



Feature Reviews

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PicoCricket

This kit blends arts and crafts with the core principles of programming, making it easy to play with ideas like loops, debugging and recursion while making a musical birthday cake or a sound sensitive spinning sculpture. PicoCricket will ship during the Back-to-School season in August and will cost \$250. It is designed for computer clubs, technology camps or math classes, and is ideal for a first programming experience.

Components include input sensors for light (a small electric eye), touch (a doorbell-like switch), electrical resistance (with two alligator clips) and sound (a tiny microphone). Output items consist of a digital reader (to display times or any other quantitative measure), speaker (to play music), two LEDs (emitting a bright, multicolored light) and a motor (to make things move). The components seem durable, and all plug into to the main Cricket block, which runs on three AAA batteries and chirps when it receives an instruction. The Cricket can juggle a combination of any four included components. There are several dozen LEGO parts to hold things together and craft supplies like Styrofoam balls, bells, felt and pipe cleaners for endless creativity.

Unlike LEGO Mindstorms, which operates in a similar fashion, there are no wheels or gears. PicoCricket is less about moving robots and more about tabletop programming experiments.

At the heart of PicoCricket is the programming software, which you first load onto a Mac or Windows computer. Like the LEGO Mindstorms programming software, commands are represented by color coded puzzle pieces which can be dragged and dropped into position. For example, when making a kinetic sculpture that spins when you speak, you drag the "Motor On" piece onto the workspace, followed by the "Set Power" to the motor for a value of "Loudness." The parts are sorted by category, and it is easy to move things around encouraging experimentation. A magic wand icon is used to send the program to the Cricket, using a USB "Beamer" via infrared signals. The instructions are saved in the Crickets memory until a new set is transmitted.

There are eight projects including a sound-sensitive birthday cake (clap to change the color of the candles) and the Reaction Game (that times how long it takes for you to touch a switch after hearing a sound). You can link the electrical resistance of a pickle with sounds or light colors, say to play a song in slide-trombone fashion, by moving a pickle along a wooden stick. The parts all tend to work, and when they don't, the software explains why—a key strength to this package.

Unfortunately, the Cricket block does not have an auto-off feature. Installing the three AAA batteries (not included) require using a tiny screwdriver, which seems ridiculous given that this is a programming construction kit. The plastic tackle-box-like case makes it easy to store materials, and the activity cards are large and easy to use. For classrooms, these are important details.

The name "Pico" comes from the company's name, Playful Invention Company, started by MIT's Mitchel Resnick, who worked on the team whose ideas led to LEGO Mindstorms. According to Resnick, "the PicoCricket and LEGO Mindstorms are for different audiences and support different types of projects. While LEGO Mindstorms is designed for robots, the PicoCricket Kit is designed for artistic inventions." The LEGO Company provided financial support for both. See also the Logiblocs Electronic Discovery System, LEGO Mindstorms and Vex Robotics system.

Details: The Playful Invention Company, www.playfulinvention.com, \$250, for ages 8-up. Runs on Windows XP, Mac OSX. Teaches: programming, creativity, logic, creativity, math, temporal relations, art. Rating (1 to 5 stars) = 4.7 stars. Review date: 7/7/2006.

Ease of Use	9	94%
Educational	10	
Entertaining	10	
Design Features	9	
Good Value	9	

