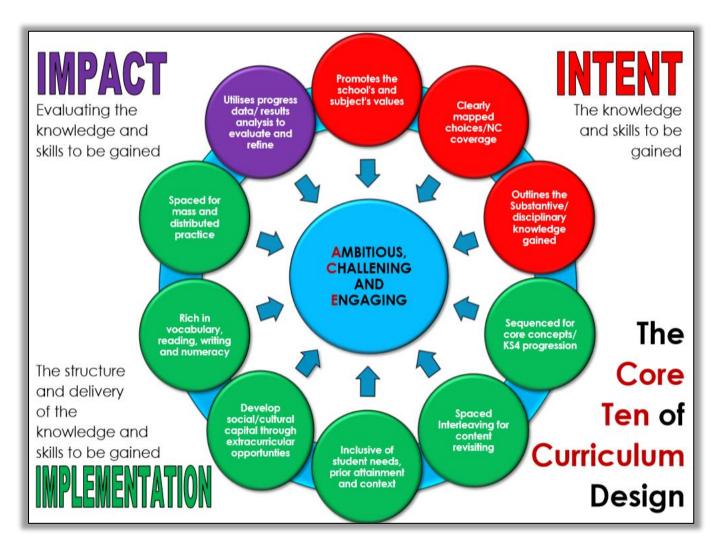
# 2. CURRICULUM IMPLEMENTATION OVERVIEW PLAN Key Stage 3

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Document(s) which inform this Curriculum Implementation are:

1. Curriculum Intent Overview Plan (KS3)

# THINKING PROCESS - CURRICULUM IMPLEMENTATION OVERVIEW PLAN - KS3

## **IMPLEMENTATION – SEQUENCING AND PRACTICE**

# How are your topics sequenced below so as to ensure the following:

- key concepts are ordered and taught, so as to support progression to more challenging material
- content and concepts ordered to support progression from KS2 and to KS4
- topics are spaced between unrelated topics, to allow thinking time; then revisited and furthered
- mass practice (end of topic assessments ) are used to evaluate the knowledge and skills gained
- distributed practice (mini assessments) are used where content/topics are reassessed in shortened versions, at later spaced out intervals

	YEAR	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Α	Unit/Topic	Unit: Introduction to ICT	Unit: Modelling Data	Unit: Networks	Unit: Programming	Unit: Programming	Unit: Representation
ss e ss m e n ts d e		Topics:  1. Emails 2. Presentation Skills 3. E Safety 4. British Values	Topics  1. Spreadsheet Basics 2. Spreadsheet Calculations 3. Collecting Data 4. Data Analysis	Topics:  1. Networks and Protocols 2. Hardware and Software 3. Wired / Wireless networks 4. The internet	Topics:  1. Animation and Movement  2. Game Basics  3. Graphics  4. Variables	Topics: 1. IF function 2. Boolean Logic 3. Broadcasting 4. Lists	Topics:  1. Types of representation  2. Encoding / decoding  3. Binary
si g n e d t o n o t b e li n e a r	KS3 NC covered	undertake creative projects that involve selecting, using, and combining multiple applications, preferably across a range of devices, to achieve challenging goals, including collecting and analysing data and meeting the needs of known users  Understand a range of ways to use technology safely, respectfully, responsibly and securely, including protecting their online identity and privacy; recognise inappropriate content, contact and conduct and know how to report concerns.	undertake creative projects that involve selecting, using, and combining multiple applications, preferably across a range of devices, to achieve challenging goals, including collecting and analysing data and meeting the needs of known users	understand the hardware and software components that make up computer systems, and how they communicate with one another and with other systems	use two or more programming languages, at least one of which is textual, to solve a variety of computational problems; make appropriate use of data structures [for example, lists, tables or arrays]; design and develop modular programs that use procedures or functions	use two or more programming languages, at least one of which is textual, to solve a variety of computational problems; make appropriate use of data structures [for example, lists, tables or arrays]; design and develop modular programs that use procedures or functions  understand simple Boolean logic [for example, AND, OR and NOT] and some of its uses in circuits and programming; understand how numbers can be represented in binary, and be able to carry out simple operations on binary numbers [for example, binary addition, and conversion between binary and decimal]	understand simple Boolean logic [for example, AND, OR and NOT] and some of its uses in circuits and programming; understand how numbers can be represented in binary, and be able to carry out simple operations on binary numbers [for example, binary addition, and conversion between binary and decimal]  understand how instructions are stored and executed within a computer system; understand how data of various types (including text, sounds and pictures) can be represented and manipulated digitally, in the form of binary digits

a n d c o n t a	Powerful Knowledge	How to send an email effectively.  How to stay safe online in relation to their age.	Use of the office package.  Data Interpretation.	To know the difference between hardware and software and their uses.	How to program / Concepts of programming  Abstraction and Decomposition.	How to program / Concepts of programming  Abstraction and Decomposition.	How data is stored.
in previous le arning.	Mass Practice	Emails: Send a formal email over school system with attached files.  Presentation Skills: Create a professional presentation using a variety of formatting skills based on a client brief.  E Safety: Staying safe in a digital world.  British Values: Promoting rule of law, equality and safety.	Spreadsheet Basics:     Data Entry.  Spreadsheet Calculations: Add, subtract, max, min, average, round.  Collecting Data: Effectively collecting data.  Data Analysis: representing data e.g. graphs and interpreting data	Networks and Protocols: Define networks and explain data transfer.  Hardware and Software: Types and Uses.  Wired / Wireless networks: Types, uses and protocols.  The internet: difference between the internet and world wide web.	Animation and Movement: Understanding the use of blocks in scratch.  Game Basics: Understanding advanced functions in blocks such as WHILE.  Graphics: Types and uses.  Variables: Setting, increments and uses.	IF function: Basics of selection.  Boolean Logic: Definition and computational.  Broadcasting: How to broadcast effectively based on a client brief.  Lists: Types and Uses	Types of representation: Type, uses and selection.  Encoding / decoding: Number bases and conversions.  Binary: Basics and binary arithmetic.

Distributed Practice	Check prior learning and revisit base line test as can be varied amongst primary schools.	Integrated office skills e.g. sending work through email /formatting skills. Assessments designed to not be	Integrated office skills. Assessments designed to not be linear and contain previous learning.	Integrated office skills. Assessments designed to not be linear and contain previous learning.	Integrated office skills. Assessments designed to not be linear and contain previous learning.	Integrated office skills. Assessments designed to not be linear and contain previous learning.
	DNA –Beberas – promotes logical thinking skills, identify setting. Reinforce and develop on prior knowledge.  Liaise and support feeder schools to develop pupil / staff knowledge of computer science. This will identify future areas of focus and create an even level of prior knowledge.	linear and contain previous learning.  DNA –Beberas – promotes logical thinking skills. Reinforce and develop on prior knowledge.  Berbaras Assessment: National Assessment to develop computational thinking and logical skills.	DNA –Beberas – promotes logical thinking skills. Reinforce and develop on prior knowledge.	DNA –Beberas – promotes logical thinking skills. Reinforce and develop on prior knowledge.	The internet revisits skills and builds upon knowledge learned in emails (T1)  DNA –Beberas – promotes logical thinking skills. Reinforce and develop on prior knowledge.	Representation revisits skills and builds upon knowledge learned in data representation. (T2)  Binary revisits skills and builds upon knowledge learned in Boolean logic (t5)  DNA –Beberas – promotes logical thinking skills. Reinforce and develop on prior
What are the I covered?	cey concepts to be	Office basics to support other subjects and life skills, online safety, data interpretation, programming basics and key skills. This helps to identify prior learning which may be varied and create a level playing field for pupils. Give pupils the basic knowledge to succeed in other areas of the Academy e.g. coursework based subjects.				
What prior knowledge, at KS2, are you assuming they have?		Practice at feeder primary schools can differ greatly meaning pupils can enter KS3 with a wide variety of prior understanding. Most have office basics some have done basic coding. Base line test to check prior attainment.  Liaise and support feeder schools to develop pupil / staff knowledge of computer science.  This will identify future areas of focus and create an even level of prior knowledge.				
What knowledge do they need to have a successful start to Year 8?		How to use office in order to support learning in Computer science and other subjects. How to stay safe when using computers at home and in school. Basics of computational thinking with developing skills in logic games, abstraction and decomposition. Basic coding skills that could be transferred between languages.				
How are topic unrelated topi	s spaced between ics?	and Computing skills. (	Office package comes	first to develop key skills	d skills are repeated ead and support other subje agement and challenge	ects. Gradual increase

	Unit/Topic	Unit:	Unit:	Unit:	Unit:	Unit:	Unit:
		Representation  Topics:  1. Measuring and Converting Units 2. Binary  Unit: Cyber Security  Topics:  1. Cyber Security 2. Primary and Secondary	Cyber Security  Topics:  1. Gathering	Programming  Topics:  1. Input / Output 2. Variables 3. Operators 4. Data Types 5. IF statements	Programming  Topics:     1. Loops     2. Arrays  Unit: Web Design  Topics:     1. HTML     2. Structuring     Webpages     3. Navigation	Web Design  Topics:  1. Banners 2. Animation 3. Sorts	Topics:  1. Word Processing 2. Ethics 3. House style 4. Impacts of Technology
8	KS3 NC covered	understand simple Boolean logic [for example, AND, OR and NOT] and some of its uses in circuits and programming; understand how numbers can be represented in binary, and be able to carry out simple operations on binary numbers [for example, binary addition, and conversion between binary and decimal]  understand how instructions are stored and executed within a computer system; understand how data of various types (including text, sounds and pictures) can be represented and manipulated digitally, in the form of binary digits undertake creative projects that involve selecting, using, and combining multiple applications, preferably across a range of devices, to achieve challenging goals, including collecting and analysing data and meeting the needs of known users  create, re-use, revise and repurpose digital artefacts for a given audience, with attention to trustworthiness, design and usability understand a range of ways to use technology safely, respectfully, responsibly and securely, including protecting their online identity and privacy; recognise inappropriate content, contact and conduct and know how to report concerns.	undertake creative projects that involve selecting, using, and combining multiple applications, preferably across a range of devices, to achieve challenging goals, including collecting and analysing data and meeting the needs of known users  create, re-use, revise and repurpose digital artefacts for a given audience, with attention to trustworthiness, design and usability  understand a range of ways to use technology safely, respectfully, responsibly and securely, including protecting their online identity and privacy; recognise inappropriate content, contact and conduct and know how to report concerns.	use two or more programming languages, at least one of which is textual, to solve a variety of computational problems; make appropriate use of data structures [for example, lists, tables or arrays]; design and develop modular programs that use procedures or functions	use two or more programming languages, at least one of which is textual, to solve a variety of computational problems; make appropriate use of data structures [for example, lists, tables or arrays]; design and develop modular programs that use procedures or functions	undertake creative projects that involve selecting, using, and combining multiple applications, preferably across a range of devices, to achieve challenging goals, including collecting and analysing data and meeting the needs of known users  create, re-use, revise and re-purpose digital artefacts for a given audience, with attention to trustworthiness, design and usability	understand the hardware and software components that make up computer systems, and how they communicate with one another and with other systems  design, use and evaluate computational abstractions that model the state and behaviour of real-world problems and physical systems  design, use and evaluate computational abstractions that model the state and behaviour of real-world problems and physical systems

Powerfu Knowled		How to stay safe online in relation to their age.	How to program / Concepts of programming  Abstraction and Decomposition.	How to program / Concepts of programming  Abstraction and Decomposition.	Use of the office package.	Use of the office package.  To know the difference between hardware and software and their uses.
Mass Practice	Measuring and Converting Units: Converting between binary, hex and decimal.  Cyber Security: Cyber threats and online protection.  Primary and Secondary Data: Types, uses and selection.	Gathering Data: Quality of questions and bias.  Analysing Data: representing data e.g. graphs and interpreting data  Testing: Identify and solving problems.	Input / Output: Text based programming introduction.  Variables: Types, uses and selection.  Operators: Mathematical operators and their uses.  Data Types: Types, uses and selection.  IF statements: Basics of selection.	Loops: Repetition and iteration.  Arrays: Types, uses and selection.  HTML: Introduction to HML language.  Structuring Webpages: Web page layout and design based on a brief.  Navigation: Hyperlinks, buttons.	Banners: Buttons and design based on a brief.  Animation: Roll over and animation basics.  Sorts: Organising Information	Word Processing: Creating a formal script based on a client brief.  Ethics: research, copyright, environment, legal.  House style: Using house style effectively.  Impacts of Technology: how technology can meet user requirement and improve existing systems.

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Distributed	DNA –Beberas –	Integrated office	Integrated office	Integrated office	Integrated office	Integrated office		
Practice	promotes logical	skills e.g. sending	skills. Assessments	skills. Assessments	skills. Assessments	skills. Assessments		
	thinking skills, identify	work through email	designed to not be	designed to not be	designed to not be	designed to not be		
	setting. Reinforce	/formatting skills.	linear and contain	linear and contain	linear and contain	linear and contain		
	and develop on	Assessments	previous learning.	previous learning.	previous learning.	previous learning.		
	prior knowledge.	designed to not be						
		linear and contain	DNA -Beberas -	DNA -Beberas -	DNA –Beberas –	DNA –Beberas –		
	Representation	previous learning.	promotes logical	promotes logical	promotes logical	promotes logical		
	revisits and builds		thinking skills.	thinking skills.	thinking skills.	thinking skills.		
	upon knowledge	DNA –Beberas –	Reinforce and	Reinforce and	Reinforce and	Reinforce and		
	gained in Year 7	promotes logical	develop on prior	develop on prior	develop on prior	develop on prior		
	term 5	thinking skills.	knowledge.	knowledge.	knowledge.	knowledge.		
	representation	Reinforce and						
	project.	develop on prior	Programming revisits	Programming revisits		Hardware / software		
		knowledge.	and builds upon	and builds upon		revisits and builds		
	Cyber Security		knowledge gained	knowledge gained		upon knowledge		
	revisits and builds	Berbaras	in Year 7 Term 4 and	in Year 7 Term 4 and		gained in Year 7		
	upon knowledge	Assessment: National	5 programming unit.	5 programming unit.		Term 3 networks uni		
	gained in Year 7	Assessment to						
	Term 1 Introduction	develop						
	to ICT.	computational						
		thinking and logical						
		skills.						
		J. Communication of the commun						
		Cyber Security						
		revisits and builds						
		upon knowledge						
		gained in Year 7						
		Term 1 Introduction						
		to ICT.						
		10 101.						
What are the I	key concepts to be	Online safety, Being	able to proaram in 2 c	omputer languages by	applying kev concepts	. How to successfully		
covered?	,	]		eb page based on a cu				
				. 5				
		All key concepts	All key concepts revisit and build upon topics studied at year 8 with a focus on developing transferable					
		programming ICT skills regardless of the programming language or software package used.				. •		
What knowled	lge do they need to	How to stay safe when using computers at home and in school. More advanced computational thinking with						
have a successful start to Year 9?			•	on and decomposition. I	•	•		
		1						
between languages. Proficiency in 2 computer languages.								

	How are topic unrelated top	cs spaced between ics?		er security (T1/2) revisits amming (T3/4) revisits ar Web design	and builds upon learning	from Year 7 T4/5 progra T1 Office skills.	ty unit.
9	Unit/Topic	Unit: Problem Solving in Python  Topics:  1. Programming basics 2. Inputs 3. Variables and Operators 4. Iteration 5. Data Structure 6. Subroutines	Unit: Binary  Topics:  1. What is Binary 2. Binary maths 3. Binary conversion 4. Sound representatio n 5. Representing Images	Unit: Logic Gates  1. Boolean Logic 2. Boolean Circuits  Topics:  Unit: Algorithms Topics:  1. Decompositi on 2. Abstraction 3. Pseudo Code	Unit: Ethics  Topics:  1. Privacy 2. Legislation 3. Environment al issues 4. Legal issues 5. Social Impacts	Unit: Digital Graphics  Topics:  1. Software Skills 2. Purpose of Graphics 3. Legal Issues	Unit: Systems  Topics:  1. CPU 2. Storage 3. Memory 4. Input and output devices 5. Networks 6. Networks 2

KS3 NC covered	use two or more programming languages, at least one of which is textual, to solve a variety of computational problems; make appropriate use of data structures [for example, lists, tables or arrays]; design and develop modular programs that use procedures or functions	understand simple Boolean logic [for example, AND, OR and NOT] and some of its uses in circuits and programming; understand how numbers can be represented in binary, and be able to carry out simple operations on binary numbers [for example, binary addition, and conversion between binary and decimal]  understand how instructions are stored and executed within a computer system; understand how data of various types (including text, sounds and pictures) can be represented and manipulated digitally, in the form of binary digits	understand simple Boolean logic [for example, AND, OR and NOT] and some of its uses in circuits and programming; understand how numbers can be represented in binary, and be able to carry out simple operations on binary numbers [for example, binary addition, and conversion between binary and decimal]  understand several key algorithms that reflect computational thinking [for example, ones for sorting and searching]; use logical reasoning to compare the utility of alternative algorithms for the same problem	understand a range of ways to use technology safely, respectfully, responsibly and securely, including protecting their online identity and privacy; recognise inappropriate content, contact and conduct and know how to report concerns.	understand a range of ways to use technology safely, respectfully, responsibly and securely, including protecting their online identity and privacy; recognise inappropriate content, contact and conduct and know how to report concerns.  Understand the purpose and properties of digital images.  Plan the creation of digital graphic	understand the hardware and software components that make up computer systems, and how they communicate with one another and with other systems  design, use and evaluate computational abstractions that model the state and behaviour of real-world problems and physical systems  understand how instructions are stored and executed within a computer system
Powerful Knowledge	How to program / Concepts of programming	How data is stored.	How to program / Concepts of programming	How to stay safe online in relation to their age.	How to use creative software.	The constituent parts of a computer system.
	Abstraction and Decomposition.		Abstraction and Decomposition.			Hardware / software.

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Mass	Inputs: Text based	What is Binary:	Boolean Logic:	Privacy: impacts	Software Skills:	CPU: components
Practice	programming.	definition.	Definition and	and consideration	Introduction to	and functions of CPU
			computational	on business and	creative software	
	Variables and	Binary maths: Using	thinking.	individual users.	packages.	Storage: Compare
	Operators: Types,	mathematical	Boolean Circuits:			and contrast
	uses and selection.	functions within		Legislation: impacts	Purpose of	different methods.
		programming.	Understanding and	and consideration	Graphics: Types,	
	Iteration: Loops and		creating logic gates.	on business and	uses and selection.	Memory: different
	repetition.	Binary conversion:	D	individual users and		types, uses and
		Converting Units:	Decomposition:	interoperating key	Legal Issues: impacts	selection.
	Data Structure: Lists	Converting between	definition and uses.	legislation.	and consideration	Solochon.
	and arrays.	binary, hex and			on business and	Input and output
		decimal.	Abstraction:	Environmental issues:	individual users and	devices: different
	Subroutines:		definition and uses.	impacts and	interoperating key	
	Definition and	Sound		consideration on	legislation.	types, uses and
	creation. Of	representation:	Pseudo Code:	business and		selection.
	subroutines.	digitally and storing	definition and uses.	individual users		
		sounds.				Networks: different
				Legal issues:		types, uses and
		Representing		impacts and		selection. Compare
		Images: digitally and		consideration on		and contrast
		storing imaes.		business and		different types.
				individual users		, ,
				Social Impacts:		
				impacts and		
				consideration on		
				business and		
				individual users		
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Distributed Practice	DNA –Beberas – promotes logical thinking skills, identify setting. Reinforce and develop on prior knowledge.  Problem solving in Python (T1) revisits and builds upon Year 8 T3/4 Programming and Year 7 T4&5 Programming.	Integrated office skills e.g. sending work through email /formatting skills.  Assessments designed to not be linear and contain previous learning.  DNA –Beberas – promotes logical thinking skills.  Reinforce and develop on prior knowledge.  Berbaras  Assessment: National Assessment to develop computational thinking and logical skills.  Binary (T2) revisits and builds upon Year 8 T1  Representation and Year 7 T6	Integrated office skills. Assessments designed to not be linear and contain previous learning.  DNA –Beberas – promotes logical thinking skills. Reinforce and develop on prior knowledge.  Logic Gates (T3) revisits and builds upon Year 7 T5 Boolean logic.	Integrated office skills. Assessments designed to not be linear and contain previous learning.  DNA –Beberas – promotes logical thinking skills. Reinforce and develop on prior knowledge.  Algorithms (T3) revisits and builds upon Year 8 T3/4 Programming and Year 7 T4&5 Programming	Integrated office skills. Assessments designed to not be linear and contain previous learning.  DNA –Beberas – promotes logical thinking skills. Reinforce and develop on prior knowledge.  Ethics (T4) revisits and builds upon Year 8 T2 Ethics and Year 7 T1 ESafety.	Integrated office skills. Assessments designed to not be linear and contain previous learning.  DNA –Beberas – promotes logical thinking skills. Reinforce and develop on prior knowledge.  Networks revisits and builds upon Year 7 T3 networks and year 8 term 6 hardware / software unit.
What are the covered?	key concepts to be	Online safety, conceptual understanding of programming languages and their purpose, function and key principals. Binary concepts and functions, ICT ethics Graphics design.				
What knowledge do they need to		All key concepts revisit and build upon topics studied at year 8 with a focus on developing transferable programming ICT skills regardless of the programming language or software package used.  Being able to program in 2 computer languages by applying key concepts				
	essful start to Year 10?	More advanced co	mputational thinking wi	How to stay safe online th developing skills in lo	, , , , , ,	and decomposition

How are topics spaced bet	ween
unrelated topics?	

Problem solving in Python (T1) revisits and builds upon Year 8 T3/4 Programming and Year 7 T4&5 Programming
Binary (T2) revisits and builds upon Year 8 T1 Representation and Year 7 T6 representation.

Logic Gates (T3) revisits and builds upon Year 7 T5 Boolean logic.

Algorithms (T3) revisits and builds upon Year 8 T3/4 Programming and Year 7 T4&5 Programming

Ethics (T4) revisits and builds upon Year 8 T2 Ethics and Year 7 T1 ESafety.

Digital Graphics (T5) revisits and builds upon Year 8 T5 Webdesign.

Fundamentals of Algorithms (T6) revisits and builds upon Year 9 T3 Algorithms Year 8 T3/4 Programming and Year 7

T4&5 Programming

### IMPLEMENTATION – STUDENT NEEDS AND SUPPORT

# How is student learning supported below so as to ensure the following:

- extracurricular/career opportunities which develop social and cultural capital
- key vocabulary, reading, writing and numeracy opportunities
- support for SEND and students with Low Prior Attainment, as well as challenge for students with High Prior Attainment

YEAR	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6

7	Social/ Cultural Capital	Master slide links each lesson to relevant careers for example teacher.  Providing students with essential workplace skills for example the tuition of correct email etiquette and procedure  Weekly Coding Club – minecraft club for engagement and relationships.	Master slide links each lesson to relevant careers for example accountant  Providing students with essential workplace skills for example data entry.  Weekly Coding Club - minecraft club for engagement and relationships.	Master slide links each lesson to relevant careers for example network administrator.  Providing students with essential workplace skills for example hardware / software purchasing knowledge.  Weekly Coding Club - minecraft club for engagement and relationships.  Careers Talk: Gaming Industry – ties in with current area of study and increases engagement	Master slide links each lesson to relevant careers for example software developer  Providing students with essential workplace skills for example abstraction (identifying key information) and decomposition (breaking down difficult tasks).  Weekly Coding Club - minecraft club for engagement and relationships.	Master slide links each lesson to relevant careers for example software engineer.  Providing students with essential workplace skills for example abstraction (identifying key information) and decomposition (breaking down difficult tasks).  Weekly Coding Club - minecraft club for engagement and relationships.  Careers Talk: Programming Careers - ties in with current area of study and increases engagement	Master slide links each lesson to relevant careers for example ICT Architect  Providing students with essential workplace skills for example application of maths to the real world.  Weekly Coding Club - minecraft club for engagement and relationships.
	Tier 2/3 Vocabulary	Use of key terms throughout and revisiting in starters and plenaries for example attachment, functions.  Key terms on master slide throughout.	Use of key terms throughout and revisiting in starters and plenaries for example cell, formula, row.  Key terms on master slide throughout.	Use of key terms throughout and revisiting in starters and plenaries for example LAN, WIFI, protocol.  Key terms on master slide throughout.	Use of key terms throughout and revisiting in starters and plenaries for example, abstraction, decomposition, blocks.  Key terms on master slide throughout.	Use of key terms throughout and revisiting in starters and plenaries for example sprite, variable, loop.  Key terms on master slide throughout.	Use of key terms throughout and revisiting in starters and plenaries for example binary, decimal.  Key terms on master slide throughout.

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Reading	Read briefs, case	Read briefs, case	Read briefs, case	Read briefs, case	Read briefs, case	Reading / writing is a
	studies, tasks. for	studies, tasks for	studies, tasks for	studies, tasks for	studies, tasks for	professional,
	example create a	example meeting	example research	example following	example following	customer focused
	Powerpoint on British	client needs based	using the internet.	NASA case study	NASA case study	tone for example
	Values.	on brief.		design brief.	design brief.	reading and writing
			Eedi tests to check			in binary.
	Reading / writing is a	Reading / writing is a	understanding of key	Reading / writing is a	Reading / writing is a	
	professional,	professional,	terms and highlight	professional,	professional,	Eedi tests to check
	customer focused	customer focused	misconceptions.	customer focused	customer focused	understanding of key
	tone for example	tone for example		tone for example	tone for example	terms and highlight
	composing an email.	effective data entry.	Development of	writing and checking	writing and checking	misconceptions.
			understanding key	code, programming	code, programming	
	Eedi tests to check	Eedi tests to check	exam command	etiquette/ grammar.	etiquette/ grammar.	Development of
	understanding of key	understanding of key	words for example			understanding key
	terms and highlight	terms and highlight	compare, define,	Eedi tests to check	Eedi tests to check	exam command
	misconceptions.	misconceptions.	describe, Develop,	understanding of key	understanding of key	words for example
			discuss, draw,	terms and highlight	terms and highlight	calculate, compare,
	Development of	Development of	explain, extend,	misconceptions.	misconceptions.	convert, define,
	understanding key	understanding key	justify.			describe, Develop,
	exam command	exam command		Development of	Development of	discuss, explain,
	words for example	words for example		understanding key	understanding key	extend, justify
	compare, define,	Calculate, compare,		exam command	exam command	
	describe, discuss,	define, describe,		words for example	words for example	
	explain, extend,	Develop, discuss,		calculate, compare,	calculate, compare,	
	justify.	extend.		define, describe,	define, describe,	
				Develop, discuss,	Develop, discuss,	
				draw, explain,	draw, explain,	
				extend, justify	extend, justify	
				land and an area of a control	land adams a set of the	
				Importance of proof	Importance of proof	
				reading for errors in	reading for errors in	
				code in Scratch.	code in Scratch.	

	I	T =	T =	T =	Γ	
Writing	Reading / writing is a					
	professional,	professional,	professional,	professional,	professional,	professional,
	customer focused					
	tone for example					
	composing an email.	effective data entry.		writing and checking	writing and checking	reading and writing
			Introduction of	code, programming	code, programming	in binary.
	Introduction of	Introduction of	exercise books to	etiquette/ grammar.	etiquette/ grammar.	
	exercise books to	exercise books to	improve note taking			Introduction of
	improve note taking	improve note taking	/ revision skills.	Introduction of	Introduction of	exercise books to
	/ revision skills.	/ revision skills.		exercise books to	exercise books to	improve note taking
			Exam style questions	improve note taking	improve note taking	/ revision skills.
	Exam style questions	Exam style questions	practiced at regular	/ revision skills.	/ revision skills.	·
	practiced at regular	practiced at regular	intervals.	,	,	Exam style questions
	intervals.	intervals.		Exam style questions	Exam style questions	practiced at regular
			Digital writing skills in	practiced at regular	practiced at regular	intervals.
	Digital writing skills in	Digital writing skills in	Office and Outlook	intervals.	intervals.	
	Office and Outlook	Office and Outlook	support other			Digital writing skills in
	support other	support other	subjects.	Digital writing skills in	Digital writing skills in	Office and Outlook
	subjects.	subjects.	300,0013.	Office and Outlook	Office and Outlook	support other
	300,0013.	300,0013.		support other	support other	subjects.
				subjects.	subjects.	300,0013.
Numeracy	Beberas DNA tasks					
Homeracy	require logical /					
	applied maths skills					
	for example worded	for example spatial	for example	for example	for example ordering	for example data
	maths problems.	awareness.	coordinates.	representation.	of information.	interpretation.
	manis problems.	awaichess.	Coordinates.	representation.		ппстрістаноп.
		Spreadsheets use a		Maths rules: creating		
		wide range of	Networks; covering	a calculator.		Binary maths skills;
		mathematical	packet sizes / losses.	d calculator.		addition and
		functions = range,	Bits and bytes etc.	Scratch: Counters,		subtraction etc.
		•	bils and bytes etc.	ranges, stage		subfraction etc.
		average, add,		sections and ratios		Depresentation and
		subtract, multiply				Representation and
		etc.		etc.		substitution.
		Collecting,				
		O.				
		presenting and				
		interpreting				
		mathematical data,				
		e.g. bias, graphs etc.				

How does the PoS support students with SEND needs?	Beberas DNA tasks are tiered based on ability and get progressively harder. Lower tier will support pupils with less prior knowledge or developing maths skills. Levelled masterslide with clear outcomes. Eedi test identify misconception and trends for teacher to address with SEN. Seating plans. Differentiation in tasks. Individual support based on individual pupils needs. Sequencing supports development of core skills at the start. Group setting committee to decide setting of groups.  Applying whole school practices of: Staff SEN champion Teach around the student meeting. Differentiated and accessible work Small chunked up elements Visual clues/dual coding Introduction of new vocabulary using visual imagery and/or etymology Students asked to demonstrate learning in a variety of ways- eg-drawing/video/mind maps/audio Students are taught different ways of remembering eg) highlighting/step by step lists/mnemonics/cartoon strips //maps etc Efforts are always rewarded- verbally and through system Learning is revisited for consolidation Learning is exciting/competitive where possible QA: staff attend SEND training/progress is tracked/referrals are made/parents and carers are informed
How does the PoS support students with low prior attainment/challenge those with high prior attainment?	Beberas DNA tasks are tiered based on ability and get progressively harder. Higher tier will support pupils with more prior knowledge and advanced maths skills.  Introduction of difficult computing concepts at and early stage.
How does the PoS offer contextual content appropriate to Amington students?	Data suggests for computer science gap between PP and non PP. SEN and non SEN. Lack of female uptake. Eedi test identify misconception and trends for teacher to address with SEN. Seating plans. External speakers could be female role models. Ensure that case studies / tasks represent all particularly females.

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		Social/	Master slide links	Master slide links	Master slide links	Master slide links	Master slide links	Master slide links
		Cultural	each lesson to	each lesson to	each lesson to	each lesson to	each lesson to	each lesson to
		Capital	relevant careers for	relevant careers for	relevant careers for	relevant careers for	relevant careers for	relevant careers for
			example Systems	example network	example software	example computer	example web	example project
			analyst.	administrator.	engineer.	programmer.	developer.	manager.
			Bolstering core	Introduction to how	Further development	Further development	Introduction to how	An introduction to
			maths skills and using	businesses keep their	of problem solving	of problem solving	websites are made	project
			differing approaches	data secure and	through abstraction	through abstraction	and maintained can	management skills,
			to maths problems	from whom.	and decomposition,	and decomposition,	foster an interest into	creation and
					with continued	with continued	the web	adherence to
			Weekly Coding Club	Weekly Coding Club	exposure to text	exposure to text	development	deadlines.
			<ul> <li>minecraft club for</li> </ul>	– minecraft club for	based language	based language	industry	
	8		engagement and	engagement and				Weekly Coding Club
			relationships.	relationships.	Weekly Coding Club	Weekly Coding Club	Weekly Coding Club	- minecraft club for
					– minecraft club for	– minecraft club for	– minecraft club for	engagement and
				Careers Talk: Cyber	engagement and	engagement and	engagement and	relationships.
				Security – ties in with	relationships.	relationships.	relationships.	
				current area of study				
				and increases		Careers Talk:		
				engagement		Website Developer –		
						ties in with current		
						area of study and		
						increases .		
						engagement		

Tier 2/3 Vocabulary	Use of key terms throughout and revisiting in starters and plenaries for example binary, decimal, conversion.	Use of key terms throughout and revisiting in starters and plenaries for example malware, virus, spam.	Use of key terms throughout and revisiting in starters and plenaries for example print, variable, data.	Use of key terms throughout and revisiting in starters and for example decomposition and abstraction.	Use of key terms throughout and revisiting in starters and plenaries, for example HTML, buttons.	Use of key terms throughout and revisiting in starters and plenaries for example house style, formatting, tools.
	Key terms on master slide throughout.  Revisiting key vocabulary form year 7 and building upon it.	Key terms on master slide throughout.  Revisiting key vocabulary form year 7 and building upon it.	Key terms on master slide throughout.  Revisiting key vocabulary form year 7 and building upon it.	Key terms on master slide throughout.  Revisiting key vocabulary form year 7 and building upon it.	Key terms on master slide throughout.  Revisiting key vocabulary form year 7 and building upon it.	Key terms on master slide throughout.  Revisiting key vocabulary form year 7 and building upon it.

			T		T	I
Reading	Read briefs, case					
	studies, and tasks for	studies, and tasks for	studies, tasks for	studies, tasks for	studies, tasks for	studies, tasks for
	example news stories	example news stories	example reading	example reading	example reading	example user
	on cyber-attacks.	on cyber-attacks.	user requirements for	user requirements for	HTML code to check	requirements for
			product.	product.	for errors.	product.
	Reading / writing is a	Reading / writing is a				
	professional,	professional,	Reading / writing is a			
	customer focused	customer focused	professional,	professional,	professional,	professional,
	tone for example	tone for example	customer focused	customer focused	customer focused	customer focused
	writing a	creating a usable	tone for example	tone for example	tone for example	tone for example
	questionnaire.	quiz.	writing code using	writing code using	annotating and	preparing a script.
			the correct format at	the correct format at	commenting on	
	Eedi tests to check	Eedi tests to check	programming	programming	design.	Eedi tests to check
	understanding of key	understanding of key	etiquette (grammar)	etiquette (grammar)		understanding of key
	terms and highlight	terms and highlight			Eedi tests to check	terms and highlight
	misconceptions.	misconceptions.	Eedi tests to check	Eedi tests to check	understanding of key	misconceptions.
			understanding of key	understanding of key	terms and highlight	
	Development of	Development of	terms and highlight	terms and highlight	misconceptions.	Development of
	understanding key	understanding key	misconceptions.	misconceptions.		understanding key
	exam command	exam command			Development of	exam command
	words. For example	words. For example	Development of	Development of	understanding key	words. For example
	compare, define,	calculate, compare,	understanding key	understanding key	exam command	calculate, compare,
	describe, Develop,	define, describe,	exam command	exam command	words. For example	define, describe,
	discuss, explain,	Develop, discuss,	words. For example	words. For example	calculate, compare,	Develop, discuss,
	extend, justify.	draw, explain,	calculate, compare,	calculate, compare,	define, describe,	draw, explain,
		extend, justify.	define, describe,	define, describe,	Develop, discuss,	extend, justify.
			Develop, discuss,	Develop, discuss,	draw, explain,	
			explain, extend,	explain, extend,	extend, justify.	Importance of proof
			justify.	justify.		reading for errors in
					Importance of proof	code.
				Importance of proof	reading for errors in	
				reading for errors in	code.	
				code.		

Writing	Reading / writing is a professional, customer focused tone for example writing a questionnaire.  Introduction of exercise books to improve note taking / revision skills.  Exam style questions practiced at regular intervals.  Digital writing skills in Office and Outlook support other subjects.	Reading / writing is a professional, customer focused tone for example creating a usable quiz.  Introduction of exercise books to improve note taking / revision skills.  Exam style questions practiced at regular intervals.  Digital writing skills in Office and Outlook support other subjects.	Reading / writing is a professional, customer focused tone, for example writing code using the correct format at programming etiquette (grammar).  Introduction of exercise books to improve note taking / revision skills.  Exam style questions practiced at regular intervals.  Digital writing skills in Office and Outlook	Reading / writing is a professional, customer focused tone, for example writing code using the correct format at programming etiquette (grammar).  Introduction of exercise books to improve note taking / revision skills.  Exam style questions practiced at regular intervals.  Digital writing skills in Office and Outlook	Reading / writing is a professional, customer focused tone for example annotating and commenting on design.  Introduction of exercise books to improve note taking / revision skills.  Exam style questions practiced at regular intervals.  Digital writing skills in Office and Outlook support other	Reading / writing is a professional, customer focused tone for example preparing a script.  Introduction of exercise books to improve note taking / revision skills.  Exam style questions practiced at regular intervals.  Digital writing skills in Office and Outlook support other subjects.
Numeracy	Beberas DNA tasks require logical / applied maths skills for example worded maths problems.  Binary maths skills; addition and subtraction etc.  Representation and substitution.  Binary conversion.	Beberas DNA tasks require logical / applied maths skills for example spatial awareness.  Collecting Data e.g. tally charts  Presenting Data e.g. graphs.	support other subjects.  Beberas DNA tasks require logical / applied maths skills for example coordinates.  Use maths operators e.g. add multiply subtract and division in Python Syntax.  Representation: integers, float numbers, Data types etc.	support other subjects.  Beberas DNA tasks require logical / applied maths skills for example representation.  Use maths operators e.g. add multiply subtract and division in Python Syntax.  Representation: integers, float numbers, Data types etc.	subjects.  Beberas DNA tasks require logical / applied maths skills for example ordering of information.  Costings – planning activities based on a client's brief.	Beberas DNA tasks require logical / applied maths skills for example data interpretation.  Costings – planning activities based on a client's brief.

How does the PoS support students with SEND needs?	Beberas DNA tasks are tiered based on ability and get progressively harder. Lower tier will support pupils with less prior knowledge or developing maths skills.  Levelled masterslide with clear outcomes.  Eedi test identify misconception and trends for teacher to address with SEN. Seating plans.  Differentiation in tasks. Individual support based on individual pupils needs.  Sequencing supports development of core skills at the start.  Applying whole school practices of: Staff SEN champion  Teach around the student meeting.  Differentiated and accessible work  Small chunked up elements  Visual clues/dual coding Introduction of new vocabulary using visual imagery and/or etymology Students asked to demonstrate learning in a variety of ways- eg-drawing/video/mind maps/audio Students in a varied mix of groupings- 1:1/pairs/small gps and whole class Students are taught different ways of remembering eg) highlighting/step by step lists/mnemonics/cartoon strips  /maps etc  Efforts are always rewarded- verbally and through system  Learning is revisited for consolidation  Learning is exciting/competitive where possible
	QA: staff attend SEND training/progress is tracked/referrals are made/parents and carers are informed
How does the PoS support students with low prior attainment/challenge those with high prior attainment?	Beberas DNA tasks are tiered based on ability and get progressively harder. Higher tier will support pupils with more prior knowledge and advanced maths skills.  Introduction of difficult computing concepts at an early stage.
How does the PoS offer contextual	Data suggests for computer science gap between PP and non PP. SEN and non SEN. Lack of female uptake.
content appropriate to Amington	Eedi test identify misconception and trends for teacher to address with SEN. Seating plans.
students?	Expteral speakers could be female role models.
	Ensure that case studies / tasks represent all particularly females.

	Social/	Master slide links	Master slide links	Master slide links	Master slide links	Master slide links	Master slide links
Ш	Cultural	each lesson to	each lesson to	each lesson to	each lesson to	each lesson to	each lesson to
Ш	Capital	relevant careers.	relevant careers.	relevant careers.	relevant careers.	relevant careers.	relevant careers.
		Continued	Covering key maths	Boolean logic and	Understanding of the	Planning and setting	Planning and setting
Ш		development of	principles from a	algorithms teach	legislation and	deadlines and then	deadlines and then
		abstraction and	different angle,	organisational skills	ethical issues	adhering to them is	adhering to them is
		decomposition	building on the	essential for any	surrounding	an essential work	an essential work
		fosters organisation	knowledge from	workplace	technology can	place skill	place skill
			previous years		lead to careers in		
		Weekly Coding Club		Weekly Coding Club	the environmental	Weekly Coding Club	Weekly Coding Club
		– teen tech	Weekly Coding Club	<ul><li>teen tech</li></ul>	impact audit	<ul><li>teen tech</li></ul>	– teen tech
		competition – music,	- teen tech	competition – music,	industry.	competition – music,	competition – music,
		media and	competition – music,	media and		media and	media and
		entertainment,	media and	entertainment,	Weekly Coding Club	entertainment,	entertainment,
	9	hopefully increase	entertainment,	hopefully increase	- teen tech	hopefully increase	hopefully increase
		female uptake.	hopefully increase	female uptake.	competition – music,	female uptake.	female uptake.
			female uptake.		media and entertainment,		
					hopefully increase		Visit to Bletchley Park
			Taster Lesson:		female uptake.		- history of the
			Computer Science		Terridie oprake.		Computer.
			at 6 <sup>th</sup> Form — ties in				Compoter.
Ш			with current area of		Lloyds Banks Careers		
			study and increases		Webinar. Based on a		
			engagement		careers in ICT		
					increases		
					engagement		

T' 0 /0	Her of her demons	I I I I I I I I I I I I I I I I I I I				II. a. f. I. a I. a
Tier 2/3	Use of key terms	Use of key terms	Use of key terms	Use of key terms	Use of key terms	Use of key terms
Vocabulary	throughout and	throughout and	throughout and	throughout and	throughout and	throughout and
	revisiting in starters	revisiting in starters	revisiting in starters	revisiting in starters	revisiting in starters	revisiting in starters
	and plenaries, for	and plenaries for	and plenaries for	and plenaries for	and plenaries for	and plenaries for
	example input,	example binary, hex,	example	example	example	example ALU,
	output, variable.	denary.	decomposition,	decomposition,	environment,	optical and
			abstraction,	abstraction,	legislation, ethics.	topology.
	Key terms on master		algorithm.	algorithm.		
	slide throughout.	Key terms on master			Key terms on master	Key terms on master
		slide throughout.	Key terms on master	Key terms on master	slide throughout.	slide throughout.
	Revisiting key		slide throughout.	slide throughout.		
	vocabulary form	Revisiting key			Revisiting key	Revisiting key
	year 7/8 and	vocabulary form	Revisiting key	Revisiting key	vocabulary form	vocabulary form
	building upon it.	year 7/8 and	vocabulary form	vocabulary form	year 7/8 and	year 7/8 and
		building upon it.	year 7/8 and	year 7/8 and	building upon it.	building upon it.
	Focus on developing		building upon it.	building upon it.		
	pupils understanding	Focus on developing			Focus on developing	Focus on developing
	of GCSE exam	pupils understanding	Focus on developing	Focus on developing	pupils understanding	pupils understanding
	command words, for	of GCSE exam	pupils understanding	pupils understanding	of GCSE exam	of GCSE exam
	example calculate,	command words, for	of GCSE exam	of GCSE exam	command words, for	command words.
	compare, define,	example calculate,	command words, for	command words, for	example calculate,	for example
	describe, Develop,	compare, define,	example calculate,	example calculate,	compare, define,	calculate, compare,
	discuss, draw,	describe, Develop,	compare, define,	compare, define,	describe, Develop,	define, describe,
	explain, extend,	discuss, draw,	describe, Develop,	describe, Develop,	discuss, draw,	Develop, discuss,
	justify, convert.	explain, extend,	discuss, draw,	discuss, draw,	explain, extend,	draw, explain,
	Joshiy, Convent	justify, convert.	explain, extend,	explain, extend,	justify, convert.	extend, justify,
		joshiy, conven.	justify, convert.	justify, convert.	Joshiy, Coriveri.	convert.
			Joshiy, Corrycii.	Joshiy, Corrycii.		CONTYCH.

	Reading	Read briefs, case	Reading / writing is a	Reading / writing is a	Read briefs, case	Read briefs, case	Read briefs, case
Ш		studies, tasks for	professional,	professional,	studies, tasks for	studies, tasks for	studies, tasks for
Ш		example reading a	customer focused	customer focused	example news stories	example reading a	example
		detailed client brief.	tone, for example	tone for example	on ethics.	complex list of user	
			writing binary	writing logic gates		requirements.	Reading / writing is a
		Reading / writing is a	conversions in the	and truth table sin	Reading / writing is a		professional,
		professional,	correct format.	the correct format.	professional,	Reading / writing is a	customer focused
		customer focused			customer focused	professional,	tone for example
Ш		tone. For example	Eedi tests to check	Eedi tests to check	tone for example	customer focused	creating a product
Ш		writing code using	understanding of key	understanding of key	extended exam	tone for example	that is aimed at the
		correct	terms and highlight	terms and highlight	questions.	creating a product	correct audience in
		programming	misconceptions.	misconceptions.		that is aimed at the	tone.
		etiquette			Eedi tests to check	correct audience in	
		(grammar).	Development of	Development of	understanding of key	tone.	Eedi tests to check
			understanding key	understanding key	terms and highlight		understanding of key
		Eedi tests to check	exam command	exam command	misconceptions.	Eedi tests to check	terms and highlight
		understanding of key	words.	words.		understanding of key	misconceptions.
		terms and highlight			Development of	terms and highlight	
		misconceptions.			understanding key	misconceptions.	Development of
Ш					exam command		understanding key
Ш		Development of			words.	Development of	exam command
		understanding key				understanding key	words.
		exam command			Importance of proof	exam command	
		words.			reading for errors in	words.	Importance of proof
					code.	land and an a set of the	reading for errors in
						Importance of proof	code.
						reading for errors in	
						code.	

Writing	Reading / writing is a professional, customer focused tone. For example writing code using correct programming etiquette (grammar).  Introduction of exercise books to improve note taking / revision skills.  Exam style questions practiced at regular intervals.  Digital writing skills in Office and Outlook support other	Reading / writing is a professional, customer focused tone, for example writing binary conversions in the correct format.  Introduction of exercise books to improve note taking / revision skills.  Exam style questions practiced at regular intervals.  Digital writing skills in Office and Outlook support other subjects.	Reading / writing is a professional, customer focused tone for example writing logic gates and truth table sin the correct format.  Introduction of exercise books to improve note taking / revision skills.  Exam style questions practiced at regular intervals.  Digital writing skills in Office and Outlook support other subjects.	Reading / writing is a professional, customer focused tone, for example extended exam questions.  Introduction of exercise books to improve note taking / revision skills.  Exam style questions practiced at regular intervals.  Digital writing skills in Office and Outlook support other subjects.	Reading / writing is a professional, customer focused tone, for example creating a product that is aimed at the correct audience in tone.  Introduction of exercise books to improve note taking / revision skills.  Exam style questions practiced at regular intervals.  Digital writing skills in Office and Outlook support other	Reading / writing is a professional, customer focused tone for example creating a product that is aimed at the correct audience in tone.  Introduction of exercise books to improve note taking / revision skills.  Exam style questions practiced at regular intervals.  Digital writing skills in Office and Outlook support other subjects.
Numeracy	subjects.  Beberas DNA tasks require logical / applied maths skills for example worded maths problems.  Use maths operators e.g. add multiply subtract and division in Python Syntax.	Beberas DNA tasks require logical / applied maths skills for example spatial awareness.  Binary maths skills; addition and subtraction etc.  Representation and substitution.  Binary conversion.	Beberas DNA tasks require logical / applied maths skills for example coordinates.  Pseudo code representing maths operators.  Using more advanced maths operators e.g. modulus division.	Beberas DNA tasks require logical / applied maths skills for example representation.	subjects.  Beberas DNA tasks require logical / applied maths skills for example ordering of information.  Pixel dimensions / resolutions.	Beberas DNA tasks require logical / applied maths skills for example data interpretation.  Von Neumann architecture.  Converting file sizes.

How does the Implementation Plan meet the ACE curriculum design?			
Ambitious	Ambitious: Delivery of challenging concepts and ideas. Can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation. Covers a wide range of topics including all of NC. Linked to intent and careers document.		
Challenging	Delivery of challenging concepts and ideas. Lessons created at high level of stretch for age group.		

	Can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems Differentiation. Berbaras tasks are levelled	
Engaging	Interweaving and spacing of content over the 3 year cycle. Year 7 topics plug any gaps in knowledge from prior learning to ensure future progress for all. Year 9 pathways split to ensure engagement is high and pupils are provided with the right skills for future pathways.	

# What are the current strengths of the Implementation Plan?

Fulfils the national curriculum criteria.

Gives pupils the required building block skills to succeed at KS4.

Allows pupils to make informed pathway decisions.

Cultural Capital: Become digitally literate in order to able to use, and express themselves and develop their ideas through, information and communication technology / Become digitally literate in order to become active participants in a digital society and workplace.

Strong interweaving and building on prior knowledge.

Created in conjunction with and checked by NCCE.

# What specific actions have to be taken in response to the above? Please consider:

- Core concept changes;
- Space interleaving changes;
- Modifications to ensure an ACE curriculum design;
- CPD for teachers in your subject area;
- Additional research you have to consider as part of this review.

Update learning resources using support from NCCE with focus on using Amington teaching model.

Embedding / organising cultural / afterschool / careers opportunities into practice.

Create DNA Activites using Berberas.

Update assessment using EEDI

Create more differentiated resources for SEN pupils.

QA and review with NCCE.

CPD opportunities for CMI.