

Unit	Topic	S1	S2	S3
<b>Computer Systems</b>				
Data Representation <b>S1 TCH 2-14b (L2)</b> <b>S3 TCH 4-14b (L4)</b>	Using binary to represent positive integers, characters	Positive integers	Recap	S2 + vector graphics
	Conversion from binary to decimal and vice versa	Changing decimal to binary	+ changing binary to decimal	Recap
	Use of extended 8-bit ASCII to represent characters	√ simple explanation	Recap	Recap
	Units of storage – KB, MB, GB, TB, PB	√	Recap	Recap
Hardware <b>S1 TCH 2-01a (L2)</b> <b>S2 TCH 3-14a (L3)</b>	Description and understanding of input devices relating to desktop, laptop, tablet and smart phone	√ but without link to devices	Link to devices	Recap
	Description and understanding of output devices relating to desktop, laptop, tablet and smart phone	√ but without link to devices	Link to devices	Recap
	Description and understanding of backing storage devices – built-in external, portable, magnetic, optical (rewritable, read-only), SSD - capacity, speed,	backing storage devices – built-in external, portable, magnetic, optical (rewritable, read-only), SSD	Recap	S2 + capacity and speed + interface
Computer Structure <b>S1 TCH 2-14b (L2)</b> <b>S2 TCH 3-14a (L3)</b>	Description of processor, clock speed and comparing processor speeds	processor, clock speed	Recap	S2 + control unit + ALU + registers
	Description of memory - ROM, RAM and the differences between them	√	Recap NOT ROM	S2 + unique address
Software	Explanation of different operating systems relating to desktop, laptop, tablet and smart phone	Simple explanation of OS on devices	S1 + difference between OS and Application software	Recap
Environmental <b>S3 TCH 4-03a (L4)</b>				<b>Carbon footprint</b> <b>Computer energy use</b> <b>Disposal of IT equipment</b>

<b>Software design and development</b>				
Development methodologies	Explanation of 6 stages in Software Development Process	Simple explanation of first 4 stages	Recap	More detailed explanation of first 4 stages
Design <b>S3 TCH 4-13a (L4)</b> <b>S3 TCH 4-14c (L4)</b>	Design method	Simple pseudocode for Scratch	Simple pseudocode for Livecode	S2 + wireframing
Implementation (data types & structures) <b>S2 TCH 3-14a (L3)</b>	Data type – string, integer, real variables		Livecode	+ char and boolean
Implementation (computational constructs) <b>S1 TCH 2-13a (L2)</b> <b>S1 TCH 2-14a (L2)</b> <b>S1 TCH 2-14b (L2)</b> <b>S1 TCH 2-15a (L2)</b> <b>S2 TCH 3-15a (L3)</b> <b>S3 TCH 4-14a (L4)</b> <b>S3 TCH 4-15a (L4)</b>	Using expressions to assign values to variables	Scratch & Microbit variables	Livecode	Recap
	Using expressions containing arithmetic operations (+, -, *, /)	Scratch quiz (T13)	Livecode	S2 + ^
	Execution of lines of code in sequence	Scratch & Microbit	Livecode	Recap
	Use of simple IF conditional statement	Scratch & Microbit	Livecode	Recap
	Use of IF..THEN..ELSE conditional statement	Scratch quiz (T13)	Livecode	Recap
	Use of complex IF conditional statement using AND and OR			Livecode
	Use of fixed loop - FOR		Livecode	Recap
	Use of simple conditional loop - REPEAT	Scratch – FOREVER Microbit - WHILE		Livecode REPEAT + WHILE
	Use of complex conditional loop – REPEAT (and /or)			Livecode REPEAT + WHILE
Testing <b>S1 TCH 2-15a (L2)</b> <b>S2 TCH 3-14a (L3)</b> <b>S3 TCH 4-14b (L4)</b>	Testing – syntax error normal, extreme and exceptional data	Simple testing	Syntax error	+ normal, extreme and exceptional data using a test table

<b>Database design and development</b>				
Analyses	Description of purpose of information system			√
	Description of type of users – expert, novice and age range			√
Design <b>S1 TCH 2-13a (L2)</b> <b>S2 TCH 3-14a (L3)</b> <b>S3 TCH 4-15a (L4)</b>	Database structure – file, record, field, relationships	file, record, field	Recap	Linked DB + primary key + foreign key + relationship
<b>S2 TCH 3-14a (L3)</b>	Database field types – text, number, date, time, graphic, calculated	Text, number and graphics	S1 + date and time	S2 + calculated
	Input validation			Presence check + restricted choice + field length check + range check
<b>S2 TCH 3-02a (L3)</b> <b>S2 TCH 3-13a (L3)</b> <b>S2 TCH 3-14a (L3)</b>  <b>S3 TCH 4-02a (L4)</b> <b>S3 TCH 4-15a (L4)</b>	Database operations – search, sort		Search + sort on one field	S2 + sort on 2 fields
<b>S1 TCH 2-15a (L2)</b>	Creating database reports by changing the layout	Simple user interface	Recap	More complex user interface
<b>S3 TCH 4-03a (L4)</b>	Data Protection Act			√

<b>Web design and development</b>				
Analyses	Description of purpose of information system			√
	Description of type of users – expert, novice and age range			√
Design <b>S2 TCH 3-03a (L3)</b> <b>S3 TCH 4-14c (L4)</b>	wireframing			√
	User interface – navigation, consistency, interactivity, selection			√
	Copyright Design and Patents Act	Simple explanation of Copyright – pictures and music files	S1 + software copyright	<b>Recap</b>
<b>S2 TCH 3-14a (L3)</b> <b>S3 TCH 3-13a (L3)</b> <b>S3 TCH 4-14b (L4)</b>	Standard file formats for text, graphics, audio and video		Text, audio	<b>S2 + graphics + video + compression</b>
Implementation <b>S1 TCH 2-15a (L2)</b>	Website – page, URL		+ domain	<b>+ browser features (privacy modes, page zooming &amp; ad blocking)</b>
<b>S2 TCH 3-02a (L3)</b> <b>S2 TCH 3-14b (L3)</b> <b>S2 TCH 3-15a (L3)</b>	Hyperlinks	√	Recap	<b>Recap</b>
	Creating linked web pages	Using iWeb software	Using Bracket software. HTML code – Body + font colour Insert images Insert video Create forms with Radio buttons Checkboxes Text box Password box Submit button	<b>Using Bracket software. HTML code – Body + font colour Insert images Insert video Hyperlinks  Use of elements and tags - &lt;head&gt;, &lt;title&gt;,&lt;body&gt;, &lt;div&gt;, &lt;h1&gt; etc  Use of internal CSS</b>

<b>Other Topics</b>				
Network	Description of network	√	Recap	Recap
	Advantages & disadvantages of using a network		S1 + cloud storage	Recap
	Description of wired/optical/wireless network		√	Recap
<b>S1 TCH 2-14b (L2)</b>	Explanation of the Internet and how to access it.	√	√	
<b>S1 TCH 2-02a (L2)</b>	Navigating around the internet	Browser tools & search engines	√	
<b>S1 TCH 2-03a (L2)</b>	Internet Safety	Social networks, Grooming, Youtube, mobile phones	Computer Misuse Act	
<b>S2 TCH 3-03a (L3)</b>				
<b>S1 TCH 3-03a (L3)</b>	Security risks	Viruses + online fraud, identity theft	worms, trojans and hacking	Phishing, virus. Keylogging, online fraud and identity theft
<b>S2 TCH 3-03a (L3)</b>				
<b>S3 TCH 4-03a (L4)</b>				
<b>S1 TCH 3-03a (L3)</b>	Security precautions	simple explanation of anti-virus software + encryption	Anti-virus software + exemplification of good password techniques	+ biometrics
<b>S2 TCH 3-03a (L3)</b>				
<b>S1 TCH 2-01a (L2)</b> <b>S1 TCH 3-03a (L3)</b>	Using MS365 and the schools email system	√ + Phishing	√	√
<b>S2 TCH 3-01a (L3)</b>				
Applications	Animation		Using selected software	
<b>S1 TCH 2-01a (L2)</b>	Creating music	Using Garageband		

<b>Literacy and Numeracy E's and O's</b>				
	Topics	S1	S2	S3
	Literacy	LIT 2-07a LIT 2-10a LIT 2-15a LIT 2-24a	LIT 3-06a LIT 3-09a LIT 3-10a LIT 3-24a	LIT 4-06a LIT 4-13a LIT 4-26a
	Numeracy	MNU 2-11b	MNU 3-03a	MNU 4-03a MNU 4-11a

Year	Assessment			Year	Assessment			Year	Assessment	
S1	Unit 1 Test			S2	Unit 1 Test			S3	DR Test	
	Practical				Practical				DB Test	
	Unit 2 Test				Unit 2 Test				Networks Test	
	Practical				Practical				Mid Term test	
	Unit 3&4 Test				Unit 3&4 Test					
	Practical				Practical					
	S1 Test 1	ALL			S2 Test 1	ALL			Website Test	
	S1 Test 2	ALL			S2 Test 2	ALL			Final Test	ALL