

The effects of the COVID-19 pandemic required the global community to adjust, modify and adapt our daily lives. Teachers have been asked to deliver a quality education through virtual classrooms, students needed to adjust how they interacted with their peers, and parents have had to learn to be both parent and teacher! This has also impacted the many researchers, scientists and engineers around the world, forcing them to conduct permissible research from home. These experiences will also be the “new” reality for many of our student researchers, engineers and scientists. As such, SEFH is committed to supporting Houston’s budding scientists, researchers and engineers. It is for that reason we’ve created this document which lists considerations students, teachers, and parents should make when deciding what types of projects to do from home.

District Updates:

- Make yourself aware of any and all changes being made by your school district and how these changes may affect your eligibility to participate in science fair programs. Keep in mind, the requirements of SEFH may be different than that of your school or district.

Organism Considerations:

- The use of non-animal research methods and alternatives to animal research are strongly encouraged and should be explored before conducting a vertebrate animal project. Such organisms include but not limited to the following: pill bugs, planarian, fruit flies, bean beetles, brine shrimp, algae, amoebas, euglena, plasmodium, slime molds, diatoms, and dinoflagellates.
- Experimentation involving the culturing of potentially hazardous biological agents, even BSL-1 organisms, is prohibited in a home environment. Specimens may be collected at home so long as it is transported to a laboratory with appropriate BSL containment.
- Projects involving human participants, vertebrate animals, and potentially hazardous biological agents must be reviewed and approved by IRB and/or SRC prior to the start of experimentation.

Use technology and devices that are easily accessible:

- In the event that schools, University laboratories, and professional workspace are asked to close due to COVID-19 outbreaks, it is suggested that students consider projects that utilize alternatives to complicated apparatus not readily available for home use.

Consider Big Data:

- There are many sources of reliable, publically available data for students to analyze. Some examples include USGS, NOAA, NASA, CDC, the United States Census Bureau, and TMC. With these data sets, remember to analyze the data in

a way that it hasn't already been analyzed then use the appropriate method and tools for manipulation and interpretation.

Research Macro and Micro level issues:

- Consider projects that have a global perspective or stick to issues that surround your local community. It is important to delve into a topic you care about and use local resources easily available to you.

When thinking of your project, consider categories and topics that naturally lend itself to doing safe and appropriate research from home. A few of these topics include the following:

Topics:

- psychological, educational, or opinion surveys
- data mining
- behavioral observations
- testing of student-designed inventions
- public health campaigns
- engineering

COVID-19:

Under no circumstance are students permitted to work with, manipulate, or handle the COVID-19 virus.

It is highly discouraged to conduct any research with individuals who are suspected to be positive of COVID-19.

Questions? If at any time during the research process you have questions regarding any rules and regulations, feel free to contact the SEFH SRC committee at info@sefhouston.org.