**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 inOnline safetyManaging online informationPrivacy and SecurityCopyright and OwnershipData theft.Complete DPA. Social engineering.Phishing, blagging, security risks to data. PreventionHacking, DDOS attacks, prevention and Computer Misuse Act.Malware threats and bots. \*Literacy - reading examples of cybercrime in the real world – news articles. | Complete CybercrimeSecurity threats to organisations and protection.Protecting yourself against cybercrimeManaging online informationPrivacy and SecurityCopyright and Ownership | Mobile App introductionIdentify when a problem needs to be broken down. Create App using code.org Tappy Tappy AppGraphical User Interface elementsEvents to control the flow of a program.Use user input and variables in an event-driven programming environmentIdentify 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 elementsPicture 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 blueCompute the representation size of a digital imageBitmap images and pulse code soundCompression  | Complete Representation going audio visual. 3d graphics / AnimationThe difference between 2D and 3D?Design plane / snap grid and tools of 3d softwareCreate your own projectAdd, delete, and move objectsScale and rotate objectsAdd colour to objectsUse advanced editing toolsCreate useful names for objectsJoin multiple objects together Apply different colours to different parts of the same model | Write programs that allow 3d designLocate errorsPerform common operations Use Codeblocks 3D Modelling - features to develop solutions to meaningful problems. Design rooms |
| **3D**  | ProfilingLawsHackingMalwareProtection methods such as firewalls, anti-malware, and password authentication | Monitor Internet useSecurity of devicesBrowser settingsApp permissionsApp DevelopmentThis unit focuses on the development of the following key techniques:Event handlingSequencingVariablesSelectionOperators  | App development cont:Block programming be able to eradicate coding errors -syntaxLooking into the industry use of animationFilm 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 problemsUnderstand 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 throughoutSummative 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 throughoutSummative 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 throughoutSummative 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 throughoutSummative assessment at the end of unitSummative 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 throughoutSummative assessment at the end of unit |
| **Key Skills** | Language & VocabularyWritten communicationPlanningAnalysis | Language & VocabularyWritten communicationPlanningAnalysis | Language & VocabularyWritten communicationPlanningAnalysis | Language & VocabularyWritten communicationPlanningAnalysis | Language & VocabularyWritten communicationPlanningAnalysis | Language & VocabularyWritten communicationPlanningAnalysis |
| **Literacy** | Written & Oral communicationTier 2 & 3 vocab development | Written & Oral communicationTier 2 & 3 vocab development | Written & Oral communicationTier 2 & 3 vocab development | Written & Oral communicationTier 2 & 3 vocab development | Written & Oral communicationTier 2 & 3 vocab development | Written & Oral communicationTier 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 | MobileAppdevelopment | Graphic sound bitmap vector colour binary depth  | GraphicsBitmap / 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, | Representationscompression  | 2D – 2dimensional3D – 3 dimensionalCAD Computer Aided DesignCAM Computer Aided Manufacture | ConversionExecutionSolutionsCAD Computer aided design3D Printing  |
| **Numeracy** | Number of attacks per day using threat mapIdentify most attacks through graph | Number of attacks per day using threat mapIdentify most attacks through graph | Creating an app  | Graphics sizePixel count Pixels DPIBinary  | Graphics sizePixel count  | Use of numeracy in simple calculating programs  |
| **Formative Assessment** | Verbal feedback throughout each lessonRe-cap of task and assignment using Computer Control monitoring software | Verbal feedback throughout each lessonRe-cap of task and assignment using Computer Control monitoring software | Verbal feedback throughout each lessonRe-cap of task and assignment using Computer Control monitoring software | Verbal feedback throughout each lessonRe-cap of task and assignment using Computer Control monitoring software | Verbal feedback throughout each lessonRe-cap of task and assignment using Computer Control monitoring software | Verbal feedback throughout each lessonRe-cap of task and assignment using Computer Control monitoring software |
| **Summative Assessment** | Multiple choice testsYacapaca 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 printingcost |
| **Social** | Responsibility for staying safe when using digital technologyBeing 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  |