Progression Grid 2024-25: Computing

Pre-year 7:
Key Stages 1 and 2 are designed to provide a foundation of how computers work, including programming, the use of software and hardware, and e-safety. Many students will also have used computing equipment and resources outside of school Limited information has been received from feeder schools, and coverage appears extremely variable, especially with regard to programming in the school environment. The safe use of technology and internet searching appears to be covered and most children have made some use of software packages, primarily PowerPoint, and used computing devices Some children have studied programming, usually using Scratch, in school. Some pursue this at home or in clubs, either after studying it at school or on their own initiative or with parents

Year 7 Computing (2 hours per fortnight)					
	Unit 1	**Unit 2**	**Unit 3**	**Unit 4**	**Unit 5**
Topic/Focus	**Smart skills and e-safety** (8-12 hours)	**Writing programs using Scratch** (6-10 hours)	**Lighthouses, algorithms and data** (6-10 hours)	**Inside the computer** (6-8 hours)	**Gorleston Tourist Board** (4-6 hours)
Sequencing	Introductory sessions dealing with logging in, storing work, searching for reliable resources, and using computers effectively and respectfully Consideration of e-safety rules, especially when working online Use of software to create publications dealing with e-safety rules	Planning and implementing an e-safety quiz using Scratch Consideration of key programming ideas of sequence, selection, repetition, and the use of variables Solving creative programming problems using Scratch	Use of spreadsheets to organise and analyse data about lighthouses in Eastern England Development of computational thinking and modelling skills through the use of algorithms to control a lighthouse model Create publications about lighthouses to a simple brief	Develop knowledge of what computers are and how they work, including key components Explore how computers store data using binary digits Examine some environmental impacts of computing	Gather ideas and resources about how the local area is used for tourism Plan and create a creative product to a simple project brief
Extended Learning	All tasks set for completion at home will be purposeful, extending or consolidating classwork, Assignments will include those involving the topic Knowledge Organiser, research and vocabulary practice.				
Formal assessment	• End of unit multiple choice assessment	• Assessment of quiz design • End of unit multiple choice assessment	• End of unit multiple choice assessment	• Written work evaluating some of the environmental impacts of computing • End of unit multiple choice assessment	

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Year 8 Computing (2 hours per fortnight)					
	Unit 1	**Unit 2**	**Unit 3**	**Unit 4**	**Unit 5**
Topic/Focus	**Programming with Micro:Bits** (8-10 hours)	**Photoshop skills** (6-10 hours)	**Code breaking and algorithms** (6-10 hours)	**Interactive Digitial Multimedia** (4-8 hours)	**Vector graphics and visual identity** (6-8 hours)
Sequencing	Using micro:bits to plan and create a range of computer programs Consideration of key programming ideas of sequence, selection, repetition, and the use of variables Solving creative programming problems using Micro Python Develop use of screenshots to evidence work	Develop a range of Photoshop skills Consideration of skills associated with file management, file naming, effective storage, and use of version control Develop an understanding of different types of graphic files and how they are used Plan and create a graphic product to a client brief Consolidate use of screenshots to evidence work	Explore the use of a range of methods to encode messages and how they can be broken Development of computational thinking through the use of algorithms to create and break codes Develop knowledge of the ways computers encode data and the importance of encryption	Develop understanding of what digital multimedia is and where it may be used Plan and create a digital multimedia product to a project brief Explore the sourcing and creating of digital assets, including the issues surrounding copyright	Explore the purpose and use of logos and visual identities Consolidate understanding of different types of graphic files and how they are used Develop a range of graphics skills suing vector graphics software Plan and create a creative product to a project brief Consolidate use of screenshots to evidence work
Extended Learning	All tasks set for completion at home will be purposeful, extending or consolidating classwork, Assignments will include those involving the topic Knowledge Organiser, research and vocabulary practice.				
Formal assessment	• Assessment of screenshot document • End of unit multiple choice assessment	• End of unit multiple choice assessment	• End of unit multiple choice assessment	• Assessment of plan for multimedia product • End of unit multiple choice assessment	• End of unit multiple choice assessment

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Year 9 Computing (2 hours per fortnight)					
	Unit 1	**Unit 2**	**Unit 3**	**Unit 4**	**Unit 5**
Topic/Focus	**E-safety comic strip** (8-12 hours)	**Writing programs using Python** (6-8 hours)	**Solving puzzles** (6-8 hours)	**Interactive Digital Multimedia** (4-8 hours)	**Design and make a graphic product** (6-10 hours)
Sequencing	Explore the use of and themes found in visual storytelling media Develop graphics skills to create comic-style images Review of e-safety rules Planning of a creative project using pre-production tools Use of graphics software to create a comic strip dealing with e-safety rules to a project brief	Develop skills writing a range of computer programs using Python Consolidation of key programming ideas of sequence, selection, repetition, and the use of different types of variables Solving creative programming problems using Python	Explore a range of computing related puzzles and ways of solving them Development of computational thinking through the use of algorithms to solve puzzles Consolidate programming skills using different programming languages and techniques	Develop understanding of what digital multimedia is and where it may be used Plan and create a digital multimedia product to a project brief Explore the sourcing and creating of digital assets, including the issues surrounding copyright	Consolidate skills associated with the use of graphics software, including file naming, storage, and version control Consolidate the sourcing and creating of digital assets, including the issues surrounding copyright Plan and create a creative product to a project brief using a range of software tools
Extended Learning	All tasks set for completion at home will be purposeful, extending or consolidating classwork, Assignments will include those involving the topic Knowledge Organiser, research and vocabulary practice.				
Formal assessment	• Assessment of use of planning tools • End of unit multiple choice assessment	• End of unit multiple choice assessment	• End of unit multiple choice assessment	• Assessment of plan for multimedia product • End of unit multiple choice assessment	

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Progression Grid 2024-25: Computing

Year 10 Computer Science (4 hours per fortnight)						
	Autumn 1	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
Topics	**P1: 3.1 Fundamentals of algorithms**		**P1: 3.2 Programming.**		**P1: 3.2 Programming**	
	P2: Unit 3 – data representation		**P2: Unit 5 – networks**	**P2: Unit 6 – cyber-security**	**P2: Unit 4 – computer systems (part 1)**	
Sequencing	P1: Unit 1 build on work done in year 8 and 9 on programming (Scratch, Python etc) as well as the introduction to computer science micro:bit uit in year 9. They lead towards the NEA and towards paper 1 in particular.		P1: Unit 2, 3 and 4 in year 7, Units 1 and 3 in year 8 and units 1 and 3 in year 9 will support and builds on the understanding of binary as well as how computers represent and compress text, sound and image information as well as programming skills and problem solving.			
	P2: building on key topics from KS3, develop understanding and skills associated with: ● use of binary and hexadecimal, including binary shifts and units of information ● representation of text ● representation of bitmap images ● representation of audio ● use of data compression, including RLE and Huffman trees		P2: develop understanding of: ● use of networks of different types ● range of network protocols ● security of networks	P2: building on KS3, develop understanding of: ● importance of cyber security ● range of cyber security threats ● cyber security methods	P2: building on KS3 where relevant, develop understanding of: ● types of hardware and software, including operating systems ● use of Boolean logic ● systems architecture ● the CPU ● types of memory ● CPU performance	
Extended Learning	P1: All tasks set for completion at home will be purposeful, extending or consolidating classwork, Assignments will include those involving the topic Knowledge Organiser, research and vocabulary practice.					
	P2: a range of exam-style homework questions set regularly; revision exercises set for end of unit tests and end of year exam					
Formal assessment	P1: Focused Programming Practice Scenarios – reflecting a specific part of curriculum				P1: June Mock	
	P2: End of unit test		P2: End of unit test	P2: End of unit test	P2: End of year exam – units 3, 5, 6, part 4	

Progression Grid 2024-25: Computing

Year 11 Computer Science (4 hours per fortnight)						
	Autumn 1	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
Topics	**P1: 3.2 Programming**			**P2: Exam preparation**	**P2: Exam preparation**	
	P2: Unit 4 – computer systems (part 2)	**P2: Unit 7 – databases and SQL**	**P2: Unit 8 – ethical, legal and environmental impacts**		**P2: Exam preparation**	
Sequencing	P1: P1: Unit 2, 3 and 4 in year 7, Units 1 and 3 in year 8 and units 1 and 3 in year 9 will support and builds on the understanding of binary as well as how computers represent and compress text, sound and image information as well as programming skills and problem solving.			P1: Exam preparation	P1: Exam preparation.	
	P2: building on KS3 where relevant, develop understanding of: ● types of secondary storage ● embedded systems ● types of programming languages and translators	P2: develop understanding of: ● use of relational databases ● use of SQL	P2: building on KS3 where relevant, develop understanding of a range of ethical, legal and environmental issues associated with computing		P2: exam preparation	
Extended Learning	P1: All tasks set for completion at home will be purposeful, extending or consolidating classwork, Assignments will include those involving the topic Knowledge Organiser, research and vocabulary practice.					
	P2: a range of exam-style homework questions set regularly; revision exercises set for end of unit tests, mock exams and final exam					
Formal assessment	P1: Nov. Mock		P1: Feb Mock	P1: Final Exam		
	P2: End of unit test	P2: Mock exam (units 3-6)	P2: End of unit 7 test	P2: Mock exam 2 (units 3-8)		

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Year 10 iMedia (4 hours per fortnight)						
	Autumn 1	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
Topics	**R094: Visual identity and digital graphics**				**R095: Characters and comics**	
Sequencing	Develop understanding: ● purpose, features, elements, and design of visual identity ● graphic design concepts and conventions Develop skills: ● properties of digital graphics and use of assets ● tools and techniques to create visual identity and digital graphics ● technical skills to source, create and prepare assets for use within digital graphics	Develop: ● techniques to plan visual identity and digital graphics ● techniques to save and export visual identity and digital graphics R094 NEA production	R094 NEA production	R094 NEA production	Develop understanding: ● character features and conventions ● conventions of comics ● resources required to create characters and comics Develop technical skills in creation of characters and comics	R095 NEA production
Extended Learning	Research properties of digital graphics	Research types and characteristics of file types.			Research Sketch techniques and characters profiles	
Formal assessment	All the formal assessment is in line of the formal R094 unit. This will support students with their writing and creative skills.			R094 portfolio assessment		

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Year 11 iMedia (4 hours per fortnight)						
	Autumn 1	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
Topics	**R095: Characters and comics**		**R093 The Media Industry**			
Sequencing	R095 NEA production		**TA1:** ● Media industry sectors and products ● Job roles in the media industry **TA2:** ● How style, content and layout are linked to the purpose. Client requirements and how they are defined ● Audience demographics and segmentation ● Sources of research and types of research data ● Media codes used to convey meaning, create impact and/or engage audiences	**TA3:** ● Work planning and documents used to support ideas generation ● Documents used to design/plan media products **TA4:** ● Distribution platforms and media to reach audiences ● Properties and formats of media files	Final exam preparation	
Extended Learning	Research: Media industry sectors and products	Research: Job roles in the media industry	Research different types of audience and stakeholders	Research different types of media platforms.		
Formal assessment		Mock exam	R095 portfolio assessment	Mock exam	R093 exam	

Progression Grid 2024-25: Computing

Post-16 learning	
Computer science	Directly links to qualifications such as computer science, computing and ICT, networking, game design etc… A range of transferable skills support wider learning, vocational and employment routes: for example, problem solving, understanding of cyber security and networks etc…
iMedia	Directly leads on to a range of creative and media related courses, including graphic design, web design, fine art, animation, game design, media, advertising. A range of transferable skills support wider learning, vocational and employment routes: for example, the use of planning and evaluation techniques
General computing	Not every student will complete a Key Stage 4 course in computing. From Key Stage 3 a familiarity with the use of a range of software tools is an essential background to any post-16 academic or vocational study route. An understanding of basic e-safety skills provides a background knowledge of ways of keeping safe online and skills associated with file management, the sourcing of resources and an understanding of copyright provide an important basis for any post-16 route Core functional computing skills should also be developed through the study of other subjects at pst-14, especially vocational subjects The Key Stage 4 computing curriculum is covered in the PSHE curriculum