Computing – Year 4

Computing intent		Vocabulary	
Aims	• can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation • can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems • can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems • are responsible, competent, confident and creative users of information and communication technology.	links, hyperlinks, linear, webpage, browser, control, variable, input, output, sequence, repetition, input, output, loops, detect, correct sequence, animation, input, output, conditions, loops, network, www, web crawlers, index, server	
	Knowledge and skills	Useful Units	Outcomes
Digital Literacy	• use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. • Understand the opportunities networks offer for communication and collaboration. • use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.	iProgram (1) – Making shapes and navigating mazes iProgram (2) – Robotics with LEGO WeDo iSafe – Being safe, responsible digital citizens iAnimate – Introduction to animation	Creating virtual shapes and navigate mazes Creating animation Representing data Communicating via email Create programs using Scratch Create puzzles using programming Use algorithms to develop computational thinking
Information Technology	• select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information. • use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.	iMail – Communicating and collaborating via email iData – Introduction to data representation iAnimate – Introduction to animation	Cross-curricular links iAnimate – Art, DT, English iMail – iProgram (1) – Art, Maths iProgram (2) – DT, Maths, Science iAlgorithm – Maths iData – Maths, Science
Computer Science	• design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. • use sequence, selection, and repetition in programs; work with variables and various forms of input and output. • use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs. • understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration. • use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.	iProgram (1) – Making shapes and navigating mazes iProgram (2) – Robotics with LEGO WeDo iProgram (3) – Programming puzzles and LightBot iProgram (4) – Programming with Scratch iAlgorithm – unplugged activities developing computational thinking	