

# YEAR 7 COMPUTING CURRICULUM PROGRESSION OVERVIEW

## Computing Curriculum Intent:

We aim through our curriculum to teach the fundamental knowledge and skills so that all students can:

- Develop skills and understanding from Key Stage Two Computing.
- Ensure that students know how to use electronic devices and the internet safely and responsibly.
- Ensure that students have the opportunity to explore the different branches of computing: digital literacy, computer science and digital media.
- Enable students to become confident and effective users of computers and a range of software applications
- Enable students to become resilient problem solvers
- Enable students to become skilled and imaginative content creators.

	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5
Topic	Digital Literacy and e-safety	Computational Thinking	Stop Motion Animation	Programming: Scratch	Data and the CPU
Core Knowledge/ Threshold Concept	<p>Understand and be able to log into the school system using their username and password.</p> <p>Understand how to log on a number of applications used by the school including Office 365 and ClassCharts.</p> <p>Understand and be able to set a file structure within their area and save files with appropriate names.</p> <p>Be able to create and send emails using office 365.</p> <p>Understand how to stay safe online</p>	<p>Understand what computational thinking is and how this relates to everyday life.</p> <p>Be able to decompose a problem and apply these skills to everyday life problem solving.</p> <p>Be able to create a fit for purpose flowchart and the symbols used in flowchart creation.</p> <p>Be able to evaluate an algorithm and flowchart to ensure that it is fit for purpose against a set of success criteria.</p>	<p>Understand what stop motion animation is and examples that students will have come across already.</p> <p>Understand the planning stage of stop motion animation.</p> <p>Understand and be able to create assets for a stop motion animation.</p> <p>Be able to take photos for a stop motion animation</p> <p>Be able to create sound for a stop motion animation.</p>	<p>Be able to create an algorithm which is sequences and logical.</p> <p>Be able to debug an algorithm and a set of code from errors.</p> <p>Understand the different blocks in scratch and what each of the set of blocks do.</p> <p>Be able to create a range of codes in Scratch which allows the Script to draw, move or make sound.</p> <p>Understand how to use loops and nested loops in Scratch programming.</p>	<p>Understand what a computer is.</p> <p>Understand the components that are inside a computer including the workings of the CPU.</p> <p>Understand what the difference is between inputs and outputs and identify a range of these.</p> <p>Understand how information is stored in a computer including different types of memory and storage devices.</p>

	Understand a range of types of e-safety.		Be able to create a short a stop motion animation including audio.	Be able to create an animation using Scratch programming.	Understand that computers use binary and how to convert binary to decimal.
Why this learning now?	Learning is deliberately sequenced having considered what core knowledge is required to unlock deeper understanding of a topic and the ability to make connections between topics so that when implementing this intent, teachers can effectively and explicitly draw attention to where a keyword/concept/behaviour/pattern etc has been seen before and effectively expose the relationship to the current topic through questions such as: Where have we seen this before? What does this remind us of? How does this have a relationship with what happened previously? How does our understanding of the previous concept inform our understanding of this one? and hence facilitate better learning.				
	This unit is an introduction to the school network and applications that are needed whole school and through the computing curriculum, students also look at how they can keep themselves safe whilst using the internet and electronic devices.	Computational thinking concepts such as decomposition and algorithms, underpin a number of the additional units covered in the Year 7 curriculum and gives students opportunities to develop the skills learnt in this unit further throughout the year.	Students will need to use their prior knowledge of decomposition and algorithms to break down a design brief to create a stop motion animation lasting at least 30 seconds in duration.	To develop key concepts from Computational Thinking (algorithms and decomposition) and Data and the CPU units (binary) to create a range of working programs in Scratch. Drag and drop coding used to introduce students to Programming or develop skills learnt at Primary school.	This unit looks at a computer is and how computers work, giving students an understanding of binary and binary coded prior to their first programming unit of Scratch.
Assessment Opportunities:	At the end of each unit students will complete an assessment at the end of the teaching of each unit, which will include content from all units taught so far in the curriculum.				
	Recall and retrieval questions at the beginning of each lesson on prior learning.	Recall and retrieval questions at the beginning of each lesson on prior learning.	Recall and retrieval questions at the beginning of each lesson on prior learning.	Recall and retrieval questions at the beginning of each lesson on prior learning.	Recall and retrieval questions at the beginning of each lesson on prior learning.
	Retrieval questions at the end of each lesson based on content of that lesson.	Retrieval questions at the end of each lesson based on content of that lesson.	Retrieval questions at the end of each lesson based on content of that lesson.	Retrieval questions at the end of each lesson based on content of that lesson.	Retrieval questions at the end of each lesson based on content of that lesson.
	Whole class response questioning	Whole class response questioning	Whole class response questioning	Whole class response questioning	Whole class response questioning

	Multiple Choice Quizzes to check understanding of crucial knowledge.	Multiple Choice Quizzes to check understanding of crucial knowledge.	Multiple Choice Quizzes to check understanding of crucial knowledge.	Multiple Choice Quizzes to check understanding of crucial knowledge.	Multiple Choice Quizzes to check understanding of crucial knowledge.
Learning at Home	Students will receive home learning once over the two-timetable cycle. This will be either to complete badges towards their iDea Award, forms quiz to check understanding of prior learning or a task to complete in their computing books.				
	Topics for home learning will include: e-safety in general Cyberbullying	Topics for home learning will include: Flowchart shapes and use Flowchart creation Algorithms	Topics for home learning will include: Story ideas Storyboarding Asset creation/collection	Topics for home learning will include: Decomposing a brief Explaining code Finding error in codes.	Topics for home learning will include: Components of a computer Binary to decimal conversions Decimal to binary conversions.
Key Vocabulary	Logon System Internet Teams Outlook Email ClassCharts <b>File Management</b> Folder <b>Icon</b> Applications Software Hardware Cyberbullying e-safety Financial Safe <b>Grooming</b> Identity Theft <b>Network</b>	<b>Computational Thinking</b> <b>Algorithms</b> <b>Decomposition</b> Evaluation Sequencing <b>Iteration</b> Selection Flowchart <b>Loop</b> <b>Criteria</b> <b>Efficient</b> <b>Elegant</b> <b>Pattern Recognition</b> Process Input Output	Frames <b>Stop Motion</b> <b>Animation</b> Audio <b>Assets</b> Character Model <b>Soundwave</b> Sound Effects Pop-up <b>Storyboard</b> Audience	Computational Thinking Algorithms <b>Decomposition</b> Evaluation Logic Tinkering Creating <b>Debugging</b> <b>Perseverance</b> <b>Collaboration</b> Programming Sequencing Repetition Iteration Variables Selection Script Code Peer <b>Syntax</b>	Data <b>Binary</b> Decimal <b>Assistive</b> <b>Volatile</b> ROM RAM Motherboard Central Processing Unit Memory Input Output

<p>Spiritual, Moral, Social and Cultural concepts covered</p>	<p>Provision for the moral development of pupils:</p> <ul style="list-style-type: none"> <li>• understanding of the consequences of their behaviour and actions</li> <li>• interest in investigating and offering reasoned views about moral and ethical issues and ability to understand and appreciate the viewpoints of others on these issues</li> </ul> <p>Provision for the cultural development of pupils:</p> <ul style="list-style-type: none"> <li>• understanding and appreciation of the wide range of cultural influences that have shaped their own heritage and that of others</li> <li>• understanding and appreciation of the range of different cultures in the school and further afield as an essential element of their preparation for life in modern Britain</li> </ul>
<p>Links to careers and the world of work</p>	<p>Links to careers in computer science, computer programming and animation as well as the world of work in general.</p>