



Key Stage 3 Curriculum - Year 7

IT Year 7

Aims for the Year

- Learn how to create a secure and memorable password.
- To know how to use the computer safely.
- Learn about the possible dangers of social networking sites.
- Learn how to respond to threats on the Internet.
- Learn how to keep your identity secure on the Internet.
- Learn how to avoid being a victim of an email scam.
- To learn how to send, respond to and forward email.
- Be aware of the advantages and disadvantages of email.
- To know the difference between hardware and software and how they are categorised.
- To be able to use Python programming language to draw shapes using the Turtle module.
- To be able to use the fill tool in python.
- To be able to use for loops to repeat code.
- Demonstrate an understanding of what the CPU is and the Fetch, Decode and Execute cycle.
- Demonstrate an understanding of Binary and Denary numbers.
- Demonstrate an understanding of adding, subtracting and multiplication in Binary numbers.
- Understand how computers can store images.
- Demonstrate an understanding of inputs, outputs, storage and processing components.
- Be able to develop an understanding of how data is represented in a computer.
- To be able to understand how humans can program interactions with computers.
- To be able to understand how computers make decisions.
- To learn how instructions are written and compiled from the computer to the Microbit.
- Understand the importance of a good app description.
- Understand the term Home Screen.
- Understand the importance of the navigation bar and tabs.
- Create a variety of screens within the app and links between them.
- To design and create a suitable App.

Modules/Units to be Covered

	Key Learning covered this term:	Assessment will be:	Revision & resources	Further Reading	How parents could support students
Autumn 1	<u>E-Safety</u>	Baseline assessment End of topic assessment	All resources will be uploaded to classroom.	https://www.thinkuknow.co.uk/11_13/ https://www.bbc.com/education/guides/z9p9kqt/revision/1	Revise the topic and ensure all homework/classwork is completed. Go through the website https://www.thinkuknow.co.uk/11_13/
Autumn 2	<u>Computer Systems</u>	End of topic assessment	All resources will be uploaded to classroom.	https://www.bbc.com/education/guides/zxb72hv/revision/1	Revise the topic and ensure all homework/classwork is completed.
Spring 1	<u>Intro to Python</u>	End of topic assessment	All resources will be uploaded to classroom.	https://www.bbc.com/education/guides/zts8d2p/revision/1 http://www.learnpython.org/	Revise the topic and ensure all homework/classwork is completed.
Spring 2	<u>Microbit</u>	End of topic assessment	All resources will be uploaded to classroom.	http://microbit.org/	Revise the topic and ensure all homework/classwork is completed.
Summer 1	<u>Data representation</u>	End of topic assessment	All resources will be uploaded to classroom.	https://www.bbc.com/education/guides/z26rcdm/revision/1	Revise the topic and ensure all homework/classwork is completed.
Summer 2	<u>App development</u>	End of topic assessment End of year exam	All resources will be uploaded to classroom.	https://appshed.com/	Revise the topic and ensure all homework/classwork is completed.

Students will regularly complete "Directed Reflection & Improvement Time" (DIRT) within modules of work



Key Stage 3 Curriculum - Year 8

IT Year 8

Aims for the Year

- To know how to use text-based programming to give instructions.
- To know how to use inputs and variables in a programming language.
- To be able to understand how computers make decisions.
- To understand how iteration (repeating/looping) can make programs efficient.
- Demonstrate an understanding of what cores, clocks and cache are and how this impacts performance.
- To understand the types of memory used in computers.
- To understand the strengths and weaknesses of different storage devices.
- Understand why input and output devices are required.
- Understand what logic gates do.
- Be able to develop an understanding of algorithms.
- Be able to create a flowchart for a given scenario.
- To understand what software is and the different types available.
- To understand what system software is.
- To understand the purpose of utility software.
- To understand the purpose of application software.
- To be able to use formulas, functions and formatting tools in a spreadsheet package.
- Can be able to show a good understanding of basic spreadsheet terminology.
- To set up conditional formatting on a range of cells.
- To write a COUNTIF function to count the number of times a term appears in a range of cells.
- To know how to create a basic spreadsheet using various tools and techniques.
- Learn what HTML is and what it is used for.
- Type basic HTML tags using a text editor to create a page that can be viewed in a browser.
- Edit the HTML code and view the changes in a browser.
- Learn how CSS is used to set the styles in web pages and websites.
- Write CSS code to set styles, e.g. background colour of sections of the page; size, font, colour and alignment of text.

Modules/Units to be Covered

	Key Learning covered this term:	Assessment will be:	Revision & resources	Further Reading	How parents could support students
Autumn 1	<u>Computer Systems</u>	End of topic assessment	All resources will be uploaded to classroom.	https://www.bbc.com/education/guides/zxb72hv/revision/1	Revise the topic and ensure all homework/classwork is completed.
Autumn 2	<u>Next steps Python programming</u>	End of topic assessment	All resources will be uploaded to classroom.	http://www.learnpython.org/ https://www.codecademy.com/ https://www.codecademy.com/	Revise the topic and ensure all homework/classwork is completed.
Spring 1	<u>Flow charts and Algorithms</u>	End of topic assessment	All resources will be uploaded to classroom.	https://www.bbc.com/education/guides/zpp49j6/revision/1	Revise the topic and ensure all homework/classwork is completed.
Spring 2	<u>Spreadsheet</u>	End of topic assessment	All resources will be uploaded to classroom.	https://www.bbc.com/education/guides/zdydmp3/revision/1	Revise the topic and ensure all homework/classwork is completed.
Summer 1	<u>Software</u>	End of topic assessment	All resources will be uploaded to classroom.	https://www.bbc.com/education/guides/zcxgr82/revision/1 https://www.bbc.com/education/guides/z8f82hv/revision/1	Revise the topic and ensure all homework/classwork is completed.
Summer 2	<u>HTML</u>	End of topic assessment End of year exam	All resources will be uploaded to classroom.	https://www.w3schools.com/	Revise the topic and ensure all homework/classwork is completed.

Students will regularly complete "Directed Reflection & Improvement Time" (DIRT) within modules of work



Aims for the Year

- Understand how computers communicate with each other.
- Know the difference between the internet and the world wide web
- Describe the nature of the Internet as a worldwide collection of computer networks
- Describe the hardware needed to connect to the Internet including modems and routers
- Describe the differences between a local area network and a wide area network such as the Internet
- Describe the advantages of networking stand-alone computers into a local area network
- Describe the hardware needed to connect standalone computers into a local area network
- Describe a ring, star and bus network topologies
- Explain the importance of compressing files that are transmitted on the Internet
- Describe the difference between lossy and lossless compression
- To understand how storyboards and scripts can be used to create a video
- To be able to edit and modify the video
- To be able to edit and modify a photo
- Understand that the WWW is a huge collection of websites all over the world
- Learn the main principles of good website design
- Complete website designs and gather content
- To create a consistent website.
- Add well-formatted content, including text and images, to each page
- Create internal and external links and make sure they all work
- Carry out testing and evaluating on a website.
- To learn some database terms and guidelines
- To set up a simple table and enter some records
- Learn how to query a database
- Understand why an input form is useful for entering data
- Create a report based on a query

Modules/Units to be Covered

	Key Learning covered this term:	Assessment will be:	Revision & resources	Further Reading	How parents could support students
Autumn 1	<u>Computational thinking</u>	End of topic assessment	All resources will be uploaded to classroom.	https://www.bbc.com/education/guides/zp92mp3/revision/1	Revise the topic and ensure all homework/classwork is completed.
Autumn 2	<u>Multimedia</u>	End of topic assessment	All resources will be uploaded to classroom.	https://www.bbc.com/education/guides/zv2v4wx/revision/1	Revise the topic and ensure all homework/classwork is completed.
Spring 1	<u>Databases</u>	End of topic assessment	All resources will be uploaded to classroom.	https://www.bbc.com/education/guides/zwnb9q/revision/1	Revise the topic and ensure all homework/classwork is completed.
Spring 2	<u>Networks</u>	End of topic assessment	All resources will be uploaded to classroom.	https://www.bbc.com/education/guides/zc6rcdm/revision/1	Revise the topic and ensure all homework/classwork is completed.
Summer 1	<u>Python GUI meme generator</u>	End of topic assessment	All resources will be uploaded to classroom.	http://www.learnpython.org/ https://www.codecademy.com/	Revise the topic and ensure all homework/classwork is completed.
Summer 2	<u>Website Development</u>	End of topic assessment End of year exam	All resources will be uploaded to classroom.	https://www.weebly.com/uk	Revise the topic and ensure all homework/classwork is completed.

Students will regularly complete “Directed Reflection & Improvement Time” (DIRT) within modules of work