



## Lesson in a Box Simple Robotics Code 5657

The Lesson in a Box (Simple Robotics) is a complete set of electronics and teaching resources to enable successful cross-curricular lessons with minimal teacher effort. The kit and teaching resources have been tried and tested by real pupils and developed by real teachers to save you time. We know how busy you are!

In developing this box we wanted it to be affordable, useful and robust enough for teachers to use again and again. The resources cover not only the KS3/KS4 specifications but also personal development by encouraging pupils to view traditional STEM activities as having value across their curriculum.

All of the teaching resources are set out in a teacher, user-friendly' way, including technicians notes, lesson plans, resources and workbooks or worksheets. There is also an introduction to the Lesson in a Box kit that gives a overview of its contents, set up guides for technicians and an overview of the included lessons. As has been mentioned, this kit is cross-curricular and has been designed for DT, Computing & Physics.

The robots utilise the BBC microbit and a clippable motor driver board designed specifically for this type of activity. The advantages of the microbit are that, while being easy to use, it is feature packed and it can be coded with languages that suit every ability level.

- **DT-** Your robots are all about the design process. KS3/KS4.
- **Computing-** Your robots are all about the robots code. KS3/KS4.
- **Physics** Your robot is all about speed and velocity. KS3/KS4.
- **Enrichments & Open Days** It's all about experimentation and fun.

**Features:**

- The Lesson in a Box (Simple Robotics) is a complete set of electronics and teaching resources to enable successful cross-curricular lessons with minimal teacher effort.
- No soldering required for technicians or students.
- The kit and teaching resources have been tried and tested by real pupils and developed by real teachers.
- The kit includes technicians notes, lesson plans, resources and workbooks or worksheets.
- The kit has been designed to be used over and over again, all component parts were chosen/developed with this in mind.
- Packaged in a sturdy reusable Grantnells tray that will keep the kits together and safe in between uses.
- It's fun to teach and fun to learn!

**Contents:**

There are 10 student and 1 teacher sets of Electronics (11 sets in total) supplied in a large reusable Grantnells tray. Each set includes:

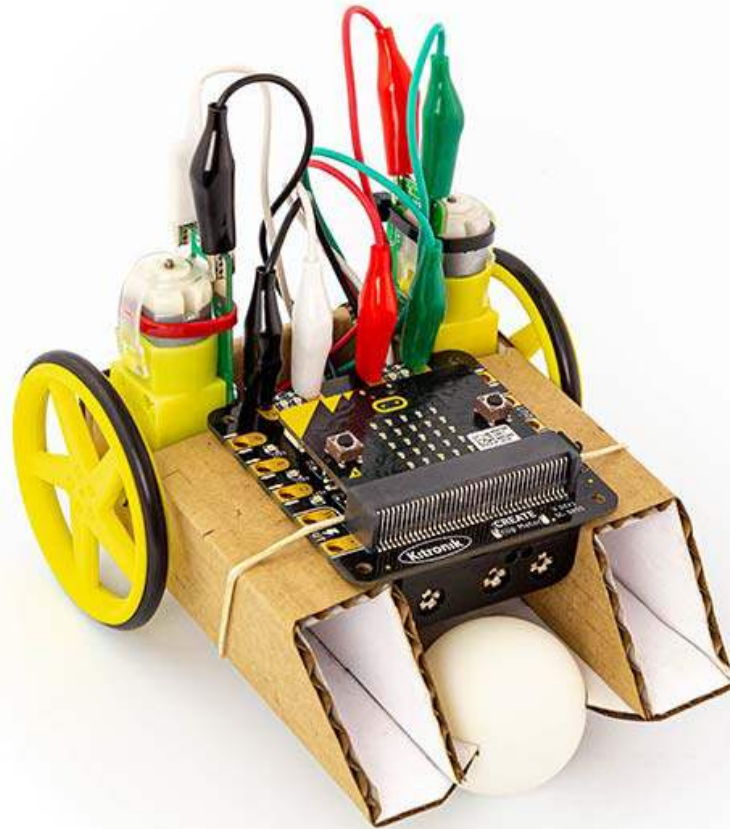
- 1 x Kitronik Klip Motor Driver Board for BBC micro:bit.
- 2 x Kitronik clippable TT motor boards (with cable tie and screws).
- 2 x Right Angle Geared Hobby TT motors.
- 2 x 5 Spoke Injection Moulded Wheels for TT Motors.
- 1 x set of 10 clip leads.
- 1 x ping pong ball for robot castor.
- A simple chassis template.

Each Lesson in a Box (Simple Robotics) kit comes with a USB stick drive that contains the following:

- KS3 Design and technology project 6 weeks Design Challenge.
- KS4 Design and technology lesson for KS4 Prototyping.
- KS3 Computing Lesson - Sequencing, selection and iteration.
- KS4 Computing Lesson - Computational Thinking; decomposition, pattern recognition, abstraction and algorithms.
- KS3 Physics/ Combined Science - Distance Time Experiments.
- KS3 Physics/ Combined Science - Velocity- Time Experiments.
- Enrichment for Open Evening Obstacle Robot Challenge.
- Enrichment for Stretch and Challenge Dance Robot Challenge.
- Main Robot Build Instructions.

**Requires:**

- 1 x microbit per robot.
- 3 x AA batteries per robot.
- Cardboard for making the chassis templates. These can be either laser cut (DXF file in technicians Notes) or hand cut from old reprographics boxes, or equivalent (card about 2-3mm is ideal). A paper template for cutting by hand is also included in the Technicians Notes.
- Tape.
- Glue.



<https://www.kitronik.co.uk/5657-lesson-in-a-box-simple-robotics.html/7-15-19>