

# INVENTION LOG



## What is an invention?

An invention is something new that enables us to solve a problem or do something better or easier.

## The Purpose of This Invention Log

All stories have an ending and in this case, the ending of what you are doing is your invention, itself. But all stories also have a beginning and middle. The purpose of this Invention Log is to tell the entire story of your invention and in it, you will record what you did, why you did it and how you did it, during every step in making your invention. This Invention Log is an important part of the invention process and is a **complete and accurate record** of the ideas, plans, and process by which the invention was created.

## How to Use This Invention Log

The Invention Log is not a book report that is created after you are done, but rather a diary, that is **continuing being filled in as you work** on your invention. Follow the steps in the Invention Process and fill out the various pages as you work on them. When you are done with any page, **print your name and the date** at the bottom. If you need extra space for any section, make copies of the Blank Page and use that for any purpose. Once you are done, put the pages in the order in which you did them and staple them to make a complete Invention Log. This log will also be used as part of the final presentation. Because of this, except for things like a list of materials, all **sections should be filled in using complete sentences** and not single words or short phrases.

## The Name of This Invention:

## The Problem That It Solves:

The problem that my invention solves is litter boxes constantly smelling disgusting.

## Statement of Originality

I promise that the ideas in this Invention Log are my own.

Inventor's Name [Redacted]

Signed: [Redacted]

Date: 1/26/17

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[Redacted] 1/26/17  
Sign your Name and the Date when you finished this page.

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## Steps in the Invention Process

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As you work on your invention, follow these steps and check them off as you complete them.

1. ● What problem are you trying to solve?
2. ● What is the result you are trying to achieve?
3. ● What is a possible solution?
4. ● Has this solution been done before?
5. ● Make a drawing of the invention.
6. ● What problems might you encounter with this design?
7. ● How will you fix those problems?
8. ● Repeat steps 5 to 7 until you have a design that you think will work.
9. ● What parts and materials will you need to make the invention?
10. ● Where will you get those parts and materials?
11. ● What additional skills will you need to make the invention?
12. ● Who can help you do those activities?
13. ● Get the parts, materials and build the invention with help.
14. ● Test and evaluate the invention.
15. ● Identify any problems with the invention.
16. ● Repeat steps 5 to 15, until the invention works as planned.
17. ● Name the invention.
18. ● Plan and create the Invention Display Board.
19. ● Practice what you will say about your invention in the Judging Circle.

## Explaining the Problem and Identifying a Solution

### 1. What problem are you trying to solve?

The more specific you are in describing the **problem**, the better your solution will be. How did you come up with the problem?

The problem that I'm trying to solve is the constant, terrible smell of litter boxes.

### 1. What is the result you are trying to achieve?

How can you measure the result you want? The more specific you are in describing the **result** you want, the better your solution will be.

The result that I want is a litter box that will automatically spray a good smelling scent.

### 1. What is a possible solution?

The more specific you are in describing the **solution** you will create, the better your invention will be. How did you come up with the solution? How is this better than other solutions for this problem?

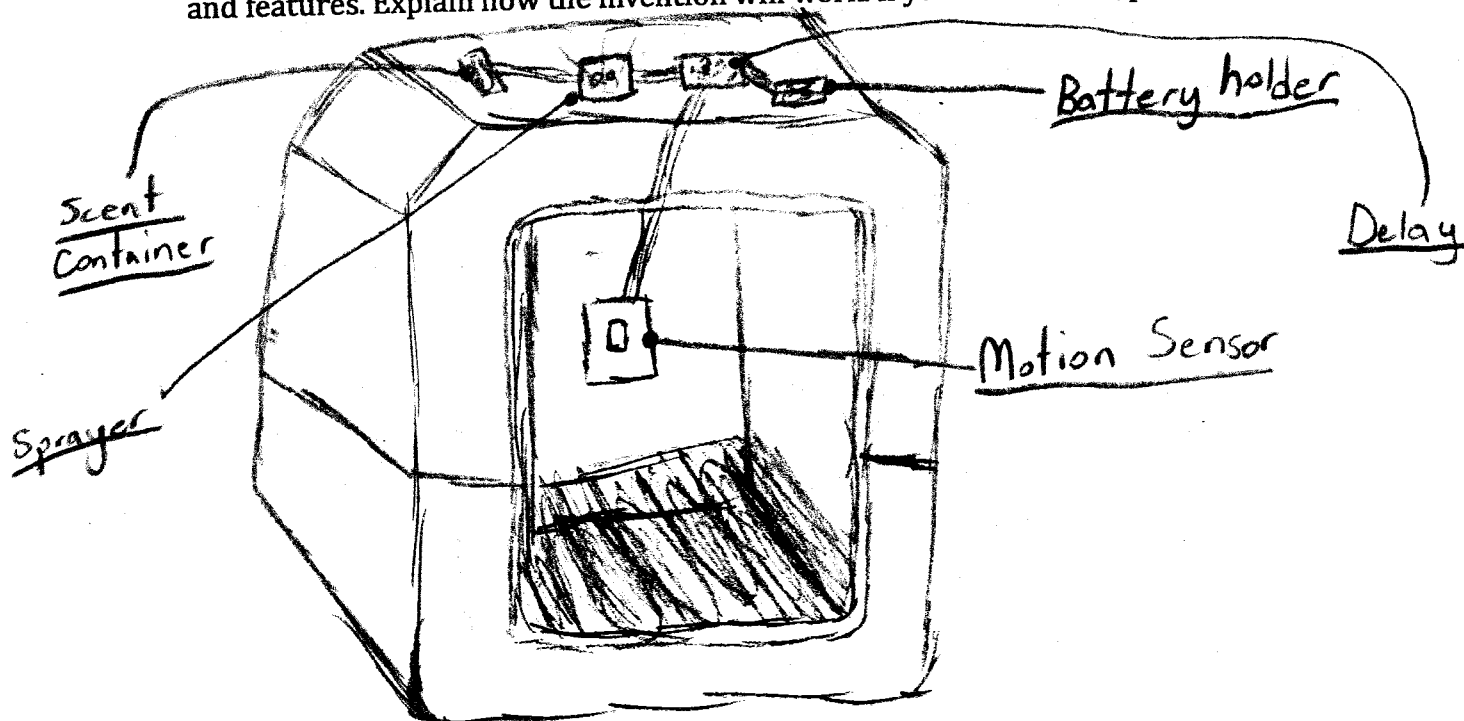
My solution to the problem of terrible smelling litter boxes is a litter box with a motion activated Glade scent sprayer modified to fit in the litter box. My dad and I brainstormed for about 10 minutes and started sketching. That was how I came up with my invention. This is better than other litterboxes with non-automatic scent because when you have a scent just sitting there, you get used to the scent and it starts to smell bad.

### 1. Has this solution been done before? What research did you do to see if this invention had been done before? Who did you talk to? Where did you look? What Internet site did you search?

The solution of an auto-automatic spraying litter box has not been done before. We Googled auto-automatic spraying scent litter box. (And other searches along that line.) I talked to my dad. I looked on my phone. I used Amazon and Safari

## Creating and Improving the Design

5. Make a drawing of the invention you are thinking about building. Label all the important parts and features. Explain how the invention will work. If you need more space, use another blank page.



5. What problems or issues might you encounter with this design? Who did you talk to about this design? (another student, parent, teacher, etc.) What were their comments about your design?

Problems that we might encounter with the design:

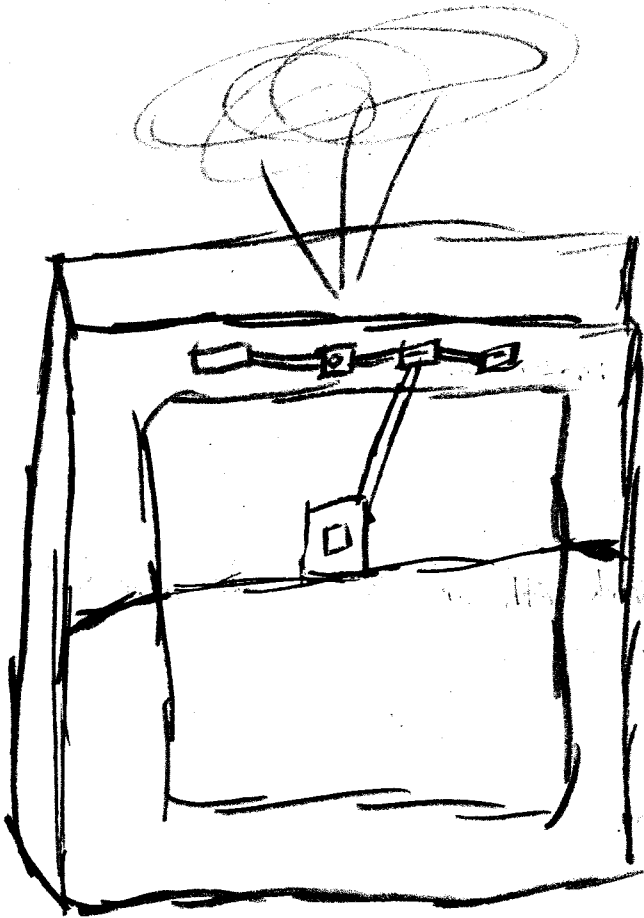
- Not being able to take apart the auto-matic sprayer
- The delay not working.
- Connecting wires to everything

I talked to my dad, my mom, and my friends

5. How can you fix those problems or address those issues?

- For the first problem, we would have to just use the sprayer it's self.
- For the second problem, we would have to start from scratch and think of a new p
- For the final problem, we would have to do some research on electrical wiring.

5. Repeat steps 5 to 7 until you have a design that you think will work. You may have to copy and make multiple copies of this blank page until you have a good design.



## Building the Invention

9. What parts and materials will you need to make the invention and how much will they cost?

- Air Freshener (\$6.62)
- Dabuy (\$6.72)
- 3m Tape (\$3.82)

9. Where will you get those parts and materials?

We'll get the items from Amazon and Lowes.

9. What additional skills or abilities will you need to make the invention?

We'll need to be able to work with wires. We will also need to be able to take stuff apart.

9. Who can help you build the invention?

My dad and my step-mom.

9. Get the parts, materials and build the invention with help

10. Test and evaluate the invention. What did you do to test the invention? How did you measure how good the result was? Before we even tested it, we weren't able to take apart

the sprayer.

When we had the final design, we tested it by putting our hands into it and it worked!

9. Identify any problems with the invention. What will you change to make it better?

We will have to now just stick the sprayer in the litter box while making it convenient for users.

Problem: Couldn't take apart the sprayer.

9. Repeat steps 5 to 15, until the invention works as planned. You may have to copy and make multiple copies of this blank page until you have an invention that works the way you want.

### 17. Naming the Invention

What words describe your invention?

Think in terms of words that will help you name your invention.

- Scent
- Toilet
- Meow
- Smell
- Purr
- Odor
- Fresh
- Feline
- Litter
- Step
- Whiff
- Litter Box
- Cat
- Kitten
- Box

What is the function of your invention?

Think in terms of marketing it. How will it solve the problem? How will it help others? How is your invention different from others that may already be on the market?

It solves the problem by having a motion detecting scent sprayer in it that shoots great smelling scent out of the box and into the air. It will help others like me by keeping their rooms ~~scent~~ free! My invention is different from others out there because the other stench-free litter boxes have a block of scent just sitting there. You'll eventually get used to that smell and it'll become normal. With my invention, the scent will always be noticeable because it comes out new and fresh unlike the others.

Who is your target audience? Who would use your invention?

People that would use my invention are people who have their litter boxes in commonly used rooms like me!

Some creative, attention-getting techniques you can use, are:

Alliteration (using the same first letters or sounds): "Kit Kat"

Rhyming: "Light Bright"

Alternative spelling: "Sno Bal"

Using numbers in the name: "Super Clean 2000"

Describing the function of the invention: "Hydro-Blast"

Based on this analysis, what are some good names for your invention?

- Fresh Whiff
- Purr Scent
- Step N' Sniff
- Whiffin Kitten
- Whiffer Box



Which name do you like best?

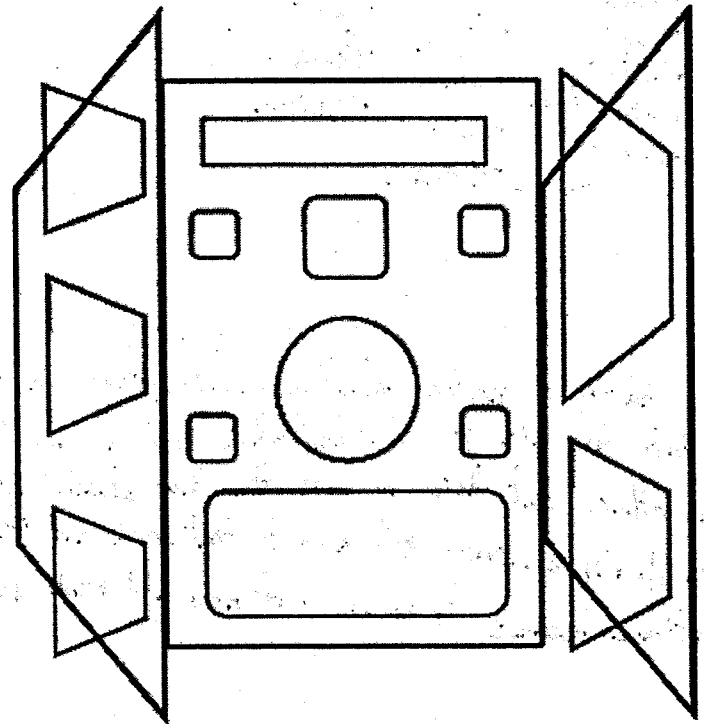
### 18. Plan and create the Invention Display Board

This is an example of what a Display Board might look like, but you can make it look anyway you want.

This is YOUR invention and YOUR display so use your creativity to tell the story of your invention the way you want.

However, be sure you use

- Fonts that are readable (style, size, color)
- Colors that look good together
- Shapes that are the right size
- Correct grammar
- Proper punctuation
- Check the spelling of all words



**Your Display Board MUST contain the following**

**The name of your invention**  
**The purpose of the invention or the problem it solves**  
**A description of how the invention works**  
**Your name, grade, school & town**

You might also want to add this information:

- How the invention was made
- How the invention is used
- Biography of the inventor
- Supporting and explaining picture/photographs/drawings/charts

**[Redacted Signature]**

**3/20/17**



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- What scientific principles were used in your invention? (Examples: buoyancy, heat transfer, etc)
- What engineering disciplines were used in your invention? (Examples: Electronics, optics, etc)
- Testimonials from users
- Any other information about the invention that will help explain it, what it does or why it's good.

**Maximum Size:** With the wings folded in, the Display Board can only take 24" of table space.  
However, you are allowed to open up the wings during your Judging Circle presentation

Scientific Principles: None

Engineering Disciplines: Electrical, Mechanical, and Wood.

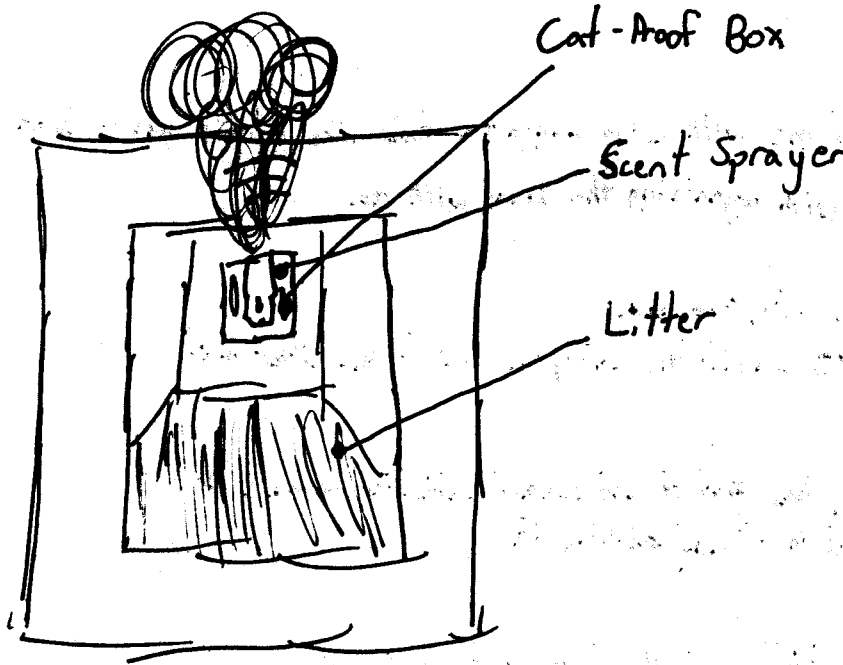
User Testimonials: Aiden (school friend): "wow, that's cool!"  
Breah (step-sister): "It's cool."

Matrix (Cat): \* Spins in circles inside litter box.\*

Cali (Cat): \* Rolls around over and over.\*

~~Other Info:~~

Other Info:



### 19. Practice what you will say about your invention

Here are some questions that you might be asked in the Judging Circle by the judges or fellow student. To help you prepare, you might want to write down some of the important parts of your answers so that you have them when you practice giving your presentation.

How did you come up with the idea for this invention?

• I came up with the idea while talking to my dad about chores. When the litter box came up, that was when I realized that it always smelled terrible in my room.

What types of people does this problem affect?

• People that have litter boxes in commonly used areas like me.

How did you think up your solution to the problem? • We thought of the solution because we always

have to spray Febreze into my room. We decided to automate it.

Where did you get the materials for the invention?

• Amazon and Lowes.

Who helped you build the invention and what did they help you do?

• My dad helped me with using dangerous tools like a nail gun to form the invention.  
• My mom helped with organizing the board with me.

Are there other materials that you could use that are better?

• Plastic (for the cat-proof box)  
• Strong Magnets (To connect the cat-proof box to the litter box.)

Who has used your invention and what did they think about it?

• My cat, Matrix, has used it and seemed satisfied because he kept moving around in it and smelling it.

What changes might you want to make to your invention?

• Being able to take apart the sprayer to make the invention more unique.

### 20. Be proud of what you have done

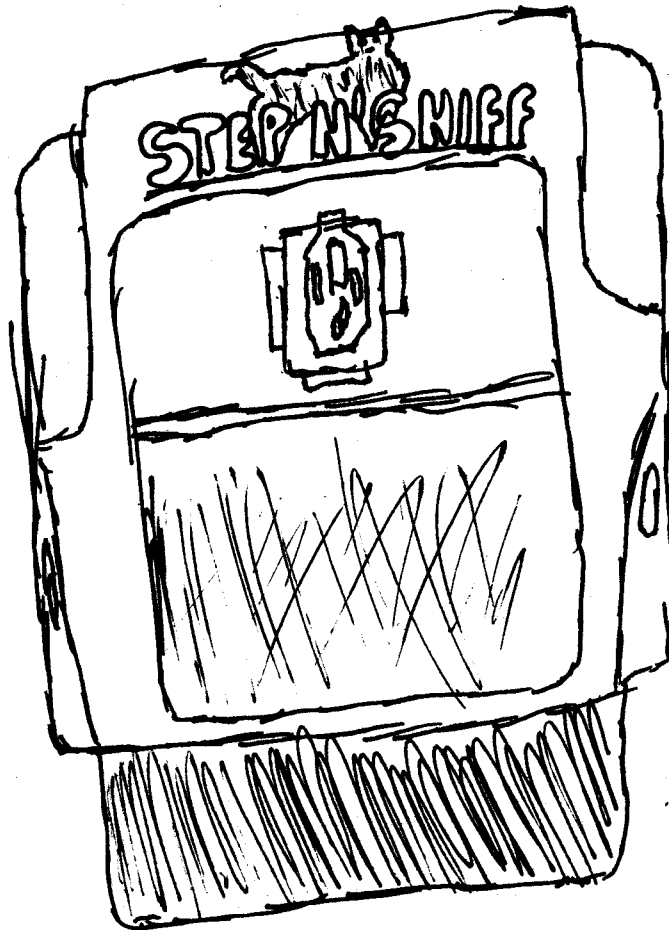
You will use the problem-solving and communication skills you have gained here throughout your life and career. Congratulations on what you've done!



# Blank Page for additional information about what you've done

This blank page is available for you to add anything to your Invention Log that will help explain what you did, how you did it and what the results were. This could be drawings, calculations, descriptions, test results, etc. Multiple copies of this page can be inserted anywhere you want in the Invention Log.

Final Drawing



STEP N'  
SNIFF