

Glenview Science Fair Project Guidebook

2019



Friday, May 3, 2019

Judging 9:00 a.m. – 2:30 p.m.

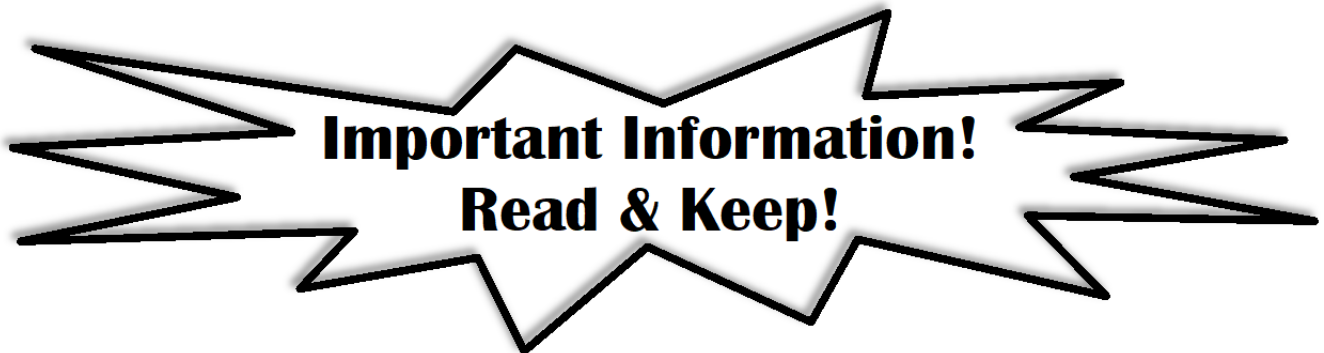
Fundraising Dinner, Celebration, & Awards 6:00 – 7:30 p.m.

Glenview Elementary at Santa Fe

915 54th St.

Oakland, CA 94608

Sponsored by the Glenview PTA



Science Fair Project

General Guidelines

- Having fun and learning something new is important!
- Students can enter projects on any subject relating to science or engineering. Some examples of project categories include:
Biological Sciences Social Sciences Chemistry Physical Sciences Engineering
Math and Computer Sciences Environmental Sciences Earth & Space Sciences
- Projects may be focused on an **investigation** to solve a scientific question, a **systematic observation** of something to learn more about it, an **engineering** challenge, in which students design something to solve a problem, **discovery** ("how something works" or "why something happens"), or some combination of those.
- Science fair entries may be individual, group, or classroom projects.
- Students may enter "works in progress." Don't worry if your experiment isn't totally complete – tell us what you have learned so far!
- It is not necessary to spend a lot of money to have a successful project. You can use common, inexpensive household materials for great projects.
- Clearly communicate what you observed or tested by having a neat and easy-to-follow display.
- Science Fair takes place during school hours. Students will be escorted from class to be interviewed by judges as part of their Science Fair presentation. Relax! The judges are friendly. Students should be able to communicate a clear understanding of their project to the judges.
- In order to be eligible for maximum scoring, participants must be present for interviews with judges.
- The judges will consider the age of the students when evaluating their projects.
- Most importantly: Have fun and learn something new!

For general information or to volunteer for this big event, contact
Laura Prival at laura.prival@ousd.org

If you want to conduct a **scientific investigation** or a **systematic observation** of something you can...

Ask yourself, "What do I wonder about?"

This is your chance to explore something you've really been wondering about the world and how it works. Make a list or keep a notebook of topics you wonder about and choose one for your Science Fair Project. You may be inspired by observations you've already made, things you've already noticed, or current events happening around you. Be sure to include why this topic is interesting to you on your display board.

Activate prior knowledge

Write down everything you already think you know about this topic and how you came to know those things. You can also do some additional research on your topic and take notes from books, the Internet, or other people. Keep track of where you got your information.

State your question

What do you want to learn next about your topic? Make a list and circle all the questions that are investigable (meaning you could actually try something out to answer it). Now choose your favorite investigable question from your list!

Select materials and methods

What will you need to investigate your question? How will you set up your investigation? For a scientific investigation, decide on your variable (something you will change or vary). How will you collect your data? What measurements can you take? For a systematic observation, decide how you will make, measure, and record your observations.

Make a prediction

Using what you already know about your topic, what do you think will happen in your investigation and why do you think that? Making a prediction might help you decide on which materials and methods to use.

Collect some data

Consider making a t-chart to collect your observations, measurements, and other data and then organize them into a graph or diagram. If you need to adjust your materials or methods, that's okay! Just keep track of your changes.

Make a claim

Now that you have some data, make a claim about what happened in your investigation and back it up with your evidence. Try to include actual measurements whenever possible. For example, report that your plants grew "1 cm," not just that they were "bigger."

Write a conclusion

Answer your question, using your claims and evidence. You can also evaluate your data here. You may realize you need more or different data next time! It's okay if your prediction was wrong!

Reflect

What new questions do you have? How has your thinking changed over time? Why are your findings important? What might you change next time?

If you want to do an **engineering challenge**, you can...

Identity the problem

What challenge do you want to solve? Be sure to include why this challenge is interesting to you on your display board.

Activate prior knowledge

Write down everything you already think you know about this challenge and how you came to know those things. What's already been tried? What are you trying to make better? Keep track of where you got your information.

Select materials and design solutions

What will you need to create a solution? What limitations are there? Use your knowledge and creativity to sketch out multiple solutions.

Create

Choose one of your designs and build a physical model of it.

Try it out

Test your design to see if it solves the challenge. Record what happens. Take measurements whenever possible.

Evaluate

Think about your design. What worked? What didn't work? Consider your actual measurements.

Improve it

Change your design to make it better.

Retest

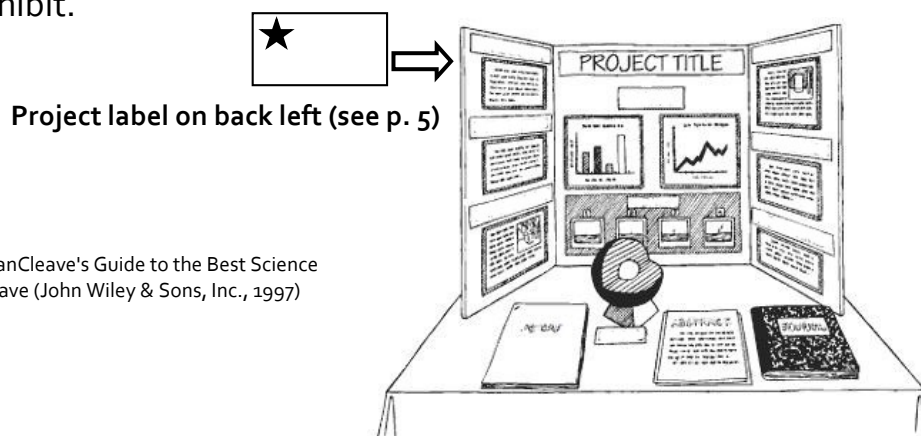
How does it work now? Record what happens. Maybe it was better before! Maybe it's the same! Or perhaps it works better now!

Reflect

What could you try next? What new challenge does this make you want to solve?

Communicate what you did and what you learned on your Science Fair Project Display


- Be creative! Think of interesting ways to explain your project or show your results. Make it fun!
- **See pp. 2-3 of this Guidebook** for the steps you might include on your display board. Use writing, drawings, charts, graphs, photos and/or diagrams to describe the steps that you took. Show what you did, how you did it, and your results. Don't forget to sum it up with your conclusion! Be sure people can understand what you did.
- Your display should be neat, thoughtful, organized, and easy to see, but it does not have to be typed. Use pencil first for the lettering!
- Pictures showing you doing your investigation or making observations are really helpful! They can show both what you did and also how you did it. Drawings and illustrations are also really helpful. You can include samples from your investigation or models to help you explain your findings. Substitute pictures or photographs for living organisms, food, or items of value.
- Try to do as much of the display as you can by yourself. Only ask a parent or other adult for help when you really need it! Pictures of you doing the project are great!
- Projects must not exceed 24" (wide) x 28" (deep) x 48" (high). The project must stand by itself. Display boards will be available for free from workshop sessions and board giveaways (see p. 6 of this Guidebook for dates and times). Just bring a completed participation form (see p. 6) in exchange for a board.
- Students must provide a ten-foot extension cord for exhibits requiring electricity. All projects using 110V AC or greater must have a main disconnect switch and all wiring of electrical apparatus must conform to the national Electric Code.
- Any and all chemical reactions must be completed prior to submission and documented through various methods (photography, video).
- Animals (live or preserved), mold, dangerous chemicals, radioactive materials, explosives, drugs, hypodermic syringes or needles, lasers, or open flames may not be included in any exhibit.



Sample display from Janice VanCleave's Guide to the Best Science
Fair Projects, Janice VanCleave (John Wiley & Sons, Inc., 1997)

Project Label





Student(s) full name(s) _____

Project title _____

Grade _____ Teacher _____



2019 Glenview Science Fair Entry Form

Bring this form with your completed project to the auditorium on **Thursday, May 2**.
You will enter this information on a computer when you bring your project.

Circle t-shirt size of each student

Student 1 Name _____ Youth S M L Adult S M L XL XXL

Student 2 Name _____ Youth S M L Adult S M L XL XXL

Student 3 Name _____ Youth S M L Adult S M L XL XXL

T-shirts will be given to all students who submit individual or small group projects.

Project title _____

Grade _____ Teacher _____

Schedule

Saturday	March 9	Workshop 10:00-11:00 a.m. (parents encouraged) Free display board pick up
Tuesday	March 12	Workshop 5:00-6:00 p.m. (parents encouraged) Free display board pick up
Mon-Tues	March 18-19	Turn in Participation Form (see below) in front of auditorium to receive free display board: 8:15-8:30 a.m. and 2:45-3:30 p.m.
Thursday	May 2	Project Registration DEADLINE Projects and registration forms DUE (no exceptions) Bring to auditorium 8:00-9:00 a.m. or 2:30-3:30 p.m. Family Viewing at Glenview Open House in evening
Friday	May 3	Science Fair! Judging 9:00 a.m.-2:30 p.m. Fundraising Dinner, Awards & Celebration 6:00-7:30 p.m.
Monday	May 6	Disassemble and take your project home



Participation Form

Count me in! I plan on participating in the 2019 Glenview Science Fair!

My Name _____

My Grade _____ My Teacher _____

I'm doing my project with a group. The group members are:

This form will be used by organizers to estimate the number of participants in the Science Fair.
Please turn in this form when you pick up your **free display board**.