

# “To invent, you need a good imagination and a pile of junk.” - [Thomas Edison](#)

Introduction: What Thomas Edison said is true! Inventors are resourceful. When you are first prototyping (creating physical models of your good ideas), you want to be able to make your prototypes quickly and cheaply. This way, you can get important feedback to continuously iterate (improve on) your good ideas! After many iterations, your design will be ready to be made with more sophisticated tools and equipment as it gets closer to becoming a real product. [WD-40](#), a common product used to prevent rust on metal, is named that because it was the 40th iteration!

Goal: Fill up your invention tool kit!

Before you begin this task, be sure to ask for permission! A parent or guardian should approve of the materials and tools you are selecting. Some things may look great for prototyping but they may be needed for another use or deemed unsafe. We have provided some safety guidelines [here](#) that you can review before selecting items for your tool kit.

In order to start filling up your tool kit, look around your home. You might find materials and tools useful for building, like cardboard, scissors, and glue. You might also think up new uses for existing materials. Now is the time to be imaginative! Try to collect a variety of objects—enough to fill up a container the size of a shoe box.

Share: Take a picture of your invention tool kit and share it on the [forum](#). You can also include a short description of what you included (and why). Take a look at other posts, too. What do you notice that is the same? What is different? Were you inspired by what someone else included in their tool kit? Let them know by commenting on their post.

Additional Resources for Educators and Parents:

- Learn more about inventing from the [USPTO website](#) made just for teens.
- [Science of Innovation: 3-D Printing](#). Learn how this high tech tool was invented directly from the inventors and how it is used today to support the development of new inventions

- [Product Dissection](#): This video series explores how inventors can learn from a product dissection. This is a learning experience so it's possible that these items may not come back together again! Things that are old or non-functioning are best to use. Be sure to follow safety rules linked above and remove all power sources before taking things apart. This is best done under adult supervision--especially for beginners. Sometimes you can find great parts for an invention tool kit inside! View a fun time lapse video of MIT students completing this exercise [here](#).
- Harvard's Project Zero has [great lesson resources](#) for a product dissection, too.