

CamJam EduKit 3 – Robotics



CAMJAM EDUKIT

CamJam EduKit #3 is focussed on robotics and contains (almost) everything you need to create your very own Raspberry Pi-powered robot.

[Download the worksheets](#) | [View videos](#)

Kit contents

The kit includes the following:



Photograph by Alex Eames, RasPi.TV

- A custom-designed, pre-soldered motor controller board (with screw terminals)
- Two DC motors (with wires pre-soldered)
- Two custom red wheels (which go extra fast... because they're red!)
- A ball castor (used as the 'third wheel' to your robot)
- A small breadboard (to create your circuits)
- Two pieces of strong 3M padded double-sided tape
- A battery box for 4 AA batteries (batteries not included)
- An ultrasonic distance sensor (for detecting objects in front of your robot)
- A line follower sensor (for detecting and following black lines)
- Resistors and jumper cables with which to complete your circuits
- A strong cardboard box to keep it all in... or to cut into to make your chassis!

You will need to provide:

- A Raspberry Pi, SD card and power supply.
- A keyboard and mouse.
- A chassis – anything will do – use your imagination!
- 4 x AA batteries to power the motors.

Worksheets

- [Worksheet 1 – Introduction](#)
- [Worksheet 2 – Building a robot](#)
- [Worksheet 3 – Running the motors](#)
- [Worksheet 4 – Driving and turning](#)
- [Worksheet 5 – Line detector](#)
- You may also want to download the [Test Line](#)
- [Worksheet 6 – Distance](#)
- [Worksheet 7 – Control and calibration](#)
- [Worksheet 8 – Line follower](#)
- You may also want to download the [Line following course](#)
- [Worksheet 9 – Obstacle avoidance](#)
- Worksheet 10 – Remote control (BETA – please feel free to [give us some feedback!](#))
 - [Instructions for using a Wii controller over Bluetooth](#)
 - [Instructions for using a keyboard remote control over SSH](#)
 - [Instructions for a web interface controlling the robot with GPIO Zero](#) (courtesy of [PiCymru](#))