Students may work alone, in pairs, or in groups of up to three; members of pairs or groups may be from different grade levels if desired. The project will be placed for the judging in the highest grade level of the members of the team. All members will need to fill out a separate registration form.

**When selecting a project, keep the timeline in mind. Do not pick a project that requires two months to complete, as you will not be able to complete it in time.**

**For a Science Project, the student must follow the steps of the Scientific Method. The Scientific Method is what scientists use to learn about things. Follow the steps below:**

**State the problem.** What is it that you want to find out? Example: Do plants need sunlight?

**State your hypothesis.** What do you think is going to happen, or how do you think it works? Example: If two plants are given the same good care, except that one is kept in a dark box, the one in the box will not grow as well as the one kept outside.

**Record your data.** Write down or take pictures of what happens when you try your experiment. NOTE: Keep track of your data; it will be exciting to see if your guess was right.

Example: Two daisy plants were bought. One was kept in my bedroom window; the other was kept inside a foil covered toy box. Each plant was watered every other day. Each plant was measured every week. After two weeks, the one in my window grew an inch and made three flowers. The other plant shriveled and almost died.

You are encouraged to display your data (e.g., with a Project Notebook).

**State your conclusion.** Did what you expect happen? What did you learn? NOTE: Your conclusion should tell us what your data showed us. Example: Light is very important for plants to grow and bloom.

**For an Engineering Project, the student will build a model displaying a Scientific Concept. The Engineering Design Process should follow these steps:**

**State the scientific concept** or process the model is showing. Example: Types of Volcanoes

**Display the research** conducted needed to build the model. Example: There are three kinds of volcanoes. They are..... They form by....., etc.

**Design and Build** the model. Design the size, shape and materials that will be needed. Take pictures of the process. Model must be present and displayed on the day of the fair.

**Communicate your learning** of the scientific concept that the model shows.

## **Guidelines for Parent/Guardian Involvement**

The Science and Engineering Fair is designed to help your child develop the ability to explore and investigate a scientific topic/concept in depth and use the scientific method and/or engineering design process. The process of participating will allow each student to integrate writing, math, science and other curriculum areas. We hope the Science and Engineering Fair will be a fun and unique way for your child to engage in learning and to explore science in more depth. **All Science and Engineering Fair projects should be grade appropriate and should be authentic work of the student.**

While the Science and Engineering Fair is designed for your child's benefit, we wanted to share with you how much and what type of parental involvement and input is permitted.

- **Parents may assist their child** in creating a visually appealing display. For example, parents may help with measuring, cutting, pasting, gluing and placement of work on display board. **The work, however, should be that of your child.**
- The research, design, and investigation should be completed primarily by the student. The parent's role is to provide the resources and direction necessary while also being a constant source of encouragement, questioning and support. While you are welcome to be involved we ask that you think about how much of the work is your child's versus your own. Obviously, younger students need more support and help, which is to be expected. Again, the goal is to get your child interested and engaged in science, experiments, and the engineering design process, so use your judgment on the appropriate level of support.
- Topic selection should be that of your child but parents are welcome to offer suggestions and encourage exploration of topics their child might not consider. Again, please make sure the topic is grade appropriate.
- Parents are welcome to proofread a student's work, but corrections should be made by the child.

In short, a good rule of thumb is to think about the learning in which your child is engaged. Sometimes the best learning comes from making a mistake or designing a project that may not end up the way that is expected. While everyone gets a certificate for participating, the true winning comes with the learning that will take place for your child.

## **Judging and feedback for projects**

Although we will have judges, we really want the children to focus on the fun they can have while learning about science and engineering. We hope that you, as a parent or guardian, will provide guidance, encouragement, and suggestions, but it is very important that the children are able to experience the enjoyment and challenges associated with these projects and that they are the ones doing the work. Each year there are a variety of types of projects and topics included, so do not feel that the project needs to be a masterpiece. As long as the children have fun and learn something, then our mission is accomplished!

All students with a project will receive a participation certificate. In addition, one student from each grade level will be awarded the **Super Scientist Award** for a Science Project and one student from each grade level will be awarded the **Excellence in Engineering Award** for an Engineering Project! Furthermore, 2 other students from each grade level will be awarded the **Puma Problem Solver Award** (Science) and **Puma Builder Award** (Engineering).