Progression of Skills in Computing

Knowledge, skills and understanding is built around the following concepts:

- To code
- To connect
- To communicate
- To collect

These key concepts underpin learning in each milestone. This enables pupils to reinforce and build upon prior learning, make connections and develop subject specific language. The vertical accumulation of knowledge and skills from Years 1 to 6 is mapped as follows:

Threshold Concept Key Skills	Milestone 1 Years 1 and 2	Milestone 2 Years 3 and 4	Milestone 3 Years 5 and 6
To code	• 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.	• 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. • 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).	• 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. • Use a range of sensing tools (including proximity, user

• 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?).	• 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.	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 ().
To connect	• Participate in class social media accounts. • Understand online risks and the age rules for sites.	• 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.	• 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. • Understand how simple networks are set up and used.
To communicate	• Use a range of applications and devices in order to communicate ideas, work and messages.	• Use some of the advanced features of applications and devices in order to communicate ideas, work or messages professionally.	• 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.
To collect	• Use simple databases to record information in areas	• Devise and construct databases using applications	• Select appropriate applications to devise, construct and manipulate data and present it in an

	across the curriculum.	designed for this purpose in areas across the curriculum.	effective and professional manner.

Disclaimer: This has been developed with reflection upon the National Curriculum (2014) and Chris Quigley's Essential Curriculum.