



# CREATING A LOW-TECH, LOW-COST HOME MAKERSPACE FOR KIDS

Is there an innovator in your house? This is a great time to find out! Creating a low-tech, low-cost makerspace somewhere in your house can help youth become critical thinkers and problem solvers. Just as helpfully, it means the kids can stay busy while you work at home. Makerspace projects are not only great ways for kids to learn by doing, they also encourage their creativity and provide an outlet for them to be innovative.

A makerspace is simply a place where people gather to explore materials and tools to make things. While some makerspaces are equipped with expensive technologies, such as 3D printers and laser cutters, you can create a modest makerspace in your home to engage and create alongside your children.

## **What materials do I need for my low-tech home makerspace?**

Almost anything can be recycled, upcycled, taken apart or recreated. First, locate a space in your home where you won't mind kids making a mess. Your recycle bin or Goodwill box are great places to start gathering materials for your makerspace. Other household and office items that can be used in your home makerspace are:

- Scissors, recycled copy paper, old newspaper, construction paper, craft supplies.
- Pencils, pens, crayons, colored pencils, markers.
- Glue, paperclips, tape (all kinds), binder clips, yarn, rubber bands.
- Cardboard tubes from toilet paper, paper towels and wrapping paper, tissue boxes.



- Old fabric (e.g., t-shirts and clothes that the kids have outgrown).
- Legos, Kinex, building blocks, gears.
- Old technology (VCRs, calculators, etc.) Be sure to cut the cords off for younger kids.
- Old toys with motors, moving parts or blinking lights.
- Straws, plastic water or soda bottles, jars, toothpicks, plastic spoons, pool noodles.

### **How do I get started using my makerspace?**

Kids are naturally curious, and some are so curious that they will need no instruction. Others may need you to provide them with a challenge. There are many challenges on Pinterest, social media and teacher blog sites. You can come up with your own challenge based on the materials that you have on hand. The best challenges come from your kids' curiosity, experience, wonder and desire to solve a problem. Following are tips you can use to design a challenge (Stager, 2006):

- The challenge should be short and clear. It should fit on a Post-It! Note.
- The challenge should give kids the freedom to solve it in their own voice, even if they use a strategy that you have never heard of. For instance, don't say "build a truck," that's too specific. Instead, say "build something" as part of the challenge.

### **Examples of makerspace challenges:**

- Imagine that your whole house had to fit into your bedroom. What items would you have in it? Design and build a tiny house. Cardboard and shoe boxes provide a great foundation for this project.
- Use cardboard to create a creature that does something. Art supplies to decorate the creature are recommended, along with lots of cardboard.



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- Make something that will start here and end there in one minute.
- Build a trap to catch a leprechaun to get his gold.
- Build a machine that will launch a cotton ball at least five feet.
- Make a tool that can pick up your socks.
- Build a shelter that will protect you from rain, wind, sun and bugs.
- Design a hack for something that annoys or bothers you.

Parents should provide positive feedback, but not take over the project. After the project is complete, allow the child to share what they created, why they created it, why it's important to them, and what they learned from creating it.

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