

Y8 syllabus / revision topic checklist (last updated Oct 2021)

Y8 Topic 1 - Python #1 (there will be more Python in Y9)

- • Be able to describe/define:
 - Escape character
 - Syntax
 - Variable
 - Constant
 - Assignment operator
 - Arithmetic operators
 - Relational/Conditional operators
 - Selection (IF)
- • Be able to define and distinguish between integers, floats, **Boolean** variables and strings •
- • Be able to explain why comments are useful
- • Understand the need for precision in instructing computers
- • Be able to solve problems using Python
- • Be able to diagnose & fix problems in Python code

Y8 Topic 2 - Boolean logic

- To understand that many situations can be defined in terms of yes/no, on/off (Boolean) values
- To be able to recall truth tables for the common logic gates (OR, AND, NOT)
- To be able to identify and draw Venn diagrams to represent the common logic gates
- To be able to use truth tables to solve complex logic problems (2 or 3 levels)
- To recognize logic problems using logic gate symbols
- To recognize that BIDMAS (i.e. brackets) applies to Boolean logic

Y8 Topic 3 - CSS

- Be able to recognize and use HTML5 in simple situations
- Be able to describe what CSS is and use it in simple situations
- Be able to describe the three ways of applying CSS styles to a web-page.
- Be able to describe at least three different benefits of using styles/external style-sheets.

Y8 Topic 4 - Advanced spreadsheet work

- • Be able to format cells, including use of conditional formatting AND to be able to provide examples of when/why this would be useful

- Be able to define what a function is, and discuss and use functions including IF, VLOOKUP, COUNT & RANK.
- Be able to use absolute cell references and/or cell naming techniques where appropriate
- Be able to design 'user friendly' spreadsheets including the use of a range of mouse activated 'widgets' (such as command buttons, checkboxes, drop down lists, etc), tooltips....
- Be able to define validation & verification, and to be able to use validation in spreadsheets
- Be able to describe at least one use of a macro, and to be able to create a macro in Microsoft Access and run it using a command button
- Be able to apply a range of spreadsheet techniques – i.e. faced with a real problem be able to choose and justify the use of appropriate techniques
- Be able to justify the choice of a particular graph/chart type, and create this

Y8 Topic 5 - e-safety

- To appreciate/recognise issues connected with identity theft and other key confidence tricks online.
- Health & Safety for computer users
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Y8 Topic 6 - Website project

- An opportunity to demonstrate/enhance web skills: designing and creating a website.

Note:

We are also intending to participate in a national research project investigating gender differences in the perception of computing, methods of teaching, etc, and their impact on future study/career choices. This would replace the website project above and may require other minor tweaks to the order of delivery, etc.

In 2020-21 this involved students working in groups to design an application to meet market needs. This process involved individual/group presentations, market research, usability prototyping, etc.