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.

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, and workbooks or worksheets. These are supplied as Microsoft Word, PowerPoint formats as well as PDF's, which can be copied, modified, and printed to suit your own teaching style. There is also a quick start guide to the Lesson in a Box kit that gives an overview of the whole box including: a summary of your new lessons, how to setup your kit, how to use the microbit, code examples and more!

The robots utilse the BBC microbit and our Klip Motor Driver board designed specifically for this type of activity! It requires no soldering and is all connected by crocodile clips. 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.

As has been mentioned, this kit is cross-curricular and has been designed for DT, Computing & Physics.

DT- Your robots are all about the design process. KS3/KS4.

Computing- Your robots are all about the robot's 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 Pack is a complete set of electronics and teaching resources to enable successful cross-curricular lessons with minimal teacher effort.

The box covers 3 of the progress 8 curricular for the National Curriculum (Design & Technology, Computing, and Physics).

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/designed 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 Gratnells 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.

A USB Drive containing all resources and the robot chassis template.

The USB drive contains:

Quick start guide for teachers and technicians.

KS3 Design and Technology Project - 6-week Design Challenge

KS4 Design and technology Lesson - Prototype Challenge.

KS3 Computing Lesson - Sequencing, selection and iteration.

KS4 Computing Lesson - Computational Thinking; decomposition, pattern recognition, abstraction and algorithms.

KS3 Physics/ Combined Science Lesson - Distance Time Experiments.

KS3 Physics/ Combined Science Lesson - Velocity- Time Experiments.

Enrichments/ Open Days - Obstacle Avoidance Robot Challenge.

Enrichments/ Open Days - Robot Dance Challenge.

Robot Assembly Poster.

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 reprographic boxes, or equivalent (card about 2-3mm is ideal). A paper template for cutting by hand is also included in the Technicians Notes.

Rubber Bands.

Tape/Glue.