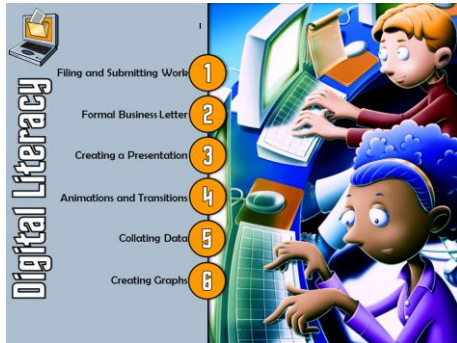# KS3 Computing Curriculum Overview

Click on the images to go to the individual schemes of work (with the exception of those with a red note under the title).

Year 7

7.1 Digital Literacy
Gives learners a basic introduction to key Information Technology skills through using Microsoft Office tools. This includes attaching files and using OneNote, writing a formal business letter in Word, use of interactivity in PowerPoint and basic formulas and graphs in Excel.
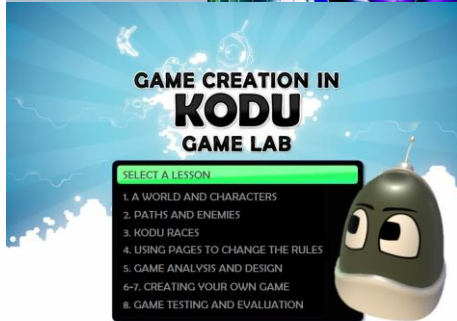
7.2 Game Creation in Kodu Game Lab
Teaches learners the fundamentals of games programming using Kodu Game Lab, which is a visual game development environment. Using this learners will develop a range of key skills which include drawing and sculpting a world, adding character and objects. The use of When and Do instructions to control characters and objects including the use of paths and pages. Once learners have built their skills they are required to design, create, test and evaluate their own game; following the Systems Lifecycle.

7.3 Web Awareness
Gives learners an understanding of the fundamentals of the World Wide Web. Covering how the Web works, how to be safe and responsible online, an understanding of ethical issues surrounding the use of the Web and also look at security risks and how they can be prevented. This finishes with students creating their own basic web pages using a combination of HTML and CSS.
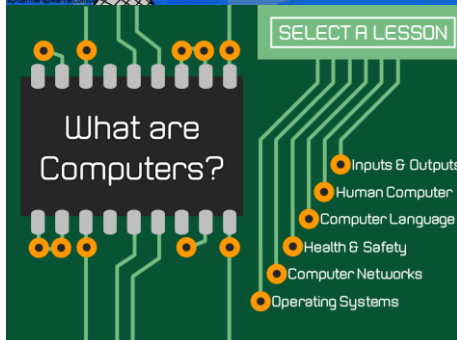
7.4 What are Computers?
Gives learners an understanding of the key components that make up a computer system, including inputs and outputs and hardware. In addition they will be introduced to binary and how to convert between binary and denary numbers and will gain a basic understanding of computer networks and operating systems. They will also look at health and safety issues surrounding the use of computers.
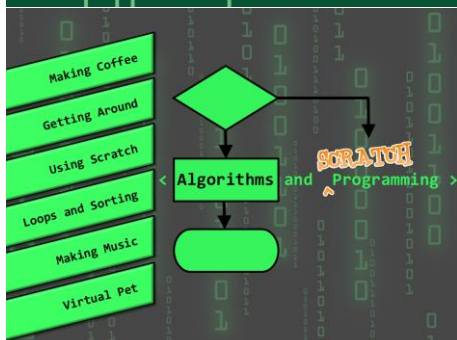
7.5 Algorithms and Programming
<IN PROGRESS – to be completed April 2015>
This will give learners an introduction to algorithms in the form of flow charts and pseudo code and introduce them to key programming concepts in Scratch.

Year 8

8.1 Grand Designs

Aims to teach learners how to plan and carry out a project while applying a variety of IT skills, such as 3D modelling, spreadsheet modelling and presentation skills. Learners will plan their project by using a Gantt chart, design a house using Google SketchUp, calculate the expenditures of the project using Excel then produce a presentation to explain why their house should be built. The topic finishes with an evaluation of the work produced.

8.2 Python Magic

This gives learners a basic understanding of the Python programming language. Through a series of six lessons learners will be introduced to the basic Python syntax and look at selection, loops, functions, lists and classes. Learners will be given the building blocks to extend their programming skills by adding to existing programs or extending their knowledge on Codecademy.
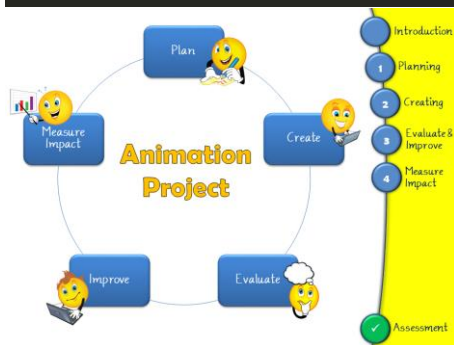
8.3 Animation Project

<BEING UPDATED – to be completed by January 2015>
This will give learners an understanding of how to develop an animation, beginning at the design stage and following the Systems Lifecycle. Animations of a particularly high standard may be entered into the Animation15 national competition (Deadline: 10th March).
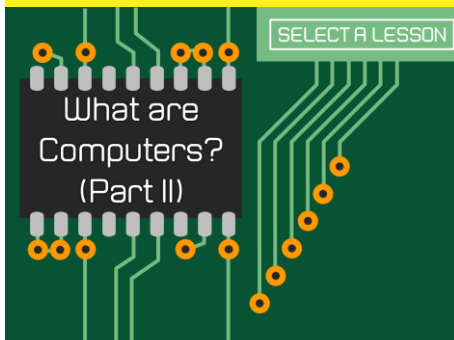
8.4 Ingenious Inventions

<IN PROGRESS – to be completed by February 2015>
This will give learners the opportunity to design an invention to solve a real-world problem using control technology.

8.5 What are Computers? (Part II)

<IN PROGRESS – to be completed by April 2015>
This will be a continuation of 'What are Computers?' in year 7. For the first year of teaching it may be appropriate to deliver key parts of the year 7 scheme of work first as the current year 8s will not have studied this in year 7.

Year 9

Some higher ability year 9 groups may participate in the Apps for Good curriculum as an alternative to Entry Level Computing.

9.1 Digital Imaging

Gives learners an understanding of how digital images are made up, addressing pixels, resolution and pixel depth. Learners will then move on to gain an understanding of some of the key tools in Photoshop to produce a portfolio of images from which they will gather feedback and produce an evaluation.

9.2 Web Development

<IN PROGRESS – to be completed October 2014>

This will give learners an opportunity to create a website using HTML and CSS and apply JavaScript to carry out form validation.
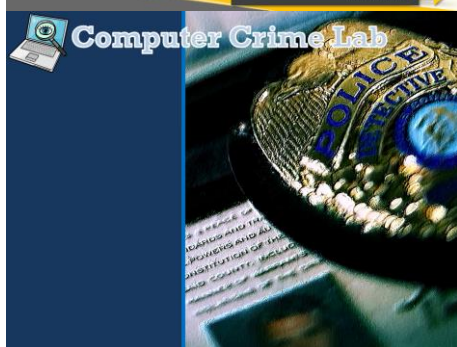
9.3 Computer Crime Lab

<BEING UPDATED – to be completed January 2015>
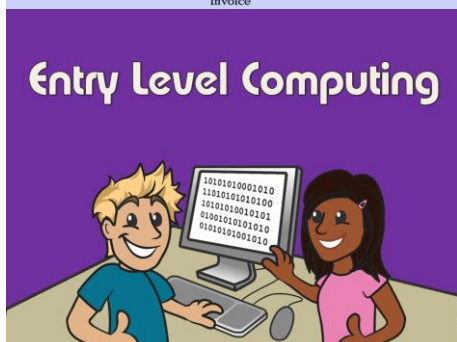
This will give an introduction to databases to solve crimes using queries as well as address legal and ethical issues surrounding Computing.

9.4 The Wedding Planner

<IN PROGRESS – to be completed February 2015>

This will cover key ICT skills such as designing a logo, desktop publishing to produce wedding stationery and in-depth spreadsheet skills to calculate finances.

9.5 Entry Level Computing

<BEING UPDATED – to be completed April 2015>

This will be a condensed version of the coursework aspect of OCR's Entry Level Certificate in Computing which covers various programming skills and looks and innovative technologies.