

Joseph W. Martin School

Grade 5 First Annual

Invention Convention

Friday, June 4th, 2010

What do I need to know about the Invention Convention?

Before getting started, read all the information so that you know what you need to do, and how!

Rules

1. Each student will participate and meet the deadlines.
2. Each student must follow the invention and display process described herein.

Invention and Display Guidelines

1. Your invention must be your own original idea. It's okay to ask an adult for help when it is time to build your invention, especially with safety and gathering materials, but the actual idea and main effort should still be your own. Also, remember that your invention doesn't have to be a thing; it can also be a process or a better way of doing something.
2. Keep in mind that your display area will only be 2 feet by 3 feet, so if your invention is bigger than that, you will need to build a model of it to display instead.
3. Your invention and display materials should all be created safely, carefully, and neatly. Your invention must be inexpensive (\$20.00 maximum)
4. Do **NOT** include:
 - a. Expensive or non-replaceable personal property
 - b. Live animals
 - c. Matches or flames
 - d. Chemicals that are flammable or otherwise dangerous
 - e. Parts too fragile to be handled
 - f. Uncontained messes
 - g. Batteries that work for long periods of time (electric projects should use momentary switches or other switches that automatically turn off when you let go of them)
 - h. Electricity passing through non-insulated wire
 - i. Anything dangerous.
 - j. NOTE: Electrical outlets are limited and will be available on a first-come first-serve basis.
5. Your display **MUST**:
 - a. Include your "Inventor's Journal" showing your brainstorming lists, your plans, diagrams, and other inventor's notes.
 - b. Fit on a student desktop. Inventions or models may be no larger than 2 feet by 3 feet.
 - c. Be a creative, neat, organized presentation. Display boards may be purchased or constructed out of sturdy cardboard.



What are some examples of inventions used in the past?

Here are some examples (found on the Internet) of student inventions in the past. Although you cannot use these, they may help you get started thinking about some new ideas of your own.

Examples

- A device that cleans gutters
- A rain poncho designed for use when riding a bicycle
- A lunch-box alarm that goes off when an unauthorized person opens it
- A bird feeder that protects feed from the wind and rain
- A toothpaste cap that minimizes waste and mess
- A dog collar that lights up at night
- A bedspread that zips down the middle
- Safety suspenders that light up at night for joggers or bikers
- A newspaper launcher
- A new type of rake that allows you to pick up leaves without bending over
- A robot that distributes and collects student papers
- A glove with a light for signaling turns when riding a bike at night
- A drying rack for gloves

Related Links

Thinking Like an Inventor

- [Industrial Revolution and Inventions](http://www.teachersfirst.com/lessons/inventor/ind-rev-open.htm) To set the backdrop on how inventions really do impact society, check out this online workshop about inventions and the Industrial Revolution. This is great background for knowing why an inventor is motivated to seek out new solutions for doing things. <http://www.teachersfirst.com/lessons/inventor/ind-rev-open.htm>
- [ThinkQuest](http://library.thinkquest.org/J002783/InvCon.htm) This page has new inventions by kids in schools. If you are interested in using your creativity and making your own inventions, then this page is for you. <http://library.thinkquest.org/J002783/InvCon.htm>
- [Inventors Toolbox](http://www.mos.org/sln/Leonardo/InventorsToolbox.html) Simple Machines: These devices were all in common use for centuries before Leonardo's time. Each one makes work easier to do by providing some trade-off between the force applied and the distance over which the force is applied. <http://www.mos.org/sln/Leonardo/InventorsToolbox.html>
- [Kids Design Network](http://www.dupagechildrensmuseum.org/kdn/index.html%20) With Kids Design Network, you'll investigate a challenge, dream up a design, and draw your plans on the computer. Then, using the Internet, you can show your design to a real engineer. <http://www.dupagechildrensmuseum.org/kdn/index.html%20>
- [Innovative Lives](http://www.si.edu/lemelson/centerpieces/ilives/index.html%20) Inventors are innovative. Take a look at this Smithsonian website that offers lots of testimony that innovative thinking is energy that thrives today. <http://www.si.edu/lemelson/centerpieces/ilives/index.html%20>
- [Ronald J. Riley's Kids Inventor Resource](http://www.inventored.org/k-12/inv-hist.html) Absolutely everything you want to know about inventors, inventions, thinking like an inventor, going through the invention process, and how to prevent yourself from being scammed. <http://www.inventored.org/k-12/inv-hist.html>
- [Chronology of Past Franklin County Invention Convention Winners](http://www.just-think-inc.com/chronology.html) Here are the winners of past Invention Conventions in Franklin County. They should inspire you to think of new problems to solve .. no copying! <http://www.just-think-inc.com/chronology.html>

Journaling Your Design Prototype

Journal: "Brainstorming Problems"

You will keep an "Inventors Journal" in which you write about your ideas and thinking process.

Be a dreamer! Think about things that people need in order to make life or everyday activities better, easier, or cheaper. Think of problems that need to be solved. Observe your friends, family, and pets. Talk to people about something they would like to see changed. They may have problems you've never thought about before!

Brainstorm a list of problems that you have thought about. Now that you have mentally brainstormed the problems you would like to solve, list them in your notebook. This notebook will be your "Inventors Journal". Whenever you think of another problem that needs solving, write about it in your journal. Some inventors take their journals with them wherever they go.

Narrow your list down to one problem you think you can solve and is interesting to you. Write that one problem at the top of the next page of your journal.

Journal: "Brainstorming Solutions"

Next, think about how to solve the problem. Think of lots of solutions! Some solutions that you think of will not make sense, others will. Your solution doesn't have to be a thing; it can also be a process or a better way of doing something. List the solutions in your journal, and briefly describe what they might look like if you actually made them.

Which one of your solutions could you actually make yourself or with just a little bit of adult help? Choose the idea that seems like the best, and write it at the top of the next page of your journal.

Once you've decided which solution you'll use, ask yourself these questions:

Is my invention really a new idea?

Is it useful?

Can it be made easily?

Journal: "Making the Plan"

Once all the answers to your questions are "yes," draw pictures of how your invention should look. Your first drawing is a rough draft. It shows the basic idea of what the invention will look like.

Redraw the invention until it looks exactly right. This may take lots of tries! Label all the parts. This drawing should be presentation quality. It will be a critical piece of the engineering and design process!

List the materials you'll need to make your invention.

Design and Display Your Prototype

Disclosure Forms: "Invention Idea Approval"

Complete both pages of the Student Invention Disclosure Forms, and submit them to your teacher. Your invention idea *must be approved before* you go any further.

Making It Real: "Build Your Invention!"

Build it! Double-check the Invention Convention Guidelines for Inventions, get your materials together, and DO IT! Build a model or a prototype of your invention. Try it out to see if it works. Don't worry if it doesn't work the first time, keep trying. If you have time to modify it, go ahead. If it never does what you want it to, that's ok! Remember, you invented the IDEA too! If you are inventing a new way to do something (a process) write out your process on a display board and describe how it is different from other ways of doing the same thing. We will take time in class to discuss your progress and troubleshoot any problems you may be having.

Marketing Plan. How will you convince others to consider the merits of your Invention? If you were going to sell it, how would you persuade people to buy? What slogans or catchy phrases can you use to get their attention, and keep your product in their memories? Together in class, we will work on ways to consider your audience, consider your Invention, and market your Invention. You will actually do the work on your display board at home. You can work on fancy lettering and artwork for your display at home, too. Your display boards will serve as a backdrop for your invention.

Invention Convention 2010: "Display It"

Display it at the Invention Convention. Double-check the "Invention Convention Guidelines for Displays", then work to make your project look as good as possible. Learn all you can about how your invention works and what it is good for so that you can clearly indicate its uses as part of your display. Be ready to answer questions. Now... *Congratulations! You are an inventor!*

Display Boards must be at school by Thursday, June 3rd.
Inventions must be at school by Friday, June 4th at 9:00 a.m.

Invention Convention displays in our classroom will be open to the public on June 4th
from 1:45-3:00 p.m.