Sequencing and Progression of Learning

Subject: Computing

SHERINGDALE

	Rec	Y1	Y2	Y3	Y4	Y5	Y6
Computer Science the understanding of coding and programming across a range of physical devices and digital resources.	• Understand position through words alone – for example, "The bag is under the table," – with no pointing. • Describe a familiar route. • Discuss routes and locations, using words like 'in front of' and 'behind'. Notice and correct an error in a repeating pattern • Begin to describe a sequence of events, real or fictional, using words such as 'first', 'then...' • Count objects, actions and sounds. • Select, rotate and manipulate shapes to develop spatial reasoning skills. • Continue, copy and create repeating patterns.	• Understand what algorithms are • Create simple programs using Bee-bots and online software • Give instructions following straight lines (forwards and backwards) including one turn at a time	• Understand that algorithms are implemented as programs on digital devices • Understand that programs execute by following precise instructions • Explore what happens when sequences are changed and debug simple programs • Use logical reasoning to predict the behaviour of simple programs	• Write programs that accomplish specific goals • Use sequence in programs • Work with various forms of input • Work with various forms of output • Begin to use block coding to control an object or character in software	• Design programs that accomplish specific goals • Design and create programs • Debug programs that accomplish specific goals • Use repetition in programs • Use conditional statements when block coding such as 'when....' • Control or simulate physical systems • Use logical reasoning to detect and correct errors in programs • Appreciate how search results are selected	• Solve problems by decomposing them into smaller parts • Use selection in programs • Work with variables • Use external triggers and infinite loops to control objects when coding • Use logical reasoning to explain how some simple algorithms work • Use logical reasoning to detect and correct errors in algorithms • Understand computer networks, including the internet • Appreciate how search results are ranked	• Design and write programs to solve problems • Use sequences, repetition, inputs, variables and outputs in programs • Detect and correct errors in programs • Understand uses of networks for collaboration & communication • Be discerning in evaluating digital content • Understand computer networks, including the internet • Appreciate how search results are ranked
Greater Depth in Computer Science	• Use beebots independently	• Analyse where bugs are in their program and create a solution	• Analyse the efficiency of algorithms	• Create their own simulations of a simple physical system on screen	• Design, create and debug a program using a block language to a given brief, including simple interaction	• Create their own simple computer control application	• Design, write and debug (analyse) own computer control application, using interactive development to make improvements.
Information Technology	• Explore how things work.	• Use technology purposefully to	• Use technology purposefully to	• Use search technologies effectively	• Select a variety of software to	• Combine a variety of software to	• Combine a variety of software to

the range of skills required to operate and manipulate specific programs, systems, and content.	• Use all their senses in hands-on exploration of natural materials. • Explore collections of materials with similar and/or different properties. • Talk about what they see, using a wide vocabulary • Explore, use and refine a variety of artistic effects to express their ideas and feelings. • Return to and build on their previous learning, refining ideas and developing their ability to represent them. • Create collaboratively, sharing ideas, resources and skills.	create digital content • Use technology purposefully to organise digital content • Use technology purposefully to retrieve digital content	organise digital content • Use technology purposefully to manipulate digital content • Use technology purposefully to retrieve digital content	• Use a variety of software to accomplish given goals • Collect information • Design and create content • Present information	accomplish given goals • Select, use and combine internet services • Design and create content • Collect and present data • Present information	accomplish given goals • Select, use and combine software on a range of digital devices • Analyse information • Evaluate information • Collect and present data • Present information	accomplish given goals • Select, use and combine software on a range of digital devices • Create data and begin to analyse data • Evaluate data with reasoning • Design and create systems • Choose from a range of software to best present information
Greater Depth in Information Technology	• Use 2simple software independently.	• Use digital technology to organise, store and retrieve content • Create and edit original content using digital technology.	• Show some understanding that different types of information are all stored in a digital format on computers. • Create and edit original content for a given purpose using digital technology and paying attention to the intended audience.	• Use and combine a range of programs on a computer. • Design and create content on a computer in response to a given goal.	• Use and combine a range of programs on multiple devices. • Design and create content on a computer in response to a given goal, paying attention to the needs of a known audience.	• Select, use and combine a range of programs on multiple devices. • Design and create programs on a computer in response to a given goal and paying attention to the needs of a known audience.	• Show some understanding of the differences between, and relative merits of, different applications, operating systems and hardware. • Design and create systems in response to a given goal, paying attention to the needs of a known audience.
Digital Learning the knowledge required to use technology safely and to evaluate and react to any potential risks of the online/digital world.	• Explain the reasons for rules, know right from wrong and try to behave accordingly • Be confident to try new activities and show independence, resilience and perseverance in the face of challenge	• Use technology safely • Keep personal information private • Recognise common uses of information technology beyond school and	• Use technology respectfully • Identify where to go for help and support when they have concerns about content or contact on the internet or other	• Use technology responsibly • Identify a range of ways to report concerns about contact • Use websites and manage common features (hyperlinks,	• Use technology responsibly • Understand the opportunities computer networks offer for communication • Identify a range of ways to report	• Use technology responsibly • Understand the opportunities computer networks offer for collaboration • Be discerning in evaluating digital content	• Use technology responsibly • Understand the opportunities computer networks offer for collaboration • Be discerning in evaluating digital content

	• sensible amounts of 'screen time'	encountered in everyday life	online technologies • Use websites and show awareness of how to manage content (back button, home button)	playing video, sharing webpages) • Begin to show an understanding of URLs	concerns about content • Use a range of search engines and understand why results may vary	• Show an awareness of the need for accuracy to search effectively • Recognise acceptable/ unacceptable behaviour	• Show an understanding of how filtering and monitoring tools affect their use of the internet and vary results
Greater Depth in Digital Learning	• Talk about how too much screen time isn't healthy and why.	• Keep safe and show respect to others while using digital technology. • Start to understand what information about themselves should be kept private.	• Stay safe and act respectfully and responsibly when using digital technology. • Have a range of strategies for dealing with concerns over content or contact online.	• Demonstrate that they can act responsibly when using computers. • Understand the difference between acceptable and unacceptable behaviour when using digital technology.	• Demonstrate that they can act responsibly when using the internet. • Discuss the consequences of particular behaviours when using digital technology.	• Show that they can think through the consequences of their actions when using digital technology. • Identify principles underpinning acceptable use of digital technologies.	• Consider critically some of the wider implications of the use of digital technology. • Consider questions of ethics and morality in relation to digital technology.