

District 196
Inventor's Fair Log
Book

A Journal of the Invention Process

Name/s _____

School _____



There's help online 24/7!

Need a form? Lost something? Have a question? Need a resource?

Check out the wiki help at

<http://district196-inventorsfair.wikispaces.com>

Inventors' Log Book

This log book will help you to work through the inventive process! Each page is important for recording ideas, and researching and testing information.

Bring this journal to the Inventors' Fair. It is helpful when speaking with the judges!



Why, I have not failed, I've just found 10,000 ways that won't work.

Thomas Alva Edison

Check out these steps to inventing!

Check out the wiki help at

<http://district196-inventorsfair.wikispaces.com>

- ___ **Step 1 Find a problem.**
- ___ **Step 2 Solve the problem...** Turn your problem into an idea. Get registration packet. Check the wiki for choice options.
- ___ **Step 3 Plan and name your Invention. Research the originality of your idea, using pages in the logbook.**
- ___ **Step 4 Make invention.** Check the wiki for example. Take pictures as you go for the display board.
- ___ **Step 5 Test invention 3 times, using pages in logbook.**
- ___ **Step 6 Make final modifications if needed.** Take pictures!
- ___ **Step 7 Plan, buy and put together your display board.** Get your display board at a store such as: Target, K-Mart or an office supply store. Look at examples on wiki and use the packet to plan your board.
- ___ **Step 8 Plan and practice what you will say at the Inventors Fair.**

Discovery consists of looking at the same thing as everyone else and thinking something different.

Albert Szent-Gyorgyi
Nobel Prize Winner



STEP 1: PROBLEM FINDING

What will you invent?

Identify a problem to solve by brainstorming for ideas in one or more of these ways. As you think of problem and possible solutions, write them in the boxes below. Try to think of at least four problems.

Think about things you do everyday at home or at school or on holidays or weekends. Then think about any problems, things that bug you about doing them, or ways to make them better.

Think about all the tools or utensils you use in an ordinary day—fork, knife, toothbrush, shovel, broom, scissors, and so on. *What would make them easier to use? Or Better?*

Go from room to room in your house. Brainstorm ideas as you look at items in the kitchen, the bathroom, the family room, the bedroom and so on. *Could you use an ordinary item for a new purpose? Or make it out of a different material?*

A better world: How can you help make the world a better place with an invention?

Do a Survey! Ask others what they need. Even if another person thinks of the idea, the real problem is making a model of the idea and proving that it can work. That's your job.

Put *** stars*** by the **two** problems you would most like to work on.

Problem	What would help to solve the problem?	What could you invent?

STEP 2: PROBLEM EVALUATION



EVALUATION GRID

Evaluate the possible problems from your “Possible Problems List.” Using the grid below, give each problem a score of 1-4 (4=high) for each criterion. Then total the scores in the columns for each problem. The problem that gets the highest score is your best idea.

Criteria	Problem 1	Problem 2
Invention needed		
Materials needed—can you get them?		
Why will this invention appeal to the public?		
Practical: How much will it cost? Can you make it?		
Is it original and unique?		
Total Score		

STEP 3: THIS IS IT! PROBLEM SELECTION

DEVELOPING YOUR IDEA

State your invention idea.

List all the things you like about it.

List all the things that could cause problems.

List some solutions to these problems.



If you can dream it, you can do it.
Walt Disney

Description of Invention and How it Works

Exceeds Requirements	Meets Requirements	Does not meet basic Requirements
<p>5 points:</p> <ul style="list-style-type: none"> • Very detailed and specific description • Evidence supports invention working • Student has detailed logbook 	<p>3 points:</p> <ul style="list-style-type: none"> • Clear description with some details • Evidence supports invention may work/partially works • Student logbook lacking details 	<p>1 point:</p> <ul style="list-style-type: none"> • Simple description with some gaps and not very clear • No Evidence that invention works • No student logbook

Be sure to:

- a. Describe each part of the invention.**
- b. Describe how the invention works.**

Drawing

Exceeds Requirements	Meets Requirements	Does not meet basic Requirements
5 points: <ul style="list-style-type: none">• All parts drawn in detail and clearly labeled• Dimensions labeled for all parts	3 points: <ul style="list-style-type: none">• Most critical parts are drawn and clearly labeled• Dimensions are labeled for most critical parts	0 point: <ul style="list-style-type: none">• No drawing included

Please see the wiki below for an example:

<http://district196-inventorsfair.wikispaces.com>

- a) Be sure your drawing shows all parts and is clearly labeled.
- b) Give the dimensions (sizes) for each part.
- c) This drawing needs to be in logbook or on display board.

Research for Similar Inventions

Exceeds Requirements	Meets Requirements	Does not meet basic Requirements
12 points: <ul style="list-style-type: none"> • 3 required sources are listed (Google, business, one other) • Specifically names the closest thing to the invention found for each source • Specific details of what was discovered for each source 	8 points: <ul style="list-style-type: none"> • 3 required sources are listed (Google, business, one other) • Names some closest things to the invention for each source • Lacks detail of what was discovered for each source 	4 points: <ul style="list-style-type: none"> • 2 or fewer sources are listed (Google, business, one other) • Does not name the closest things that were found • Simple description of what was discovered with some gaps given for 2 or fewer of required sources

•This section is to be completed on the following page.

- a. The inventor must search for these three required sources: YIF Google Patents, business contact by phone or in person and a third source of the inventor’s choice.
- b. Tell about the closest thing you found to your invention.
- c. Describe the details of what was discovered when you researched each source.

Demonstration of “Better, Unique, Different”

Exceeds Requirements	Meets Requirements	Does not meet basic Requirements
12 points: <ul style="list-style-type: none"> • Very detailed and specific comparison to similar invention(s) given in #5 	8 points: <ul style="list-style-type: none"> • Some details given about how the invention compares to similar invention(s) given in #5 • Invention is compared to similar inventions. 	4 points: <ul style="list-style-type: none"> • Some details given about how the invention is special

•This section is to be completed on the following page.

Think about the inventions you named as similar to yours. Describe how your invention is better, unique or different. Examples: Shape, Materials used, Comfort, Appearance, Size, How it is used, Durability, Cost, Savings

**USE THIS GUIDE FOR YOUR GOOGLE PATENT WEBSITE
SEARCH AND OTHER SEARCHES**

Name of your invention:

List some keywords that will help you with your online search? (give at least 3 words)

1. Go to www.google.com/patents to research patents using your **keywords**. Write down what you find.

I searched Google Patents using the keyword

Name of product found:

How this product is similar to my invention in areas such as materials used, appearance, size, durability, cost or comfort.

My invention is better, different or more unique because:

2. Choose another website that might sell products similar to your invention (remember that Google.com is a search engine, NOT a website! You may have to use Google to FIND your website of choice, but DO NOT LIST GOOGLE as a website!). Here are some websites you might choose:

- | | | |
|----------------------------|-------------------------|----------------------------|
| homedepot.com | petsmart.com | sportsauthority.com |
| linensandthings.com | sharperimage.com | brookstone.com |
| sears.com | officedepot.com | |

I searched

www._____

Name of product

found:_____

How this product is similar to my invention in areas such as materials used, appearance, size, durability, cost or comfort.

My invention is better, different or more unique

because: _____

3. Store interview. You may visit the store in person or contact them by phone.

You might say something like this: *Hi my name is _____ and I am a student at _____. I have invented the _____ for the District 196 Inventor's Fair. The purpose of my invention is _____ I would like to know if your store has a product that is similar to my invention. Please tell me about that product and how it is similar to mine. How is this product different?*

Store name: _____

Name of product: _____

Person I talked to: _____

What they said: _____

How this product is similar to my invention in areas such as materials used, appearance, size, durability, cost or comfort.

Designing and Building Process

Exceeds Requirements	Meets Requirements	Does not meet basic Requirements
12 points: <ul style="list-style-type: none">• Very detailed and specific description including challenges, surprises, and successes that occurred• Work is mainly that of the student	8 points: <ul style="list-style-type: none">• Clear description including some details• Work is partially that of the student	4 points: <ul style="list-style-type: none">• Simple description including some gaps• Work does not seem to be that of the student

Remember to take pictures!

Includes:

- a. Design and planning phase.
- b. Steps to construct the invention.

1.
2.
3.
4.
5.
6.

Testing with an Observer

Exceeds Requirements	Meets Requirements	Does not meet basic Requirements
5 points: <ul style="list-style-type: none"> • Tested 3 times or more • Named more than one observer • Very detailed and specific description of testing process 	3 points: <ul style="list-style-type: none"> • Tested 2 times • Named one observer • Clear description with some details of testing process 	1 points: <ul style="list-style-type: none"> • Tested 1 time or less • No observers named • Simple description with some gaps in relating the testing process

Take Pictures

Includes:

- a. Number of times tested.
- b. Names of observers.
- c. What happened during testing and how well the invention worked.

Date	Time	Observer	Results & Description of what happened

Overall “Inventiveness” Rating

Exceeds Requirements	Meets Requirements	Does not meet basic Requirements
12 points: <ul style="list-style-type: none"> • Creative in 4 or more of the ways listed 	8 points: <ul style="list-style-type: none"> • Creative in 2 or 3 of the ways listed 	4 points: <ul style="list-style-type: none"> • Creative in one of the ways listed

The invention shows creativity in the following ways:

a. Unique qualities related to resourcefulness

b. Original thinking

c. Original use of materials

d. Unique function/operation

e. Presentation (verbal skills, display board, log book) See following sheets and check wiki for practice presentation sheet!

Now you are ready to plan your display board!

Display Board Plan-NOT A DETAILED PLAN

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Display Board Recommendations

Use a tri-fold board to display your information.

1. Section called "Problem"

- Describe the problem you identified.
- How did you get your idea?
- **Prove that your invention is needed.**

2. Section called "Purpose"

- Tell how this invention will solve the problem you identified?
- How will it improve the life of others?

3. Section called "Research"

- Describe what you did to research the invention.
- List the 3 required sources; Google Patent *, business contact by phone or in person, and a choice of your own.
- Describe the details of what was discovered when you researched each source.

4. Section called "Originality"

- List the similar items that you found in your research.
- How is your invention better, unique, or different than what you found?

5. Section called "My Invention".

- Draw a picture of your invention with each part labeled and the measurements given. See wiki for an example.
- Clearly tell and show how invention works.
- Tell or list the materials with an estimate of the cost of the product. Show what modifications you made to make it work better.

6. Section called "Design and Building Process"

- Use photos to show the building and testing process.
- Include information and observations you made during your testing.
- Describe any adjustments you needed to make.

7. Make sure your board looks pleasing to the eye. Keep in mind the use of pictures, colors, uniform print, balance, and spacing,

8. Use of a computer is encouraged, but not required. Any writing must be neat, legible and easy to read.

9. Remember to use lots of photos.



**PLAN!
PREPARE!
PRACTICE!
PRESENT!**

When you are in front of an audience, it is important to **plan** what you are going to say. Follow these guidelines to **prepare** your speech. All successful presenters **practice** their speeches. Practice your presentation in front of friend or relative. Remember to use good eye contact and a loud, clear voice when you **present**. Demonstrate your invention, and make sure your audience can see what you are doing.

Use your display board to help guide your presentation.

The name of my invention is _____

This was my problem. (Tell your story.) _____

I solved this problem by _____

This is how my invention works. (Explain and demonstrate.) _____

It improves or changes life because _____
