

Key Stage 3: Computing Map 2023-24

Prior Learning:

At KS1 and 2 the aim was for students to:

- Be taught basic Digital Literacy Skills in order for students to express themselves and develop their ideas through computer technology for us in the future workplace
- Be taught the basic understanding behind Digital Citizenship for students to understand the risks and dangers of IT and online use as well as the impacts of the use of IT on our own mental health and ability to socialise.
- Be taught the principles of digital systems and how to plan these for programming
- Be taught how to apply their computational thinking skills through coding. Students are aware of how to make things happen and the need for debugging. All main feeder schools use Scratch from Y5/6.

Curriculum Intent:

Computing at Chantry Academy aims to provide each child with the essential knowledge, and understanding they need to be able to succeed and give them the opportunity to be able to follow any career path they choose to pursue. Each student will develop the 21st century skills to **innovate, create and succeed**. Computing will enable students to think logically, analyse problems and become confident, competent, and creative users of technology. This curriculum will enable all students to have the skills and passion to change the world around them through the use of technology.

Year 7

	Autumn Term 1 7 weeks	Autumn Term 2 7weeks	Spring Term 1 6 weeks	Spring Term 2 6 weeks	Summer Term 1 6 weeks	Summer Term 2 7 weeks
Module Title	E Safety and Digital Literacy (6 Hours)	Game Design and Logical Thinking (6 Hours)	Scratch - Programming (6 Hours)	Scratch – Programming II (6 Hours)	Computer Systems (6 Hours)	Physical Programming (6 Hours)
Learning Focus	Students will focus on developing professional IT level skills to confidently and competently use laptops in lessons across the academy. Skills include: Software skills including Office packages and Scratch.	Students will learn the fundamental concepts of programming through a piece of game development software called Kodu	Students will learn the fundamental concepts of programming using Scratch to build on the game design skills gained in Year 7, Autumn term	Students will build on previous skills to design, plan, create, play, and evaluate a game of their own.	Students will learn the fundamentals of how a computer works, the respective components, their uses and how they integrate in a computer system.	Students will design, write, and refine code onto a physical computer (BBC Microbit) in order to meet a range of real work scenarios and challenges

	Students learn key lessons in digital wellbeing.					
Careers Focus	General Office Business Roles with use of IT, Cyber Security, Game Design, Games Artist, Programmer		Game Developer, Programmer, Game Design		Accountant, Financial Assistant, Scientist, Business Analyst, Programmer, Software Developer	
Assessment	Bebras Assessment (Baseline Assessment)	MS Forms assessment	Game Assessment in Scratch (Teams)	Student project	MS Forms assessment	Student Project
Secure Students Will	<p>Be able to understand and articulate what digital wellbeing means, be equipped with skills to stay safe online including knowing not to share personal information and knowing how to create a secure password and know they can seek help from staff at school, be able to use MyVoice to request help and support if required</p> <p>Secure students will understand how abstract puzzles can be relevant to computing and programming.</p>	<p>Be able to understand the importance of sequence and logic in games development. Be able to plan and build a basic game on Kodu and understand how the elements are arranged logically so the game can meet a brief.</p> <p>Secure students will understand how to debug issues and investigate how to find solutions.</p>	<p>Be able to understand the fundamentals of programming.</p> <p>Secure students will be able to define sequence, selection, and iteration.</p> <p>Student will build on the skills from Kodu and improve their planning, implementation and debugging skills.</p> <p>Secure students will be able to identify and fix basic logical errors with their code in Scratch.</p>	<p>Be able to build on previous skills to be able to design, plan and create their own playable, engaging, and interesting game in Scratch.</p> <p>Secure students will be able to understand the importance of project planning and be able to define the basic steps of investigation, planning, development, and testing.</p>	<p>Be able to identify key components of a computer system (such as CPU, RAM, Motherboard, SSD) understand how they integrate.</p> <p>Secure students will be able to name peripherals such as mouse, keyboard, printer, monitor and be able to articulate if they are input or output devices.</p>	<p>Be able to define physical programming. Be able to setup and programme a BBC Microbit unaided.</p> <p>Secure students will be able to connect and write a program from scratch to enable the Microbit to flash LEDs.</p>

Year 8

	Autumn Term 1 7 weeks	Autumn Term 2 7weeks	Spring Term 1 6 weeks	Spring Term 2 6 weeks	Summer Term 1 6 weeks	Summer Term 2 7 weeks
Module Title	Python Programming (6 Hours)	iMedia and Video Editing (6 Hours)	Data Representation (6 Hours)	Computer systems and fundamentals of computer science (6 Hours)	Developing for web (6 Hours)	Interactive presentations and digital wellbeing (6 Hours)
Learning Focus	Students will learn the basics of the Python Programming language. Looking into selection, iteration, and variable assignments.	Students will study video production techniques, theory and practical skills and use these to edit together a video sequence.	Students will learn about the history of data storage from ancient times until today. They will be introduced to the growing field of data science and how it impacts all are lives.	Students will learn about the basic concepts of Computer Science including topics such as binary, representation of images, networks, computer hardware and the history of computers.	Students will develop skills to build a website, understand how websites are created and hosted.	Students will develop interactive presentations for use by lower school pupils around the theme of digital wellbeing and staying safe online.
Careers Focus	Programmer, Software Developer, Video Editor, Cameraman, Director, Sound Editing		Programmer, Software Developer, Network Technician and Hardware Engineer		Animator, Graphic Designer, Content Creator, New Media Creator	
Assessment	Python Quiz Assessment	Project	Computer Science Quiz Assessment	MS Forms assessment	Animation Assessment (Teams)	Student project
Secure Students Will	Be able to understand the differences between a graphic and text based programming environment. Secure students will be able to write a	Be able to create a movie, utilising multiple clips, import them into Adobe Premier and edit into a finished product. Secure students will be able to	Be able to understand what binary is, that data has been stored in a variety of formats for thousands of years and be able to identify different storage types.	Be able to know and understand the purpose of the core component within a computer and how they interact with each other.	Be able to explain and understand different elements of websites (such as headings, body, images) be able to critique and apply these skills to build a simple website using HTML and basic CSS.	Be able to use PowerPoint to plan and create an engaging and visually interesting presentation. Secure students will be able to create a

	<p>simple program to ask a user for their name, save it to a variable and be able to output this to the screen.</p>	<p>confidently and competently using a range of tools within Photoshop and Illustrator.</p>	<p>Secure students are able to understand binary and be able to competently convert between binary and deanery.</p>	<p>Secure students will confidently name part of the computer including CPU, motherboard, RAM and the difference between primary and secondary storage and how these interact.</p> <p>Secure students are able to have an understand of the history of computing</p>	<p>Secure students would be able to craft a 3 page website including text, image and links.</p>	<p>considered and professional PowerPoint.</p>
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