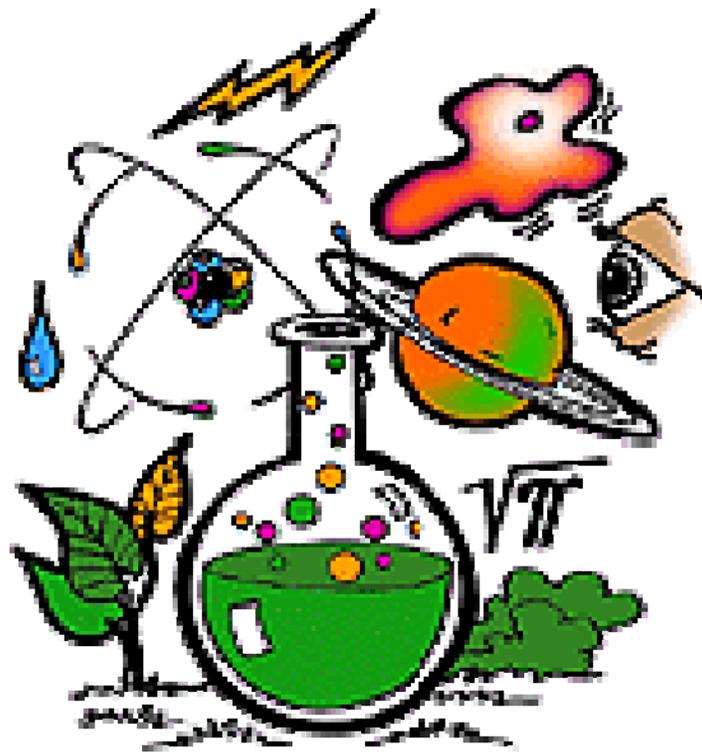


Hazelwood Elementary Science Fair Night

Thursday May 26th, 2016



Hazelwood Elementary Science Fair Night for K-5

To Hazelwood Parents and Students:

The annual Hazelwood Elementary School Science Fair is on **Thursday, May 26th**. We encourage **all students in all grades** to complete a project and join us in a fun-filled event to showcase our interests in Science Technology Engineering and Math! We are rolling out a new event format this year, with an evening-only exhibition. We will not include judging for this year's event, however, we will have scheduled time slots for students to share their work and answer questions about their projects. Also new for this year – groups of up to three students may form to work on a project together.

The two different forms a science project can take are either an **exhibit or an experiment**. The differences between an exhibit and experiment will be explained in this booklet. Student in all grades can choose to do either an exhibit or an experiment.

Please note that there are to be no live animals or microbiology science projects brought to school. The use of pictures for a microbiology project is acceptable. **Any liquids used must be contained or spill-proof. No hazardous materials such as gasoline.**

All projects must have the “scientist’s (student’s) name” sheet that includes student’s name, teacher and grade on the front of their project for help with identification.

We will have some fun ways to interact with the participating students at the event, including spectator voting, comment cards to leave feedback for the students, and stickers to leave with your favorite projects. Ribbons, certificates and ice cream tickets will be awarded to all participating students.

In addition to student projects, we are encouraging parents and other members of the Hazelwood community to let us know if you are interested in setting up your own exhibit or demonstration. We would love to learn about your STEM interests or line of work!

Students will be developing skills in scientific inquiry, creative thinking and problem solving. We thank you for supporting your child and monitoring his or her progress!

Getting Started!

There are two different forms of displays at the Science Fair, either a **STEM exhibit** or a **scientific experiment**.

What is a STEM exhibit?

A STEM exhibit is when you research a STEM (scientific, technology, engineering, or math) concept or principle, and then create a model, drawing, poster presentation, or technology demonstration that explains it. Your exhibit should include these items:

- Title
- Concept or principle statement
- Procedure or explanation of exhibit
- Model, drawing, poster presentation, or technology demonstration
- Conclusion

What is a scientific experiment?

A scientific experiment is when you state a problem, form an idea (hypothesis), and then test it out. The steps in your experiment should include these items:

- Title
- Statement of Problem or Question
- Hypothesis/Prediction
- Materials List
- Procedure
- Testing of experiment **three times**
- Record of data
- Results with graphs, drawings or diagrams
- Conclusion
- Recommendations for Future Work

Choosing a Science Problem

There are many categories from which to choose a problem for your science project. For example, there are questions to be answered in astronomy, biology, chemistry, physics and geology. Kids are usually great at coming up with their own questions, but are they appropriate? Here is a self-check list that should help. Have your child answer these questions:

Yes No

Is this a problem that I am interested in?

Will I have enough time to complete the project for the Science Fair?

Will I learn something new about this subject through my observations and investigations?

Is this problem specific enough so that I will be able to define exactly what I need to do?

Do I have sufficient knowledge and experience to conduct the experiments that will be necessary for the project?

Will I be able to obtain all the equipment necessary to do the project?

Is this a project that I will be able to accomplish with very little or no outside help?

You should be able to answer “yes” to every question above for the problem you have chosen. If any answer is “no”, reconsider your choice; it may be a good idea to choose a different problem or to alter the focus of your project.

After choosing your problem, state your problem as a **question**, which gives you a clear and simple idea of what your project will be.

Science Project Display

Try to design a display, which is simple and easy to set up. **A stand-up project board will be provided free of charge from Hazelwood PTSA for all students that submit a project proposal.** They will be distributed through the classroom. The project title or question should be bold and obvious. You should attach a written explanation or report to the display. Other information like graphs, charts, photos or diagrams should also be attached. If you made a model or have other materials to display they may be placed on the table in front of your display, but not in such a way as to block what has been written.

Your display should be self-explanatory. A viewer should be able to quickly grasp what it is all about without needing you to be present to answer questions or provide explanations.

Make sure to attach the “student scientist’s name sheet” (located near the back of this packet) somewhere on the front of your display to help with identification!

Practice presenting or explaining your poster before the fair! Students will man their posters at the science fair to answer questions as spectator pass by. This is meant to be an informal interactive session to let students show off their work.



Organization Sheets for Science Experiment (optional)

This is an organized step-by step approach to scientific methods.

1. State a Question: You are the scientist. Ask a question you are interested in learning more about. You may choose a problem to solve. State your problem as a specific question.

My question is: _____

2. Form a Prediction: As a scientist, you can predict what might happen in your stated question. What do you think will happen?

I predict... _____

3. Materials: Make sure to gather all the materials you will need to test out your question. A good scientist will make out a list of items that are needed.

4. Procedure: This is one of the most exciting parts as a scientist! You test out your question by doing an experiment. The procedure you use is a step-by-step list of how you did your experiment. As a scientist, you may choose to use words, pictures, or symbols to describe your procedure. An experimental condition should be tested at least three times. This is a very important point. The reason you should test three times is that it makes your testing more accurate. It also confirms that your experiment is repeatable, that is, you get approximately the same results each time the experiment is done.

You will choose to change one variable in your experiment and then retest to see how it turns out. A negative and/or positive control is often included in the experiment to show you can produce an expected effect; these controls can provide more confidence in the experimental results. A negative control produces no effect when no effect is expected; a positive control produces an effect when an effect is expected. For example, if you are testing the effect of how plants grow with different liquids, a positive control could be water, and a negative control could be no liquid. The table below shows an example of recording your data in a table.

Variable = Length	Test 1 (Length 1)	Test 2 (Length 2)	Test 3 (Length 3)	Control(s)
Trial 1 Results				
Trial 2 Results				
Trial 3 Results				

5. Results: Keep records of your data from your experiment. Use charts, graphs or diagrams for showing your results.
6. Conclusion: In order to write your conclusion, you will need to compare your prediction to your results. Make sure to include:
 - A description of whether your prediction was correct or incorrect.
 - Use supporting data from your results table.
 - Explain how the data supports your conclusion.
 - Make a therefore statement.
7. Recommendations for Future Work: After you complete your experiment, take a moment to think about things that could have been done differently or better, or note any interesting observations that could lead to future experiments.
8. Other Suggestions: It may be useful and interesting to include some background research on the topic you are investigating. This research could help explain the results you obtained and conclusions that you reached.

If you have followed all of these steps, you are on your way to becoming a true scientist!

Project Ideas List

The problem on which you base your science project may be chosen from a variety of science areas. This ideas list is given to help you think about your own areas of interest.



Astronomy is the study of stars, planets and the universe, including their composition, motion, size and position.

Here are several example projects for astronomy.

1. How can you keep a calendar using the moon?
2. What is a galaxy? How many galaxies do scientists know about?
3. What are comets? How do they affect us?



Biology is the science that deals with plants, animals, and other living organisms.

Here are several example projects for biology.

1. What is the life cycle of a frog?
2. Does it matter how or which way you plant a seed?
3. Which types of bacteria are helpful? Or harmful?



Chemistry is the study of the composition and properties of substances and the reactions between them.

Here are several example projects for chemistry.

1. Does the salt content have any effect on the freezing or boiling points of water?
2. In what different shapes do crystals grow? How do the structures of salt and sugar crystals differ?
3. Why are detergents that are low in phosphates better for our water supplies than those that are high in phosphates?



Geology is the science of the physical nature and history of the earth, as well as the study of rocks and fossils.

Here are several example projects for geology.

1. What kinds of rocks is the earth made of?
2. Why are some metals strong and others flexible?
3. How do the remains of plants and animals fossilize?



Physics is the science of the properties, changes and interactions of mechanics, heat, electricity and optics

Here are several example projects for physics.

1. How does a mirror reflect an image?
2. What substances are the best conductors of electricity? Why?
3. How is magnetism created from electricity?

These are just a few of the sciences. There are more subjects and many more science project ideas to research. Here is a list of suggested websites to help with other ideas.

<http://school.discovery.com/sciencefaircentral>

<http://www.scifair.org>

<http://www.sciencebuddies.org>

<http://scienceclub.org>

<http://scienceproject.com>

<http://faculty.washington.edu/chudler/fair.html>

Helpful Hints for Kindergarten through 3rd Grades

The idea of having Kindergarten and younger grades participate in the Science Fair is to introduce the fun and wonder of science. Here are a few examples of project suggestions that would be considered exhibits.

Solar System model
Seed Collection
Make a sugar crystal
Light Spectrum
Plant Life Cycle



Instructions for display set-up and removal:

Posters may be brought to school on Thursday May 26th, either in the morning and stored in the classroom for setup after school, or after school before the event. Students should choose an evening time slot to man their posters. These rotating time slots will allow students to present their posters but also have time to explore other exhibits. Please see important times and dates below.

Timeline of Events

April 1st-**Project proposals** are due. Turn in to your classroom teacher.

All students who turn in a proposal sheet will be supplied a poster board courtesy of Hazelwood PTSA

May 26th 8:00-8:30am Students can bring projects to school/classrooms
2:00-5:00pm Student setup of displays in Commons area
5:30-7:00pm Science Fair event viewing of displays
5:45- 6:05pm 1st Time Slot
6:05- 6:25pm 2nd Time Slot
6:25- 6:45pm 3rd Time Slot
7:00pm Announcement of people's choice awards
7:00-8:00pm Student removal of displays

Remove your science display by 8pm on Thursday. **Displays left after 8pm on Thursday may be discarded!**

If you have any questions regarding the Science Fair please contact one of the PTSA Science Fair Co-Chairs:

Michelle Hilhorst 425-430-1976 sciencefair@hazelwoodptsa.org
Eva Gefroh 425-687-6042 sciencefair@hazelwoodptsa.org

Make sure to attach the student's name sheet below to the **front** of your science project so it is visible to the fair attendees.

(cut along dashed line)

Hazelwood Elementary Science Fair

Project Title: _____

Name(s): _____

Grade: _____

Teacher: _____

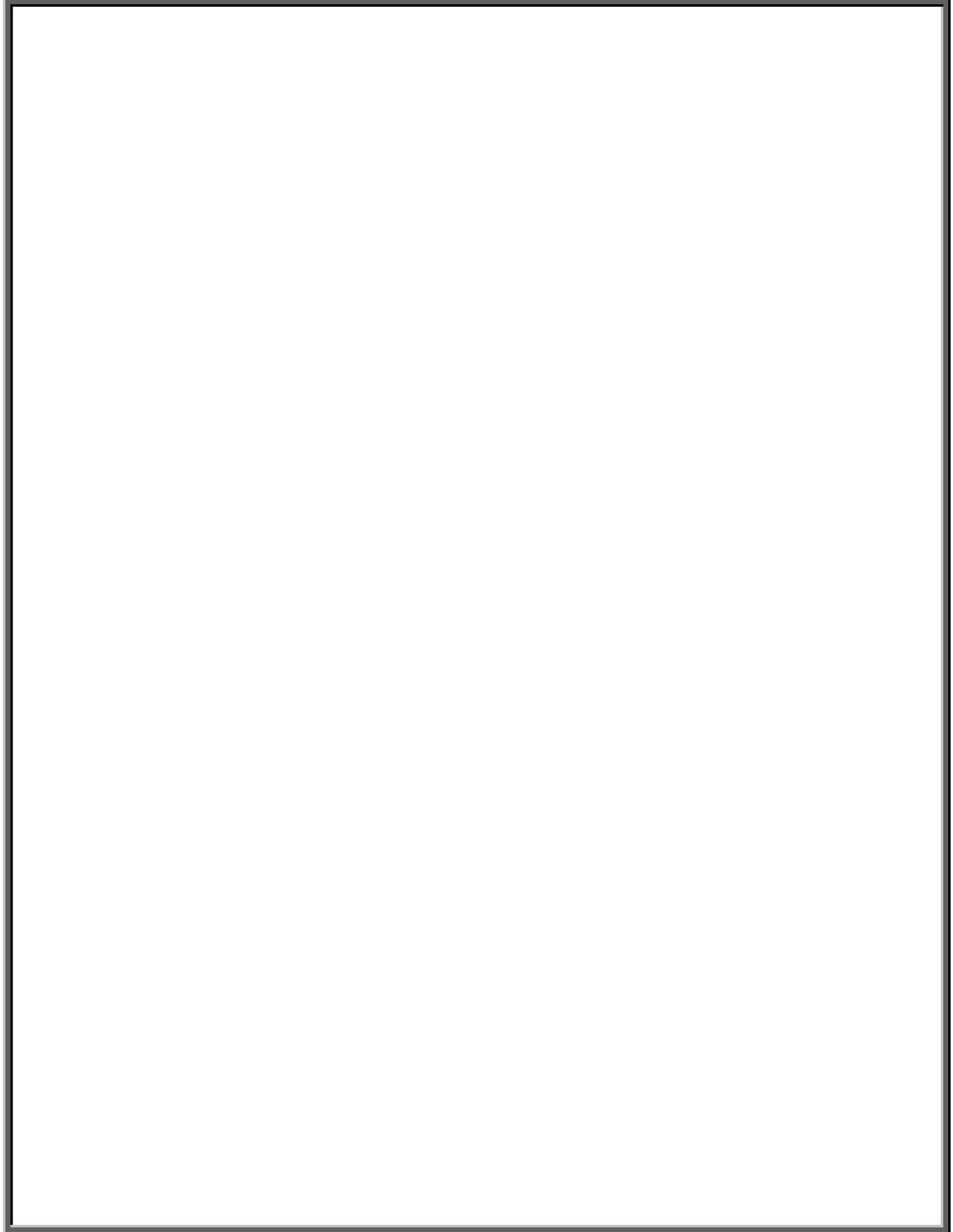
Check one: ___ Exhibit ___ Experiment

Mark the time slot that you will man your poster

(1st) 5:45- 6:05pm

(2nd) 6:05- 6:25pm

(3rd) 6:25- 6:45pm



Science Fair Project Proposal

A project proposal is thinking forward about how to plan your project. If you make a plan in advance, the better success you will have. It also gives you and your parents and teachers time to explore all kinds of scientific ideas.

All grades K-5 should turn in this form to your teacher by **April 15th**.

Project Title: _____

Student Name(s): _____

Teacher/Grade: _____

Category: Exhibit or Experiment

Choose a time slot that you will man your poster at the Science Fair (be sure to mark it on your student name sheet so you don't forget!)

(1st)5:45- 6:05pm

(2nd)6:05- 6:25pm

(3rd)6:25- 6:45pm

Project Topic: (brief explanation of project or question): _____

If you are doing an experiment, what variable are you going to change?

What do you predict will happen (for experiment)? _____

Why did you choose this question or project? _____

Teachers: Please submit to Science Fair PTSA Folder in mailroom