# Curriculum Map

**Subject: IT & COMPUTING** **Year Group: 8**

| Time Period | Autumn Term | Spring Term | Summer Term |
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| **Content** | Students will cover 2 units of work:<br>**Unit 1 Digital Animation –**<br>In this unit, students will explore the applications and features of digital animation products. Using different scenarios, students will learn the digital skills needed to create two types of digital animation; Stopframe and Keyframe animation. This is achieved using a graphics software package.<br>**Unit 2 Databases** –<br>This unit introduces students to the idea that organisations hold data on people and items. Students will build a 'Superhero' database and manipulate it to access new information. Some students will go on to think about how a database can be designed for a specific audience and purpose, considering both the way it looks and how it functions. | **Unit 3 Python Programming –**<br>Students will learn fundamental programming concepts, using a text – based programming language called Python. Students will develop their Python programming skills each week by creating different programs in the form of games and interactive systems.<br>Students will use their previous knowledge from Scratch and the BBC Micro:bits as a base for their programming development. | **Unit 4 Website Development and Network Communications –**<br>Students will design and create a website for a new up-and-coming band of their own choice. The website will meet requirements to make sure fans can keep up to date with all the latest news, listen to music, watch videos and book tickets for gigs.<br>Students will focus on understanding and applying good website design rules, using web development software Serif Web Plus. They will learn about the use of e-commerce using real world examples, and how websites are designed to meet to needs of different audiences and purposes.<br>Students will also explore Networks and Cyber security to understand how the internet is structured, the different threats to networks and understanding fake news online. |
| **Skills** | Students will develop the skills that allow them to create their own digital animations using a graphics software package. They will learn to use | Students will be able to create different programs using the programming techniques learnt each week. | Students will develop skills that will allow them to create their own website using a web development software package. They will learn to use |

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| | different digital tools create their own graphics. Students will learn how to plan and design their animations using storyboards.<br><br>Students will learn the skills to design, create and update a database using a database software package. Students will be able to apply queries to search for data in a database based on different criteria. | They will develop the skills to follow coding instructions and the ability to create their own programs. Students will be able to apply many different programming techniques within a program to mimic a real world problem. | different digital tools to add interactive features and to create their own graphics to go on to their webpages. Students will learn how to plan and design their website using storyboards and sitemaps. |
| **Key Questions** | What is an Animation? What are examples of real world animations?<br><br>What different types of animations are used? What is the difference between Stopframe and Key Frame animation? What is a Storyboard used for?<br><br>What is a Database? What information do companies and organisations hold on us in a database? What are the features/layout of a database? What are data types? What is the purpose of a Form and a Report? How do we use Queries? | What are the similarities between block based programming (Scratch) and text based programming (Python)?<br><br>What are the fundamental programming concepts? – Sequence, Selection, Iteration.<br><br>What are the different Data types?<br><br>What is a Variable? Why do programmers use comments in their code? What is a Syntax Error? Why is it important to test our programs? | What makes an effective website? What are the key features of a website? Compare two or more website layouts focusing on both pros and cons.<br><br>What is a Master page? What is meant by target audience and purpose?<br><br>What is a network? What is Encryption? What is Malware?<br><br>How can you tell what fake news is online? |
| **Assessment week and content** | **Unit 1 Digital Animation – wb 17/10**<br><br>**Unit 2 Databases – wb 12/12** | **Unit 3 Python Programming – 27/03** | **Unit 4 Website Development and Network Communications – 10/07** |