Computing Progression at Emerson Valley School

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National Curriculum

Key stage 2
Pupils should be taught to:
- 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
- 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.

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	Year 3	Year 4	Year 5	Year 6
Algorithms	I design a sequence of instructions, including directional instructions. I work with various forms of input. I work with various forms of output.	I experiment with variables to control models. I give an on-screen robot specific instructions that takes them from A to B.	I use technology to control an external device. I design algorithms that use repetition & 2-way selection.	I design a solution by breaking a problem up. I recognise that different solutions can exist for the same problem. I use logical reasoning to detect errors in algorithms. I work with variables. I explain how an algorithm works. I explore 'what if' questions by planning different scenarios for controlled devices.
Programming & Development	I write programs that accomplish specific goals.	I make an accurate prediction and explain why I believe something will happen (linked to programming). I de-bug a program.	I combine sequences of instructions and procedures to turn devices on and off.	I use selection in programs.
Data & Data Representation	I collect information.	I collect and present data.	I analyse information. I evaluate information.	I use a range of technology for a specific project.
Hardware & Processing	I use a range of software for similar purposes.	I select and use software to accomplish given goals.		I select, use and combine software on a range of digital devices.
Communication & Networks	I use technology respectfully and responsibly. I know different ways I can get help if I am concerned. I understand what computer networks do and how they provide multiple services. I discern where it is best to use technology and where it adds little or no value.	I recognise acceptable and unacceptable behaviour using technology.	I understand that you have to make choices when using technology and that not everything is true and/or safe.	I discuss the risks of online use of technology. I identify how to minimise risks.
Information Technology	I use a range of software for similar purposes. I collect information. I design and create content. I present information. I search for information on the web in different ways. I manipulate and improve digital images.	I select and use software to accomplish given goals. I collect and present data. I produce and upload a podcast.	I analyse information. I evaluate information. I understand how search results are selected and ranked. I edit a film.	I select, use and combine software on a range of digital devices. I use a range of technology for a specific project.

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