

Year 9 - Computing - Learning Journey 2020-2021

Week	Date	Key constructs that we cover in each unit	Details of what we will learn about each week	Assessment
1	07.09.20	Unit 9-1 How computers store data KC-5 Data Representation	Recap: Representing integers as binary. Create spreadsheet to convert denary to binary. How no. of bits affects range.	Representing an 8x8 bitmap using bit-depth of 2 or more and identifying meta-data needed.
2	14.09.20		Character symbols & codes. Assigning integer codes to characters. Different character sets. Program to convert text to codes.	
3	21.09.20		Recap monochrome bitmaps. Resolution & bit-depth. 2-bit colour and beyond. Calculating amount of data to store a bitmap.	
4	28.09.20		Hexadecimal. 24-bit RGB colour model. Run-length compression of bitmaps. Meta-data stored in image files.	
5	05.10.20		Recording audio. Sample size & rate. Size of audio files & compression. Common meta-data that gets stored in audio files.	
6	12.10.20		Difference between bitmap & vector graphics. Representing video. Meta-data for images and video.	
7	19.10.20		RAP	
Half Term				
8	02.11.20	Unit 9-2 Creating web-sites KC-4 Internet and the web KC-5 Images, file-types and compression	Recap HTML tags. Page attributes. Creating simple tables. Cell formats. Merging table cells.	Finished website.
9	09.11.20		Adding hyper-links and pop-up hints.	
10	16.11.20		Navigation bars & buttons. Embedding audio & video in pages. Using CSS to set style of elements in pages.	
11	23.11.20		Preparing images for the web: resizing, RGB, resolution. Preparing images: Selecting parts. Image maps and hyperlinks.	
12	30.11.20			
13	07.12.20		Project: Create website with navigation from list of themes.	
14	14.12.20	RAP		
Xmas				
15	04.01.21	Unit 9-3 Decomposing problems and developing solutions KC-2 Calculating and processing data KC-6 Decomposition, abstraction and expressing algorithms as pseudo-code	Following & tracing Pseudo-Code algorithms: Linear Search and Bubble Sort.	Pseudo-code method for Caesar Cipher encoding / decoding.
16	11.01.21		Decompose speed, distance & time calculations. Adding validation to pseudo-code.	
17	18.01.21		Decompose problem of a falling object: calculations, variables & constants involved.	
18	25.01.21		Decompose problem of encoding/decoding text using Caesar Cipher. Testing pseudo-code works.	
19	01.02.21		Decompose problem and create pseudo-code for Hangman game.	
20	08.02.21	RAP		
Half Term				
21	22.02.21	Unit 9-4 Developing programs KC-5 Representation data using arrays KC-6 Creating and testing programs	Substrings: Extracting characters from text. Caesar Cipher program: Encrypting text.	Finished and tested Caesar Cipher program.
22	01.03.21		Finish Caesar Cipher program – decrypting text again.	
23	08.03.21		Storing timetable data in 2D array.	
24	15.03.21		Searching for data in 1D and 2D arrays.	
25	22.03.21	End Of Year Exam Preparation		
26 (½ wk)	29.03.21	End Of Year Exam Preparation		
Easter				
27	19.04.21	End Of Year Exam		
28	26.04.21	End Of Year Exam		
29	04.05.21	Unit 9-5 Keeping data safe KC-2 Presenting information KC-3 Peripheral devices KC-4 Internet and the web KC-5 File-types and compression	Types of storage: magnetic, optical, solid-state, cloud. Recap of HTML to create pages & design choices.	
30	10.05.21	End Of Year Exam RAP		
31	17.05.21	(Unit 9-5 continued)	Different types of file and their content e.g. text, audio, video. Presenting as web-page with CSS to improve design.	Finished storage and file-types webpage.
32	24.05.21		Compressed files.	
Half Term				
33	07.06.21	Unit 9-6 Social, ethical, legal & environmental issues KC-1 Security, privacy and environmental issues, laws that affect us KC-4 Internet & the Web	Upgrading & disposal of hardware, hazardous tech and recycling.	Written task: Laws that affect use of technology.
34	14.06.21		Using and disposing of data: dumping devices, theft, losing media, leaks.	
35	21.06.21		Laws that affect us: Data Protection Act and GDPR.	
36	28.06.21		Laws that affect us: Computer Misuse Act.	
37	05.07.21		Laws that affect us: Copyright & Creative Commons Licensing.	
38	12.07.21	Development Day / Activities week		
39	19.07.21	Development Day / Activities week		