Spring Hill Elementary

Science Fair Handbook

Date: March 18, 2026 4:00 - 7:00

Sign Up Google form: Must use a student computer with a parent present

Purpose: For students to to develop skills they need to prepare for STEAM careers and beyond.

Projects should fit into one of these categories

Science, Technology, Engineering, or Math

*Art relates to aesthetics and design in STEM disciplines.

Project Guidelines:

- Safety: No sharp objects, hazardous materials, or open flames
- Display: Free standing, sturdy, contains each element of the scientific process
- Project: One or two students. Should represent students' interests in STEAM
- Research/Inquiry: Project should include research, background information acquired, and track any ideas generated that guides the overall project.
- Ethics: Student work is unique, honest, and respects the intellectual property of others - not plagiarized (copied from others).
- Animals: If animals are any part of any project, permission MUST be acquired by the Science Fair Committee and parent supervision will be required. Animals must be treated humanely.
- Environment: Practice environmental stewardship. Do not dispose of invasive species, chemicals, or other harmful materials in an irresponsible manner.

Procedure:

1. Think of a project you will enjoy learning about. Avoid projects that you already know what to expect. Take on something new or something that interests you. There is no failure in this Science Fair as long as you learn from the experience and have fun doing it!
2. Decide if you will have a partner or work alone. No groups of 3 or more.
3. Sign up by filling out the Science Fair project form. Project forms/ideas are due to Mrs. Roman by March 1, 2026. Your parents MUST sign off on your project. Once that is done,

you may begin your project. If you are planning to use an animal in your project, you will need to have approval from the Science Fair committee.

4. Start to plan your project, this will take some time!
   a. Grades K-2 projects can be simple. Make this a fun and engaging first experience. Plan on a couple days to as long a week for observations.
   b. Grades 3-4 projects ideas should be generated from research. Come up with a few interesting ideas and figure out how to make the project unique to you. Plan 1-2 weeks for observations
   c. Grades 5-6 projects should be unique, research/inquiry based, and extend an idea or topic that you are already engaged in. Plan on 1-4 weeks observation.
5. Use the tools provided to guide you through your project.
6. Projects are student generated, student driven, and adult supported.
   - projects should be based on something students connect with in their everyday lives; i.e., a curiosity or a need.
   - Project budget should not exceed $50.

Planning Guide:

January:

- Find and decide on a project
- Decide on the principal question that will guide your work
- Fill out and turn in the Google sign up form.

February:

- Gather materials
- Begin project;
  - Begin research for principal or guiding question
  - hypothesize (guess) what will happen
- decide how you will collect and record your data
- begin your project
- Take PHOTOS!!!

March:

- Collect and record data
- wrap up project
- Build your board
- Present your project: **March 18, 2025;**
  - **Set up at 8:00--8:30am; K-2 Large Pod; 3-6 in the GYM**

Scientific Method:

The scientific method is a step-by-step process that helps people learn to think critically and solve problems. The basic steps of the scientific method are:

Question	The first step is to identify a problem and ask a question that you want to answer.
Research	Learn what is already known about the topic.
Hypothesis If , then form	A hypothesis is a testable explanation of what you think will happen. If, (independent variable/thing I change), then (dependent variable/measurable change)
Test your hypothesis/	Design and conduct experiments to test your hypothesis.
Analyze your data	Break down the collected data to form a conclusion. Share what you have learned from analyzing your data.
Draw Conclusions	Summarize the results of the experiment and state how they relate to the hypothesis.
Communicate results	Share the results with other scientists so they can try to repeat the investigation.

Engineering Design Process:

The Engineering design process differs from the scientific method as the end result is not to make observations, but rather to build a solution.

Ask	Define the problem, decide what is critical for the rest of the project
Brainstorm	Come up with ideas about how to solve the problem. Research what is known and how ideas can be refined.
Design	Narrow Ideas, select one design. Draw, label, plan your design.
Build	using your designs, build a prototype
Test	Test your prototype to see if it does what it is meant to do
Improve	Discuss how the test went, what needs to be changed. Make the necessary changes
Repeat	Many steps may be revisited throughout the process. Where do you need to go next?
Present	Once you are happy with your prototype, share your process and prototype

Resources:

Scientific Method Fillable PDF

Science Fair Guide - Science Explorers

Engineering Design Process - Engineering for Kids

Project Ideas - Science Buddies

Project Ideas - Education.com

Forms:

Sign up Sheet