



2010

Inventor's Fair

Student Logbook

Student Name: _____

Class: _____

Dear Parents and Students,

Here we go! You are about to embark on an adventure that will be filled with opportunity to learn and to explore the world of Science.

Preparing and displaying an Inventor's Fair project is a wonderful way for children to express their creativity, learn how to plan, meet deadlines, and learn to set goals in order to meet each deadline. It is important to know that there will be no classroom time set aside to prepare for this project. All projects should be completed at home with parental assistance.

Each teacher will require the science project as part of the total grade for the 4th quarter. Requirements and weight of this grade will vary according to classroom. Any questions may be directed to your child's teacher.

All projects will be judged on Monday and Tuesday, May 24th and 25th, and they will be on display during our spring program the evening of the 25th.

Pastor Carol Morley,
Administrator

SIGN-OFF PAGE

Item Description	Date	Student Initials	Parent Initials	Teacher Initials
Patent Application				
Planning and Original Sketch				
Research and Materials				
Bibliography				
Final Drawing and Procedures				
Graphs and Data				
Conclusion				
Abstract				

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TIMELINE

Wednesday, February 24	Science Fair or Inventor's Fair letter sent home
Friday, March 5	Science Fair or Inventor's Fair commitment DUE
Monday, March 15	Science/Inventor Fair Logbooks sent home
Wednesday, March 24	Patent Application DUE
Wednesday, April 7	Planning Page and Original Sketch DUE
Wednesday, April 14	Research and Materials Pages DUE
Wednesday, April 21	Bibliography DUE
Wednesday, April 28	Final Drawing and Procedures DUE
Wednesday, May 5	Graphs and Data DUE
Wednesday, May 12	Conclusion DUE
Wednesday, May 19	Abstract DUE
Monday, May 24	Projects and completed Logbooks DUE
Tuesday, May 25	Judging

PATENT APPLICATION

What is your invention and what will it do? It can be your own twist of something that already exists (Like a musical toothbrush - the toothbrush already exists, but you add a way to make it musical.)

I WOULD LIKE TO INVENT:

What problem could be solved by using your invention?

THE REASON I CHOSE THIS IDEA IS:

PLANNING PAGE

Developing a plan is an important step in solving a problem or designing a new product. Scientists and inventors use a problem solving plan known as the Scientific Method. In the plan you need to work through the following steps:

1. What do I want to find out or develop? (state the problem)

2. What do I think will happen or how can I solve my problem? (Hypothesis: If this..., then that...)

3. How can I test what I think will happen with my new idea? (Design product or experiment)

4. What type of data can I collect? How will I collect and display the data?

5. What will I do with the data and results that I collect?

ORIGINAL SKETCH OF MY INVENTION

Use this page to sketch the way your invention might look. Show how your ideas might help solve the problem you listed. This is a rough drawing of your idea. Later, you will make a detailed drawing of your invention.

RESEARCH

Gather information that relates to the topic area of your invention by reading and referring to different resources.

QUESTIONS TO GUIDE YOUR INVESTIGATION:

1. Have you found any evidence that your invention exists?

2. What area or field might be related to your invention? (Example - medicine, education, environmental, entertainment, etc.)

3. If you started with an invention that has already been made, how is yours different?

4. How might your invention be helpful to others?

5. What topics in science may be involved when using your invention? (Example - chemistry, physics, biology, earth/space, etc.)

6. What problems did you have in designing your invention? How did you deal with them?

MATERIALS TO BUILD MY INVENTION

List the materials you might need to build the actual product you designed. Sometimes building a real invention can be very expensive. Find the cost of the materials you would need if you really built your invention. You might try finding the cost of materials in home supply stores, etc.

Material/ Item Needed	How many of each	Cost per item	Total for each item

Total cost of project: _____

WOULD SOMEONE BUY MY INVENTION? WHY OR WHY NOT?

PROCEDURE I USED TO BUILD AND TEST MY MODEL

It is very important that you are very detailed in your plan so that others will understand how to build your model. You may attach additional pages if needed.

THE STEPS I FOLLOWED IN BUILDING MY MODEL WERE:

THE STEPS I FOLLOWED IN TESTING MY MODEL WERE:

GRAPHS AND DATA

In order to show that your idea works you should test it. The data of your tests and trials should be displayed below. Keep in mind you should attempt at least 3 trials of your invention.

FINAL DETAILED DRAWING OF MY INVENTION

ALL PARTS MUST BE LABELED!

CONCLUSION

Think about the scientific processes you used to create your invention. Answer the questions below to extend your thinking about your invention experience.

1.How has your final drawing changed from the original one? Why?

2.Did the outcome of your invention prove your hypotheses> YES or NO

3.Identify and explain the types of data you used to prove or disprove your hypotheses?

4.What types of problems did you encounter throughout your scientific investigation as you created your invention?

5.If you developed this idea again, what would you do differently?

6.How is the invention you created using the scientific processes relevant to experiences in your real life?

7.What other ideas did you think of while working on this project?

ABSTRACT DIRECTIONS

The abstract is a brief summary of your project. Your abstract should answer the following questions:

1. What was the problem I was trying to solve or the purpose of my project?
2. What was my hypothesis?
3. What were my procedures?
4. What were my results?

The abstract must fit in the space provided on the next page and should be written in paragraph form. An example has been provided below.

ABSTRACT EXAMPLE:

This would not actually appear on your written page. It is just here to help show you what to do,	Actual Abstract
Problem	<p>My dog, Macy, is always getting swimmer's ear when we go to the beach. The purpose of this invention is to construct a device that will protect dogs from swimmer's ear.</p>
Hypothesis	<p>It was determined that dogs, like humans, get swimmer's ear, which can be very harmful to them, Swimmer's ear can cause ear infections and more, It was hypothesized that a device could be constructed that would easily fit into the dogs' ears, keeping them dry while he swims.</p>
Procedure	<p>The device was constructed from an adjustable plastic headpiece which was part of a normal pair of ear muffs. Then a veterinarian was consulted to determine which material could be put in the dog's ear that would be painless and harmless to the dog when it is inserted or removed. A type of ear plug was used. It was attached to the ear muff device and tried on different dogs under the supervision of the veterinarian. Looking at my data I collected none of the dogs gave any signal that it hurt to insert or remove and none of them developed swimmer's ear when they went swimming.</p>
Results	<p>This invention helps dogs with their owners because the dogs are protected from getting swimmer's ear. This invention will allow the dogs to have fun in the water without their owners having to worry about them getting swimmer's ear.</p>

DISPLAYING YOUR PROJECT

We recommend you purchase a display board that you can find at Walmart or Office Max locally. It is made of a sturdy cardboard and is divided into three sections so it will stand up for easy display. The layout does NOT have to be exactly like the diagram below. This is just an example of how your display might look.

<p><u>Procedure</u> (What you did)</p> <p>(Pictures and drawings)</p> <p><u>Credits</u> (List anybody who helped you)</p>	<p>Project Title Student name and class</p> <p><u>Purpose</u> (What you wanted to find out)</p> <p><u>Hypothesis</u> (What you thought would happen)</p>	<p><u>Results</u> (What happened)</p> <p>(Charts and tables)</p> <p><u>Conclusion</u> (What you learned)</p>
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In addition to the display board, you will need to bring in your completed Logbook and your model of your invention.

Remember, you will be graded and judged on

- Creativity and originality
- Neatness
- Accuracy
- Ability to present/explain your display to the judges
- Timeliness

FIELD WORK AND NOTES

The following blank pages are here for you to use to record anything and everything that you might want or need for your project. If you do an experiment, you will record field measurements for each stage. Every time you write something down on these pages, you need to date it and make sure you are explaining what you did clearly. Often times, you will be able to use the information you wrote here to complete the reports and forms in the first part of this book. If, for some reason, you write notes down on loose pieces of paper (maybe you forgot to bring this book with you when you were working on your project), just date the loose pages and tape or paste them into your logbook.

You should keep note of any interviews or phone calls you make, phone numbers and email addresses, because you never know when you will need to email a contact again.

