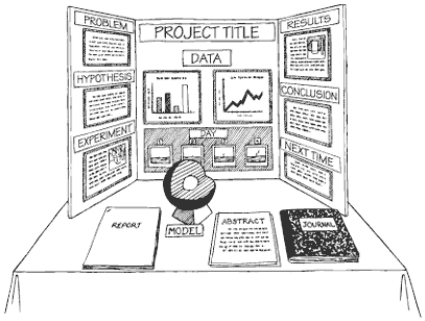
It's Science Fair Time!

Everything You Need to Host a Science Fair at Your School



Created by:
Learning with the Lays

Teacher Notes

Getting Started:

My colleagues and I prefer to do our science fair at the beginning of March, just before our state testing in April so students will have a little refresher on the scientific method. We introduce the project in January so there is at least a month and a half for them to work on it. I usually send the parent letter, entry form, grading sheet, and scientific method explanation sheet home together in a packet the first day that I introduce the science fair. I have included a sample parent letter and science fair reminder that I used last year. You will need to create your own letter with your specific information. I started to make a letter template where you filled in the blanks with your info, but it looked unprofessional. Feel free to copy my example letter and reminders and/or change it to meet your needs.

Introducing the Science Fair to Students:

I always spend the first day explaining how the science fair works, going through the packet, and answering questions. I also show students examples of different display boards. I have a couple that I have saved from previous years, and I also show them some on the Internet. I make sure to point out that each section on the display board needs to be clearly labeled as shown on the grading sheet. I give students lots of ideas for experiments they could do, including ones that we have done in class already.

Finding an Experiment:

I give students two class days to spend finding an experiment and doing research on their topic. I gather all the science project books that I can find from my own shelf, my colleagues' shelves, and the library and let students look through them for ideas. If they find something, I copy the experiment for them. I also have a folder of experiments printed off the internet. Students do not have to choose one of these projects in class; they may come up with their own. It is important to make sure they know how to turn a demonstration into a test with variables. Sometimes, that is hard for students. They don't understand that you can't just build a volcano for a science fair project, there has to be one variable that is being tested. I have to approve every project; this is why I require students to turn in the entry form. Many times, they will have to tweak their project a little in order for it to work. If students find a project before the two class days are over, they may then start researching the topic they have chosen. I let them print any research they find on the Internet as long as it pertains to their topic. They can also look in reference books. I am not very picky about their research; I don't make them cite their sources in the proper way or write a research paper. That is not what I want them to focus on at this grade level. I do, however, want them to

understand that research is an important step in the scientific method and something that scientists do regularly.

I try to make my students understand that simple is usually better as far as science fair projects go. Many students try to do some elaborate project that they don't really understand. I would rather they do something simple, such as test which paper airplane model flies the farthest out of three models. One of my best projects and neatest display boards was doing that experiment.

Grading the Projects:

It is also important to tell students that you are grading the display board, not the actual experiment or topic. In order for students to get a good grade, they need to have each of the twelve items on the grading sheet. I have had many awesome projects where students who put in a lot of effort earn a poor grade because they didn't have everything that was on the grading sheet.

I make the parent letter and entry form worth 10 points each, and the actual project is worth 120 points for a total of 140 points. That is huge in my science class, because we split our time between science and social studies units. That is more points than a test grade. I also take off 10 points per day that the project is late.

Oral Presentations and Setting Up Projects:

I always make projects due two days before the actual science fair. That way we have time for oral presentations. Students have to explain to the class what they did for their experiment and their results. In my school, we only had two fourth grade and two fifth grade classes. The fourth and fifth grades would spend the whole afternoon of both days before the science fair doing presentations. Fourth graders would present to the fourth grade and fifth graders would present to the fifth grade. The fifth grade teacher and I grade projects during the presentations. We used to grade them on the night of the science fair, but it was a nightmare. It took forever to get them all graded, and parents would follow us around waiting for their child's grade. Then they would question every little thing and try to argue that the grade should be better even if it did not follow the grading sheet. On the day of the science fair, we spend the afternoon setting up in the gym. We use tables from the cafeteria and some student desks.

There are many resources online that can help you and your students get ready for the science fair. One of my favorites is the Brain Pop videos on science fair and scientific method. Visit brainpop.com for more info.

Extras:

I have included a scientific method quiz that you may use in your classroom. Also, there is a reminder that I send home with students a day or two before the science fair.

Science Fair Entry Form

Due on: _____

Student's Name: _____ Class:_____

Science Project Title: _____

Brief description of your experiment (include variable that you are testing for): _____

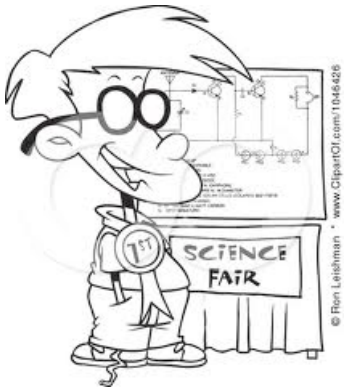
_____

_____

_____

_____

_____



Will you be working with a partner? Yes / No

If yes, please give name:_____

Student's Signature:

_____

Parent's Signature:

_____

This form is for a grade worth 10 points. It must be turned in by _____ to earn 10 points.

Science Fair Project Grading Sheet

Experiment Using Scientific Method

Each Bold Word Should Be Clearly Visible and Labeled on Display Board (10 pts. each)

_____ Question in large print at the top

_____ **Research** about topic on display board or in a folder by the board and clearly labeled

_____ **Hypothesis** stated and clearly labeled

_____ **Procedure/Test** clear and concise with steps of the experiment listed and clearly labeled

_____ List of **Materials** used and clearly labeled

_____ **Data Collection** illustrated using visuals (charts, graphs, tables, pictures/ photos, model, or drawing)

_____ **Results** recorded and clearly labeled

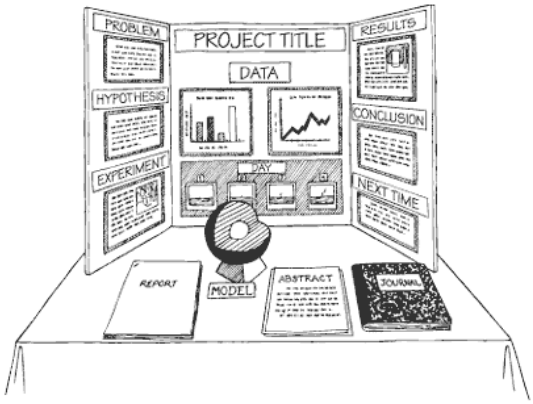
_____ **Conclusion** given and clearly labeled

_____ Title of project, student name, and class clearly visible on FRONT of board in large print

_____ Overall presentation: neat, organized, and creative

_____ Edited for correct use of grammar, spelling, punctuation, etc.

_____ Oral presentation in class



_____ Total points (out of 120)

_____ Percent

_____ Letter Grade

January 17, 2012

Dear Parents,

It's Science Fair time again! 4th and 5th graders are beginning preparations for the science fair that will take place during the PTO meeting scheduled for Monday, March 5th, at 6:30 at GES. Each student is **required** to turn in a project based on the guidelines that will be sent home this week in a take-home packet of information. These projects **must be completed at home**. Class time will be used to help learn about and apply the scientific method and to cover other units in our science curriculum. Please understand that completing a project is **mandatory** and a grade will be given, however being present the night of the PTO meeting when the projects will be displayed is not required.

The scientific method is a focal point in our science curriculum. Participation in the fair helps your child meet these educational goals as well as helping your child discover new areas of interest, practice problem-solving skills and critical thinking, and gain a sense of pride in successfully organizing and completing a project. Students will be allowed to work with a partner with both sets of parents' permission. Please work this out with the other parent before the Science Fair Entry Form is due. Please take into consideration that class time will not be used to allow partners to work together on their project. This will have to be done outside of the regular school day. Students may also choose to work alone. All project ideas must be approved by me.

Parental support is very important in completing a successful project. If you are wondering what your role in your child's science fair project will be, the following suggestions and guidelines might be helpful.

- Help your child select a project that is feasible to accomplish within the given timeframe.
- Help your child find materials for the project such as research sources, building supplies, and display materials.
- Offer support and assistance as your child is working on the project. Please, however, refrain from taking over and "doing" the project.
- Encourage your child to work on the project on a regular basis to avoid waiting until the last minute to get the project done.
- Be sure your child practices good safety procedures.
- Assist in the construction of the display board and in its transportation to school (if necessary) on the day it is due.

All projects will be due on the morning of Thursday, March 1st. Students will be presenting their projects to their class on this day. Then they will be displayed at the science fair on Monday, March 5th. If you have any questions or comments, please contact me by phone (###-####) or email (teacher@school.net).

Sincerely,

Mrs. Lay

_____

Parent Signature – Due Friday 1/20/12 (worth 10 pts)

This letter is for a grade worth 10 pts. To earn your 10 pts., it must be signed and returned by Friday, January 20.

Getting Started:
7 Step Approach to the Scientific Method

1. QUESTION: Answer the question: What do you want to learn? Select a project topic. Come up with a question that your experiment will answer.

2. RESEARCH: Find out as much about your topic as you can. Use reference materials from printed and electronic sources. Keep all information that you find in a research folder or notebook.

3. HYPOTHESIS: Predict the answer to the problem (what do you think the outcome will be? "This is what I think will happen...")

4. EXPERIMENT: Design a test to confirm or disprove your hypothesis. Ask yourself, "What kind of test can I design to confirm what I think will happen?" List the steps of the experiment so another person could repeat the experiment.

5. DATA: Record your data using charts, graphs, photos, etc.

6. RESULTS: Record what happened during the experiment (data) in paragraph form.

7. CONCLUSION: From the results of your experiment, draw conclusions. Was your hypothesis correct? What could you have done differently?

Scientific Method Quiz

The seven steps in the scientific method are out of order. Number 1-7 on the line next to the step with 1 being the first step and 7 being the last step. This is just like we did in class.

____ Analyze the Results

____ Draw Conclusions

____ Form the Hypothesis

____ Identify the Problem/Form a Question

____ Experiment

____ Research the Topic

____ Record Data

Scientific Method Quiz

The seven steps in the scientific method are out of order. Number 1-7 on the line next to the step with 1 being the first step and 7 being the last step. This is just like we did in class.

____ Analyze the Results

____ Draw Conclusions

____Form the Hypothesis

____Identify the Problem/Form a Question

____Experiment

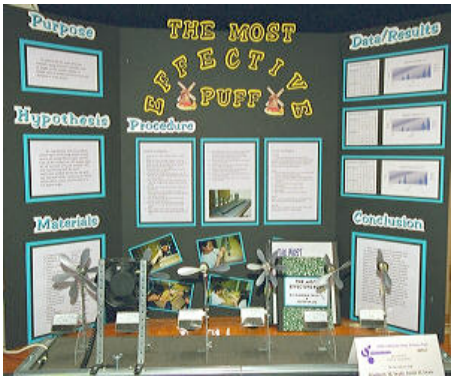
____ Research the Topic

____ Record Data

4th/5th Grade Science Fair and PTO Meeting

Monday, March 5, at 6:30 pm

Please meet in the GES cafeteria, not the gym.



4th/5th Grade Science Fair and PTO Meeting

Monday, March 5, at 6:30 pm

Please meet in the GES cafeteria, not the gym.