



## Frey Elementary School Science Fair

### Rules and Guidelines

#### Introduction

Congratulations on deciding to explore the wonderful world of science with a science project! Participating in the science fair will give you a chance to better understand the world around you. Your project can be fun and educational at the same time. Every participant receives a ribbon, certificate, and an invitation to a reception after the fair. Your participation alone proves your willingness to reach beyond your school's class requirements, demonstrating the qualities of a winner. The projects receiving the four highest scores in each grade will receive a ribbon for 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>, and 4<sup>th</sup> place respectively.

Use the following guidelines to complete and present the results of your project. If you have any questions, contact Beth Conley at [david\\_conley@bellsouth.net](mailto:david_conley@bellsouth.net) or 678-290-5086.

The results from your project should be presented on a poster presentation board. The display needs to be sturdy and capable of standing on its own. The actual materials used in the experiments do not need to be presented. In order for your project to be considered for judging, an oral presentation to explain your project is required.

Your parents are encouraged to assist you, but you must be the main scientist. The role of your parent should be as an encourager, idea tester, and extra set of hands and eyes if needed. Your own understanding of the project will be very important during judging! A project doesn't have to be complicated to be a good science fair project.

#### Date & Time

Tuesday, **March 2** for grades: K, 1, 2, 3, 4, 5

Projects are to be dropped off at the Media Center the morning of your grade's assigned date between 7:15 and 7:50 AM. Do not bring your project to school before your assigned date.

## Displaying your Project

- Use a display board. These are available at office supply stores or educational supply stores (School Box).
- Displays must be able to stand on their own and be no more than 3 feet tall, 3 feet wide, and 2 feet deep. Displays may be one-sided, two-sided (like an open book), or three-sided.
- The title of the project must be clearly visible and in the form of a question.
- All extra materials must fit on, or in front of the display.

## Oral Presentation

- We recommend you practice explaining your project to family and/or friends. This prepares you for the explanation you will need to give to the judges.
- If you choose not to give an oral presentation, your project may still be displayed and you will receive a ribbon of participation. Please understand that your project will NOT be considered during the judging. Please notify a check-in volunteer if you do NOT wish to participate in the oral presentation.

## Judging

- Judging begins promptly at 8:00 AM on the designated date. Participants will be called out of class in small groups, escorted to the Media Center, and asked to stand quietly by their project.
- At the designated time, 3 judges will ask a few questions about the project. This is your time to shine. Answer any questions and include information you consider important. The interview will only last a few minutes. After the interview, you will return to your class.
- The areas of consideration by the judges include: knowledge of the subject, depth of study, creativity/originality, visual presentation, and oral presentation.

## Planning your experiment

- Once you have a topic for the experiment, take a careful guess at what you expect to find from conducting the experiment. This guess is called a *hypothesis*. Often a hypothesis is formed after researching the subject by talking to experts or reading about the topic. A hypothesis for the question above might be, 'Showers use less water than baths.' A good hypothesis should clearly answer the question, be answerable by experiment, brief, and to the point. Include your hypothesis statement clearly on your display. It's okay if your hypothesis was incorrect! That's what experiments are all about – investigation to see what happens!
- Create a list of all materials needed for your project. Include size and quantities of each item. Display this list on your project.
- The next stage in planning your experiment is to write an experimental procedure, which is simply a list of steps you will follow when conducting your experiment. Directions should be detailed and in the correct order. To fairly test your hypothesis, the experiment must be controlled carefully. You should change only one thing at a time and observe and record the results.

- Conditions that are deliberately changed in your experiment are called *variables*. For example, if you are testing which type of detergent cleans clothes best, you should vary only the detergent and keep the other factors constant, or the same. The water you use, the type of stain you try to clean, and the method you use to clean should all remain the same throughout the experiment. You may also choose to use a *control* in your experiment. A control has no variables and is useful for comparison with other results. For example, a control in the experiment described above might be plain water with no detergent. A control is useful for deciding just how much of an effect your variables have.
- Now you are ready to begin your experiment! You must determine some way to measure the results of your experiment: counting, measuring, weighing, recording temperature changes, etc. The metric system of measurement is required when doing any type of measure. If measurements are displayed, use the metric system. When you make a measurement, there is always some error involved. Therefore, it is a good idea to repeat each measurement at least three times. When your experiment is complete, you must find a clear and simple way to present the results, also called *data*. Using a graph is a good way to display results.
- Finally, put in to words what happened! This is called the *concluding statement*. The concluding statement will either support or not support your hypothesis. Don't worry if your hypothesis turns out to be wrong! This is very common in scientific research. Just be prepared to explain your conclusion. If your results were inconclusive and didn't prove anything, explain how you would change the experiment to get better results next time. You may also mention other things you learned during the experiment, or difficulties you encountered.
- The actual experiment should not be demonstrated for the judges. This should be done at home and documented with photographs, illustrations, charts, etc.

### Final Checklist

- Your topic must be clearly visible on your display. Present your topic as a question, e.g., 'Does taking a shower use less water than taking a bath?'
- Include your hypothesis statement clearly on your display. It's okay if your hypothesis was incorrect! That's what experiments are all about – investigation to see what happens!
- Include your materials list on your project.
- List your experimental procedure. Pictures or drawings are helpful.
- Show the measured results on your display using graphs, charts, or tables.
- Provide a conclusion. This statement should not only explain what happened, but include what you learned.
- Does the display stand on its own?
- Attach a 3X5 index card on the back of your project with the following information: Your name, grade, teacher's name.