Curriculum Map – Dawlish College

Subject: Core IT **Year group: Year 8**

	Autumn		Spring		Summer	
	Autumn 1	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
Declarative Knowledge – 'Know What'	***Online Safety & Cybercrime*** Au1.1 Recap on systems in school Au1.2 Recap on systems at home Au1.3 Kooth, NSPCC and Childline Au1.4 Types of cybercrime Au1.5 Cost of cybercrime to society Au1.6 Ways to avoid cybercrime Au1.7 Punishments for cybercrime	***Computer Components*** Au2.1 What's in the box? Au2.2 Specification technical data Au2.3 RAM and virtual memory Au2.4 ROM and primary/secondary memory Au2.5 Storage devices Au2.6 Compatibility of components	***Networks*** Sp1.1 Cables and the internet Sp1.2 Bandwidth and Hardware Sp1.3 LAN and WAN Sp1.4 Network topology Sp1.5 Network development (internal and external) Sp1.6 Networks quiz building	***Spreadsheets II*** Sp2.1 Recap of knowledge Sp2.2 Fast formulae Sp2.3 Validation Sp2.4 Filtering and graphical representation Sp2.5 Conversion tables and absolute reference Sp2.6 Nested IF	***Python 1*** Su1.1 Back to blocks Su1.2 Introduction to string coding Su1.3 Developing variables in games Su1.4 Using INPUTS effectively Su.1.5 Using IF-ELSE in coding	***Binary/Logic Gates/Photoshop II*** Su2.1 Binary systems Su2.2 Logic gates Su2.3 Recap of basics Su2.4 Image manipulation Su2.5 Creating commercial products Su2.6 Photoshop for manipulation

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Skills *Sequential Knowledge – 'Know How'*	Au1.1 Recap on systems in school • Where to find them • Changes since Year 7 • Access from outside of school Au1.2 Recap on systems at home • System settings for home • Common issues from home • Help and advice links • Staying safe online at home Au1.3 Kooth, NSPCC and Childline • Overview of all three systems • How to access • Safety and security • Confidentiality of service Au1.4 Types of cybercrime • Categories of cybercrime • Severity to the individual • Percentage of crimes per category • Why it happens • Where it happens	Au2.1 What's in the box? • What do you get – different levels of consumer price • Buying online vs in store • Common mistakes when buying Au2.2 Specification technical data • Reading a tech spec sheet • Deciphering the acronyms • Differences across platforms • Essentials to look out for Au2.3 RAM and virtual memory • RAM • Size • Speed • Capacity • Sources of virtual memory Au2.4 ROM and primary/secondary memory • Solid State vs traditional • Portable memory • Benefits and drawbacks of off	Sp1.1 Cables and the internet • What is the internet • Cable types • Costs • Laying a cable • Cable speeds Sp1.2 Bandwidth and Hardware • What is Bandwidth • Variations by geography • Hardware involved • Linking systems together Sp1.3 LAN and WAN • What is LAN • What is WAN • Which is most appropriate • Advantages of each type • Disadvantages of each type • LAN and WAN in school settings Sp1.4 Network topology • What is a network • Network sizes • Linking sites together • Limitations to	Sp2.1 Recap of knowledge • Essentials of Excel • How to save in the right format • Portability of saved files • The interface Sp2.2 Fast formulae • Major maths operations • Combining operations (link to BODMAS) • Overcoming faulty formulae Sp2.3 Validation • Why we validate • Validation tools • Multi-validation techniques • Limitations to validation Sp2.4 Filtering and graphical representation • Uses of filtering • Multi-filter techniques • Filtering for efficiency • Filtering to create insightful graphs • Choosing the correct graph to	Su1.1 Back to blocks • Recap on block coding • Simple block game generation • Exporting the game Su1.2 Introduction to string coding • Discovering the use of string coding • Types of string coding • Basic language use • Fundamentals of coding practice Su1.3 Developing variables in games • Coding variables in programming language • Creating multiple variables • Variable to suit the audience and style • Limitations of variables Su1.4 Using INPUTS effectively • What is an INPUT • Where are INPUTS best used • Compatibility of use	Su2.1Binary systems • What is a binary system • Counting in binary terms • Converting binary to base-10 • Converting base-10 to binary • ASCII and binary Su2.2 Logic gates • Exploring the base logic gates • Use of logic gates in real life • Using logic.ly to build simple systems • Multiple logic gates and their outcomes Su2.3 Recap of basics • Recap of cutting and pasting • Finding suitable images and their formats • Choosing the right sized canvas • Zoom tools • Transformation tools • Rowing back

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	• Vulnerability and targeting Au1.5 Cost of cybercrime to society • Monetary costs • Mental costs • Emotional costs • Costs to business Au1.6 Ways to avoid cybercrime • System blocks • Observational techniques • Training • Ethical hacking and hackers • Government responses Au1.7 Punishments for cybercrime • Types of sentences • Severity and depth of sentence • Differences around the world	the shelf • Benefits and drawbacks of self-build • Cost comparisons • Availability • Shortages of components Au2.5 Storage devices • Finding a device • Reliability of devices (cost comparisons) • Limitations of budget • Setting a budget • Effective compatability Au2.6 Compatibility of components • Product families • Forced compatibility • Issues of compatibility on output • Branded vs generic systems	effective networks • Security issues Sp1.5 Network development (internal and external) • In-house development • Why expand • What forces expansion • Who are the experts • Power drawn • Basic necessities to operate • Building a netowrk for purpose Sp1.6 Networks quiz building • What should go into a good quiz • How many potential answers • Updating a quiz effectively • Testing the quiz • Running the quiz	suit Sp2.5 Conversion tables and absolute reference • Conversion in practice • What can be converted • Linked data to adapt to changing conversion rates • Use of absolute reference in conversion • Relationship to relative reference Sp2.6 Nested IF • Nested IF good practice • Creating conditions • Adjusting conditions • Nesting multiple IF's • Using VLOOKUP	with interfaces • Why INPUTS go wrong • Language choice for INPUTS Su1.5 using IF-ELSE in coding • What is an IF-ELSE • Using IF_ELSE to create smooth choice coding • Limitations of IF-ELSE • Multi-layering of coding for sophistication	• Saving the image Su2.4 Image manipulation • Basic tools for use • Cloning for ease • Erasing smoothly • Blending images together • Fine manipulation Su2.5 Creating commercial products • Identifying suitable uses • Choosing an idea • Transferring the idea onto a storyboard • Creating the image and refining • Final edits Su2.6 Photoshop for manipulation • Uses in social media • Ethics of use • Misinformation overload • Identifying manipulation • Photoshop vs AI • The law and images

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	The factors identified below are referred to throughout the curriculum: Developing Knowledge and Understanding of the application of topic to the real world. Objectives focus on: 1. Demonstrate knowledge and understanding of concepts and theories 2. Apply knowledge and understanding of concepts and issues to a variety of contexts 3. Analyse and evaluate information and issues to demonstrate understanding of activities through judgements and draw conclusions					
Key Questions	What issues do we face when logging in? Where do we go for help? Are the support sites, such as Kooth, secure and safe? Who carries out cybercrime? Why does cybercrime happen? Who is the most common victim of cybercrime? Who polices cybercrime? Will apps and tools slow down my device?	Where is the best place to buy a PC from? How much do the costs of a ready built PC vary? Why do manufacturers use jargon? Why do we need different types of memory? Can you have too much memory? What skills do you need to build a PC? What is the operating difference between low and high budget components?	What are the cables made from? What is the cost of cabling? Why do we need cables in 2024? Do they get damaged? How secure is a network? What kind of jobs are there in the industry? What kind of skills are needed to be a network manager? Why do we need to? upgrade networks?	What are the key principles of Excel? What are the basic actions of Excel? What advantages does using Excel bring a person or a business? How does Excel help with schoolwork? How does Excel help in presentations? Can Excel replace workers? What are the limitations of Excel? How can you export Excel successfully?	What other systems and apps use Python as coding? How important is string coding in software design? Why string code when blocks is easier? Is there a limit to the number of variables in a game? Can you have multiple INPUITS on one string? Why do programmes carry bugs? Can you purely be a debugging programmer?	What is Photoshop work area? What are Smart Objects, and how are they used? How do you select the exact colour to match? Describe what Photoshop is and why is it used? What are some important tools in Photoshop? How do you crop an image in Photoshop? What is the commercial value of Photoshop? Can Photoshop distort reality; is this bad?

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Assessment/ Measure of success	In-class assessments Individual topic project completion (by outcome)	In-class assessments Successful completion of in-class projects	In-class assessments Submission of workable quiz	In-class assessments Completion of spreadsheet tasks set	In-class assessments Successful completion of activities set	In-class assessments Completion of activities and finalised images
Addressing gaps, errors, misconceptions	Address at source (time allowing) Use subsequent Do Now to revisit smaller gaps/ errors /misconceptions Model through exemplars (historical or shared current student material (Impero) Use of class experts and building resilience through trial and error	Address at source (time allowing) Use subsequent Do Now to revisit smaller gaps/ errors /misconceptions Model through exemplars (historical or shared current student material (Impero) Use of class experts and building resilience through trial and error	Address at source (time allowing) Use subsequent Do Now to revisit smaller gaps/ errors /misconceptions Model through exemplars (historical or shared current student material (Impero) Use of class experts and building resilience through trial and error	Address at source (time allowing) Use subsequent Do Now to revisit smaller gaps/ errors /misconceptions Model through exemplars (historical or shared current student material (Impero) Use of class experts and building resilience through trial and error	Address at source (time allowing) Use subsequent Do Now to revisit smaller gaps/ errors /misconceptions Model through exemplars (historical or shared current student material (Impero) Use of class experts and building resilience through trial and error	Address at source (time allowing) Use subsequent Do Now to revisit smaller gaps/ errors /misconceptions Model through exemplars (historical or shared current student material (Impero) Use of class experts and building resilience through trial and error
Link to prior learning	Internet safety Use of basic Office suite products Knowledge of crimes portrayed or reported in the media environment Recap of safety online from Year 7	Relation to work done is Year 7 on computer basics Use of effective PowerPoint building for effective presentations Recall of knowledge on input and output devices	Previous learning from Year 7 Building on resilience practice from previous topics	Mathematics curriculum (data handling) Researching techniques online Following instructions in detail to achieve an outcome	Building on prior learning using programming logic Ability to take instruction and recreate/enhance a piece of work Continued perseverance and resilience techniques learned from prior topics	Mathematics curriculum (binary) Some work in Art covers storyboards Software manipulation skills stemming from the use of various interfaces used in previous years

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Preparation to later learning	Use of everyday tools in IT to aid workflow and comms between teacher and student/home Safety and safe use of IT a skills and experiences develop Identification of threats online and how to deal with them	Research techniques to find best choices and a variety of choices Able to decipher complex information and transfer into more friendly user terminology Budgeting skills	Effective choices for the best outcomes skills Use of mathematical formulae for best outcome Resilience to overcome problems effectively	Use in other subjects for presentations and projects Data handing and manipulation Decision making skills for best outcome Resilience in activities to see through to conclusion.	Building on the simple to create more complex outcomes Decision making processes Introduction to string coding leads to Year 9 coding section Resilience to overcome problems effectively	Research skills to discover best in class (in this case, hardware and software) Decision making processes to choose best project topic and materials Trial and error skills, fail and re-try Developing fine motor skills
Literacy/ Numeracy/ SMSC/ Character	**Literacy**: Reading of source material, research as well as group and class discussion. **Numeracy**: Calculations used in Cybercrime/Components/Spreadsheets (Formulae)/Photoshop/Coding/Stop Motion Animation **SMSC:** **Spiritual development:** students explore use of various IT tools to develop understanding and are encouraged to explore these concepts and challenge the actions taken. Enabling students to develop empathy of opinions and allow them to take into consideration other people aims, values, principles, and beliefs **Moral development**: Students evaluate, comment upon and discuss various moral issues relating to IT practices and procedures. Students consider the political, social, environmental and technological issues arising from a media decision. **Social development:** Development of team working skills through collaborative work and research **Cultural development**: Students look at the changes in society and how they can affect It and how IT affects them. **Character:** case studies and mini projects will look at firms that have demonstrated various characteristics including confidence, resilience, aspiration, and initiative. Students will also have the opportunity to develop these through their activities.					