

You Can Do It

When you invent, you think up ideas. Then you make them work, step by step.

Steps to Creating an Invention

1. Think of ways to make life easier or better for you or people you know. Think of problems that need to be solved. Think about what goes on in your home or at school. Observe your friends, families, and pets. They may have problems you've never thought about before.
2. Make a list of these problems in a notebook. This notebook will be your invention 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.



3. From your list of problems, choose one that you think you can solve. Make sure it's one you find important and interesting enough to keep working on.
4. Think about how to solve the problem. Lie down on your bed or sit in a comfortable chair. Think of lots of solutions to the problem. Some of them won't make any sense. Some will sound good. Some will seem absolutely terrific. This process is called *brainstorming*. It allows you to come up with many ideas, answers, and plans.
5. List the best solutions in your journal. Next, describe how the solutions might look if you turned them into something tangible — something you can see and touch.

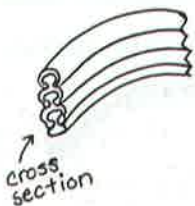
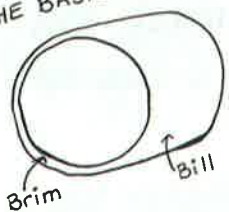
Solutions

- ① a) Expandable clothes made from super-stretchy fabric.
b) Sectional clothes — attach additional pieces as you grow.
- ② a) Hand-held slide mover extends arm length.
b)
- ③ a) Scrolling map attaches to handlebars.
b) Transparent map stickers to stick on back of sunglasses.
- ④ a) Sunhat based on baseball cap design with multiple movable brims.

THE TOTALLY-ADJUSTABLE SUNHAT

by Cass Brewer
A new cool cap with multiple
movable, detachable bills.

THE BASIC BRIM AND BILL:



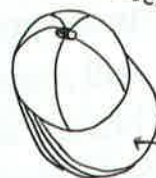
- each hat has 4 of these pieces, all in different colors.
- made of transparent plastic, so the colors look cool when they overlap.

- brims interlock so they rotate on "tracks." Only the bottom brim is fixed and others can be removed.

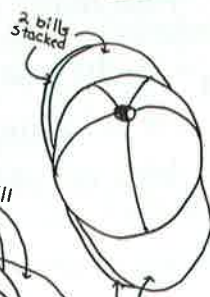
THE TOTALLY-ADJUSTABLE SUNHAT

by Cass Brewer, page 2

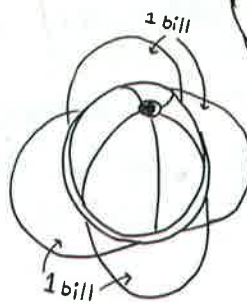
Position 1
(minimum coverage)



Position 2
(moderate coverage)



Position 3
(maximum coverage)



6. Look over your solutions.

Which one can you actually make yourself—or with some adult help?

7. 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?

Does it use materials that are easily available?

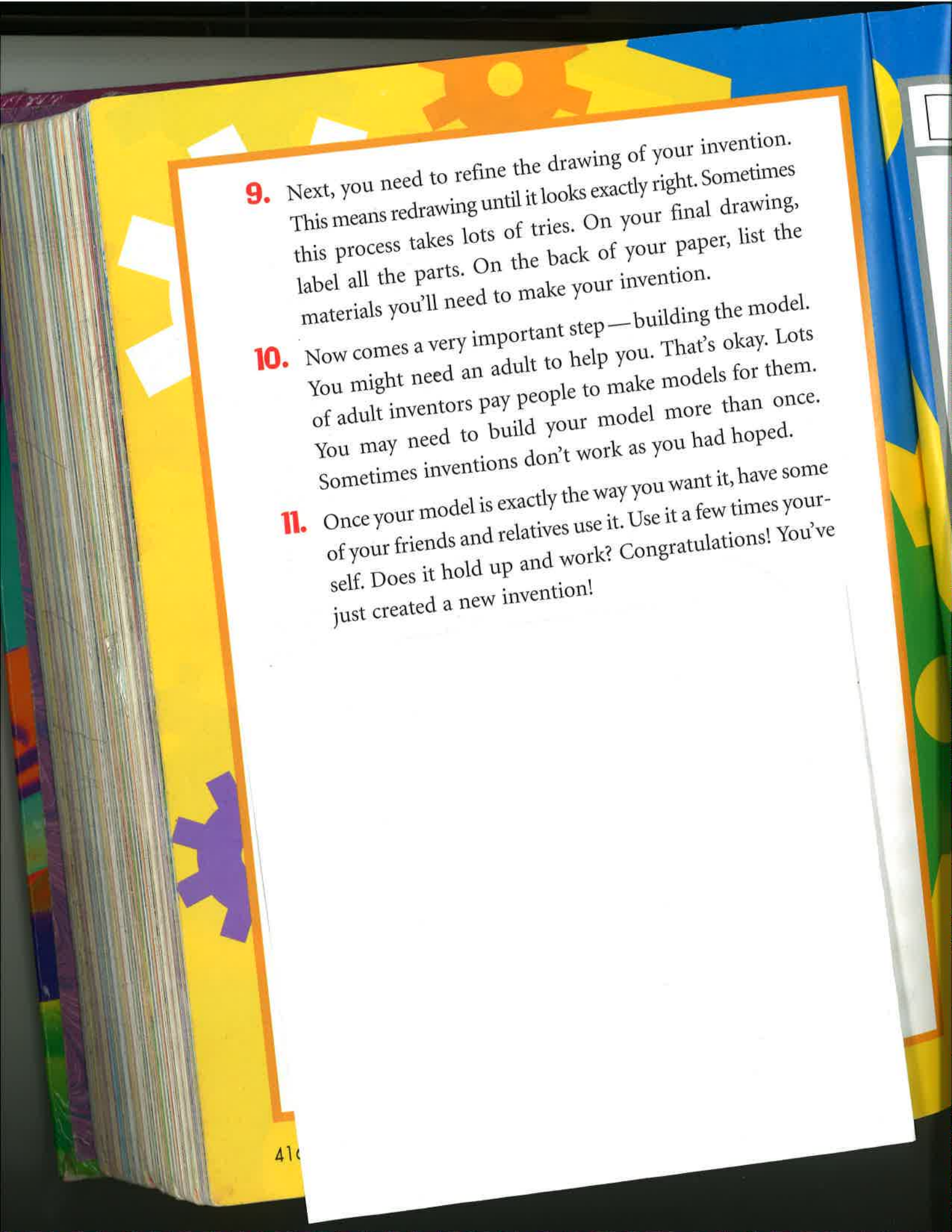
Will it hold up after lots of use?

Will people really use it?

If any of the answers to your questions are “no,” think of how you might **modify**, or change, your idea. Inventors change ideas all the time.

8. Once all the answers to your questions are “yes,” draw pictures of how your invention should look. You don’t need to be a great artist to do this. Simple line drawings will do. Your first drawing is a rough draft. It shows the basic idea of what the invention will look like. A rough draft is meant to be changed.



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- The page features a vibrant, colorful background with a yellow sun at the top, several interlocking gears in white, orange, and purple, and a blue and green patterned border on the right side. The text is presented in a list format with red numbers.
- 9.** Next, you need to refine the drawing of your invention. This means redrawing until it looks exactly right. Sometimes this process takes lots of tries. On your final drawing, label all the parts. On the back of your paper, list the materials you'll need to make your invention.
 - 10.** Now comes a very important step—building the model. You might need an adult to help you. That's okay. Lots of adult inventors pay people to make models for them. You may need to build your model more than once. Sometimes inventions don't work as you had hoped.
 - 11.** Once your model is exactly the way you want it, have some of your friends and relatives use it. Use it a few times yourself. Does it hold up and work? Congratulations! You've just created a new invention!