

North Elementary Science Fair Registration Form (3rd/4th grade)

Your name: _____ Teacher's Name: _____

Your partner's name (if any) _____ Partner's teacher _____

Project category (please see the back for descriptions)

- Animal Science
- Behavioral and Social Science
- Chemistry
- Earth and the Environment
- Engineering
- Math and Computer Science
- Medicine and Health
- Physics and Astronomy
- Plant Sciences
- Product Testing and Consumer Sciences

Project title: _____

Project Description

What is the question you are asking or the problem you are trying to solve?

What do you think will happen?

What materials and equipment will you need?

What steps will you take to perform your investigation?

Student signature and date: _____

Parent signature and date: _____

Science/Engineering Fair Project Categories

- **Animal Science**--projects about the way that animals grow, develop, or behave.
- **Behavioral and Social Science**--projects about the way people think, learn, and react.
- **Chemistry**--projects about chemical changes.
- **Earth and the Environment**--projects about weather, geology, pollution, ecosystems, or recycling.
- **Engineering**--projects about any type of engineering (building things based on scientific principles) or robotics.
- **Math and Computer Science**--any projects that are about math, computer networking, or computer programming.
- **Medicine and Health**--projects about diseases, the way the human body works, and genetics.
- **Physics and Astronomy**--projects about space, magnets, electricity, electronics or other physical sciences.
- **Plant Sciences**--projects about the way plants grow and develop.
- **Product Testing and Consumer Sciences**--projects that compare household products, are about food preparation, or are about advertising.

It's Science and Engineering Fair Time!!

(3rd and 4th grade packet)

Dear Students and Parents,

The North Elementary Science and Engineering Fair is January 17, 2019. All third, fourth and fifth grade students are required to participate. If you have questions, please contact Mrs. Puckett at the school.

Here are some important dates:

December 17, 2018: Registration forms due

January 17, 2019: Science Fair

Presentation boards can be purchased in the office for \$4.00. They can also be purchased at Wal-Mart and office supply stores.

A good source for ideas is www.sciencebuddies.org.

Sincerely,

The North Elementary Science Committee

North Elementary Science/Engineering Fair How-to

Our fair has three parts--doing the project, putting together the display board, and presenting what you learned.

First...the project.

Ask a question (science) or define a problem (engineering) and then use the Next Generation Science Standards to find the answer.

Research information about your question.

Develop and use a model. This can include physical models, drawings or diagrams of your question or problem.

Plan and carry out an investigation. This can be an experiment to answer your question or building your engineering project.

Analyze and interpret your data. What did you find out?

Use mathematics and computational thinking. How did you use math in your project? (Comparing two objects, measuring, or counting are examples of this.)

Use evidence from your investigation to explain the answer to your question or project.

Many of the following **cross-cutting concepts** will be found in your investigation. Please show evidence of as many as possible.

Patterns What do you notice repeating?

Cause and effect All events have causes. What causes things to happen in your investigation?

Scale, proportion, and quantity What happens when size or number of objects change?

Systems and system models A system is a group of related objects (think solar system or digestive system. You can use a model of the systems in your project to understand how it acts.

Energy and matter What energy and matter (physical objects) are used.

Structure and function The way an object is shaped or structured determines what it is like and how it works.

Stability and change What stays the same in your project? What changes?

Next...the display.

Official project display boards are available for purchase at the school or Wal-Mart, however, **they are not required.** Any type of freestanding display is acceptable. The specific requirements for your board are listed below in the display guidelines section of the rules. Boards should be neat and easy to read. Although it acceptable to decorate your board, please remember that we are judging based on science and engineering merit and not on cuteness.

Last...the presentation.

The fair is your chance to show the judges how well you understand your project and what you learned from it. You will have a chance to explain what you did. The judges will also ask questions about your project. Be sure to talk about the cross-cutting concepts you discovered in your project.

Rules

General Information

1. Projects must be **experiments or engineering projects**. Research, demonstrations, or informational projects are **not** appropriate for science fair.
2. Projects that involve human participants, vertebrate animals, hazardous substances or hazardous activities must have approval **before you start**.
3. If a student wants to change his or her project after the application has been approved, she or he must inform Mrs. Puckett and fill out a new application. If the student has a different project on Science Fair day, he or she may present it in class, but is not eligible for judging.
4. Two students may collaborate on one project. If the students are in different grades, the project will be judged according to the higher grade.

Display Guidelines

1. Do not include your name on the front of the board. (The only exception is for photo or data citations.)
2. The maximum size for the finished display is 30 inches deep (front to back), 48 inches wide (side to side), and 108 inches tall (bottom to top).
3. The display must stand up on its own.
4. The display must have the following elements:

Title (the name for your project)

Question or Problem

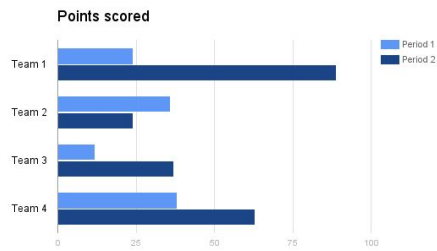
An explanation of science and engineering practices used

An explanation of cross-cutting concepts that apply to the project

Data analysis (This can include graphs and pictures.)

Discovery/Conclusion

5. All photos, visual data, and graphs must be cited (give credit to the person who made it). See the example below.



Graph by Chris Doe

6. You must have a written release (permission slip) for any pictures or videos of people. If the person in the picture is under 18 years old, you must also have the written consent of that person’s parent or guardian.

Presentation

1. No parents, etc. will be allowed in the gym during judging.
2. Students should be able to explain their projects clearly and be prepared to answer any questions.
3. Project displays should only contain the information attached to the display board, and a data journal (if one was used). An electronic device to show video of the experiment is permitted. **DO NOT BRING IN YOUR ACTUAL EXPERIMENT/PROJECT.**

Science Fair Display Board

SCIENCE & ENGINEERING PRACTICES USED (What they did)	TITLE OF PROJECT	CROSS CUTTING CONCEPTS USED (How they reasoned- their thinking process)
RESEARCH	QUESTION	Recognize patterns
INVESTIGATION/ EXPERIMENT	PHOTOS	Notice cause & effect
MODEL	DATA ANALYSIS	Scale/proportion/quantity
COMPUTATIONAL THINKING/ MATH		Different systems
EXPLANATION FROM EVIDENCE		Notice transfer of energy
MAKE VALID POINT		Learn structure & function
		DISCOVERY/CONCLUSION (Did their project lead to more questions?)