Contents





Cover Feature

SPARK

Top Projects Brilliant things made by humans

Objet 3d'art

Hot plastic combined with embroidery

Meet the Maker: Jack Daly How to make a handheld gaming console

Columns

Seek, and you will find. Unless you've lost your keys

Letters

On the Proustian rush of arcade games

Kickstarting

An Arduino shield for gaming goodness



3D printing

60 tips to get you making better

How I Made: A plywood boat Heart of oak plywood are our ships!

In the Workshop Sculpting a clock out of free-form wires

Interview Brown Dog Gadgets

Improving the lot of the science teacher

Improviser's Toolbox Yarn Affordable, accessible, cosy things to make



Make things to help you make better things



Improve every single aspect of your printing game

HackSpace

Sonic experiments



Craft a cuddle baby Cthulhu to keep you warm in the night



SoM CircuitPython Control NeoPixels the smart way

SoM 3D printing Making with conductive filament

SoM Raspberry Pi Use voice commands the non-Big Brother way **Tutorial** 3D-printed jigs

Tutorial Laser-cut circuits Use lasers to embellish a PCB

Tutorial Pet sounds Sew, build, and code a sound-reactive tentacle

Small hacks to improve your workshop

Tutorial Raspberry Pi Add a flash to a Camera Module

Interview



On the genesis of a STEM education company - Brown Dog Gadgets



56

FIELD TEST

102 Best of Breed Test local luminosity with these excellent sensors

110 Review Warco Formit Bend, cut, and roll sheet metal

112 Review Land speeder kit 3D-print your own Airfix-style model

113 Book Review

The Book of Knowledge of Impractical Musical Devices

Some of the tools and techniques shown in HackSpace Magazine are dangerous unless used with skill, experience and appropriate personal protection equipment. While we attempt to guide the reader, ultimately you are responsible for your own safety and understanding the limits of yourself and your equipment. HackSpace Magazine is intended for an adult audience and some projects may be dangerous for children. Raspberry Pi (Trading) Ltd does not accept responsibility for any injuries, damage to equipment, or costs incurred from projects, tutorials or suggestions in HackSpace Magazine. Laws and regulations covering many of the topics in HackSpace Magazine are different between countries, and are always subject to change, our are responsible for understanding the requirements in your jurisdiction and ensuring that you comply with them. Some manufacturers place limits on the use of their hardware which some projects or suggestions in HackSpace Magazine may go beyond. It is your responsibility to understand the manufacturer's limits.

HackSpace