Computing Key Stage 3: The Birchwood Way

The Curriculum Journey

Year	HT1	HT2	HT3	HT4	HT5	HT6
7	**Digital Literacy: Using the IT system to succeed in school & Impact of Technology** Learning question: *Can I understand how to successfully use the IT systems in school?* Key knowledge: *Networks, usernames, passwords, hazards, digital footprint, cyberbullying, presenting information the Birchwood Way in computing, Working efficiently Inc Keyboard Shortcuts "knowing your keyboard and mouse".*	**Computer Science: MSW LOGO** Learning question: *Can I understand how to decompose problems and think like a computer?* Key knowledge: *Algorithms, simplifying instructions, breaking a problem down, Programming Syntax, pattern recognition, sequence, iteration*	**KAST 1 & Computer Science: Networks from Semaphore to the Internet** Learning question: *Can I understand how a network system works?* Key knowledge: *Networks, protocols, hardware, wired vs wireless, internet, World Wide Web*	**Information Technology: Modelling with Spreadsheets** Learning question: *Can I understand how to use spreadsheets to model data?* Key knowledge: *Data & Information, Spreadsheet layout, calculations, formulas, functions*	**Computer Science: Programming Essentials in Scratch** Learning question: *Can I understand basic programming constructs?* Key knowledge: *Algorithms, programming syntax, sequence, selection, iteration, Boolean Logic - AND, OR, NOT*	**KAST 2 & Summer Challenge: Applying your skills to solve computing problems** Learning question: *Can I understand how to apply computing skills to a new challenge?* Key knowledge *Decomposition Algorithms, Programming, sequence, selection iteration*
Building and revisiting	Building on KS2 - "use technology safely, respectfully and responsibly…"	Building on KS2 - "design write and debug programs…", "use Sequence selection and repetition…", "use logical reasoning…"	Building on KS2 – "understand computer networks including the internet…"	Building on KS2 – "…collecting, analysing, evaluating and presenting data and information"	Building on HT2 – Programming using block-based language to introduce – procedures/subroutines and selection.	Revisiting themes from across the year into a more complex project.

Assessment	Recall 5, Learning Log reviews, Low Stakes Quizzes, End of Topic test,	Recall 5, Learning Log reviews, Low Stakes Quizzes, Over the shoulder verbal feedback, End of Topic test,	Recall 5, Learning Log reviews, Low Stakes Quizzes, KAST 1 - cumulative test based on term 1 topics	Recall 5, Learning Log reviews, Low Stakes Quizzes, Over the shoulder verbal feedback., End of Topic test	Recall 5, Learning Log reviews, Low Stakes Quizzes, Over the shoulder verbal feedback, End of Topic test	KAST 2 cumulative test based on the year, Over the shoulder verbal feedback, Project Learning Logs.
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8	**Computer Science: Algorithms and Flowcharts** Learning question: *Can I understand how to represent algorithms using flowcharts?* Key knowledge: *Inputs and Outputs, Basic Flowchart shapes, using selection/decisions, looping programs, using subroutines*	**Computer Science: Introduction to Programming** Learning question: *Can I understand how to write programs in Python?* Key knowledge: *Algorithm, Syntax, Sequence, Selection, iteration*	**KAST 1 & Computer Science: Introduction to Programming RAP** Learning question: *Can I understand how to write programs in Python?* Key knowledge: *Algorithm, Syntax, Sequence, Selection, iteration*	**Computer Science & Information Technology: Developing for the web** Learning question: *Can I understand how the World Wide Web works?* Key knowledge: *Internet, WWW, HTML, CSS, Client, Server*	**Computer Science: Representing Data** Learning question: *Can I understand how data is represented in a computer?* Key knowledge: *Binary, Base 2, Representing Images in binary, Data Storage Units (b, B, KB, MB, GB, TB, PB)*	**KAST 2 & Summer Challenge: Applying your skills to solve computing problems** Learning question: *Can I understand how to apply computing skills to a new challenge?* Key knowledge *Decomposition Algorithms, Programming, sequence, selection iteration*
Building and revisiting	Revisits algorithms from Y7	Builds on programming topics from Y7	Builds on programming topics from Y7	Builds on networks knowledge from Y7 and builds on programming knowledge	New concepts	Revisits skills from across the year
Assessment	RAP: Recall 5, Learning Log reviews, Low Stakes Quizzes, Over the shoulder verbal feedback, End of Topic test	RAP: Recall 5, Learning Log reviews, Low Stakes Quizzes, Over the shoulder verbal feedback, End of Topic test	RAP: Recall 5, Learning Log reviews, Low Stakes Quizzes, Over the shoulder verbal feedback, KAST 1 - cumulative test based on term 1 topics	RAP: Recall 5, Learning Log reviews, Low Stakes Quizzes, Over the shoulder verbal feedback, End of Topic test	RAP: Recall 5, Learning Log reviews, Low Stakes Quizzes, End of Topic test	RAP: KAST 2 cumulative test based on the year, Over the shoulder verbal feedback, Project Learning Logs

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9	**Information Technology/Digital Literacy:** **Using IT in Business & Media** Learning question: *Can I understand how to plan and market a small business?* Key knowledge: *Competition and USPs, business plans, marketing, digital marketing skills*	**Computer Science: Advanced Programming** Learning question: *Can I understand how to write complex programs in Python?* Key knowledge: *Algorithm, Syntax, Sequence, Selection, iteration*	**KAST 1 & Computer Science: Advanced programming RAP** Learning question: *Can I understand how to write complex programs in Python?* Key knowledge: *Trend analysis, Infographics, visualisation*	**Computer Science/Digital Literacy: CyberSecurity** Learning question: *Can I understand how to identify and prevent online threats?* Key knowledge: *Online threats, methods to prevent online threats*	**Information Technology: Creating Digital Graphics** Learning question: *Can I understand how to create effective digital media?* Key knowledge: *Photo editing, digital graphic conventions, exporting*	**KAST 2 & Summer Challenge: Applying your skills to solve computing problems** Learning question: *Can I understand how to apply computing skills to a new challenge?* Key knowledge *Decomposition Algorithms, Programming, sequence, selection iteration*
Building and revisiting	New learning providing insight into other potential option subjects in the faculty.	Revisits & builds on programming topics from Y8	Revisits & builds on modelling unit from Y8	Revisits some of the issues covered in PSHE	New Concepts	Revisits skills from across the year
Assessment	RAP: Recall 5, Learning Log reviews, Low Stakes Quizzes, End of Topic test	RAP: Recall 5, Learning Log reviews, Low Stakes Quizzes, End of Topic test	RAP: Recall 5, Learning Log reviews, Low Stakes Quizzes, KAST 1 – cumulative test based on term 1 topics	RAP: Recall 5, Learning Log reviews, Low Stakes Quizzes, End of Topic test	RAP: Recall 5, Learning Log reviews, Low Stakes Quizzes, End of Topic test	RAP: KAST 2 cumulative test based on the year, Project Learning Logs