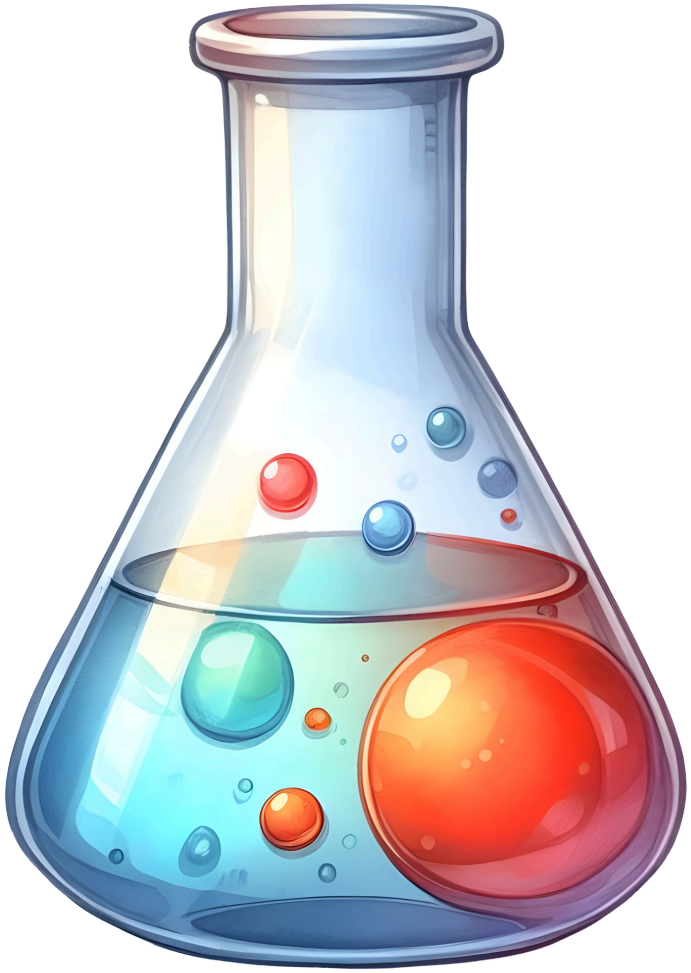
Science is not formal logic-it needs the free play of the mind in as great a degree as any other creative art. It is true that this is a gift which can hardly be taught, but its growth can be encouraged in those who already possess it.
Max Born, German Physicist. Nobel Prize, 1954

Three Oaks Science Fair

PROJECT GUIDE

Friday, January 9th, 2026



Science is an imaginative adventure of the mind, seeking truth in a world of mystery.
Sir Cyril Herman Hinshelwood, English chemist. Nobel prize 1956

Families of Three Oaks,

Your child and you are invited to participate in the Three Oaks Science Fair. This is an opportunity to take part in an exciting non-competitive event that encourages students to think like young scientists and engineers.

Guidelines:

- This is an optional school event for all Three Oaks students in grades K – 5. The event is organized by the PTO. The Fair is not a part of the curriculum and projects will not be graded.

- This is an informal science fair, unlike traditional rubric-judged science fairs. There will be no competition and parents/guardians are encouraged to help their child with the project they choose. Your child may work alone or with other students on a team project.

- Participants can use the Scientific Method (see attached) *if applicable for the project chosen.* Ok Engineering related projects that might be explored or "how something works", may not fit the scientific methodology ...which is fine! Be creative explaining and documenting the question, research, discovery, and conclusion.

- The Science Fair will not interfere with the curriculum and the project is to be completed at home prior to the Science Fair exposition on **January 9th**.

- A "judge" will briefly talk to each participant during the evening about their project and award them a certificate. Students are encouraged to stay near their project displays between 6:00 p.m. and 7:30 p.m.

The joy of discovery is certainly the liveliest that the mind of man can ever feel.
Claude Bernard

Science is the tool of the Western mind and with it more doors can be opened than with bare hands.
Carl Jung

Participant Timeline:

December 19th, 2025: Registration closes (for program printing)

January 9th, 2026: Day of Science Fair

5:30 – 6:00 p.m.	Scientists arrive and set up their experiments for visitors & judges
6:00 p.m.	Science Fair opens
	Student displays, demonstrations for friends and family science tables open to all attendees
6:00 – 7:30 p.m.	Judges interview registered participants and award ribbons & certificates
7:30 – 7:45 p.m.	Take down projects

Science is a great game. It is inspiring and refreshing. The playing field is the universe itself.
Isidor Isaac Rabi, U.S. physicist. Nobel Prize 194

Preparing the Results to Display

• **Construct a Display:**

It must be neat, but it does **NOT** have to be typed. Hand-written charts are fine. It is recommended you use a tri-fold poster board display, often available at stores like Hobby Lobby, Walmart, Target, Dollar Tree, for arranging your charts (see example on next page). Make it fun but be sure people can understand what you did. Show that you used the scientific method. Include demonstration materials, if possible. Displays should be no larger than 5' W x 5' H x 2.5' D.

• **Practice talking about your project for the science fair**:

Practice explaining your project to someone (parent, friend, etc.) and/or write a short report summary of what you did and how you did it. This will help you prepare for the Science Fair Day when many people will be interested in what you did and what you learned.

• **Set up your exhibit at school:**

Friday, January 9th 5:30 – 6:00 p.m. in the Three Oaks gymnasium.

• **Present your experiment:**

Friday, January 9th at 6:00 p.m. and **HAVE FUN!** Try to stay near your exhibit from **6:00 – 7:30** to answer questions and await a judge who will ask you a few questions and award you your ribbon and certificate.

• **Take down exhibit:**

After the Science Fair ends at 7:30 p.m.

Research is to see what everybody else has seen, and to think what nobody else has thought.

Albert Szent-Gyorgi, U.S. biochemist

Example of Science Expo Project Display Boards & Helpful hints

Display Guidelines

- Your display should summarize your project. Variations are fine—creativity helps you stand out.
- Most displays use a three-panel backboard with charts, some testing materials, and possibly a demo.
- Choose the most important visuals. Use photos or drawings for items that can't be shown.
- Plan your layout before building. Keep it simple and avoid clutter.
- Charts can be neatly handwritten; clearly label all visuals.
- If using cords, plan holes in the board.
- Do **not** include hazardous items (needles, knives, scissors).

Have fun!

Steps of a Scientific Investigation

1. Select a topic or question:
Choose a topic that interests you. What do you want to find out? What would you like to discover?

2. Collect Information:
Work like a scientist to learn about your topic by reading books, magazines, searching the Internet, talking to experts in the field, or contacting companies. Keep notes about where you obtained your information (these are called your resources).

3. Hypothesis:
What do you think will happen? This is an educated guess about what you think will be the answer to your question before you start your experiment or project.

4. Experimental Design:
Plan and run an experiment to test your hypothesis. Set up activities to discover the answer.

Test/Experiment:

• State the **purpose** of your experiment. What are you trying to find out? What will you do? Decide on and describe how you will change the thing you selected.

• Select **variables** (some things you will change/vary) that will help you find your answer. You want to be sure to change one variable at a time and keep everything else the same. What you keep the same are called the **constants**. What you are changing is called the **manipulated variable**.

• Create a **procedure** for your experiment. These are the step-by-step directions you are going to be following.

• Develop a complete list of the **materials/supplies** you need to complete the experiment.

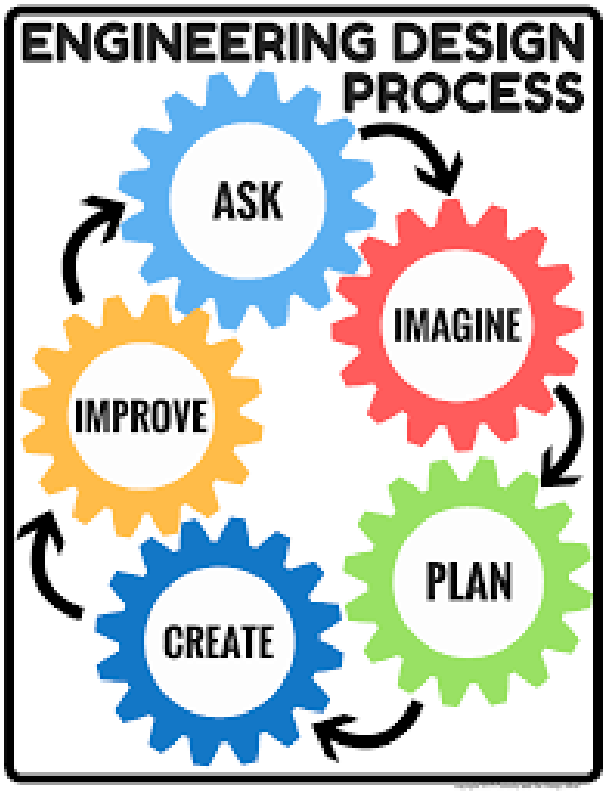
• You will need to decide on and describe how you will measure your results. This usually involves collecting **data in a data table**. Data can be numerical (numbers) or observations.

• Run a controlled experiment and record data/observations. What did you see happening? Record measurements.

5. Graphs and Charts:
What happened? Answer your original question and then put the results in graphs and charts.

6. Results:
Summarize results of experiment in words.

7. Conclusion:
What is the answer to your question about your science project topic? Was your hypothesis correct?



Sample Scientific Investigation Project

Experiment of an Elementary School Student: **Battery Power**

Introduction/topic
In my project I was trying to find out what battery lasts the longest. I also tried to determine if the cost of the battery has anything to do with the power it has.

Hypotheses
I think the Duracell battery will last the longest. I also believe that the more expensive the battery, the longer it will last.

Materials
Paper, wires, stopwatch, battery holder, metal connectors, computer, light bulbs and graph paper. Batteries tested: Duracell, Eveready, Energizer.

Research/Source of information
I researched how a battery produces electricity. The battery is a dry cell. A chemical reaction between the electrolyte and the electrode produces electricity. (List sources of information).

Vocabulary
Electrodes- The negative or positive part of an electric cell. *Electrolyte*- A liquid or moist substance that conducts electricity. *Dry cell*- an electrical cell that has a moist electrolyte. *Terminal*- The negative or positive end of an electrolyte.

Experiment
I experimented by testing the power of three different brands of batteries. I did this by hooking up the batteries to a light bulb. I then kept track of the length of time each bulb stays lit. I tested two batteries from each of the three brands.

Results
After the testing was completed, the following results were recorded: The Duracell battery lasted the longest: 101 hours and 20 minutes; Energizer battery second, 99 hours and 17 min, and Eveready battery, third, 28 hours and 30 min.

Conclusion
I thought the Duracell battery would last the longest. I guessed right. It was two hours and 3 minutes longer than the Energizer. I also determined that the cost of the battery does relate to the amount of battery power.

The important thing in science is not so much to obtain new facts as to discover new ways of thinking about them.
Sir William Bragg