A Level Computer Science

Welcome Computer Scientists,

At Maiden Erlegh, we follow the AQA specification for Computer Science:

https://www.aqa.org.uk/subjects/computer-science-and-it/as-and-a-level/computer-science-7516-7517

We will be using C# as our programming language.

A recommended book that covers the theory for the course:

- https://www.amazon.co.uk/AQA-AS-Level-Computer-Science/dp/1910523070

Summer Project

This summer I'd like you to develop your understanding of and interest in Computer Science by learning something new about it. This could be something practical, e.g. experimenting with a new programming language or taking your Python skills further, or maybe even building your own PC. Alternatively you may take an interest in a more theoretical or historical aspect of Computer Science and do some research around this. What you do is up to you – the only requirement is that I'd like you to prepare a 10-minute presentation on it to share with the class in September. The list of resources below may help you, but you are by no means restricted to these! There is absolutely no need to spend money on this if you don't want to – the majority of the resources listed below are freely available online. Good luck, and have fun!

Books	Computational Fairy Tales – Jeremy Kubica Brown Dogs and Barbers: What's Computer Science All About? – Karl Beecher The Code Book: The Secrets Behind Codebreaking - Simon Singh, ISBN-10: 0385730624 How to Think Like a Computer Scientist - Peter Wentworth, Jeffrey Elkner, Allen B. Downey, and Chris Meyers http://openbookproject.net/thinkcs/python/english3e/ Hacking Secret Ciphers with Python – Al Sweigart But How Do It Know? - The Basic Principles of Computers for Everyone – J Clark Scott GitHub (free programming ebooks) https://github.com/EbookFoundation/free-programming-books/blob/master/free-programming-books.md#javascript
Magazines and Journals	Computer - https://www.computer.org/computer-magazine/ CS4FN - http://www.cs4fn.org/lastonein/lastonein.php magPi - https://www.raspberrypi.org/magpi/
Places of Interest	**The National Museum of Computing** - http://www.tnmoc.org/ While the museum is closed due to the lockdown, take a virtual tour:

	https://www.tnmoc.org/news-releases/2017/6/6/3d-virtual-tour-now-online?rq=virtual **Bletchley Park** - https://bletchleypark.org.uk/ You could look at their youtube chanel to find out more about the home of the codebreakers: https://www.youtube.com/BletchleyParkTrust **The UK Computer Museum**, Cambridge http://www.computinghistory.org.uk/ Follow them on social media – links on the website.
Websites	Brilliant - https://brilliant.org/computer-science/computer-science/ Think Like a Computer Scientist - http://www.openbookproject.net/thinkcs/python/english2e/index.html# Using Python - http://usingpython.com/python-introduction/ Program Arcade Games - http://programarcadegames.com/ CodeAcademy https://www.codecademy.com/learn
YouTube Channels	Craig & Dave - https://www.youtube.com/channel/UC0HzEBLlJxlrwBAHJ5S9JQg/playlists?shelf_id=10&sort=dd&view=50 Computerphile - https://www.youtube.com/user/Computerphile/videos?view=0&sort=dd&flow=grid Introduction to Computer Science I", Harvard OpenCourseWare - https://www.youtube.com/watch?v=z-OxzIC6pic&list=PLvJoKWRPIu8G6Si7LlvmBPA5rOJ9BA29R
MOOCs	Introduction to Computer Science https://www.edx.org/course/introduction-computer-science-harvardx-cs50x Intro to Computer Science & Programming Using Python https://www.edx.org/course/introduction-computer-science-mitx-6-00-1x-10
News Articles	BBC Click - http://www.bbc.co.uk/programmes/n13xtmd5 MIT News - http://news.mit.edu/topic/computers Phys.org - https://phys.org/technology-news/computer-sciences/
Podcasts/Radio	Wired - http://www.wired.co.uk/series/wired-podcast BBC Tech Tent - http://www.bbc.co.uk/programmes/p01plr2p/episodes/downloads BBC – Computing Britain

	http://www.bbc.co.uk/programmes/b06bq6j1/episodes/downloads
TED Talks	20 Must See TED Talks for Computer Scientists - https://www.youtube.com/watch?v=EF692dBzWAs&list=PLF7032F8EB1A4F9E2