

# Getting Started: Project Ideas, How to participate, Resources

GSDSEF Student Leadership Board



# Agenda

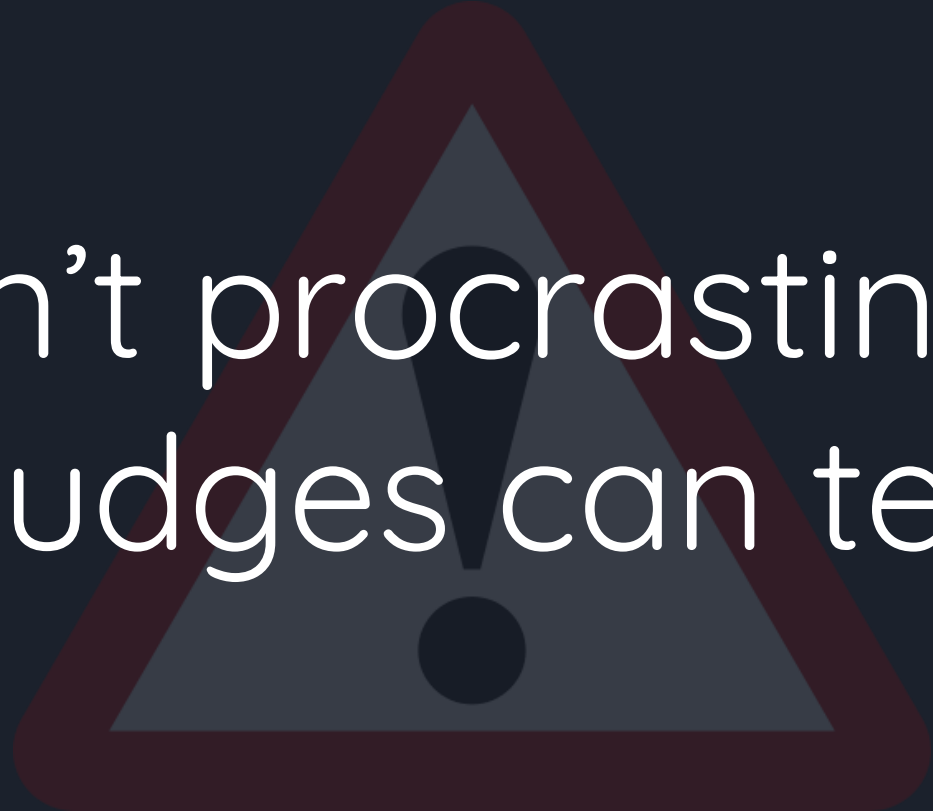
- Tips for getting started
- Important rules and guidelines
- GSDSEF Website, Resources, GSDSEF Account Procedures
- SRC Pre Approval Process
- Important components of a project
- Notebook, Content
- Peer mentoring Time

# Getting Started





Don't procrastinate!  
Judges can tell!





# Utilizing the GSDSEF Website

- **gsdsef.org → Students → Student Resources**
  - <https://www.gsdsef.org/students/resources>
- **6 Sections to take you through the whole project development process**
  - Section A: Deciding on what Type of Project: Science, Engineering, Mathematics, or Computer Science
  - Section B: Getting Project Ideas/Designing a Unique Project
  - Section C: Deciding Which Forms are Needed Before Starting a Project
  - Section D: Resources on How to Design and Conduct a Science or Engineering Project
  - Section E: Resources for Background Research/Articles
  - Section F: Publishing Your Project in Scientific Journals



# Prompt Yourself With Questions

- What area in STEM are you interested in?
- What scientific questions puzzle you?
- How does  $x$  affect  $y$ ?
- What problems do you see in the world that you could help fix?
- What is something that really matters to you?
- What problems do you notice in the world around you?
- Has this project been done before?
- Is this a demonstration or investigation

These can be broad or arbitrary!



# The 16 Project Categories

- Animal Sciences
- Behavioral and Social Sciences
- Biochemistry
- Chemistry
- Computer Science
- Earth and Planetary Science
- Engineering – Electrical and Mechanical
- Engineering – Energy and Transport
- Engineering – Materials and Bioengineering
- Environmental Sciences and Management
- Mathematical Sciences
- Medicine and Health
- Microbiology
- Physics and Astronomy
- Plant Sciences
- Product Testing/Consumer Science (Junior Division Only)



## Additional Tips

- Section B of Student resources has a list of projects
- Review winning projects from previous years
  - For middle schoolers, visit previous Broadcom MASTERS projects
    - <https://student.societyforscience.org/2018-top-300-masters>
  - For high schoolers, visit previous Intel ISEF projects
    - <https://abstracts.societyforscience.org/>
- Bounce ideas off your science teachers/advisors, parents, peers





## GUIDELINES for Choosing a Project

- Make sure your experiment is doable
- Check to make sure you have the resources and budget to do it
- Make sure you can collect data
- NO Gender Comparisons



**KEEP  
CALM**

**AND**

**DO SOME  
SCIENCE**





# Updating Old Projects

- More tests/larger data samples for higher reliability, changing test subject or variable, take different look
- Take your project to the next step, extend the initial idea
- Real world applications
- If your project is a continuation from a previous year, there needs to be a significant difference (extra form for continuation)




# GSDSEF Account Creation Procedures

1. Teacher establishes account at [gsdsef.org](https://gsdsef.org)->Teachers->Register
2. Student establishes account at [gsdsef.org](https://gsdsef.org)->Students->Register
3. Download GSDSEF SRC Pre-Approval Signature Page: [gsdsef.org](https://gsdsef.org)->Students->How to Participate -> Fill out and save on computer/phone.
4. Students: Log in to account and fill out online form= GSDSEF SRC Pre-Approval Form



# GSDSEF Account Procedures

5. *If necessary: Download and fill out Certification Forms: [gsdsef.org](http://gsdsef.org)- >Students->How to Participate->Step 3, Certification Forms*
6. Attach GSDSEF SRC Signature Page= required
7. *If necessary, attach Certification Forms.*
8. Submit SRC Pre-Approval Form and Attached Signature Page, *and if necessary Certification forms.*



## GSDSEF Account Procedures for Participation cont'd

9. After submitting your project for safety, you will receive an answer within 2-3 days.
  - ONLY after receiving SRC safety approval may you START with your project.
  - **REMEMBER: THIS IS NOT SCREENING. IT IS A SAFETY CHECK ONLY. IF YOU MAKE IT THROUGH THE SAFETY CHECK, IT DOES NOT GUARANTEE YOU WILL GET THROUGH SCREENING AND PARTICIPATE IN THE GSDSEF.**



# General FORMS and How to Participate Procedures (extremely important)

Before starting your project...

- Go to <https://www.gsdsef.org/students/how-to-participate> for the step-by-step procedures to participate in the GSDSEF. Here you will find the rules, any required certification forms, and the directions for the SRC Pre-Approval, Screening, and Application process.
- Discuss your project with your teachers, parents, and mentors...
- Complete any required Certification forms and the SRC Pre-Approval Signature page and submit on the website by the deadline.

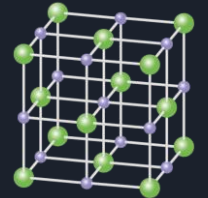
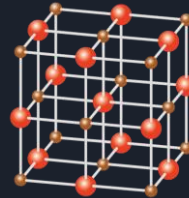
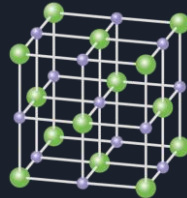
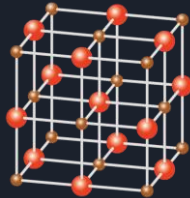
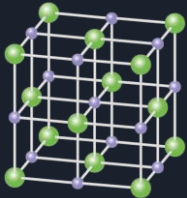


# SRC Pre-Approval Signature Page and Certification Forms

Deadline to submit Signature Page and the online SRC Pre-Approval Page and any necessary Certification Forms is November 18, 2019.

# Rules

- If you are planning research involving live vertebrate animals, please check to make sure that you are complying with the California Education Code and the Intel ISEF and GSDSEF Rules and Regulations
- In general, make sure you are complying with all three of the documents above before you start your project







# SCIENCE VS MATH/ENGINEERING

- Good news! You can submit BOTH to the science fair.
- Scientists create the theories, engineers implement them
- Both work very closely together
- Which side of the spectrum do you want to be on?



MENTORS



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- Mentors are always great to have, especially at a young age
- Parents and teachers are great for the Junior Division
- After significant interest built up in a certain topic, reach out to colleges, universities, and corporations
- DON'T BE SHY!
- Professors like knowing that you are curious

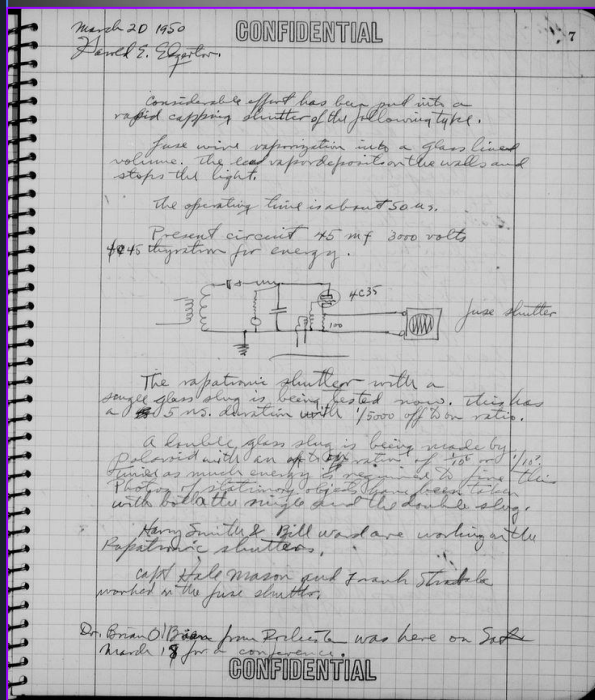
# HYPOTHESIS/GOAL

- Based on facts, what do you think will happen? What is your solution to the problem you want to solve?
- Is your hypothesis viable? Think through all variables to see.
- Testable with measurable results
- How will you test your hypothesis?
- Will you be able to conduct these tests?



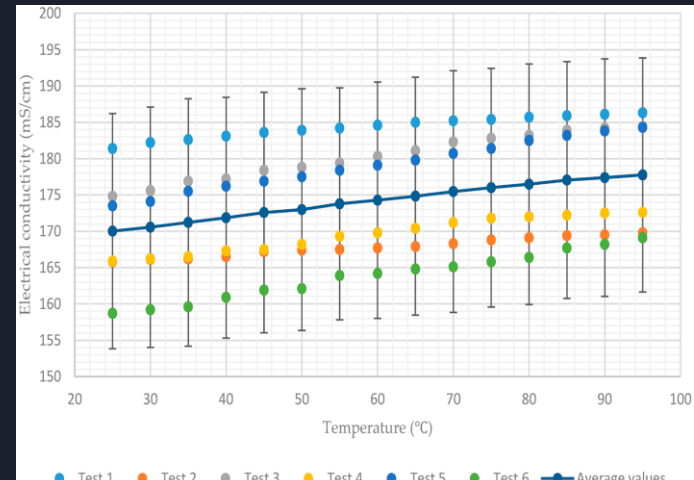
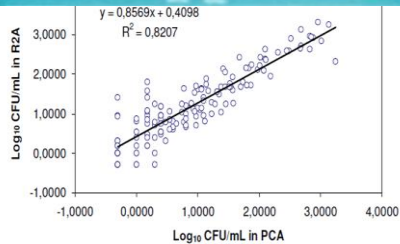
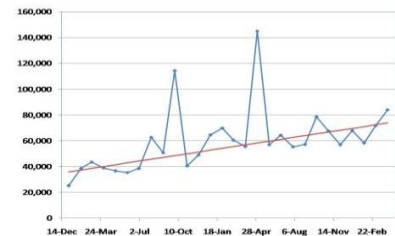
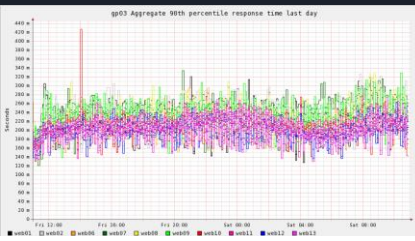
# BEGINNING A SCIENCE NOTEBOOK

- Everyone needs one!
- First thing judge looks at, so it's important it is neat and organized.
- Example can be found on <http://www.gsdsef.org/wp-content/uploads/2013/10/GSDSEF-Sample-Notebook-rev-for-2018.pdf-.pdf>
- Take pictures, save **ALL** data



# A Note on Data, and its Importance

- Data is the most important and valuable thing to have at a science fair.
  - Judges LOVE it!
- Multiple trials, organization, and systematic data collection show that you understand the experiment you performed.



# THE ABSTRACT



- Arguably, the most important part of your whole project
- Summarizes your information in ONE page (250 word limit)
- DON'T use any jargon
- You want to hook the reader into reading more about your project
- Think of it as a “quick look” of your project
- Many judges will be looking at this, so keep it concise, but bring across your point clearly
- Generally written AFTER project is completed



# WORKSHOP 2:

- 1) EXPERIMENTATION AND RESULTS – How to analyze data, writing up results and your conclusions
- 2) How to write an abstract
- 3) How to submit for the Screening Process, and
- 4) How to put together your board

**Date:** January 11, 2020

9 – 11 am

**Location:** SDCOE, Annex C



# CONTACT US

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