COMPUTER SCIENCE - 5 YEAR PLAN

	Autumn 1 (8 weeks)	Autumn 2 (7 Weeks)	Spring 1 (6 weeks)	Spring 2 (6 weeks)	Summer 1 (5 weeks)	Summer 2 (7 weeks)	EOY Assessment
KS3 7	**File Management & Email and effective internet searching (NC9)** Logon, & class charts, safety first, File Management, Internet, Searching safely. Assessment: Practical internet search and file management evidence sheet	**PowerPoint (NC7,8,9)** Discuss audience needs, safety, PPT good practice, using Loch Ness content Plan and present a presentation about Poppy Appeal, embed animation and transition ensuring it is fit for purpose. Assessment: Poppy Presentation PPT	**What is a Computer? (NC4,5,6)** Review of early electronics, role of transistors, and Moore's Law. Research computer development since 1980. Logic & Binary, O & 1. Pioneers: CB, AL, GM Assessment: Online Google Form Test	**Desk Top Publisher (NC7,8,9)** Discuss audience needs, safety, DTP good practice, using Zoo content. Production of a year 7 school brochure aimed at year 6 students, 8 page booklet using info from range of sources. Assessment: School leaflet DTP	**Online Safety (NC9)** Exploration of key themes including: e-safety, cyber bullying, sexting, online grooming, and selfies. Reporting processes CEOP, Childline, in school. Assessment: Poster on key terminology	**Computational Thinking (NC2,6) & Revision / EOYE** EOY Exam 15-19 June 2x weeks revision + 1 hour exam 3x weeks mop up exams, exam feedback & DIRT, Careers in IT, Computational Thinking, Algorithms. Assessment EOYE	Paper summarising PowerPoint, DTP, Safety, History of computing
8	**Spreadsheets (NC1,5,7,8)** Produce spreadsheets with charts to include formulae and functions including IF. Assessments: End of term exam – spreadsheets terminology and calculations with mini spreadsheet to complete and chart to produce.	**Python (NC1,2,3)** Basic introduction to Python 3.5. Coding structures to include: sequence, selection and iteration. 1 hour of careers in IT/Computing, academic pathways, career choices, exploration of careers pilot.org.uk Assessment: Python Terms & Code exam.	**Scratch (NC1,2,3)** Develop a 2D games using Scratch, follow Teach-ICT Shark Attack, Race Car Game, Bounce Ball, Pong, Duck Shoot, Design Own Game Assessments Develop own game with actions, costumes, modified background	**Computer Systems (NC5,9)** Explore hardware, software, Operating Systems, Networks, WiFi. Pioneers: JVN, VC, TBL, BG Assessment: Paper based test on Computer Systems.	**HTML (NC1,2,3)** Create a 3 page linked website, using emphasis formatting, images, internal & external links, tables and anchors. Assessment: Create website on topic of own choice, minimum 3 pages, internal and external links, images, tables	**Binary & Logic (4,6)** Binary & Logic, Algorithms, Images, Sound, Compression. Pioneer: GB **Revision & Assessment** EOY Exam 15-19 June 2x weeks revision + 1 hour exam 3x weeks mop up exams, exam feedback & DIRT, Careers in IT, Research into future changes in computing and how it is affect our lives.	Paper summarising databases, spreadsheets, Programming, HTML
KS4 9 *Transition*	**Cam Nats (NC1, 5, 6, 7, 8, 9)** AO1 – Safe working practices are applied in a business environment Assessments: PowerPoint on Health & Safety AO2 – Sourcing information from the Internet for a specific purpose. Using email to communicate information for business purposes. Skills: DTP, PP (24/7 Hair) Assessments: DTP leaflet on emailing and internet searches **Computer Science** **Bits, Bytes, Binary 1 (NC3,4,6)** Building Blocks of Logic Electricity, Binary, Calculations Basic application of binary (Images, Sound, Characters) **Python Intro**: Variables, inputs/outputs, assignments, Data types, Boolean operators, Sequence, String Manipulation Assessments: PGO Worksheets 1.1-2, 5.1-3 Code challenge 1 – chat bot Mid-term assessment	**Cam Nats (NC1, 2, 3, 4, 6, 7, 9)** AO4 – Design and create publicity documents for business use including business letter and mailmerge. Assessments on documents created AO5/O6 - Design, create and use a business spreadsheet & database Skills: Email, DTP, SS/DB, MM (24/7 Hair) Assessments: spreadsheet & database **Computer Science** **Computer Hardware(NC3,5)** Peripherals vs Components CPU processing / FDE Memory & Storage Python Flow Intro (Selection) Assessments: PGO Worksheets 1.3-4 Code challenge 2 – password guess End of term assessment (Yr11 AW1)	**Cam Nats (NC1, 5, 6, 7, 8, 9)** Topic Area 1 – Types of design tools (Flow charts/mind maps/visualisation diagrams/Wireframes) Topic Area 2 – Human Computer Interface (HCI) in everyday life (Purpose and use of HCI's/Hardware/Software/interaction method) Assessment: Teach ICT Quizzes/tests ZigZag worksheets on Flowcharts, mind maps, visualisation diagrams Kahoot Quizzes **Computer Science** **Computational Thinking (NC1,2,3)** Algorithms (Search Sort) Abstraction/Decomposition Python Flow (Selection / Iteration FOR/WHILE) Assessments: PGO Worksheets 3.1-2 Code challenge 3– username and password verify	**Cam Nats (NC1, 6, 7, 8)** Topic Area 3 – Data and Testing Assessment: Teach ICT Quizzes/tests ZigZag worksheets on Flowcharts, mind maps, visualisation diagrams Kahoot Quizzes **Computer Science** **Logic & Binary 2 (NC3,4,6)** Logic Gates, Binary Addition & Shifts, Binary in systems (Images, Sound, Characters) Lists (Arrays) Assessments: PGO Worksheets 2.4-5 Code challenge 4 – email store End of term assessment (Yr11 AW2)	**Cam Nats (NC 5, 6, 7, 8, 9)** Topic Area 4 – Cyber-security and Legislation - Augmented reality (R070) What is AR, The purpose of AR and how it can be used. Topic Area 5 – Digital communications Assessment: Teach ICT Quizzes/tests ZigZag worksheets on Flowcharts, mind maps, visualisation diagrams Kahoot Quizzes Skills: Augmented Reality **Computer Science** **Networking the World(NC3,5,9)** ArpaNet to Metaverse Wired vs Wired vs Hybrid Security Considerations Online Safety vs Social Media Lists (Arrays 2D) Assessments: PGO Worksheets 2.1-3 Code challenge 5 – Restaurant Menu, Student Results 2D Array, Mid-term assessment	**Cam Nats (NC 5, 6, 7, 8, 9)** AR interaction – headset, voice, mb / smart devices Designing AR prototype (Using trial c/w) Assessment: Teach ICT Quizzes/tests ZigZag worksheets on Flowcharts, mind maps, visualisation diagrams Kahoot Quizzes Skills: Augmented Reality AR: Practice coursework **Computer Science** **Careers & Pioneers, Tomorrows Technology(NC3,6,7,8,9)** Review of Careers in Computer Science Career Pilot / Prospects / NCS Review of early pioneers A Lovelace, George Boole, Vint Cerf etc Quantum Computing Mabu/Moley Robots Revision / End of year assessment Programming Challenges / End of year assessment Assessments: Revision guide RAG checklist EOY Exam	Paper summarising transition year topics, with programming task. 50 minutes.

10 ***GCSE Y1***	**<u>Cam Nats</u>** Augmented reality (R070) **<u>Trial coursework (12 hours)</u>** **<u>Computer Science</u>** **Algorithms – Flow Charts / Pseudocode** **Truth Tables** **Python Recap (Sequence/Selection/Iteration)** Assessments: PGO Worksheets 3.3-4 Code challenge 7 – Login System Calculator Mid-term assessment AO1/2/3 PGO Unit test	**<u>Cam Nats</u>** Augmented reality (R070) Actual coursework (12 hours) Assessments: Marked Live AR cw **<u>Computer Science</u>** **System Security** **Systems Software** **Python File Handling** Assessments: PGO Worksheets 4.1-3 Code challenge 8 – Dice Game 1 End of term assessment AO1/2/3 PGO Unit test	**<u>Cam Nats</u>** Spreadsheets (R060) What is a Spreadsheet, The purpose of Spreadsheet and how they can be used. **<u>AR c/w results – Re-sit opportunity</u>** **<u>Computer Science</u>** **Producing Robust Programs** **Program Design, Program Development** **Testing and Evaluation, Trace Tables** **Python Arrays** Assessments: PGO Worksheets 5.4-6 Code challenge 9 – Menu Dishes Mid-term assessment AO1/2/3 PGO Unit test	**<u>Cam Nats</u>** Spreadsheets (R060) What is a Spreadsheet, The purpose of Spreadsheet and how they can be used. Actual coursework (12 hours) **<u>Computer Science</u>** **Structure Diagrams** **Translators and Facilities of Languages** **Python Functions** Assessments: PGO Worksheets 7.1-3 Code challenge 10 – Dice Game 2 End of term assessment AO1/2/3 PGO Unit test	**<u>Cam Nats</u>** Spreadsheets (R060) **<u>Trial coursework 12 hours</u>** Assessment: Teach ICT Quizzes/tests ZigZag worksheets on Flowcharts, mind maps, visualisation diagrams Kahoot Quizzes **<u>Computer Science</u>** **Impact of Digital Technology** **Law Ethics Culture** **Python Challenges** Assessments: PGO Worksheets 7.4 Code challenge 11 – Individual choice Mid-term assessment AO1/2/3 PGO Unit test		**<u>Cam Nats</u>** Spreadsheets (R060) **<u>Actual coursework 12 hours</u>** Assessment: Teach ICT Quizzes/tests ZigZag worksheets on Flowcharts, mind maps, visualisation diagrams Kahoot Quizzes **<u>Computer Science</u>** **Impact of Digital Technology** **Environment** **Python Challenges** Revision / End of year assessment Programming Challenges / End of year assessment Assessments: Revision guide RAG checklist Code challenge 12– Company Data Store End of year exam AO1/2/3 (Past paper 2016 amended)	*J277 J836 Past Papers 2018*
11 ***GCSE Y2***	**<u>Cam Nats</u>** Spreadsheets (R060) **<u>Actual coursework 12 hours</u>** Topic Area 5 – Digital communications Assessment: Teach ICT Quizzes/tests ZigZag worksheets Kahoot Quizzes Assessments: PPE. Assessment Window 1 Past Paper **<u>Computer Science</u>** **Systems Architecture** **CPU, Registers, Performance Factors** **Primary Memory, Secondary Storage** **Python Challenges** Assessments: PGO Worksheets 8.1-6 Code challenge – Skills Revision Mid-term assessment PGO Unit test	**<u>Cam Nats</u>** Topic Area 6 – Internet of Everything (IoE) Assessment: Teach ICT Quizzes/tests ZigZag worksheets Kahoot Quizzes **<u>Computer Science</u>** **Data Representation** **Number System Conversions** **Binary Addition/Shifts** **Characters/Images/Sound Compression** **Revision Comp1 for AW1** Assessments: AW1 OCR Paper 90 mins 80 marks	**<u>Cam Nats</u>** R050: Revision Topic areas 1 & 2 **<u>Spreadsheets c/w results – Re-sit opportunity</u>** Assessments: H/W, Kahoot **<u>Computer Science</u>** **Wired Networking** **Wireless Networking** **Protocols & Standards** **P2P vs Client Server** **Python Challenges** Assessments: Comp 2 mid term	**<u>Cam Nats</u>** R050: Revision 3 & 4 Assessments: H/W, Kahoot **<u>Computer Science</u>** **SQL** **Data Storage using Records** **Revision Comp2 for AW2** Assessments: AW2 OCR Paper 90 mins 80 marks	**<u>Cam Nats</u>** R050: Revision 5 & 6 Assessments: H/W, Kahoot **<u>Computer Science</u>** Revision / Exam Comp1 Revision / Exam Comp2 Assessments: Sample Exam Papers J277	*EXAM*	