

Cromwell Academy
Computing Overview

Characteristics

- o Competence in coding for a variety of practical and inventive purposes, including the application of ideas within other subjects.
- o The ability to connect with others safely and respectfully, understanding the need to act within the law and with moral and ethical integrity.
- o An understanding of the connected nature of devices.
- o The ability to communicate ideas well by using applications and devices throughout the curriculum.
- o The ability to collect, organise and manipulate data effectively.

	Reception	Year 1/2	Year 3/4	Year 5/6
To code (use scratch) Motion		Control motion by specifying the number of steps to travel, direction and turn	Use specified screen coordinates to control movement.	Set IF conditions for movements. Specify types of rotation giving the number of degrees.
To code (use scratch) Looks		Add text strings, show and hide objects and change the features of an object.	Set the appearance of objects and create sequences of changes.	Change the position of objects between screen layers (send to back, bring to front).
To code (use scratch) Sounds		Select sounds and control when they are heard, their duration and volume.	Create and edit sounds. Control when they are heard, their volume, duration and rests.	Upload sounds from a file and edit them. Add effects such as fade in and out and control their implementation.
To code (use scratch) Draw		Control when drawings appear and set the pen colour, size and shape.	Control the shade of pens.	Combine the use of pens with movement to create interesting effects.
To code (use scratch) Events		Specify user inputs (such as clicks) to control events.	Specify conditions to trigger events.	Set events to control other events by 'broadcasting' information as a trigger.
To code (use scratch) Control		Specify the nature of events (such as a single event or a loop).	Use IF THEN conditions to control events or objects.	Use IF THEN ELSE conditions to control events or objects.
To code (use scratch) Sensing		Create conditions for actions by waiting for a user input (such as responses to questions like: What is your name?).	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 a range of sensing tools (including proximity, user inputs, loudness and mouse position) to control events or actions.
To code (use scratch) Variables and lists		From Year 3 onwards.	Use variables to store a value. Use the functions define, set, change, show and hide to control the variables.	Use lists to create a set of variables.

To code (use scratch) Operators		From Year 3 onwards.	Use the Reporter operators $() + ()$ $() - ()$ $() * ()$ $() / ()$ to perform calculations.	Use the Boolean operators $() < ()$ $() = ()$ $() > ()$ $() \text{and} ()$ $() \text{or} ()$ $\text{Not} ()$ to define conditions. Use the Reporter operators $() + ()$ $() - ()$ $() * ()$ $() / ()$ to perform calculations. Pick Random $()$ to $()$ Join $()$ $()$ Letter $()$ of $()$ Length of $()$ $() \text{Mod} ()$ This reports the remainder after a division calculation Round $()$ $()$ of $()$.
To connect	Select and uses technology for particular purposes. Completes a simple program on a computer. Uses ICT hardware to interact with age appropriate resources	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. <i>Understand the term 'copyright'.</i> 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	Understand that a range of technology is used in places such as home and schools.	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	Knows that information can be retrieved from computers.	Use simple databases to record information in areas across the curriculum.	Devise and construct databases using applications designed for this purpose in areas across the curriculum.	Select appropriate applications to devise, construct and manipulate data and present it in an effective and professional manner.