Computing Overview

Learning: For a better future

'Computing is not about computers anymore. It is about living'
NICHOLAS NEGROPONTE

Computing Rationale:

Intent: *At our school we want pupils to be MASTERS of technology and not slaves to it. Technology is everywhere and will play a pivotal part in students' lives. Therefore, we want to model and educate our pupils on how to use technology positively, responsibly and safely. We aim to prepare our learners for their future by giving them the opportunities to gain knowledge and develop skills that will equip them for an ever-changing digital world. Our computing curriculum focuses on a progression of skills in computer science, information technology, digital literacy and online safety to ensure that children become competent in safely using, as well as understanding, technology. We want to equip pupils to use computational thinking and creativity that will enable them to become active participants in the digital world. These skills are revisited repeatedly to ensure that the learning is embedded and that the skills are developed.*

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Autumn 1	PROJECT EVOLVE Online Safety: 1) Self-image	PROJECT EVOLVE Online Safety: 1) Self-image	PROJECT EVOLVE Online Safety (playground): 1) Self-image	PROJECT EVOLVE Online Safety (street): 1) Self-image	PROJECT EVOLVE Online Safety (village): 1) Self-image	PROJECT EVOLVE Online Safety (town): 1) Self-image
Computing systems and networks	Technology around us:	What is information technology?	Connecting computers: Identifying that digital devices have inputs,	The internet: Recognising the internet as a network of	Sharing information: Identifying and exploring how	Internet communication:

	Recognising technology in school and using it responsibly. 	*Identifying IT and how its responsible use improves our world in school and beyond.* 	*processes, and outputs, and how devices can be connected to make networks.*	*networks including the WWW, and why we should evaluate online content.*	*information is shared between digital systems.*	*Recognising how the WWW can be used to communicate and be searched to find information.*
Autumn 2 **Creating Media**	PROJECT EVOLVE  ***Online Safety:*** *2) Health, well-being and lifestyle* *3) Online Reputation* ***Digital painting:*** *Choosing appropriate tools in a program to create art and making comparisons with working non-digitally.* 	PROJECT EVOLVE  ***Online Safety:*** *2) Health, well-being and lifestyle* *3) Online Reputation* ***Photography:*** *Capturing and changing digital photographs for different purposes.* 	PROJECT EVOLVE  ***Online Safety (playground):*** *2) Health, well-being and lifestyle* *3) Online Reputation* ***Stop-frame animation:*** *Capturing and editing digital still images to produce a stop-frame animation that tells a story.* 	PROJECT EVOLVE  ***Online Safety (street):*** *2) Health, well-being and lifestyle* *3) Online Reputation* ***Audio editing:*** *Capturing and editing audio to produce a podcast, ensuring that copyright is considered.* 	PROJECT EVOLVE  ***Online Safety (village):*** *2) Health, well-being and lifestyle* *3) Online Reputation* ***Video editing:*** *Planning, capturing, and editing video to produce a short film.* 	PROJECT EVOLVE  ***Online Safety (town):*** *2) Health, well-being and lifestyle* *3) Online Reputation* ***Webpage creation:*** *Designing and creating webpages, considering copyright, aesthetics and navigation.* 
Spring 1 **Programming A**	PROJECT EVOLVE  ***Online Safety:*** *4) Online Bullying* ***Moving a robot:*** *Writing short algorithms and programs for floor robots and predicting program outcomes.* 	PROJECT EVOLVE  ***Online Safety:*** *4) Online Bullying* ***Robot Algorithms:*** *Creating and debugging programs and using logical reasoning to make predictions.* 	PROJECT EVOLVE  ***Online Safety (playground):*** *4) Online Bullying* ***Sequencing Sounds:*** *Creating sequences in a block-based programming language to make music.* 	PROJECT EVOLVE  ***Online Safety (street):*** *4) Online Bullying* ***Repetition in shapes:*** *Using a text-based programming language to explore count-controlled loops when drawing shapes.2* 	PROJECT EVOLVE  ***Online Safety (village):*** *4) Online Bullying* ***Selection in physical computing:*** *Exploring conditions and selection using a programmable microcontroller.* 	PROJECT EVOLVE  ***Online Safety (town):*** *4) Online Bullying* ***Variables in games:*** *Exploring variables when designing and coding a game.* 

Spring 2 **Data and information**	PROJECT EVOLVE ***Online Safety:*** *5) Online Relationships* *6) Managing Online Information* ***Grouping data:*** *Exploring object labels, then using them to sort and group objects by properties.*	PROJECT EVOLVE ***Online Safety:*** *5) Online Relationships* *6) Managing Online Information* ***Pictograms:*** *Collecting data in tally charts and using attributes to organise and present data on a computer.*	PROJECT EVOLVE ***Online Safety (playground):*** *5) Online Relationships* *6) Managing Online Information* ***Branching databases:*** *Building and using branching databases to group objects using yes/no questions.*	PROJECT EVOLVE ***Online Safety (street):*** *5) Online Relationships* *6) Managing Online Information* ***Data logging:*** *Recognising how and why data is collected over time, before using data loggers to carry out an investigation.*	PROJECT EVOLVE ***Online Safety (village):*** *5) Online Relationships* *6) Managing Online Information* ***Flat-file databases:*** *Using a database to order data and create charts to answer questions.*	PROJECT EVOLVE ***Online Safety (town):*** *5) Online Relationships* *6) Managing Online Information* ***Introducing spreadsheets:*** *Answering questions by using spreadsheets to organise and calculate data.*
Summer 1 **Creating Media**	PROJECT EVOLVE ***Online Safety:*** *7) Privacy and Security* ***Digital writing:*** *Using a computer to create and format text, before comparing to writing non-digitally.*	PROJECT EVOLVE ***Online Safety:*** *7) Privacy and Security* ***Making music:*** *Using a computer as a tool to explore rhythms and melodies, before creating a musical composition.*	PROJECT EVOLVE ***Online Safety (playground):*** *7) Privacy and Security* ***Desktop publishing:*** *Creating documents by modifying text, images, and page layouts for a specified purpose.*	PROJECT EVOLVE ***Online Safety (street):*** *7) Privacy and Security* ***Photo editing:*** *Manipulating digital images and reflecting on the impact of changes and whether the required purpose is fulfilled.*	PROJECT EVOLVE ***Online Safety (village):*** *7) Privacy and Security* ***Vector drawing:*** *Creating images in a drawing program by using layers and groups of objects.*	PROJECT EVOLVE ***Online Safety (town):*** *7) Privacy and Security* ***3D modelling:*** *Planning, developing, and evaluating 3D computer models of physical objects.*

Summer 2 **Programming B**	PROJECT EVOLVE ***Online Safety:*** *8) Copywrite and Ownership* ***Programming animations:*** *Designing and programming the movement of a character on screen to tell stories.*	PROJECT EVOLVE ***Online Safety:*** *8) Copywrite and Ownership* ***Programming quizzes:*** *Designing algorithms and programs that use events to trigger sequences of code to make an interactive quiz.*	PROJECT EVOLVE ***Online Safety (playground):*** *8) Copywrite and Ownership* ***Events and actions in programs:*** *Writing algorithms and programs that use a range of events to trigger sequences of actions.*	PROJECT EVOLVE ***Online Safety (street):*** *8) Copywrite and Ownership* ***Repetitions in games:*** *Using a block-based programming language to explore count-controlled and infinite loops when creating a game.*	PROJECT EVOLVE ***Online Safety (village):*** *8) Copywrite and Ownership* ***Selection in quizzes:*** *Exploring selection in programming to design and code an interactive quiz.*	PROJECT EVOLVE ***Online Safety (town):*** *8) Copywrite and Ownership* ***Sensing:*** *Designing and coding a project that captures inputs from a physical device.*

Interleaving

1. Science
2. History
3. Geography
4. RE
5. PSHE
6. Music
7. Art
8. DT
9. English
10. Maths