**Y9 Computing Curriculum Progression Map**

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|  | **Term 1** | **Term 2** | **Term 3** | **Term 4** | **Term 5** | **Term 6** |
| **Dates** | 4th September 2023 – 27th October 2023 | 6th November 2023 – 22nd December 2023 | 8th January 2024 – 9th February 2024 | 19th February 2024 – 28th March 2024 | 15th April 2024 – 24th May 2024 | 3rd June 2024 – 19th July 2024 |
| **Weeks** | 8 | 7 | 5 | 6 | 6 | 6 |
| **Lessons** | 8 | 7 | 5 | 6 | 6 | 6 |
| **Unit Title** | Cybersecurity | Complete Cybersecurity in Term 2 / Online safety | Mobile App Development | Complete Mobile APP / Start Representations -going audio visual | Complete Representations audio visual / Start 3D Graphics, animation and media | Code blocks, Tinker CAD and 3D Modelling |
| Sequence | Logging in  Online safety  Managing online information  Privacy and Security  Copyright and Ownership  Data theft.  Complete DPA. Social engineering.  Phishing, blagging, security risks to data. Prevention  Hacking, DDOS attacks, prevention and Computer Misuse Act.  Malware threats and bots.  \*Literacy - reading examples of cybercrime in the real world – news articles  . | Complete Cybercrime  Security threats to organisations and protection.  Protecting yourself against cybercrime  Managing online information  Privacy and Security  Copyright and Ownership | Mobile App introduction  Identify when a problem needs to be broken down.  Create App using code.org  Tappy Tappy App  Graphical User Interface elements  Events to control the flow of a program.  Use user input and variables in an event-driven programming environment  Identify and fix common coding errors  Apply decomposition to break down a large problem into more manageable steps.  Use a block-based programming language to include sequencing and selection.  Use user input in a block-based programming language.  Use variables in a block-based programming language.  **3d graphics / Animation**  3D Shapes. What does CAD stand for?  What does TinkerCAD allow us to do? Scale, Copy, Paste, Creating Holes, Workplane | Digital images and individual elements  Picture elements represented in a sequence of binary.  Pixels, Resolution and Colour depth.  How images can be represented as a sequence of bits.  How colour can be represented as a mixture of red, green, and blue  Compute the representation size of a digital image  Bitmap images and pulse code sound  Compression | Complete Representation going audio visual.  3d graphics / Animation  The difference between 2D and 3D?  Design plane / snap grid and tools of 3d software  Create your own project  Add, delete, and move objects  Scale and rotate objects  Add colour to objects  Use advanced editing tools  Create useful names for objects  Join multiple objects together  Apply different colours to different parts of the same model | Write programs that allow 3d design  Locate errors  Perform common operations  Use Codeblocks 3D Modelling - features to develop solutions to meaningful problems. Design rooms |
| **3D** | Profiling  Laws  Hacking  Malware  Protection methods such as firewalls, anti-malware, and password authentication | Monitor Internet use  Security of devices  Browser settings  App permissions  App Development  This unit focuses on the development of the following key techniques:  Event handling  Sequencing  Variables  Selection  Operators | App development cont:  Block programming be able to eradicate coding errors -syntax  Looking into the industry use of animation  Film  This unit focuses on using TinkerCad to create animations and 3D graphics. | Working with images and sound, such as vector graphics and audio files.  What compression is and why it is necessary. | Looking into the industry use of 2d and 3d graphics  Film  This unit focuses on using TinkerCad to create animations and 3D graphics. | Solve a variety of computational problems  Understand how instructions are stored |
| **Retrieval Practices** | Do now. Demonstrating and using presentations. Recap and demonstration of skills to ensure understanding - Demonstration using examples in the real world (careers) and where it applies to task - AB Tutor Computer Control to ensure understanding and re-cap/VF - VF throughout  Summative assessment at the end of unit | Do now. Demonstrating and using presentations. Recap and demonstration of skills to ensure understanding - Demonstration using examples in the real world (careers) and where it applies to task - AB Tutor Computer Control to ensure understanding and re-cap/VF - VF throughout  Summative assessment at the end of unit | Do now, Demonstrating skills, presentations. Recap of skills to ensure understanding of task - Demonstration using examples in the real world (careers) and where it applies to task - AB Tutor Computer Control to ensure understanding and re-cap/VF - VF throughout  Summative assessment at the end of unit | Do now, Demonstrating skills, presentations. Recap of skills to ensure understanding of task - Demonstration using examples in the real world (careers) and where it applies to task - AB Tutor Computer Control to ensure understanding and re-cap/VF - VF throughout  Summative assessment at the end of unit  Summative assessment at the end of unit | Do now, Demonstrating skills, presentations. Recap of skills to ensure understanding of task - Demonstration using examples in the real world (careers) and where it applies to task - AB Tutor Computer Control to ensure understanding and re-cap/VF - VF throughout | Do now, Demonstrating skills, presentations. Recap of skills to ensure understanding of task - Demonstration using examples in the real world (careers) and where it applies to task - AB Tutor Computer Control to ensure understanding and re-cap/VF - VF throughout  Summative assessment at the end of unit |
| **Key Skills** | Language & Vocabulary  Written communication  Planning  Analysis | Language & Vocabulary  Written communication  Planning  Analysis | Language & Vocabulary  Written communication  Planning  Analysis | Language & Vocabulary  Written communication  Planning  Analysis | Language & Vocabulary  Written communication  Planning  Analysis | Language & Vocabulary  Written communication  Planning  Analysis |
| **Literacy** | Written & Oral communication  Tier 2 & 3 vocab development | Written & Oral communication  Tier 2 & 3 vocab development | Written & Oral communication  Tier 2 & 3 vocab development | Written & Oral communication  Tier 2 & 3 vocab development | Written & Oral communication  Tier 2 & 3 vocab development | Written & Oral communication  Tier 2 & 3 vocab development |
| **Tier 2** | Computing, accounts, describe, passwords, discuss, data, advantages, disadvantages | cybercrime criminal technology cyber enabled crimes multiplayer compromised intrusion hackers hijacked | Mobile  App  development | Graphic sound bitmap vector colour binary depth | Graphics  Bitmap / vector | Modelling design graphics |
| **Tier 3** | cybercrime criminal technology cyber enabled crimes multiplayer compromised intrusion hackers hijacked | cybercrime criminal technology cyber enabled crimes multiplayer compromised intrusion hackers hijacked | Application, software, Sequencing, Variables, Selection, Operators, | Representations  compression | 2D – 2dimensional  3D – 3 dimensional  CAD Computer Aided Design  CAM Computer Aided Manufacture | Conversion  Execution  Solutions  CAD Computer aided design  3D Printing |
| **Numeracy** | Number of attacks per day using threat map  Identify most attacks through graph | Number of attacks per day using threat map  Identify most attacks through graph | Creating an app | Graphics size  Pixel count  Pixels DPI  Binary | Graphics size  Pixel count | Use of numeracy in simple calculating programs |
| **Formative Assessment** | Verbal feedback throughout each lesson  Re-cap of task and assignment using Computer Control monitoring software | Verbal feedback throughout each lesson  Re-cap of task and assignment using Computer Control monitoring software | Verbal feedback throughout each lesson  Re-cap of task and assignment using Computer Control monitoring software | Verbal feedback throughout each lesson  Re-cap of task and assignment using Computer Control monitoring software | Verbal feedback throughout each lesson  Re-cap of task and assignment using Computer Control monitoring software | Verbal feedback throughout each lesson  Re-cap of task and assignment using Computer Control monitoring software |
| **Summative Assessment** | Multiple choice tests  Yacapaca Tests | Assessment question and answer documents for end of unit | Checking code works. | Assessment question and answer  Multiple choice tests | Assessment question and answer | Assessment question and answer documents for this unit.  Multiple choice tests |
| **Spiritual** | Students will learn how to use computers effectively and ethically. Students will learn about the use and abuse of personal data and how it can be prevented from happening. | All units - Students have opportunities to self/peer-assess and reflect/evaluate their work. Students consider their own progress and support the progress of others, whilst also building relationships. |  | Students express their creativity by creating an image and understanding the use of colour in images for moods | All units - Students have opportunities to self/peer-assess and reflect/evaluate their work. Students consider their own progress and support the progress of others, whilst also building relationships. | Students experience fascination and express their creativity by creating a design followed by a program which develops a solution to a problem.  Students consider their own progress and support the progress of others, whilst also building relationships. |
| **Moral** | Students learn about safe and responsible use of digital technology .  Laws covered  Students gain an understanding of the laws surrounding storing people’s information, this is related to the Data Protection Act. We give examples including police databases and hospital databases. | Students learn about safe and responsible use of digital technology .  Also linked to laws surrounding DATA and information  Privacy | To always ensure that you ensure any products created could not offend including Gender – ethnicity | Understand the need for graphics images not to offen / or why graphics do and can offend | Looking at project work meaning being able to understand the need for working with others and the responsibility that brings | Moral use of computers  3D printing  cost |
| **Social** | Responsibility for staying safe when using digital technology  Being able to help members of the family in staying safe. | Social Media, communicating online, | App developer working together to solve problems | Working together on graphics as part of a team | Graphics and film making and how animation has played its part in the development of graphics, films and gaming.  Computing clubs | Computing clubs and working together to solve problems |
| **Cultural** | Learners will appreciate that I.T. contributes to the development of our culture and is becoming increasingly central to our highly technological future. | Learners will appreciate that I.T. contributes to the development of our culture and is becoming increasingly central to our highly technological future. | Cultural awareness of their audience when they creating their App | Learners will appreciate that I.T. contributes to the development of our culture and is becoming increasingly central to our highly technological future. | Learners will appreciate that I.T. contributes to the development of our culture and is becoming increasingly central to our highly technological future. | Learners will appreciate that I.T. contributes to the development of our culture and is becoming increasingly central to our highly technological future. |
| **British Values** | Mutual respect, the rule of law | Mutual respect, the rule of law | Mutual respect, rule of law | The rule of law, mutual respect | Mutual respect, the rule of law | Mutual respect |
| **Gatsby 4** | Gaming industry, Police, Online safety e.g. CEOP | Ethical Hacker  Data Protection | App developer / Tester | Digital graphics designer, Web content creator | Animator / Production  Digital graphics designer, Web content creator. Hardware and Software Tester | Programmer, graphic designer , CAD |