

The Science Fair is Coming!

Who: All students in ECE -8th grade are invited to participate in the Science Fair **This is an optional extracurricular project to be completed at home.**

Due Date: **Projects are due February 18, 2020**

Please do not bring in projects before this due date.

When: Projects will be on display for families and the community in the atrium from February 18– February 28, including during the PTO meeting on February 18.

The project must follow the scientific method and be displayed on a freestanding presentation board.

The scientific method is:

1. Find a problem or ask a question
2. Do background research
3. Construct a hypothesis
4. Test your hypothesis with an experiment
5. Analyze your data and draw a conclusion
6. Report your results

Presentation of Science Projects: Completed projects must be displayed on a freestanding presentation board that is no larger than 36"x48". Remember to take pictures along the way as pictures will help document your experiment. Michaels, Hobby Lobby, Walmart and Target all carry display boards like the one below. **Please Mrs. Holden know if you need a board and one will be provided.**



More guidance on a science fair project may be found at <https://sciencebob.com/science-fair-ideas/thescientific-method/> and <https://www.sciencefaircentral.com/students/scientific-projects/steps>

Keep this top paper at home for guidance.

Please return this form to your classroom teacher by January 13, 2020.

I have reviewed the Science Fair information and calendar with my child, _____, (Printed Name of Child) and we understand the requirements for a successful Science Fair Project. My child **will be** participating in the Science Fair.

Parent Signature

Student Signature

Student's Grade

Student's Teacher

Time Line

_____ **Brainstorm (1 week)**

- Choose an area of science
- Choose a question
- Identify the problem

_____ **Research (1 Week)**

- Identify research variables, gather information using books, magazines, internet, and experts in the field.
- Write bibliography, including names of experts (authors, etc.)

_____ **Write your Science Fair Proposal**

- Write “the question” you will investigate
- Write the types of questions you investigated in your research or will investigate
- Write a hypothesis (based on the research)
- Write down the materials you will need

_____ **Do the Project (1-3 Weeks, longer if using plants)**

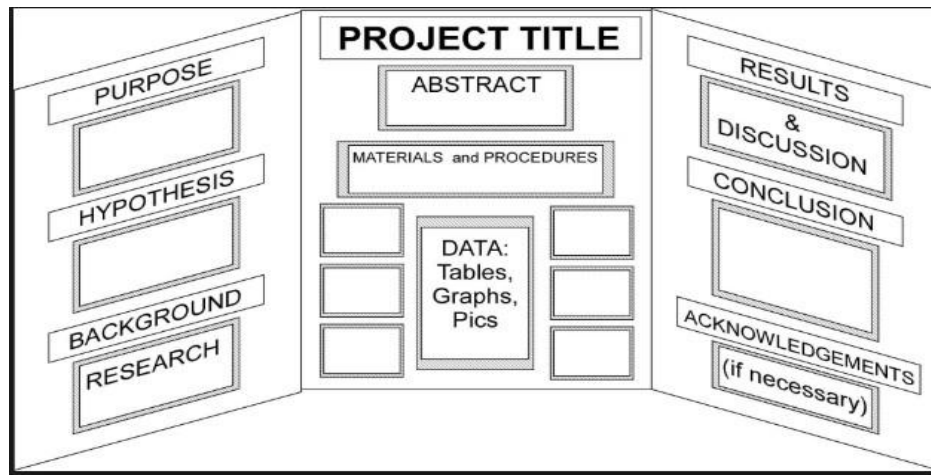
- Gather materials for experiment
- Conduct experiment using the procedure you wrote
- Collect and organize data in more than one way (graph, chart, diagram, and photographs)
- Write final procedure, background research, hypothesis, conclusions, and etc.

_____ **Finalize Your Project (3-5 days) and Turn It In on February 18, 2020**

- Put together your display board

_____ **Family Science Viewing**

Family viewing February 18th, 2020 from 5:30-7:30 pm in the Grant Ranch atrium during the PTO meeting, and from February 19- February 27th during school hours (7:30 a.m. – 3:00 p.m.)



The Scientific Method

The Scientific Method is an organized way of learning new information.

1. **Purpose/Question-** What do you want to learn? An example would be, "What doorknob at home has the most germs?" or "Do plants need daily watering to survive?" or "Does the color of a light bulb affect the growth of grass seeds?"
2. **Research-** Find out as much knowledge as you can. Look for information in books, on the internet, and by talking with others to get the most information you can before experimenting.
3. **Hypothesis-** After doing your research, try to predict the answer to the problem. Another term for hypothesis is 'educated guess'. This is usually stated like " If I...(do something) then...(this will occur)" An example would be, "If I grow grass seeds under green light bulbs, then they will grow faster than plants growing under red light bulbs."
4. **Experiment-** Design a test or procedure to find out if your hypothesis is correct. In our example, you would set up grass seeds under a blue light bulb and seeds under a red light and observe each for a couple of weeks. You would also set up grass seeds under regular white light so that you can compare it with the others. You will need to write down exactly what you did for your experiment step by step.
5. **Results/Data-** Record what happened during the experiment. Also known as 'data'. As you observe your experiment, you will need to record the progress of your experiment. Data can be whatever you observe about your experiment that may or may not change during the time of the experimentation. Examples of data are values in pH, temperature, a measurement of growth, color, distance, and etc. Data should be shown in *more than one way*. Examples of ways to show data; graphs, tables, charts, models, pictures, realia, and etc.
6. **Conclusion-** Review the data and check to see if your hypothesis was correct. If the grass under the green light bulb grew faster, then you proved your hypothesis, if not, your hypothesis was wrong. It is not "bad" if your hypothesis was wrong because you still discovered something! Your conclusion should also include next steps.