

# Simple DIY Projects That Will Introduce Kids to Technology



Teach kids about technology with easy home experiments. (Dimitri Zimmer/Getty Images/iStockphoto)

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**T**echnological innovation drives modern life. It's hard to find someone without a smartphone in his or her pocket, and even harder to meet a person who does not own a computer. Yet most have a very limited understanding of how these devices function.

Compounding the problem, aptitude for science and engineering in America's schools is slipping. Kids love technology as much as adults, but seem even more to accept the "magic box" explanation of how devices work.

Luckily, there are a few simple experiments and projects that you can do with kids at home to give them a leg up in understanding technology and foster a continuing interest in science or robotics.

## Magnetizing a screwdriver

This simple experiment requires nothing but a refrigerator magnet and a screwdriver, but can teach children about magnetism, which is used in everything from compasses to complex electronics. Simply take a fairly strong refrigerator magnet and rub it against the length of a steel screwdriver. After about 20 repetitions, the screwdriver will be able to pick up other nonmagnetized metal bits, like nails or screws. The "trick" lies in the alignment of a magnetic field found in all ferrous metals (including iron, which is a component of steel) being transferred with metal-to-metal contact. This force is the underlying driver for electronics technology.

## The simple electric motor

For kids, building an electric motor is an easy DIY experiment with exciting results. With just a D battery, two needles, some copper wire and a magnet, kids can build a model version of the motor that powers a desk fan or even an electric car. With the wire looped in a circle with ends on opposite sides, have an adult help thread each end of the wire through one of the needles. Use tape or putty to attach the needle points to the positive and negative terminals of the battery so that the needles extend upward, suspending the wire loop in the air, then place the magnet under on top of the battery under the wire loop. Start the wire spinning and it will continue as long as the battery has power.

[www.education.com/science-fair/article/no-frills-motor](http://www.education.com/science-fair/article/no-frills-motor)

## Bristlebots

One of the simplest robots in the world might also be the most fun for kids. The Bristlebot, the brainchild of a Hawaiian robotics team and designed specifically to help school-age children develop an interest in robotics, is a deceptively simple package. Built with the head of a toothbrush, a cell phone vibration motor, and a small battery, the Bristlebot becomes a lively and customizable toy when assembled. For those not willing to dismantle their old flip phone for the cause, Bristlebots sells inexpensive kits on their website.

[www.bristlebots.org](http://www.bristlebots.org)

## Scrub bot

A perfect holiday or summer project for older kids, the Scrub bot might find its way into regular rotation on a household chore schedule. The simple device, a beefed up version of a Bristlebot, can actually be used to polish any hard surface. Built with computer fans, scrub brushes, a Frisbee and some connecting materials, the Scrub bot provides enough force to clean up spills or polish as it vibrates and rotates. The product of Randy Sarafan, San Francisco author and Instructables user dedicated to making life better through recycling, reuse and innovation, this project can be rewarding for kids (though adults should be on hand to help with drilling and wiring).

[www.instructables.com/id/Simple-Bots-Scrub/](http://www.instructables.com/id/Simple-Bots-Scrub/)

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