



Howe Elementary Science Fair



Thur. February 13, 2020

6:00-6:30 PM **Set up your project**

6:30-7:30 PM **Enjoy Interactive Fun-stations during judging**

***Return your entry form to your
classroom teacher February 7, 2020.***

WHAT'S NEW?

OPTIONAL INTERVIEWS:

Communication is an important part of science. This year, we will be inviting everyone to be interviewed by a science fair judge. Interviews, for those who want one, will be scheduled for a specific block of time during the judging (6:30 and 7:30 PM that evening) and take place in front of the student's project to allow students to make a present or perform a demonstration. The interview is expected to last 3-5 minutes.

Questions?

*Please contact Amos Glenn
amos@amosglenncom*

HOW DOES THE EVENT WORK?

- 1) **Check in at the registration desk** near the exhibit hall (gym) as soon as you arrive
- 2) **Learn where and when** you will set up and present your project (if you choose to be interviewed).
- 3) **Find your assigned exhibit space** (30'x30') in the exhibit hall by looking for the table tag with your number on it and set up your project.
- 4) **Keep your eye on the time** if you have an interview, so you can make sure to meet the judge at your project on time.
- 5) **Enjoy the fair** by checking out the other cool projects in the exhibit hall and visiting the Interactive Fun-stations down the hall.
- 6) **Before you leave** visit the registration desk to collect your certificate and judging results page.



1. You must submit an entry form before the deadline. Each student scientist should submit their own form, even if they are working in a team. Forms are necessary to assign exhibit space and interview times, and to prepare certificates. If you do not submit a form, you will not have space for a display during the fair.
2. All projects require an adult sponsor to sign the entry form. The adult sponsor is responsible for overseeing the safety and appropriateness of the project.
3. Projects may be submitted that fall into one of the categories described below.
4. TEAMS OF STUDENTS are encouraged, but individual projects are accepted. A team may not exceed 10 students.
5. Adult support is encouraged, but it is important to allow the project and display to reflect the students' efforts and understanding.
6. All projects must be safe in all stages of experimentation, development, and display.
7. The project's display must fit within 30 inches by 30 inches square display area on a table. It must be durable and safe. We do not have facilities for electricity, running water, or drainage in our display area. Live animals and dangerous chemicals may not be exhibited.
8. All displays must include the project title and the name of all students involved.

PROJECT CATEGORIES

Science is made up of many types of work and communication—not everything fits into the strict definition of the “scientific method.” While that process of writing a purpose, hypothesis, procedure, observations, and conclusions can be useful and students are welcome to do so, that is only one method of doing science. For example, Jane Goodall is a famous scientist who made many discoveries about both apes and people. Her scientific method included lots of observation and thinking about the patterns in what she saw—all without hypothesis. Climate science is another example. Climate scientist construct models of the earth to make predictions of future climate conditions. They are working to improve the models to better make predictions.

For the Howe Science Fair, we are encouraging students to explore all aspects of doing science, including making models and drawing conclusions based on observations. Don't worry too much about which category your project is--sometimes the best, projects don't fit neatly into a category.

MYTHBUSTERS

A mythbuster project takes a statement or myth and attempts to prove or disprove it. The argument for or against the myth needs to use data, but that data can come from any source, including experiments, observations, tests, models, prototypes, interviews, maps, databases, and any anything else you can think of—as long as it is not assumptions or guesses or opinions. Feel free to use someone else's data, too. The only requirement for a mythbusters project is a display that makes an argument for or against a statement and uses data in that argument. And remember to be safe!

Examples of mythbuster projects include:

- There is a dark side of the moon [make a physical model of the earth, moon, and sun orbits, see if you can get the sun to shine on all sides of the moon]
- Dog mouths are cleaner than human mouths [grow cultures from your own mouth and your pet's mouth and see what happens]



- Emergency room visits increase during the full moon [find data online about the number of visits, compare the average number of visits on full moon days and part moon days]

EXPERIMENT

This is the type of project that most people think of when they talk about science fairs. An experiment involves manipulating one or more variables while controlling the rest, and then measuring the results. This usually follows the standard scientific method of writing a hypothesis, your methods of manipulating your variables, measurements, and a conclusion.

Examples of experiments include:

- In what kind of material (sand, soil, water) do plants grow best? [manipulating growing medium and measuring plant size]
- How is the distance a cart rolls affected by the weight in the cart? [measure the rolling distance of carts of different weights]

MODEL

A model is a more manageable version of something too big or too small or too complicated to work with itself. Models can be physical or a simulation or even mathematical. Scientific models often turn into scientific theories. Probably the

best-known model is Copernicus' model of the solar system with the sun at the center instead of the earth. Though he wasn't the first to make such a model, it was one of the things that kicked off the scientific revolution in the west.

Examples of models include:

- A labeled illustration of DNA
- A mound of sand being eroded by pouring water on it
- A scale model of a specific type of bridge

DEMONSTRATION

Projects in this category will demonstrate a scientific theory or principle. These are similar to experiments except that no variables are being manipulated. These projects do not need to follow any scientific method. The goal of demonstration projects is to communicate the ideas behind the demonstration as clearly as possible.

Examples of demonstrations include:

- An air cannon demonstrating the effects of a vortex
- A bath bomb dissolving demonstrates chemical reaction producing gas from solids and liquids
- "elephant toothpaste" demonstrating exothermic reactions and catalysts

JUDGING INFORMATION

Projects will be judged based on the following qualities:

- **Creativity** (including creative questions, creative applications of scientific principles, creative charts and graphs, creativity in display, etc.)
- **Clarity** (including clear charts, clear explanations, and clear arguments)
- **Use of data** (data source, management, and use in argument)
- **Teamwork** (if in a team)

INTERVIEW

All students will have the opportunity to be interviewed by one of the judges. You will be asked to explain or demonstrate your project and the judges will have a few questions for you. The interview should take about 5 minutes.

CERTIFICATE

Each student will receive a certificate congratulating them on their hard work and written feedback from judges. No other awards are given.

Science Fair

ENTRY FORM

Fill out this form and return it to your
classroom teacher
OR
Visit www.amosglenn.com/sciencefair
to complete the online form.

Return all forms by
February 7, 2020

Please note that by submitting this entry, you are notifying us of the intent to participate. It is not a deadline for completion of the project. The completed project will be displayed and presented on February 13, 2020.

Student Scientist Name (please write clearly!):

Grade:

Title of the Project (Please write clearly!)

Would you like to explain or demonstrate your
project to the judges?

Yes

No

Adult Sponsor Signature:

e-mail address:

Phone:

Things to remember:

- ✓ Projects need to sit on a section of the table that is 30 inches by 30 inches.
- ✓ Displays may not have access to electricity, running water, or drainage in our display area
- ✓ No live animals or harmful chemicals on display

Questions?

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