Computing Long Term Plan

At Reynolds Academy, we use the milestones created by Chris Quigley Education to support our wider curriculum. We also use Kapow to support the teaching of the Computing Curriculum.

Overview	Autumn term	Spring term	Summer term
	First lesson of each half term is to be Online safety		
Year 1	**Computing Systems and Networks** Improving Mouse Skills **Programming 1** Algorithms Unplugged	**Skills Showcase** Rocket to the Moon **Programming 2** Programming Bee-Bots	**Creating Media** Digital Imagery **Data Handling** Introduction to Data
Year 2	**Computing Systems and Networks 1** What is a computer? **Computing Systems and Networks 2** Word processing	**Programming 1** Algorithms and debugging **Programming 2** Scratch Jr	**Creating Media** Stop Motion **Data Handling** International Space Station
Year 3	**Computing Systems and Networks 1** Networks and the Internet **Computing Systems and Networks 2** E-mailing	**Computing Systems and Networks 3** Journey Inside a Computer **Programming** Scratch	**Creating Media** Video Trailers **Data Handling** Comparison Cards Databases

Year 4	**Computing Systems and Networks** Collaborative Learning **Programming 1** Further coding with Scratch	**Programming 2** Computational Thinking **Skills Showcase** HTML	**Creating Media** Website Design **Data Handling** Investigating Weather
Year 5	**Computing Systems and Networks** Search Engines **Programming 1** Programming Music	**Programming 2** Micro:bit **Data Handling** Mars Rover 1	**Creating Media** Stop Motion Animation **Skills Showcase** Mars Rover 2
Year 6	**Computing Systems and Networks** Bletchley Park **Programming** Intro to Python	**Data Handling** Big Data 1 **Data Handling** Big Data 2	**Creating Media** History of Computers **Skills Showcase** Investigating a product

Key Skills	Code	Connect	Communicate	Collect
Milestone 1	• Control motion by specifying the number of steps to travel, direction and turn. • Add text strings, show and hide objects and change the features of an object. • Select sounds and control when they are heard, their duration and volume. • Control when drawings appear and set the pen colour, size and shape. • Specify user inputs (such as clicks) to control events. • Specify the nature of events (such as a single event or a loop). • Create conditions for actions by waiting for a user input (such as responses to questions like: What is your name?).	• Participate in class social media accounts. • Understand online risks and the age rules for sites.	• Use a range of applications and devices in order to communicate ideas, work and messages.	• Use simple databases to record information in areas across the curriculum.
Milestone 2	• Use specified screen coordinates to control movement. • Set the appearance of objects and create sequences of changes. • Create and edit sounds. Control when they are heard, their volume, duration and rests. • Control the shade of pens. • Specify conditions to trigger events.	• Contribute to blogs that are moderated by teachers. • Give examples of the risks posed by online communications. • Understand the term 'copyright'. • Understand that comments made online that are hurtful or offensive are the same as bullying. • Understand how online services work.	• Use some of the advanced features of applications and devices in order to communicate ideas, work or messages professionally.	• Devise and construct databases using applications designed for this purpose in areas across the curriculum.

	• Use IF THEN conditions to control events or objects. • Create conditions for actions by sensing proximity or by waiting for a user input (such as proximity to a specified colour or a line or responses to questions). • Use variables to store a value. • Use the functions define, set, change, show and hide to control the variables. • Use the Reporter operators () + () () - () () * () () / () to perform calculations.			
Milestone 3	• Set IF conditions for movements. Specify types of rotation giving the number of degrees. • Change the position of objects between screen layers (send to back, bring to front). • Upload sounds from a file and edit them. Add effects such as fade in and out and control their implementation. • Combine the use of pens with movement to create interesting effects. • Set events to control other events by 'broadcasting' information as a trigger. • Use IF THEN ELSE conditions to control events or objects.	• Collaborate with others online on sites approved and moderated by teachers. • Give examples of the risks of online communities and demonstrate knowledge of how to minimise risk and report problems. • Understand and demonstrate knowledge that it is illegal to download copyrighted material, including music or games, without express written permission, from the copyright holder. • Understand the effect of online comments and show responsibility and sensitivity when online.	• Choose the most suitable applications and devices for the purposes of communication. • Use many of the advanced features in order to create high quality, professional or efficient communications.	• Select appropriate applications to devise, construct and manipulate data and present it in an effective and professional manner.

	• Use a range of sensing tools (including proximity, user inputs, loudness and mouse position) to control events or actions. • Use lists to create a set of variables. • Use the Boolean operators () < () () = () () > () ()and() ()or() Not() to define conditions. • Use the Reporter operators () + () () - () () * () () / () to perform calculations. • Pick Random () to () Join () () Letter () of () Length of () () Mod () This reports the remainder after a division calculation Round () () of ().	• Understand how simple networks are set up and used.		