KS3 Curriculum Overview Computing

Year 7

TERM 1	**TOPIC:** Introduction to Computing	*Key Skills/Subject Links	*Career links & BV
Week 1	Introduction to Computing	**Subject Links:** **Business, Media and any subjects that requires the use of a computer** **Key skills:** **Digital literacy** **Basic computer hardware knowledge** **Communication and collaboration skills - Accessing emails and one drive**	**Career links:** • **IT Support Technician** • **Helpdesk Support** • **Computer Hardware** • **Technician** • **Computer Science Teacher** **British Values:** • **Democracy: Encourages participation in a digital society.** • **Rule of Law: Emphasizes the importance of following ethical guidelines in computing.** • **Individual Liberty: Empowers individuals with digital skills for personal and professional growth.** • **Mutual Respect: Promotes respect for others' digital property and privacy.**
Week 2	PC Basics		
Week 3	NDrive and OneDrive		
Week 4	Outlook Emails		
Week 5	Introduction to word		
Week 6	**Milestone 1**		
Week 7	Introduction to Office 365		
TERM 2	**TOPIC: Networks and WWW**	**Subject Links:** **Mathematics** **Physics** **Geography** **Key Skills:** **Understanding of computer networks and protocols** **Knowledge of networking hardware** **Differentiating between wired and wireless networks** **Comprehension of the Internet and its services**	**Career Links:** • **Network Administrator** • **Network Engineer** • **Web Developer** • **Cybersecurity Analyst** **British Values:** • **Individual Liberty: Promotes digital literacy and access to the Internet.** • **Rule of Law: Emphasizes responsible use of network resources**
Week 1	Catch up lesson – due to CATS		
Week 2	Computer Networks and Protocols		
Week 3	Networking Hardware		
Week 4	Wired and Wireless Networks		
Week 5	The Internet		
Week 6	The Internet Services		

			and adherence to digital laws. • **Tolerance of Different Faiths and Beliefs: Fosters cross-cultural communication and understanding through the Internet.**
TERM 3	**TOPIC: What is a computer?**	**Subject links:** **Creative subjects – DT, Art, Media, IT – exploring design features of Posters** **Health and Social care- assistive technologies** **Engineering – the design and implementation of electronic systems including hardware components.** **Key Skills:** **Comparing types of computer systems** **Recall and retention tools** **Considering needs for different groups.** **Digital literacy skills.**	**Career links:** • **There are several careers that utilise computer hardware knowledge.** **Some examples include: Computer hardware engineer, network engineer, systems architect, technical support specialist, hardware sales representative.** • **Several careers are involved in assistive technology such as: Special education teacher, speech-language pathologist, rehabilitation engineer, disability support worker.** **British Values:** • **Equality and inclusion – considering technology as accessible to all** • **Mutual respect- respecting those that are different.** • **Individual liberty – making design choices in poster**
Week 1	**Milestone 2 and feedback**		
Week 2	Computer Systems: Embedded and General Purpose		
Week 3	Computer System Model		
Week 4	Input and output devices and assistive technology		
Week 5	Hardware and Software		
Week 6	Summary Poster		
TERM 4	**TOPIC: Digital Citizenship**	**Subject links:** **PSHE** **Law** **Media studies**	**Career Links:** • **Social work/counsellors- which may include training on internet**
Week 1	Milestone and Feedback		
Week 2	Social networking and threats		
Week 3	Grooming: Breck Case Study		
Week 4	More online dangers: Viral videos and Malware		

Week 5	Prevention methods and social engineering attacks	**<u>Key Skills:</u>** **Understanding online dangers and threats to a computer.** **Understanding how to protect a device.** **Knowing who to report concerns to.** **Digital literacy skills.**	**dangers relevant to vulnerable populations.** • **Working in Law and Policy – may cover legal issues related to online use.** **<u>British Values:</u>** • **Democracy: Encourages participation in a digital society.** • **Rule of Law: Emphasizes the importance of following ethical guidelines in computing.** • **Individual Liberty: Empowers individuals with digital skills for personal and professional growth.** • **Mutual Respect: Promotes respect for others' digital property and privacy.**
Week 6	Continuing with threats: phishing emails		
TERM 5	**TOPIC: Digital skills and finishing digital citizenship**	**<u>Subject Links:</u>** **Creative subjects – DT, Art, Media, IT – exploring design features of Posters and presentations.** **History – looking at obsolete technology** **<u>Key skills:</u>** **Digital literacy skills** **Creativity and design skills** **Being able to summarise key content** **Presentation skills**	**<u>Career Links:</u>** • **Several careers benefit and utilise strong communication skills and creativity developed through presentation and poster skills.** **Some examples include: Educators, marketers, healthcare professionals, event planners, graphic designers.** **<u>British Values:</u>** • **Democracy: Encourages participation in a digital society.** • **Rule of Law: Emphasizes the importance of following ethical**
Week 1	Digital skills and digital citizenship poster		
Week 2	Digital skills and digital citizenship poster		
Week 3	Milestone and Feedback		
Week 4	**Software: Presentation skills -** fake news, research and presentation skills		
Week 5	**Creating a presentation –** obsolete technology and pioneers and PowerPoint skills		

			guidelines in computing. • **Individual Liberty: Empowers individuals with digital skills for personal and professional growth.** • **Mutual Respect: Promotes respect for others' digital property and privacy.**
TERM 6	**Topic: Software: Presentation Skills**	**Subject Links:** **Creative subjects – DT, Art, Media, IT – exploring design features and presentations.** **Key skills:** **Digital literacy skills** **Creativity and design skills** **Being able to summarise key content** **Presentation skills** **Communication skills** **Evaluation and analysis skills**	**Career Links:** • **Many industries- sales, business, education, project management, training etc. benefit from and utilise presentation skills.** **British Values** • **Individual Liberty: Empowers individuals with digital skills for personal and professional growth. Allows students to make design choices.** • **Mutual Respect: Promotes respect for others' digital property and privacy. Encourages respect when giving and receiving feedback.**
Week 1	**Creating a presentation –** obsolete technology and pioneers and PowerPoint skills		
Week 2	Presenting and feedback on presentations		
Week 3	Presenting and feedback on presentations		
Week 4	End of year milestone and feedback		
Rollover			
Week 5	Presentation on year's content	**Subject Links:** **Creative subjects – DT, Art, Media, IT – exploring design features and presentations.** **Maths – using Scratch to code shapes.** **Key skills:** **Digital literacy skills** **Creativity and design skills** **Presentation skills**	**Career Links:** • **Many industries- sales, business, education, project management, training etc. benefit from and utilise presentation skills.** **British Values** • **Mutual respect and inclusivity – algorithms should be designed to**
Week 6	Scratch		
Week 7	Scratch		

		Problem solving and generalisation	**serve in the interests of all citizens.**

YEAR 8

TERM 1	TOPIC: Office Skills	*Key Skills/Subject Links	*Career links & BV
Week 1	Word Overview and selecting text	**Subject Links:** **Business** **Finance** **Maths** **PSHE** **Key skills:** **Basic word processing skills** **Online etiquette skills** **Spreadsheet skills** **Problem solving** **Coding skills**	**Career Links:** • **Several careers benefit from algorithms and programming. Some careers include: Software engineer/developer, Algorithm engineer, Game developer** • **Several careers utilise spreadsheet skills. Some include, statistician, human resource specialists, accountant, financial and business analyst.** **British Values:** • **Individual Liberty: Empowers individuals with digital skills for personal and professional growth.** • **Mutual Respect: Promotes respect for others' digital property and privacy.**
Week 2	Pictures shortcuts and headers		
Week 3	Mailemerge and netiquette		
Week 4	Excel –overview		
Week 5	Excel – Ordering and presenting		
Week 6	Milestone – Extension lesson Excel – Calculations		
Week 7	Intro to Python: First Steps		
TERM 2	**TOPIC: Intro to Python**	**Subject Links:** **Finance** **Maths** **PSHE** **Key skills:** **Digital literacy skills** **Problem solving** **Coding skills** **Debugging skills** **Resilience**	**Career Links:** • **Several careers benefit from algorithms and programming. Some careers include: Software engineer/developer, Algorithm engineer, Game developer** **British Values** • **Mutual respect and inclusivity – algorithms should be designed to serve in the interests of all citizens.**
Week 1	Crunching numbers		
Week 2	At a crossroads		
Week 3	More branches		
Week 4	Round and round		
Week 5	Putting it all together		
Week 6	Catch up lesson and revision		

TERM 3	**TOPIC: What is a computer?**	**Subject links:** **Creative subjects – DT, Art, Media, IT – exploring design features of Posters** **Health and Social care- assistive technologies** **Engineering – the design and implementation of electronic systems including hardware components.** **Key Skills:** **Comparing types of computer systems** **Recall and retention tools** **Considering needs for different groups.** **Digital literacy skills.**	**Career links:** • **There are several careers that utilise computer hardware knowledge.** **Some examples include: Computer hardware engineer, network engineer, systems architect, technical support specialist, hardware sales representative.** • **Several careers are involved in assistive technology such as: Special education teacher, speech-language pathologist, rehabilitation engineer, disability support worker.** **British Values:** • **Equality and inclusion – considering technology as accessible to all** • **Mutual respect- respecting those that are different.** **Individual liberty – making design choices in poster**
Week 1	Milestone and Feedback		
Week 2	Computer Systems: Embedded and General Purpose		
Week 3	Computer System Model		
Week 4	Input and output devices and assistive technology		
Week 5	Hardware and Software		
Week 6	Summary Poster		
TERM 4	**TOPIC: Digital Citizenship**	**Subject links:** **PSHE** **Law** **Media studies** **Key Skills:** **Understanding online dangers and threats to a computer.** **Understanding how to protect a device.** **Knowing who to report concerns to.** **Digital literacy skills.**	**Career Links:** • **Social work/counsellors- which may include training on internet dangers relevant to vulnerable populations.** • **Working in Law and Policy – may cover legal issues related to online use.** **British Values:** • **Democracy: Encourages**
Week 1	Milestone and Feedback		
Week 2	Social networking and threats		
Week 3	Grooming: Breck Case Study		
Week 4	More online dangers: Viral videos and Malware		
Week 5	Prevention methods and social engineering attacks		
Week 6	Continuing with threats: phishing emails		

			participation in a digital society. • **Rule of Law: Emphasizes the importance of following ethical guidelines in computing.** • **Individual Liberty: Empowers** • **individuals with digital skills for personal and professional growth.** • **Mutual Respect: Promotes respect** • **for others' digital property and privacy.**
TERM 5	**TOPIC: Digital skills and finishing digital citizenship**	**<u>Subject Links:</u>** **Creative subjects – DT, Art, Media, IT – exploring design features of Posters and presentations.** **History – looking at obsolete technology** **<u>Key skills:</u>** **Digital literacy skills** **Creativity and design skills** **Being able to summarise key content** **Presentation skills**	**<u>Career Links:</u>** • **Several careers benefit and utilise strong communication skills and creativity developed through presentation and poster skills.** **Some examples include: Educators, marketers, healthcare professionals, event planners, graphic designers.** **<u>British Values:</u>** • **Democracy: Encourages participation in a digital society.** • **Rule of Law: Emphasizes the importance of following ethical guidelines in computing.** • **Individual Liberty: Empowers individuals with digital skills for personal and professional growth.** • **Mutual Respect: Promotes respect** • **for others' digital property and privacy.**
Week 1	Digital skills and digital citizenship poster		
Week 2	Digital skills and digital citizenship poster		
Week 3	Milestone and Feedback		
Week 4	**Software: Presentation skills -** fake news, research and presentation skills		
Week 5	**Creating a presentation –** obsolete technology and pioneers and PowerPoint skills		

TERM 6	**Topic: Software: Presentation Skills**	**Subject Links:** **Creative subjects – DT, Art, Media, IT – exploring design features and presentations.** **History- obsolete technology/ pioneers.** **English- speaking skills** **Key skills:** **Digital literacy skills** **Creativity and design skills** **Being able to summarise key content** **Presentation skills** **Communication skills** **Evaluation and analysis skills**	**Career Links:** • **Many industries such as sales, business, education, project management, training etc. benefit from and utilise presentation skills.** **British Values** • **Tolerance of different values and beliefs and mutual respect- designs must consider this and be inclusive for all** • **Democracy- UI Design supports this by facilitating user participation, feedback and collaboration.**
Week 1	**Creating a presentation –** obsolete technology and pioneers and PowerPoint skills		
Week 2	Presenting and feedback on presentations		
Week 3	Presenting and feedback on presentations		
Week 4	End of year milestone and feedback		
Rollover			
Week 5	Presentation on year's content	**Subject Links:** **Creative subjects – DT, Art, Media, IT – exploring design features and presentations.** **Maths** **Key skills:** **Digital literacy skills** **Creativity and design skills** **Presentation skills** **Problem solving and generalisation**	**Career Links:** • **Many industries- sales, business, education, project management, training etc. benefit from and utilise presentation skills.** • **User interface designers, developers and user researchers need knowledge of user interfaces.** **British Values** • **Tolerance of different values and beliefs and mutual respect- designs must consider this and be inclusive for all** • **Democracy- UI Design supports this by facilitating user participation, feedback and collaboration.** **Individual liberty – students are free to make their own design choices.**
Week 6	Revisiting Python (CS) digital interfaces (ICT)		
Week 7	Revisiting Python (CS) digital interfaces (ICT)		

Year 8 (Second Lesson)

TERM 1	TOPIC: Typing Skills	*Key Skills/Subject Links	*Career links & BV
Week 1	Working through typing club.com	**Subject Links:** **Business, Media and any subjects that requires the use of a computer** **Key skills:** **[touch] typing.**	**Career Links:** • **Many industries benefit from use of IT and typing skills.** • **Specific typing-heavy jobs include transcriptionist, data entry clerk, reporters, captioners/subtitlers and freelance writers/editors.** **British Values** • **Individual liberty – empowers individuals with efficient digital communication skills for personal and professional use.**
Week 2	Developing touch typing skills		
Week 3	Self-paced course		
Week 4			
Week 5			
Week 6			
Week 7			
TERM 2	**TOPIC: Turing Lab**	**Subject Links:** **Maths** **Key skills:** **Problem solving and logical thinking.** **Understanding and applying basic programming constructs.** **Being able to debug (fix) errors.**	**Career Links:** • **Several careers benefit from algorithms and programming.** **Some careers include: Software engineer/developer, Algorithm engineer, Game developer** **British Values** • **Mutual respect and inclusivity – algorithms should be designed to serve in the interests of all citizens.**
Week 1	Movement		
Week 2	Algorithms		
Week 3	Sequences/Strings and Syntax		
Week 4	Functions		
Week 5	Debugging		
Week 6	Turing Lab course - student led		
TERM 3	**TOPIC: Finishing Turing Lab & IDEA**	**Subject Links:** **Maths** **PSHE** **Psychology** **Business** **Finance** **Key skills:**	**Career Links:** • **Several careers benefit from algorithms and programming.** **Some careers include: Software engineer/developer,**
Week 1	Turing Lab course- student led		
Week 2	Turing Lab course- catch up/ summary		
Week 3	Brain Hack		
Week 4	E-Safety		
Week 5	Safe Online		
Week 6	E-commerce		

		Problem solving and logical thinking. **Understanding and applying basic programming constructs.** **Being able to debug (fix) errors.** **Revision skills.** **Digital Literacy**	**Algorithm engineer, Game developer** • **Several careers are involved in ecommerce such as:** **Supply chain analyst, product manager, digital marketing specialist, e-commerce manager.** **<u>British Values</u>** • **Mutual respect – being kind and respectful when communicating online.** • **Individual liberty- students understanding the choices and responsibilities they have when online.** • **The rule of law- appreciating the laws that exist with online activities.**
TERM 4	**TOPIC: More IDEA**	**<u>Subject Links:</u>** **Media** **PSHE** **Business** **Finance** **Key skills:** **Understanding the design principles of a website** **Understanding user interfaces** **Being able to recognise and identify fake news.** **Problem solving and logical thinking.** **Digital Literacy**	**<u>Career Links:</u>** • **Several careers require creativity and technical skills explored here such as:** **Graphic designer, content manager, e-commerce specialist, web designer** • **Several careers can benefit from identifying fake news. Some include:** **journalists, data analyst, ethics officer, social media moderator, policy analysts.** **<u>British Values</u>** • **Tolerance of different values and beliefs and mutual respect-**
Week 1	Making Websites		
Week 2	User experience		
Week 3	Graphic Design		
Week 4	Fake News		
Week 5	Problem Solving		
Week 6	Catch up / own badge		

			website designs must consider this and be inclusive for all • **Individual liberty – students have an element of choice in some of the badges to study**
TERM 5	**TOPIC: Computer Systems**	**Subject Links:** **Maths – units/number conversions** **DT** **Key skills:** **Recognising and explaining internal hardware.** **Explaining different types of software.** **Using spreadsheet software to create an image** **Presentation skills.** **Working with number systems- converting between binary and denary.**	**Career Links:** • **Many industries- sales, business, education, project management, training etc. benefit from and utilise presentation and several utilise spreadsheet skills (accounting and finance particularly).** **British Values** • **Individual liberty – students choose the images they wish to represent through binary**
Week 1	Internal hardware and PowerPoint Skills		
Week 2	Software and PowerPoint Skills		
Week 3	Binary [re]introduction- looking at data representation with images.		
Week 4	Binary: number conversions		
Week 5	Binary: Adding Binary		
TERM 6	**Topic: Computational Thinking and More Algorithms**	**Subject Links:** **English – comprehension/abstraction.** **Maths – particularly shapes and related formulas.** **DT** **Key skills:** **Understand the 4 computational thinking skills.** **Planning tools.** **Recognising flowchart symbols** **Reading and creating flowcharts** **Performing sort and searching algorithms.** **Coding skills** **Problem solving and generalisation**	**Career Links:** • **Several careers involve planning processes and the use of flowcharts.** **Some include: process and system analysts, project managers and software developers.** • **Several careers benefit from quickly searching through data.** **Some include: Financial and data analysts, cybersecurity analyst and market research analysts.** **British Values**
Week 1	Computational Thinking		
Week 2	Flowcharts		
Week 3	Sort and searching algorithms		
Week 4	Scratch – coding shapes		

			• **Mutual respect and inclusivity – algorithms should be designed to serve in the interests of all citizens.**
Rollover			
Week 5	Presentation on year's learning	**<u>Subject Links:</u>** **Creative subjects – DT, Art, Media, IT – exploring design features and presentations.** **Maths** **<u>Key skills:</u>** **Digital literacy skills** **Creativity and design skills** **Presentation skills** **Problem solving and generalisation**	**<u>Career Links:</u>** • **Many industries- sales, business, education, project management, training etc. benefit from and utilise presentation skills.** • **User interface designers, developers and user researchers need knowledge of user interfaces.** **<u>British Values</u>** • **Tolerance of different values and beliefs and mutual respect- designs must consider this and be inclusive for all** • **Democracy- UI Design supports this by facilitating user participation, feedback and collaboration.** • **Individual liberty – students are free to make their own design choices.**
Week 6	IT (user interfaces) CS (Python programming)		
Week 7	IT (user interfaces) CS (Python programming)		

*Careers and British Values (BV) – This is a key area to address due to the new OFSTED framework. We need to consider how our curriculum links to careers and British Values. Below I have included some information on this to help make this evident in your schemes of work. **Please identify at least 5 areas within your scheme of work that coincide with future careers and values. There is no need to fill every week in with a link!**

*Key Skills and cross-department links – We are looking to create these overview sheets to try and map what we are doing across the school and see if we can support one another. In this column please detail if there is a key skill that you are focusing on and whether this topic could be supported by another subject. For example, English may be looking at the text 'A Christmas Carol' and History may be able to support with the topic of Victorian Britain. This is an opportunity to ensure we are supporting each other across departments. **Again, please identify 5 areas withing your scheme of work where you would like this to happen.**

NB: The new OFSTED framework will critique the reason for a 2-year KS3 rather than 3. We need to look to the National Curriculum in your subject to ensure we are covering the entirety of this in Year 7 & 8.

Further information – Career links and British Values

The key objectives for work-related learning are:

- To promote greater awareness for students about the world of work, the development of key skills and employability.
- To promote awareness and understanding of work, industry, the economy and community.
- To relate skills attitudes, concepts and knowledge learned in school to applications in the wider world.
- To improve employability through work-related learning to develop effective links with key partners and local industry