



Computing: Progression from Nursery to Year 2

Development Matters 2020	Nursery (Class 1)	<u>Physical development</u> - Match their developing physical skills to tasks and activities in the setting <u>Personal, Social and Emotional Development</u> - Increasingly follow rules, understanding why they are important <u>Understanding the world</u> - Explore how things work
	Reception (Classes 2-4)	<u>Physical development</u> - Develop their small motor skills so that they can use a range of tools competently, safely and confidently - Know and talk about the different factors that support their overall health and wellbeing: sensible amounts of 'screen time' <u>Personal, Social and Emotional Development</u> - Show resilience and perseverance in the face of challenge <u>Expressive Arts & Design</u> - 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
National Curriculum	Key Stage 1 (Classes 5-10)	Pupils should be taught: - Understand what algorithms are, how they are implemented as programs on digital devices, and that programs execute by following precise and unambiguous instructions - Create and debug simple programs - Use logical reasoning to predict the behaviour of simple programs - Use technology purposefully to create, organise, store, manipulate and retrieve digital content - Recognise common uses of information technology beyond school - 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 technologies

Area	Year Group	Substantive knowledge Key vocabulary is in bold	Disciplinary knowledge
Digital literacy	Foundation Stage	- Know how to 'log on' to the computer and program - Purple Mash - Know that facts and knowledge can be retrieved from the internet - Know technology is used in the classroom - Know how to use the iPad/tablet to create own videos e.g. give online safety guidance to their peers on appropriate use of technology and what to do if they feel worried or concerned when using a device - Know that we need to be safe when using the computer – Smartie the Penguin	- Develop their small motor skills so that they can use a range of tools competently, safely and confidently - Know and talk about the different factors that support their overall health and wellbeing: sensible amounts of 'screen time'
	Year 1	- Understand what is meant by technology and can identify a variety of examples both in and out of school. They can make a distinction between objects that use modern technology and those that do not e.g. a microwave vs. a chair - Understand the importance of keeping information, such as their usernames and passwords, private and actively demonstrate this in lessons - Know how to save work in a private space such My Work folder on Purple Mash	- Recognise common uses of information technology beyond school - 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 technologies
	Year 2	- Effectively retrieve relevant, purposeful digital content using a search engine - Apply learning of effective searching beyond the classroom. - Make links between technology children see around them, coding and multimedia work they do in school e.g. animations, interactive code and programs - Know the implications of inappropriate online searches - Begin to understand how things are shared electronically such as posting work to the Purple Mash display board - Develop an understanding of using email safely by using 2Respond activities on Purple Mash and know ways of reporting inappropriate behaviours and content to a trusted adult	- Recognise common uses of information technology beyond school - 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 technologies
Computer Science	Foundation Stage	- Play with technological toys such as bee-bots - Recognise technology in the classroom - Know how to complete a simple program on the computer	- Increasingly follow rules, understanding why they are important - Show resilience and perseverance in the face of challenge

	Year 1	- Explain that an algorithm is a set of instructions to complete a task - Know that an algorithm is a set of instructions used to solve a problem or achieve an objective - Know that an algorithm written for a computer is called a program - Work out and know what is wrong with a simple algorithm when the steps are out of order - Know that an unexpected outcome is due to the code they have created and can make logical attempts to fix the code - When looking at a program, read code one line at a time and make good attempts to envision the bigger picture of the overall effect of the program e.g. interpret where a bee-bot will end up at the end of a program	- Understand what algorithms are, how they are implemented as programs on digital devices, and that programs execute by following precise and unambiguous instructions create and debug simple programs use logical reasoning to predict the behaviour of simple programs
	Year 2	- Explain that an algorithm is a set of instructions to complete a task - When designing simple programs, know how to be precise with algorithms so that they can be successfully converted into code - Create a simple program that achieves a specific purpose. Also, identify and correct some errors - Identify the parts of a program that respond to specific events and initiate specific actions. For example, write a cause and effect sentence of what will happen in a program	Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions
Information Technology	Foundation stage	Know how to use painting and graphics applications (Purple Mash, Doodle Buddy) to produce a creative, digital outcome	- Explore, use and refine a variety of artistic effects to express their ideas and feelings - Use technology purposefully to create digital content - Create collaboratively, sharing ideas, resources and skills
	Year 1	Sort, collate, edit and store simple digital content e.g. name, save and retrieve work and follow simple instructions to access online resources	Use technology purposefully to create, organise, store, manipulate and retrieve digital content

	Year 2	• Demonstrate an ability to organise data using, for example, a database such as 2Investigate and can retrieve specific data for conducting simple searches • Edit more complex digital data such as music compositions within 2Sequence • Be confident when creating, naming, saving and retrieving content • Use a range of media in their digital content including photos, text and sound	• Use technology purposefully to create, organise, store, manipulate and retrieve digital content
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