The Lesson in a Box Visual Computing pack for micro:bit, available separately, is a complete set of parts & teaching resources to enable successful cross-curricular lessons at KS3/4 (US equivalent - Grades 6-8/9-10). The subject packs come with a detailed lesson plan, cross-referenced to: class slides, workbooks/worksheets, checklists etc., technician's notes and where appropriate, AFL guidance with answers and plenaries.

D and T - Your visual coding lessons are all about the design of lighting within cultures.

Computing - Your visual coding lessons are all about seeing loops, learning about selection and conditions.

Physics/Combined Science - Your visual coding lessons are all about seeing data.

Geography - Your visual coding lessons are all about seeing earthquake data.

Enrichments - Both enrichments are challenges designed for experimentation, one is a dance and light challenge and the other is a kaleidoscope build challenge. They can also be used for Open Day activities/displays.

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 (US equivalent - Grades 6-8/9-10) specifications but also personal development by encouraging pupils to view traditional STEM activities as having value across their curriculum.

The teaching resources included in this pack are, we hope, set out in a 'teacher-friendly way, with sufficient detail to enable you to 'lift' them, photocopy them and run your lesson(s) with minimal fuss straight out of the box, and/or to edit and personalise the resources if you so wish.

Each lesson includes:

Technicians Notes.

Lesson plans/ Schemes of work.

Slideshows.

Workbooks/sheets.

Assessment questions.

Example code.

The activities in The Lesson in a Box Visual Computing pack utilise the BBC microbit, the Kitronik ZIP Halo HD for micro:bit and a clippable motor driver board designed specifically for these types of activities. 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.

Features:

The Lesson in a Box (Visual Computing) is a complete set of electronics and teaching resources to enable successful cross-curricular lessons with minimal teacher effort.

No soldering is required for technicians or students.

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.

These subject packs are a basic introduction to cross-curricular visual computing.

The resources cover not only the KS3/KS4 (US equivalent - Grades 6-8/9-10) specifications but also personal development by encouraging pupils to view traditional STEM activities as having value across their curriculum.

The subject packs come with a detailed lesson plan, cross-referenced to: class slides, workbooks/worksheets, checklists etc., technician's notes and where appropriate, AFL guidance with answers and plenaries.

Packaged in a sturdy reusable Gratnells tray that will keep the kits together and safe in between uses.

It's fun to teach and fun to learn!

Contents:

1 x 2GB swivel USB stick, containing everything needed for planning and delivery of each lesson.

1 x Deep Gratnells storage tray.

1 x Translucent lid for tray.

11 x Kitronik ZIP Halo HD for micro:bit.

1 x Klip motor driver for BBC micro:bit.

1 x Right angle geared hobby motor.

1 x Solderless motor board for right angle geared hobby motor.

1 x 5 spoke injection moulded yellow wheel for Right angle geared hobby motor.

1 x Miniature Crocodile Clip Leads, pack of 12.

2 x M3 8mm Pan Head screws.

6 x Black cable ties.

10 x Rubber bands.

1 x Roll of double-sided tape.

1 x Kaleidoscope build poster.

1 x Egg drop poster.

1 x Mood light poster.

1 x Shake Table poster.

2 x Visual coding guide poster - Part 1.

2 x Visual coding guide poster - Part 2.

1 x Visual computing pack quick start guide.

A set of Pre-cut cardboard templates for each experiment.

1 x Pre-cut Simple buildings pack

1 x Pre-cut Shake Table.

1 x Pre-cut Mood light pack

1 x Pre-cut 4/6 side Kaleidoscope pack.

What's on the USB Drive:

On the USB you will find full teaching resources for 13 lessons and 2 enrichments as follows:

Design & Technology;

KS3 Mood Light Cultures of Lighting Challenge (Scheme of Work - 6 lessons).

KS4 Design Prototyping (1 lesson).

Computing;

KS3 Iteration and Loops (1 lesson).

KS4 Selection and If-Statements (1 lesson).

Physical/Combined Science;

KS3 Air Resistance and Drag Experiments (1 lesson).

KS4 Visual Data Experiments (1 lesson).

Geography;

KS3 Earthquake Shake Table Experiments - Strong Structures (1 lesson).

KS4 Earthquake Shake Table Experiments - Comparing Earthquakes (1 lesson).

Enrichment/Open Days;

Dance and Light Challenge.

Kaleidoscope Challenge.

The USB drive also contains;

Teacher's and Technician's Guides.

DXF files for making additional cardboard templates.

A printable template for cutting by hand is also included as a PDF.

The code HEX files for each lesson.

Solderless TT motor board assembly guide.

Requires:

11 x BBC micro:bit.