Lord Deramore's Primary School Computing Curriculum Progression Plan

Intent: Through our computing curriculum, we aim to give our pupils the life-skills that will enable them to embrace and utilise new technology in a socially responsible and safe way (as responsible digital citizens) in order to flourish. We want our pupils to be able to operate in the 21st century workplace and we want them to know the career opportunities that will be open to them if they study computing. We want children to become autonomous, independent users of computing technologies, gaining confidence and enjoyment from their activities. We want the use of technology to support learning across the entire curriculum and to ensure that our curriculum is accessible to every child. Not only do we want them to be digitally literate and competent end-users of technology but through our computing lessons we want them to develop creativity, resilience and problem-solving and critical thinking skills; choosing the most appropriate technology and software to solve real world problems.
Implementation: Computing is taught both discretely and through other subjects. Skills taught are widely used to support learning in other subjects. Topics are on a yearly cycle with skills developing across the phases and year groups. Enrichment activities including visitors, experiences and field trips are carefully planned to enhance the topic and provide first hand and memorable experiences. Progression across each year group and phase is outlined in the progression document, along with key vocabulary, knowledge and skills that children will be taught. Implementation is supported across school by our Computing Specialist.
Impact: Computing knowledge and skills are assessed by teaching staff throughout a term both in computing lessons and in using and applying skills in other subjects. Computing is reported at the end of each year via each child's school report. Assessment may be made through observation, talking with children, recorded work. Computing subject lead and SLT assess impact and teaching through book trawls, pupil voice, learning walks and lesson observations

Computing	**Phase 1**		**Phase 2**		**Phase 3**		
	EY	Y1	Y2	Y3	Y4	Y5	Y6
Knowledge & skills	Understanding the World: Technology ELG: (2012 Complete a simple program on age-appropriate software e.g. 2simple, Teach Your Monster to Read Use every day technology for a purpose e.g. make a video, use a music player and speaker Create and debug simple programs. Use logical reasoning to predict the behaviour of simple programs. Recognise common uses of information technology beyond school.		Understand that algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions. Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technology Use technology purposefully to create, organise, store, manipulate and retrieve digital content.		Design, write and debug programs that accomplish specific goals, including controlling or simulating physical system; 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. 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 technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.		
Expectations	Algorithms and Programming Give an instruction to a programmable toy and explore what the toy does Information Technology Use a camera to take pictures and videos and look at them. Record sound and play back. Digital literacy Explore using different types of technology including toys, cameras, recording equipment, tablets etc	Algorithms and programming Create a series of instructions. Plan a journey for a programmable toy. Information Technology Create digital content. Store digital content. Retrieve digital content. Use a website. Use a camera. Record sound and play back. Digital literacy Use technology safely. Keep information private.	Algorithms and programming Use a range of instructions (e.g. direction, angles, turns). Test and amend a set of instructions. Write a simple program and test it. Find errors and amend (debug). Predict what the outcome of a simple program will be (logical reasoning). Information Technology Organise digital content. Retrieve and manipulate digital content. Navigate the web to complete simple searches. Digital literacy Use technology respectfully. Know where to go for help if I am concerned. Know how technology is used in school and outside school.	Algorithms and programming Design a sequence of instructions, including directional instructions. Write programs that accomplish specific goals. Work with various forms of input. Work with various forms of output. Understand that programs require precise instructions. And notice and change errors. Understand that algorithms are used on digital devices. Information Technology Use a range of software for similar purposes. Collect information. Design and create content. Present information. Search for information on the web in different ways. Manipulate and improve digital images. Digital literacy Use technology respectfully and responsibly. Know different ways I can get help if I am concerned. Understand what computer networks do and how they provide multiple services. Discern where it is best to use technology and where it adds little or no value.	Algorithms and programming Given an on-screen robot specific instructions that takes them from A to B. De-bug a program. Experiment with variables to control models. Make an accurate prediction and explain why they believe something will happen. Information Technology Select and use software to accomplish given goals. Collect and present data. Produce and upload a podcast. Digital literacy Recognise acceptable and unacceptable behaviour using technology.	Algorithms and programming Combine sequences of instructions and procedures to turn devices on and off. Detect errors in algorithms. Use technology to control an external device. Design algorithms that use repetition and 2-way selection. Information Technology Analyse information. Evaluate information. Understand how search results are selected and ranked. Edit a film. Digital literacy Understand that you have to make choices when using technology and that not everything is true and/or safe.	Algorithms and programming Explain how an algorithm works. Design a solution by breaking a problem up. Use logical reasoning to detect errors in algorithms. Recognise that different solutions can exist for the same problem. Use selection in programs. Work with variables. Explain 'what if' questions by planning different scenarios for controlled devices. Information Technology Select, use and combine software on a range of digital devices. Use a range of technology for a specific project. Digital literacy Discuss the risks of online use of technology. Identify how to minimise risks.

Vocabulary	Email Choices, Internet, Website, Rules, Online, Private information, Password Equipment, Computer, camera, laptop, tablet, phone, Buttons, Movement, Instructions, Buttons, Robots, Patterns, Program, Beebot, Botley, Control Screen, Mouse, Images, Keyboard, Paint, Videos, Camera stills, Sounds, Image bank, Word bank, Space bar Technology, Share, Create, Internet, Purpose, Online tools, Communicate Collect, Set of photos, Count, Organise, Photographs, Video, Data, Pictogram, Digitally	Appropriate/inappropriate sites, Cyber-bullying, Digital footprint, Keyword searching, E-safety rules, Secure passwords, Report abuse button, Gaming, Blogs Forward, Backward, Left/Right-angle turn, Algorithm, Sequence, Debug, Predict, Sequence instructions, Sequence debugging, Test + improve, Logo commands, Sequence programming Paint effects, Templates, Animation, Documents, Index finger typing, Enter/return, Caps lock, Backspace, Multimedia Presentations, Alignment, Brush size, Repeats, Reflections, Green screening, Amend, Copy, Paste Information sources, Communication Purposes, Website content, School network, Devices, Computer parts, Collaborate, Appropriate online communication, Search tools, Appropriate websites, Owner Capturing moments, Magnified images, Questions, Data collection, Graphs, Charts, Save, Retrieve, Database, Recording data, Data logger, Present data	Responsible online communication, Informed choices, Virus threats, Blogs, Messaging, E-safety rules, Secure passwords, Report abuse button, Gaming Explore procedures, Refine procedures, Variable, Hardware + software control, Change inputs, Different outputs, Articulate solutions, Commands, Predicting outputs, Plan, program, test & review a program, Program writing, Control mimics + devices, Sensors, Measure input, Create variables, Link errors,Type + edit logo commands, Open-ended problems, Bugs in programs, Complex programming Online sharing, Multimedia effects, Multimedia modification, Transitions, Hyperlinks, Editing tools, Refining, Online sharing, Appropriate online tools, Audience, Atmosphere, Structure, Copyright, Information collection, HTML code, Storing, Creating + modifying, Photo modifying, Keyboard shortcuts, Computing devices, Internet parts, Collaboration, Responsibility, Searching strategies, Webpages, Information movement, Connecting devices, Different audiences, Research strategies, Search result rankings, Acknowledge resources, Different networks, Information collection, Reliability, Owners Spreadsheets, Complex searches (and/or: </>), Problem solving, Present answers, Analyse information Question data, Interpret, Generate, Process, Interpret, Store, Present information Plausibility, Appropriate data tool, Interrogate, Investigations, Database creation, Database searches, Inaccurate data
Long Term Planning Link	Continuous provision – Botley, Beebots, IWB, iPad, music Computer Science: coding (Beebots, Botley) Information Technology: Purple Mash – pictograms, animated storybooks and lego-builders Digital Literacy: Using Technology safely – how to use iPad, IWB, camera, talking pots etc. Safe use physically and safe searches on internet Creating and Storing – taking photos and videos, recording voices/sounds, iPad, IWB digital cameras, exploring purple mash	Computer science: coding, IT: Pictures, music and simulations, spreadsheets/ databases and graphing, presenting Digital literacy: emails and search engines (including internet safety) Ongoing: Internet safety	Computer Science: coding, game creator and logo IT: spreadsheets, animation, 3D modelling, quizzing, word processing, music Ongoing: safe and effective searches and internet safety
Enrichment / Cultural Capital	Virtual reality	Virtual reality	Virtual reality