

# ICT/Computing Three Year Learning Journey



WEST GRANTHAM  
Church of England Secondary Academy

KS4 Option:  
BTEC L1/2 Tech  
Award Creative  
Media Production



Locate and correct common syntax errors  
Selection (if, elif, else)  
Iteration (while, for)  
Strings and characters  
Creating and accessing lists  
Combining key programming features to develop solutions to meaningful problems

The Internet vs. the World Wide Web  
The Internet of Things (IoT)  
Defining and measuring bandwidth  
Data Transmission  
What are networks?  
Logo creation  
Draw and edit paths and nodes  
Vector vs. Bitmap  
Referencing and giving credit to sources

Formatting documents  
Creative Commons  
Blogs  
Logic gates  
Data as Binary  
Software  
What is a computer?  
AI & Machine Learning

Operating systems  
Collaborating and sharing  
Cyberbullying  
Safe and secure Passwords  
Email communication

Documents and applications

Hardware

Computer Science

Information Technology

Digital Literacy

**Year 9**

**Summer**

- Data Science: Trends and pattern recognition, Data cleansing, Visualising data, Rendering
- 3D Animation: Lighting and camera setup, Proportional editing, Editing and extrusion
- Creative Media Production Project: Layout and Design techniques, Generating Primary assets – Photography, Logo design and creation, Producing and editing written copy

**Autumn**

- Python Programming: Data capture forms, Correlation and outliers, Keyframing, Parenting objects, Image Editing and Manipulation
- Cybersecurity: Computer Misuse Act, Data Protection Act, Human error and minimizing risk, Bots and Botnets, Analysing Briefs
- Creative Media Production Project: Font Theory and Typography, Sketches

**Spring**

- Python Programming: Data vs. Information, Hacking, Malware, DDOS, Brute Force, Protecting Networks, Determining Target Audience requirements
- Cybersecurity: Data Privacy, Computer Misuse Act, Data Protection Act, Human error and minimizing risk, Bots and Botnets, Analysing Briefs
- Creative Media Production Project: Demographics, Colour Theory, Psychographics, Pre-Production documentation and planning

**Summer**

- Python Programming: Algorithms, Arithmetic expressions, Generate and use random integers, Iteration, Passing variables, Variables as counters, Variables
- App Development: Establishing user need, Sequence, selection, Block-based programming, GUI elements to meet audience need
- Data Representation: How are bits stored?, Measuring sequence size

**Autumn**

- Networks: HTTP and HTTPS, The Internet vs. the World Wide Web, The Internet of Things (IoT), Defining and measuring bandwidth, Data Transmission, What are networks?
- Web Design: HTML and inline formatting, User input, Selection (if, elif, else), Boolean search operators (AND, OR, NOT)
- Data Representation: Binary bits, Binary to Denary conversion

**Spring**

- Networks: Network hardware, Protocols, CSS and the benefits over inline formatting, Navigation and hyperlinks, Symbolic representation
- Web Design: Manipulate objects (select, move, resize, rotate, flip), Spreadsheet basics – columns, rows, cells, Formatting techniques
- Data Representation: Data vs. Information, Charts

**Summer**

- Vector Graphics: Draw basic polygons (ellipse, rectangle, star), Functions – COUNT, SUM, MAX, MIN
- Spreadsheets: Iteration, Block-based programming, Sequence, Selection, Boolean
- Programming 2: Lists, Subroutines, Decomposition, Debugging

**Autumn**

- Word Processing: Features of Word Processors, Plagiarism, Referencing and giving credit to sources, Formatting documents
- Programming 1: Variables, Input/Process/Output, Comparison and logical operators
- Computer Systems: Licensing, Evaluating online sources, Operating systems, Collaborating and sharing, Cyberbullying

**Spring**

- Word Processing: Creative Commons, Blogs, Logic gates, Data as Binary, Software, What is a computer?, AI & Machine Learning
- Programming 1: Variables, Input/Process/Output, Comparison and logical operators
- Computer Systems: Operating systems, Collaborating and sharing, Cyberbullying, Safe and secure Passwords, Email communication

**Summer**

- Word Processing: Formatting documents, Creative Commons, Blogs, Logic gates, Data as Binary, Software, What is a computer?, AI & Machine Learning
- Programming 1: Variables, Input/Process/Output, Comparison and logical operators
- Computer Systems: Operating systems, Collaborating and sharing, Cyberbullying, Safe and secure Passwords, Email communication

## Year 7

## Year 8

## Year 9