



**Navy Elementary
STEAM Day & Fair**

World of Tomorrow!

March 28, 2022

Student Information Packet

Table of Contents

[Important Dates](#)

[General Information](#)

[Welcome to the 2022 Navy STEAM Fair!](#)

[STEAM Fair Theme: World of Tomorrow!](#)

[Judging](#)

[Project Teams](#)

[Note to Parents](#)

[Questions?](#)

[FCPS Project Guidelines](#)

[Important Display Information](#)

[Day-of-Presentation Information](#)

Important Dates

- Monday, January 31, 2022: Online Registration opens
- Sunday, February 27, 2022: Online Registration closes
- Sunday, March 27, 2022: Set up project at school
- Monday, March 28, 2022: STEAM Day at Navy!
 - Project drop off/setup: 8:15am-8:45am
 - Present your project to a judge during school
 - All classes visit STEAM presentations by professionals in our community
 - Class walk-throughs of student projects
 - Family viewing of STEAM Fair projects
 - Take home projects at end of school day

General Information

Welcome to the 2022 Navy STEAM Fair!

Congratulations on signing up to participate in the 2022 Navy STEAM Fair! We are excited to see your ideas get designed, tested, and developed. We hope to see the many areas of STEAM explored by our Navy students. What are you going to explore?

STEAM Fair Theme: *World of Tomorrow!*

The theme for this year's Fair is the "World of Tomorrow." Our world is evolving quicker than ever in transportation, architecture, sustainability, solar, medicine, etc. We want to see how Navy students envision the World of Tomorrow through explorations in the STEAM fields: Science, Technology, Engineering, Arts, and Math.

Ideas to Get Started

To help you get started, students might consider one of the following topics for their project:

- What and how will food be stored and consumed in the future? By what method or means?
- How will we travel in the future? What and why will that be the case?
- How does energy production work in the future? What can we use to create energy? How will energy production affect our future environment?

- How will we live and work in the world of tomorrow? What professions will we need and why?
- What will buildings, houses, schools, gas stations, amusement parks, and other architecture look like, and how will they function in the future?
- How do we communicate across the world in the future? How will we communicate with family, work, or social media?
- How will new technologies shape the world of tomorrow?

The website [Jason Learning](#) is also a good science resource and is available to students through their Google login.

This isn't an exhaustive list by any means and really just some ideas for jumping off points. In the bigger picture, STEAM Fair is about exploration of ideas--like answering what or why questions, identifying a problem to solve and designing a solution, and/or communicating those ideas.

Remember at the elementary level, FCPS does not allow experimenting on people or animals. Microbes can be okay (for example, collecting samples of microbes on common surfaces), but cannot be brought to the school. Students would have to use photo evidence.

Topics selected for a Navy STEAM Fair Project must tie in to the theme above through one or more of the STEAM fields: Science, Technology, Engineering, Arts, and Math. It can answer a big or small question and relate back to the questions presented above.

A Navy STEAM Fair Project can be

- a science experiment or demonstration
- an invention or functional item designed to solve a problem (engineering design)
- a model or collection related to the theme
- an artistic representation or exploration (painting, sculpture, poem, story, music, etc.)

Each project should be carefully planned out with a good amount of background research to help you work through your project. Along the way, you can meet with Navy teachers to go over your progress. At the end of your project, you will put together a display to show off your work and discoveries.

Please see the corresponding project guide for each of these types and decide which type of project you want to do.

Judging

Judging rubric: [2022 Navy STEAM Fair Judging Rubric](#) (PDF)

The STEAM Fair is an opportunity for students to explore topics within the STEAM fields. Through the STEAM Fair, we hope to encourage a love of exploration, discovery, and practice their project design skills along the way. Participation is completely optional and voluntary. The judging portion of the STEAM Fair is an opportunity for the student to present and talk about their work to an adult who is likely not their teacher—another skill to practice.

The important thing in all of this is to remember that ***the STEAM Fair is not a competition.***

The projects are evaluated on their merits using the rubric linked above and within grade-level expectations. We know these projects can take a lot of time and effort to complete. We hope they were also fun and opened minds to new ideas and knowledge. When a student really puts an effort in, it shows, and we want to celebrate that. Projects that show that extra effort receive gold, silver, or bronze ribbons for their team members. The rubric evaluation helps us determine which projects those are.

The judging phase of the STEAM Fair happens mostly in the morning. Times are assigned by grade. Students in mixed-grade teams present at the time for the highest grade level in their team. Teachers are provided with lists of the students participating and their times. We have volunteers that help make sure students are present at their project during their time so they are ready when it's their turn to present. When finished, students are released back to their classes to enjoy the rest of their day.

Parents are not allowed in the project display rooms during judging. We want to keep the space as distraction free as possible. More importantly, we want the students to shine and show off their work. Parents and family members will be able to walk through project areas during the family time at the end of the day. Judges also do not judge grades they have a student in.

Results from the judging will be distributed to the students' classrooms to go home at the end of the week.

Project Teams

Work on your project independently, work with a partner, or work with a team—it's your choice!

All participants must be current Navy Elementary students.

Partner or team members can come from different classes or grades. Maximum team size is four.

Note to Parents

We are excited to see your child enter our school's STEAM Fair! Our STEAM Fair has had many successful years at Navy and we are excited to expand the idea of innovation, design, and testing to all topics STEAM – Science, Technology, Engineering, Arts, and Math and connect these concepts to our theme: *World of Tomorrow!*

The STEAM Fair is an opportunity for your child to problem-solve and learn by doing. We hope you will encourage and guide them through the project process. But please encourage your child to do as much of the work as appropriate for their age and development. The final project should be a reflection of your child's individual work and effort. Keep in mind that the main goal of the STEAM Fair is to encourage creativity and curiosity in your child!

Questions?

Please contact Lena Bourgeois (lenabourgeois@icloud.com) with questions.

FCPS Project Guidelines

All projects must fall within Fairfax County Public Schools guidelines and restrictions for science projects. Projects that do not follow the guidelines may be disqualified from receiving a commendation.

FCPS Elementary Science Project Guidelines

For ALL projects completed in school, please reference the FCPS Elementary Science Safety Outline. There are specific chemical safety standards as well that govern which chemicals are safe to have in elementary schools.

ORGANISMS

Students are prohibited from using the following organisms in their projects:

- **Molds**
- **Bacteria**
- **Humans (including human surveys)**
- **Vertebrates**

If a student chooses to use invertebrates, it is the teacher's responsibility to make sure that the experiment is done for sound scientific reasons and will not harm the invertebrate unduly.

One of the reasons for these restrictions is that these organisms are taken from the wild and once they are removed from their natural habitat, there are too many variables to make it a controlled experiment.

AIRCRAFT

The Federal Aviation Administration (FAA) has issued a ban on model rockets, radio-controlled airplanes, and unmanned drones between Dulles and National airports. To find out if your school is located in the banned area, please reference page 11 of the FCPS Safety Manual (<http://fcpsnet/fts/safety-security/publications/safetymanual.pdf>). If your school is within the DC Flight Restriction Zone, you will need a waiver from the FAA.

*On FCPS property, the use of rockets, radio controlled airplanes, and unmanned aircraft systems requires prior approval of the principal and/or the Office of Safety and Security. Community-based use of rockets, model airplanes and unmanned aircraft systems are prohibited.

If the teacher finds a student who is so enthusiastic about his/her project which involves one of these restricted topics, and is willing to go through a rigorous process of an interview and completing multiple application forms, please contact Jenay Leach, K-12 Science Coordinator jsleach@fcps.edu for more information.

Instructional Services Department, 2016-17

FCPS Elementary Science Safety Outline

This page outlines the main science safety considerations in elementary schools. To read about the FCPS Science Safety Standards in detail, please reference [Regulation 8615.4P: FCPS Safety Manual](#) and [Regulation 8628.5: CHP](#)

CHEMICALS

- ◆ Store chemicals out of student access.
- ◆ Bottles must be appropriately labeled. Do not use bulk containers in the classroom.
- ◆ Acceptance of ALL chemicals as gifts or donations is prohibited

GOGGLES

FCPS Regulation 8628.5 requires every student, teacher, and visitor to wear goggles during any demonstration or experiment involving heat, glassware, and/or chemicals. Anyone wearing goggles needs to use those provided by FCPS, which are indirectly vented and splash-proof.

Using vinegar, rubbing alcohol and hydrogen peroxide require using goggles.

OUTSIDE PRESENTERS

When planning a science presenter, inquire what chemicals will be used. Reference the Elementary Authorized Chemical List to ensure that all chemicals to be used are approved. If any chemicals are not on the list, submit an [approval for non-authorized chemicals](#).

Be sure to check Safety Data Sheets (SDS) for safety guidelines for specific chemicals: [Middle School SDS Information](#)
[High & Secondary SDS Information](#)

All contracts with outside vendors must go through the [risk management approval process](#).

Please contact Jenay Sharp Leach, K-12 Science Coordinator jsleach@fcps.edu for more information.

Instructional Services Department, 2017-18

Important Display Information

Each project will be given a table assignment when students come to set up their project display boards. All exhibit materials must fit on the table in the space right in front of the display board. Table space available for projects is approximately one quarter of a 6 foot x 3 foot folding table. There will be no access to electricity or additional space available to any student. If your project requires access to electricity or the materials used are bigger than the space provided, you should consider displaying pictures, videos, or a slideshow of your experiment or design. No exceptions will be made. If using electronics (laptops, tablets, etc.) as part of your display, make sure the device is fully charged and bring the device with you when it's time to present your project. In other words, don't leave valuable items unattended.

Day-of-Presentation Information

Each student participant will present his or her project to a STEAM Fair Judge on the morning of March 28, 2022. Judges are comprised of Navy science teachers, scientists, and engineers in our community, and parent volunteers with a STEAM background. You should be ready to give a brief overview of your project to the Judge. Then you will be asked a few questions by the Judge! Remember that the judges have a limited amount of time to read and discuss each project with students. Students should use this valuable time to confidently share and explain their project, model, or experiment with the judges. Parents - remind your child to speak clearly and proudly about all their hard work!

Here are examples of questions you might be asked by a Judge:

- How did you get the idea for your project? What was your inspiration?
- What were you trying to find out or solve when you did your experiment?
- Was there anything that surprised you after you did your experiment?
- Explain how you did your experiment.
- What did you like best about doing your science project?
- If you did the same project again next year what would you change or do differently?
- Were the results of the experiment how you guessed they would be? If not, what surprised you the most?

Navy classes will walk through to view all the projects displayed after judging is over.

Families are invited to view all projects during family time in the afternoon.