Create, Explore, Tinker, and More

Maker Programs for Kids

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Libraries with Dedicated Makerspaces

A dedicated space isn't necessary for hosting maker programs, but there are libraries that have them! Whether or not your library has a space just for making, there's plenty of inspiration to be found at these links.

- Chattanooga Public Library's 4th Floor: http://chattlibrary.org/4th-floor
- Chicago Public Library's Maker Lab: www.chipublib.org/maker-lab
- Darien (CT) Public Library's TEA Room: www.darienlibrary.org/tearoom
- Madison (WI) Public Library's Bubbler Room and Media Lab: http://madisonbubbler.org
- Making at the Fayetteville (NY) Free Library: www.fflib.org/make
- Piscataway (TX) Public Library's all-ages MIY (Make It Yourself) Space: http://piscatawaylibrary.org/miy

The term "maker program" covers a broad array of topics, but what they all have in common is the ability to bring kids together to create, experiment, and learn from each other. It's all about the process, not the product.

Whatever your experience level, we encourage you to try maker programs at your library. WheZzn kids have access to tools and materials, incredible innovation and creativity happens naturally. Maker programming builds community and confidence in kids as they engage their brains and create something wonderful.

Here is a brief look at some programs—from simple and inexpensive to more involved and costly—from libraries across the nation. Once you start offering maker programs, we hope you'll discover that giving kids materials, tools, and the space to learn and create is fun for the kids—and you!

Maker-Themed Summer Reading Programs

In 2013, the Arlington Heights (IL) Public Library did a maker-themed summer reading program called "Make It." Kids made journals to record their personally designed goals, which included "things to discover" and "things to create." Teens completed challenges, which included attending a maker program, completing a do-it-yourself (DIY) project at the library, and attending a filmmaking workshop or submitting a film to the library's annual Teen Film Fest.

Makey Makey Invention Kits

If you want to make a piano out of bananas or play a Super Mario Bros. game with a Play-Doh controller (and what kid doesn't?), Makey Makey Invention Kits are for you. They are

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simple circuit boards that plug into a computer and can be used instead of keyboard keys (like up, down, left, right, and space). Connect the circuit board to a conductive material (like bananas, clay, pencil lead, or anything else) and complete the electrical circuits to make it work. There are endless possibilities—once kids understand the basics, the back of the board has more advanced options. *For more on the Makey Makey program at the Ela Area (IL) Public Library, visit http://tinyurl.com/mksj8fz.*

Make Your Own Robots

Did you know that a simple electric toothbrush can be turned into several types of DIY robots? By taking the motor out and repurposing it, you can make both Art Bots and Brush Bots. Art Bots are made by attaching the motor to a plastic cup or other lightweight material, adding markers as legs, and letting the vibrations move the robot to make a work of art. Kids can decorate their Art Bots with craft supplies and experiment with how to make their bot move in different ways. Brush Bots use both the head of the toothbrush and the motor to create a small robot that moves quickly over a flat surface. And if you don't want to fuss with electric toothbrushes, try a tech-free mini-robot building workshop by providing kids with craft and hardware supplies. *For more information on Art Bots at the Evanston (IL) Public Library, visit http://tinyurl.com/m28dc54. For more information on Brush Bots at the Delaware County District Library, visit http://tinyurl.com/l4qmrux. Visit the Mini-Robot Workshop at Middleton (WI) Public Library at http://tinyurl.com/lztys9o.*

LEGO Building Programs

Libraries conducted LEGO building programs long before the maker movement became popular. They can be as complex or as simple as desired, but the general concept is that libraries put out LEGO building blocks (or larger DUPLO blocks for younger kids) for kids. Some libraries give the kids a theme, sometimes the kids' creations are put on display, and sometimes there might even be prizes. LEGO programs make good informal drop-in programs, like the one the La Crosse (WI) Public Library (http://tinyurl.com/jwwm9pn) offered over spring break last year. Their pop-up LEGO makerspace had multiple stations, including one where kids built LEGO vehicles and another for creating LEGO minifigure masks.

Robotics

Robotics programs have taken libraries by storm. LEGO WeDo, for younger kids, and LEGO Mindstorms, for older kids and teens, are especially popular robotics systems. Vex robots are a slightly cheaper option similar to Mindstorms. With all of these robotics kits, kids build customizable, programmable robots from building blocks, motors, and sensors. They then use software to program their robots to move and accomplish tasks. Robotics programs can be as structured or free-form as you like, and kids with different levels of expertise can learn from one another, which makes them great for collaboration. They also build on a variety of STEM skills, from coding to measurement to physics. *For more information on LEGO Mindstorms program from the Tinker Group—Chicago area librarians who work with kids, teens, and technology, visit http://tinyurl.com/m8pbrpc.* &

For More Resources

Make It @ your library is a database of almost two-hundred maker programs. You can search by cost, tools needed, time required, and several other categories. Visit http://makeitatyourlibrary.org.

The Library Makers blog is run by librarians at the Madison (WI) Public Library and details maker programs they've done for kids of all ages, from toddlers to teens. Visit http://librarymakers.blogspot.com.

The Library as Incubator website, run by Erinn Batykefer, Laura Damon-Moore, and Christina Jones, offers maker programming ideas and other inspirations, all focused on the idea that libraries are places for people to connect and create. Visit http://libraryasincubatorproject.org.

Make Magazine's website and print edition shares detailed project information and videos for maker projects ranging from simple to complex. Visit http://makezine.com.

Jean Van't Hul's The Artful Parent website and book are chock full of making and tinkering ideas appropriate for all ages. Visit http://artfulparent.com.

Check out the **TinkerLab** website for the youngest makers and experimenters. Visit http://tinkerlab.com.