

# How to Come Up with a Great Invention in Four (or maybe five) Easy Steps: A Guide for Kids and their Parents

## Step 1: Use a bound notebook to record all of your brainstorming and ideas.

The notebook helps you to organize your ideas and to prove that these are your ideas. Write everything down: your brainstorming, your design ideas, your research, and sources for information. You and another person should date and sign or initial your notebook after each entry (this is the proof that these are your ideas). The notebook is an important part of your invention display.

## Step 2: Brainstorm about how to make something work better for you.

Inventions occasionally are entirely new ideas, but more often they are better ways of doing something. Think about things that you or like to do or need to do. What do you use when doing these things? Is there any way that the things you use could work better? Can you think of something entirely new that could help you do something that you like to do?

### Examples:

I like to ski. I need ski clothes to stay warm and dry. I need a helmet. I need goggles. Could I make better goggles (maybe, a helmet with built in goggles so they don't come off and get lost)?

I like to read in bed. I need a book light to read in bed. Could I make a better kind of book light, one that recharges during the day so that I never run out of batteries?

I have to do laundry. I need to sort clothes, put them in the washer, choose a setting, and add detergent. Sometimes I forget to choose the right water setting and a large load of clothes get washed in a small amount of water. Could I make a washing machine that senses how many clothes are in it and adds just the right amount of water?

Ideas for inventions that will help me do something I like/need to do: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## Step 3: If you can't think of an invention for you, think of one for someone you live with.

Brainstorm about what your Mom, Dad, sister, or brother (or someone else you know) like or need to do. What things do they use? How could you make these things work better?

### Examples:

My Dad likes to ride his bike to work, but it's hard to peddle back up the mountain to our house after work. Can I invent a way of making and storing electricity while going down hill on a bike that can be used to help the bike go back up hill later?

My sister has to wash the dog, but she jumps out of the bathtub when my sister reaches for the dog shampoo. Can I invent a device to hold the dog in the bathtub so she can't jump out?

Ideas for inventions that will help someone else do something he/she likes/needs to do: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

#### **Step 4: Research your idea to see if it has already been invented.**

Use an internet search engine, newspaper ads, calls to stores that might sell an invention like yours, or experts in the industry that would use your invention and ask if anyone has heard of something like this. Record answers to your questions and the search terms that you used in your notebook. If your idea has been invented already, brainstorm for a new idea, because an invention must be original.

Examples:

Call ski resorts, winter sports stores, and search the internet for a helmet with built in goggles.

Call bike shops, skim biking magazines at the library, and search the internet for powered bikes.

Call book stores, Best Buy, Office Depot, and search the internet for a rechargeable book light.

#### **Step 5: Put together your eight-part invention display.**

- 1) Title: This is the name of your invention or a clever reference to your invention
- 2) Who will benefit from this invention: A description of the problem that the invention will solve, or how the invention will make it easier (or better) to \_\_\_\_\_. List people that will benefit. For example, a washing machine that senses the amount of dirty clothes and adjusts the water amount will make it easier for the user to choose the best amount of water and reduce waste of clean water, which is good for the whole planet.
- 3) A description (in words) of the invention and how it will work.
- 4) A labeled drawing of the invention that shows its working parts. The drawing should be roughed out in the notebook and a final large drawing made for the display.
- 5) The results of your research that failed to find another invention like yours already in existence. Describe how you searched for an invention like yours, but failed to find one.
- 6) A bibliography, in which you list sources that you consulted for ideas (books, people you talked to, internet sites, stores that you contacted during research ...).
- 7) A model of your invention. This does not have to be a working model, just a representation of what your invention will look like.
- 8) You inventor's notebook with your brainstorming, planning, research, and rough sketches, all dated and initialed by you and another person.

#### **For more help:**

Go to the Western Nevada Regional Science Fair and Lemelson Young Inventor's Challenge web site at <http://nevadasciencefair.net/InventionPage.htm> to find out more about how to do enter an invention. Click on the menu links on the left or at the top for more ideas, resources, and specific rules for the displays.