Key Stage Three ICT and Computing Curriculum Outline

Year 7 Curriculum

In Year 7 we focus on introducing students to our computer network and the necessary digital skills of saving, editing and locating work on the network. This is an essential skill they will need in life. We then balance topics which are useful across the curriculum (eg Excel spreadsheets, MS Powerpoint) with topics that will support the new focus of Programming & Computational Thinking (e.g. programming in Scratch, Small Basic , Python & Javascript).

The vital topic of online safety is underpinned throughout and prior knowledge is drawn upon throughout the curriculum. Students are encouraged to plan, design, develop & evaluate for each topic to develop problem solving and reasoning skills. Topics are generally delivered across a term with either an online assessment to gauge progress or a final creative piece marked with feedback

Assessment: There is a summer exam which covers work from the entire year which takes the form of an online assessment. In Year 7 this is mostly multiple choice.

Grades will be awarded by the class teacher following marked work at least once a term

Timeline	Content and assessments	Skills/ Keywords
Term 1	**Spreadsheets** Useful ICT skill and a good introduction to the school network and saving and retrieving files (DL) Good focus on numeracy with the formulae that are entered. **BEBRAS Computational Thinking Challenge** A fun problem solving challenge which helps highlight students with potential in this subject (CT) Highlights students problem solving, numeracy and spatial awareness skills	• Useful ICT skill level • Focus on numeracy/formulae • Problem Solving • Spatial awareness To develop problem solving and reasoning skills for each topic students are encouraged to • plan, • design, • develop & evaluate for each topic

Term 2	**<u>Building a game with Scratch</u>** A creative introduction to programming - with a focus of debugging and problem solving (CT). Using the topic of cyber bullying to create an anti-bullying animation or game. A good introduction to programming using blocks (for GCSE CS)	● Problem Solving ● Anti (cyber) bullying ● Introduction to programming ● On-line safety To develop problem solving and reasoning skills for each topic students are encouraged to ● plan, ● design, ● develop & evaluate for each topic
Term 3	**<u>Programming with Smallbasic</u>** Transitioning into a text based programming language with a focus on accurate syntax (CT). Follows on from Scratch using text rather than blocks to create algorithms. A good introduction to programming using text .	● Creating algorithms ● Programming using txt To develop problem solving and reasoning skills for each topic students are encouraged to ● plan, ● design, ● develop & evaluate for each topic

Term 4	**<u>Using HTML to build web pages</u>** Understand the structure of web pages & sites that we use every day (CT & Cimedia). Literacy is checked in the webpages students create about the Solar System	• On-line safety • Student are able to look at codes behind websites • Pupils gaining useful digital skills – and familiarity with Creative iMedia (and GCSE CS) To develop problem solving and reasoning skills for each topic students are encouraged to • plan, • design, • develop & evaluate for each topic
Term 5 and Term 6	**<u>Programming BBC Micro:bits</u>** Using these small programmable computers to experience physical computing (CT) Uses electrical connections to build simple circuits so some Physics topics is recapped. Follows on from algorithms in Term 2 and 3 to show how these can be used with physical devices A good recap to programming using text (for GCSE CS)	• Recapping on some physics topics (circuits) • Algorithms • Recapping/building on programming skills To develop problem solving and reasoning skills for each topic students are encouraged to • plan, • design, • develop & evaluate for each topic
How to support your son: **Ensure pupils have the correct equipment:** Pen, Pencil,		

Visit the faculty website *for a weekly teaching schedule, online textbook, topic checklists, knowledge organisers, homework tasks and keywords lists*

Year 8 Curriculum

Year 8 builds and expands on skills and prior knowledge acquired year 7.

Students are encouraged to plan, design, develop & evaluate for each topic to develop problem solving and reasoning skills.

Topics are generally delivered across a term with either an online assessment to gauge progress or a final creative piece marked with feedback. There is a summer exam which covers work from the entire year which takes the form of an online assessment. in years 8 and 9 we have increased the number of longer answer questions to ensure the students are prepared for these type of questions if they choose to continue this subject in KS4.

Grades will be awarded by the class teacher following marked work at least once a term.

Timeline	Content and assessments	Skills/ Keywords
Term 1	**Interactive Powerpoint presentations** – Useful ICT skill and allows them creative expression. A certain amount of algorithm thinking is required as is the project lifecycle (CT DL) Recall algorithmic concepts covered in Year 7 BEBRAS Computational Thinking Challenge A fun problem solving challenge which helps highlight students with potential in this subject (CT) Highlights students problem solving, numeracy and spatial awareness skills	• Useful ICT skill • develop skills which can be used outside of lessons • Algorithmic thinking • Problem Solving • Spatial awareness • numeracy To develop problem solving and reasoning skills for each topic students are encouraged to • plan, • design, • develop & evaluate for each topic

Term 2	**Term 2 – Cryptography & Problem solving** Students learn different methods of problem solving. Links to history & SMSC covering the life of Alan Turing.	• Methods for Problem solving To develop problem solving and reasoning skills for each topic students are encouraged to • plan, • design, • develop & evaluate for each topic
Term 3	**Python programming** Students use the text based programming language Python to create a chatbot and use simple algorithms and loops and functions to create Turtle patterns Similar to the simpler Smallbasic language used in Year 7	• Problem Solving • Experience in another useful programming language – which links into GCSE CS To develop problem solving and reasoning skills for each topic students are encouraged to • plan, • design, • develop & evaluate for each topic
Term 4	**Using CSS in web pages** Recap HTML pages and use CSS to style these to create more modern looking web pages. Students create pages about their current Geography topic (UK weather)	• Useful ICT skill • Problem Solving • Feeds into Geography topic - weather

	Styling of HTML web pages is an extension of topic in Year7	To develop problem solving and reasoning skills for each topic students are encouraged to ● plan, ● design, ● develop & evaluate for each topic
Term 5	**Computer Systems & Binary** Students learn the basics of how a computer works and introduction to binary Linking to mathematical concepts such a place value	● understand the components of computers ● Skills useful in Comp Science GCSE ● Binary - links into mathematical concepts such as place value To develop problem solving and reasoning skills for each topic students are encouraged to ● plan, ● design, ● develop & evaluate for each topic
Term 6	**Video Editing** Students create their own video highlighting the dangers of cyber bullying (linking with PSHE) Links to saving files as mp4 and movs	● Good ICT skills ● Learning basics of creating a short video (Cimedia ICT) ● Anti (cyber) bullying ● On-line safety To develop problem solving and reasoning skills for each topic students are encouraged to ● plan, ● design,

		• develop & evaluate for each topic
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Year 9 Curriculum

Year 9 builds and expands on skills and prior knowledge acquired previous years.

Students are encouraged to plan, design, develop & evaluate for each topic to develop problem solving and reasoning skills.

Topics are generally delivered across a term with either an online assessment to gauge progress or a final creative piece marked with feedback. There is a summer exam which covers work from the entire year which takes the form of an online assessment. in years 8 and 9 we have increased the number of longer answer questions to ensure the students are prepared for these type of questions if they choose to continue this subject in KS4.

Grades will be awarded by the class teacher following marked work at least once a term

Timeline	Content and assessments	Skills/ Keywords
Term 1	**Graphics – Photoshop** Creating a movie poster using Adobe Photoshop (Cimedia ICT) Literacy is used to write text on poster Saving images as jpg/png. Colour theory from CSS in Y8 BEBRAS Computational Thinking Challenge A fun problem solving challenge which helps highlight students with potential in this subject (CT) Highlights students problem solving, numeracy and spatial awareness skills	• Colour theory • Jpg/png images • Problem Solving • Spatial awareness • numeracy To develop problem solving and reasoning skills for each topic students are encouraged to • plan, • design, • develop & evaluate for each topic

Term 2	**Advanced Spreadsheets** investigating Conditional Formatting, IF, SUMIF, COUNTIF (ICT) Recap spreadsheets from Year 7 Data manipulation useful for all subjects ●	● Data Manipulation ● Conditional formatting IF,SUMIF, COUNTIF To develop problem solving and reasoning skills for each topic students are encouraged to ● plan, ● design, ● develop & evaluate for each topic
Term 3	**Cybersecurity** Protecting your data in the modern world (Comp Science & DL) Discussions about how to keep data safe online (PSHE)	● Data Protection ● On line Safety To develop problem solving and reasoning skills for each topic students are encouraged to ● plan, ● design, ● develop & evaluate for each topic
Term 4	**Javascript** An introduction to the web scripting language (CT) using the idea of a project lifecycle (decomposition, testing, evaluation) Problem solving skills. Recap text based programming from Year 8 and 7 Leads into GCSE Computer Science for programming project	● Project Lifecycle – ● Problem Solving Skills ● Text based programming

	Grades will be awarded by the class teacher following marked work at least once a term	To develop problem solving and reasoning skills for each topic students are encouraged to ● plan, ● design, ● develop & evaluate for each topic
Term 5	**<u>Computer Systems & Binary OR Video Editing with Serif MoviePlus</u>** (Project guided by GSCE Option choice) Depending on the options picked Year 9s can choose a project based on what they are doing next year. Suggest recap Python Programming for CS students, Video Editing for CiMedia students and an ICT based project for other students.	To develop problem solving and reasoning skills for each topic students are encouraged to ● plan, ● design, ● develop & evaluate for each topic
Term 6	Following summer exams, Year 9 students work on their own projects of interest, building on previous knowledge gained that academic year.	
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