SCIENCE BUDDIES
"9 Reasons to do a High School Science Project"

Pursuing an independent science, math, or engineering project during high school makes for a unique learning experience, and entering a project in one or more of the advanced competitions, which are akin to the Super Bowl or to the Academy Awards, offers students the opportunity to obtain even more.

Reason 1: Polish Your College Application

Perhaps foremost, succeeding in the top high school competitions creates a point of distinction and differentiation on college applications. For example, the 2005 Intel Science Talent Search (STS) Finalists ended up attending these colleges:

Harvard	10	Duke	1
Princeton	6	Yale	1
MIT	4	Columbia	1
Caltech	4	UC Berkeley	1
Stanford	2	Arizona	1
Cornell	2	Johns Hopkins	1
SUNY	2	Wesleyan	1

We're not saying that students should only aspire to attend these colleges. You can get an equivalent or better education in many other places, but we know that most of these schools are very selective. We also don't mean to say that these finalists were accepted solely based on their Intel STS status; but rather, to emphasize that college admissions officers know that students who compete and receive recognition in the top science competitions have a set of skills that sets them apart from their peers, which is extremely helpful during the college admissions process.

Reason 2: Meet Students with Shared Interests

Doing a science project and participating in a competition gives students an opportunity to meet and spend time with others who have the same interests that they do. "Most of the other students are normal kids who just happen to like science. They're not all a bunch of geeks," says an Intel International Science & Engineering Fair (ISEF) participant. And, a Siemens Competition finalist describes her peers with equal enthusiasm, "These people are so cool!"

Reason 3: Win Scholarships

- $4M in awards and scholarships are handed out every year at the Intel International Science & Engineering Fair (ISEF).
- $1M in awards and scholarships go to the semifinalist and finalists in the Intel Science Talent Search (STS).
- The Siemens Competition grants over $600,000 in scholarships with a top award of $100,000.

Reason 4: Helps Win Merit Awards

Participating in a science competition helps you win other scholarships as well. Much like the case with college admissions, competing and receiving recognition in science competitions creates a point of distinction on a merit scholarship application.

Reason 5: It's Fun

"The best week of my entire life!" says an Intel International Science & Engineering Fair (ISEF) participant.

Reason 6: Learn a Ton

Aside from learning about an area of science, math, or technology, advanced projects develop skills in a number of areas that are valuable for college and beyond:

- Planning and time-management skills
- Research skills, such as the scientific method and statistics
- Writing skills
- Presentation and communication skills

Reason 7: Acknowledgement and Recognition

Athletes, musicians, even good spellers have competitions that offer acknowledgement and recognition for excellence. Science competitions offer acknowledgement and recognition for students excited by math, science, and engineering.

Reason 8: Time Off from School!

If you are one of the more than 1000 students who qualify for the Intel International Science & Engineering Fair (ISEF) you will get a week off of school, with an all-expenses-paid trip to the competition.

Reason 9: Rock Star

"It's like being a rock star, except [it's] science!"

– Siemens Competition finalist.

Keys to Get Started

In our Advanced Project Guide, Science Buddies has a wealth of information to help students find a project idea and be successful at the top competitions, but we can summarize the keys to success in a few bullet points. The most successful students:

- Have an original project.
- Have a mentor or someone who can answer questions. You might be wondering if you have to have a mentor or coach. Not necessarily, but most of the winners do. See How to Find a Mentor.
- Have the support of their parents.
- Work hard. Often, students start on a small project, enjoy it, and only then commit to a larger time commitment as their knowledge and experience grows.

Successful students also display a good deal of resourcefulness and persistence. Resourcefulness is all about making do with what you've got. If you are not close to a research university, do a project that does not require a laboratory or do your research while attending a summer research program. If money is tight, do a project that does not require materials or supplies, such as a mathematics project, one using public databases (astronomy and genomics have many such databases), or one in computer software. Every researcher runs into problems. Something will go wrong; you must be prepared to surmount it.

"...remember, the brick walls are there for a reason. The brick walls are not there to keep us out. The brick walls are there to give us a chance to show how badly we want something. Because the brick walls are there to stop the people who don't want it badly enough. They're there to stop the other people."

— Randy Pausch's *Last Lecture: Really Achieving Your Childhood Dreams*

There are many different tactics for conducting independent research. Some students work in a lab with a mentor during the summer or after school. Others participate in a summer research program for high school students, hosted at a college or university (many of these programs have scholarships). Some projects can be performed at home, with or without guidance from a mentor, and some high schools even offer independent research classes. Students writing in our Blogs about Advanced Competitions have used a variety of these strategies.

There are several potential concerns that students might have:

- "It sounds like too much work" or "I don't have time." The secret is to do a project in an area that is of interest to you. Your hobby might literally become your work. And, when you are working on a project of your own, in an area that fascinates you, you'll be amazed how efficiently you can manage your time.
- "I don't have an idea for a project!" Fortunately, we've got help at: Roundtable on Finding an Idea for an Advanced Project.

Students can benefit tremendously from doing an independent research project. And, participation in the top competitions offers the possibility of adding icing on the cake.

SOURCE

http://www.sciencebuddies.org/science-fair-projects/top_science-fair_why_compete.shtml