KS3 Overview

Computer Science & ICT

Years 7-9

Our <u>intention</u> is to provide a varied, challenging and engaging Computer Science & ICT curriculum, which ensures that our students of Computer Science & ICT will:

- understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation
- analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems
- be able to evaluate and apply information technology, including new or unfamiliar technologies
- become responsible, competent, confident and creative users of information and communication technology

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Year 7 Programme of Study Overview
(1 hour per week)

1: Using Computers Safely, Effectively & Responsibly	2: Presenting Information for a specific audience & purpose	3: Understanding Computers	4: Games Programming with Scratch 3.0	5: Control Systems with Flowol 4.0

Week No		Autumn Term 1 (7 ½ weeks)		Autumn Term 2 (6 ½ weeks)		Spring Term 1 (6 weeks)		Spring Term 2 (5 weeks)		Summer Term 1 (7 weeks)		Summer Term 2 (7 weeks)
1		Year 7 Baseline Assessment		Lesson 6: Assessment		Lesson 6: Assessment		Lesson 6: New Technologies		Lesson 4: Randomisation (operators)		Lesson 3: Sensors
2		Lesson 1: File Management		BEBRAS UK CHALLENGE		Lesson 1: Input/Process/Output		Lesson 7: Assessment		Lesson 5: Shooting & jumping		Lesson 4: Subroutines
3		Lesson 2: Social networking		Lesson 1: Audience & purpose		Lesson 2: The CPU		Lesson 1: Simple movement (sprites & coding)		Lesson 6: Sound		
4		Lesson 3: Keeping data safe		Lesson 2: Planning a presentation		Lesson 3: Binary Numbers		Lesson 2: Lives & scoring (variables)		Lesson 7: Peer Assessment & improvements		Lesson 5: Actuators
5		Lesson 4: Using email		Lesson 3 Using PowerPoint 365 Part 1		Lesson 4: Binary Addition		Lesson 3: Adding a new level (broadcast scripts)		Lesson 8: Assessment		Lesson 6: Variables
6		Lesson 5: Searching the web		Lesson 4: Using PowerPoint 365 Part 2		Lesson 5: Storage Devices				Lesson 1: Flowcharts		Lesson 7: Assessment
7		Lesson 5: Searching the web		Lesson 5: Peer Assessment & improvements						Lesson 2: Sequencing		

Year 8 Programme of Study Overview
(1 hour per week)

1: Computational Thinking & Logic	2: Database Development	3: Website Development: Adobe Dreamweaver	4: Introduction to Python Programming	5: Computer Crime

Week No	Autumn Term 1 (7 ½ weeks)		Autumn Term 2 (6 ½ weeks)		Spring Term 1 (6 weeks)		Spring Term 2 (5 weeks)		Summer Term 1 (7 weeks)		Summer Term 2 (7 weeks)
1	Year 8 Baseline Assessment		Lesson 7: Assessment				Lesson 3: Planning a Website		Lesson 1: Introduction to Python		Lesson 2: Hacking
2	Lesson 1: Logical Thinking		BEBRAS UK CHALLENGE		Lesson 4: Input Forms		Lesson 4a: Developing a website		Lesson 2: Numbers & Arithmetic		Lesson 3: Protecting Personal Data
3	Lesson 2: Logic Gates		Lesson 1: Searching a Database		Lesson 5: Database Reports		Lesson 4b: Developing a website		Lesson 3: Selection – IF statements		
4	Lesson 3: Algorithmic Thinking 1				Lesson 6: Assessment		Lesson 5: Web Forms		Lesson 4: Writing Algorithms		Lesson 4: Copyright
5	Lesson 4: Algorithmic Thinking 2		Lesson 2: Table Design		Lesson 1: Basic HTML		Lesson 6: Assessment		Lesson 5: Iteration – While loops		Lesson 5: Health & Safety
6	Lesson 5: Abstraction				Lesson 2: Basic CSS				Lesson 6: Assessment		Lesson 6: Assessment
7	Lesson 6: Decomposition		Lesson 3: Creating Queries						Lesson 1: Scams		

Year 9 Programme of Study Overview
(1 hour per week)

1: Introduction to Computer Networks	2: Python: Next Steps	3: Artificial Intelligence	4: Digital Graphics (Adobe Photoshop)	5: Audio Editing (Audacity)

Week No	Autumn Term 1 (7 ½ weeks)		Autumn Term 2 (6 ½ weeks)		Spring Term 1 (6 weeks)		Spring Term 2 (5 weeks)		Summer Term 1 (7 weeks)		Summer Term 2 (7 weeks)
1	Year 9 Baseline Assessment		**Lesson 1:** Python Basics RECAP		**Lesson 1:** What is AI?		**Lesson 1:** Vector Graphics		**Lesson 6:** Creating a Movie Poster Pt 3		**Lesson 3:** Listening & planning
2	**Lesson 1:** The Internet		BEBRAS UK CHALLENGE		**Lesson 2:** Machine Learning		**Lesson 2:** Bitmap Graphics		**Lesson 7:** Peer assessment & improvements		
3	**Lesson 2:** Connectivity		**Lesson 2:** Loops		**Lesson 3:** Ethics of AI		**Lesson 3:** Conveying Meaning		**Lesson 8:** Pt 4 Finishing / Exporting Files		**Lesson 4:** Creating an advertisement
4	**Lesson 3:** Topologies		**Lesson 3:** Lists		**Lesson 4:** Image Recognition		**Lesson 4:** Creating a Movie Poster Pt 1				
5	**Lesson 4:** Client-Server Net & Exam Preparation		**Lesson 4:** Procedures		**Lesson 5:** Turing Tests & Chatbots		**Lesson 5:** Creating a Movie Poster Pt 2		**Lesson 9:** Assessment		**Lesson 5:** Testing & Exporting Files
6	**Lesson 5:** Encryption		**Lesson 5:** Functions		**Lesson 6:** Assessment				**Lesson 1:** Digitising Sound		**Lesson 6:** Assessment
7	**Lesson 6:** Assessment		**Lesson 6** Assessment						**Lesson 2:** Jobs in the Sound Industry		