

Science Fair inspiration list:

The following list contains broad, general topics that you may choose to explore during topic selection for science fair.

Your science fair project should be geared around solving a problem that is of genuine interest to the public at large. We are trying to learn something new, look at something old in a new way.

We are **not** replicating an experiment or project that we can "google" off of a website of science fair project ideas. Our projects represent original ideas and thought. I will help lead you towards interesting topics, but you must decide what will work for you.

There are no team projects! There are two main reasons for this. First, team projects struggle at the state science fair. It is rare to create a project that really does need two people. A project like this would necessitate two individual and different skill sets, and a well executed team project marries those skill sets. For example, say your project is to make a robot that guides blind people down the street. This would make a nice team project if there were two members, one who engineers the robot, and another who designed the software and programs the robot to do it's job. "there was a lot of work to do" or "we wanted to work together" is not a good enough excuse to have a team. The second reason that team projects are discouraged is that there is never a cut and dry division of labor on a team. Our projects usually cannot be done at home and it becomes difficult to coordinate lab time around 3 schedules, yours, your partner's and mine. So let's agree that we will all do our own project

The last thing to consider when choosing a project is your methods. We should really try to choose a method that makes your project truly unique. We have access to some amazing equipment in our lab, and have many outside resources we can tap to help you develop and conduct s great project. There are no limitations to what you can do. If you need resources that we don't have, let's try to get them for you. If you need to contact an expert to get some advice, do so. We are going to create incredibly interesting and rigorous projects, and by starting now, we have the time to plan for success.

From this list, or from your own interests, find three different articles, web sites, resources that discuss a key issue or application that you could develop into a science fair topic. You an find one resource for three different ideas or areas, or three resources in. One are that you are interested in. Do not limit yourself to the topics listed here. For now, everything is in bounds.

- 1.) water quality
- 2.) bioremediation
- 3.) quorum sensing
- 4.) alternative antibiotics
- 5.) biofuels
- 6.) bioplastics
- 7.) biosensors
- 8.) Human genetics (23andme.com)
- 9.) genetic pathways of disease
- 10.) microbial fuel cells
- 11.) epigenetics
- 12.) personalized medicine
- 13.) green technology
- 14.) human impact on ecosystems
- 15.) plant biotechnology
- 16.) bio engineering
- 17.) marine biology
- 18.) Aquaculture
- 19.) GMO's
- 20.) Any other topic you find particularly interesting!!!

Assignment:

Go to the resources tab and download the Science fair inspiration list. It is located in the science fair resources folder.

From this list, or from your own interests, **find three different articles, web sites, resources that discuss a key issue or application that you could develop into a science fair topic.** Provide a brief (1 paragraph, or more if you like) about each resource and what makes it interesting to study. You can find one resource for three different ideas or areas, or three resources in one area that you are interested in. Do not limit yourself to the topics listed here. For now, everything is in bounds. Also, remember that you ***don't have to have an exact idea yet*** about what you will experiment on. Think back on the topic selection paradigm, from this general idea or topic, we will find some research to see what scientists are doing in the field.

When you submit your work, be sure to link me to the resources you found, so I can read them. I will give you feedback about each resource that you give me, and offer suggestions about where to look next.