



## Ravenscote Junior School – Computing Skills Progression.



A high-quality computing education equips pupils to use computational thinking and creativity to understand and change the world. Computing has deep links with mathematics, science, and design and technology, and provides insights into both natural and artificial systems. The core of computing is computer science, in which pupils are taught the principles of information and computation, how digital systems work, and how to put this knowledge to use through programming. Building on this knowledge and understanding, pupils are equipped to use information technology to create programs, systems and a range of content. Computing also ensures that pupils become digitally literate – able to use, and express themselves and develop their ideas through, information and communication technology – at a level suitable for the future workplace and as active participants in a digital world.

### **By the end of 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
Topics studied	Introduction to RDP. Discovering the desktop Data loggers Kodu Turtle Animation Internet Safety.	Spreadsheets Turtle Kodu Scratch. Animation. Movie Maker. Internet Safety.	Scratch Lego WeDo Podcasting Databases. Movie Making. Graphical Modelling. Internet Safety.	Databases Animation Coding Year Books Consolidation of all skills learn whilst at Ravenscote. Internet Safety.
Computer Science	<ul style="list-style-type: none"><li>• Learn to use graphical programming language, such as Scratch or Logo to draw regular 2D shapes.</li><li>• Add loops or procedures to create a repeating pattern.</li><li>• Learn to sequence instructions, for instance to create an animation using Scratch, or by using the timing features in PowerPoint.</li><li>• Write a simple algorithm, for instance to create a basic traffic light sequence.</li><li>• Use flowcharting software to create a simple program to control an onscreen icon.</li><li>• Create a simple game using a programme such as Kodu or Scratch.</li></ul>		<ul style="list-style-type: none"><li>• Write a simple algorithm, for instance to create a basic traffic light sequence.</li><li>• Use flowcharting software to create a simple program to control an onscreen icon. They are able to explain how their program works.</li><li>• Create a computer game, using a programme such as Scratch or Kodu.</li></ul>	



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<b>Digital Literacy</b>	<ul style="list-style-type: none"><li>• Learn that the Internet is a great place to develop rewarding online relationships and learn to recognise websites that are good for them to visit; but they also learn to be cautious and to check with a trusted adult before sharing private information.</li><li>• Learn to make good passwords for their accounts, learn about spam and how to deal with it.</li></ul>	<ul style="list-style-type: none"><li>• Learn that the internet is a great place where online relationships can be developed.</li><li>• Compare and contrast online friends and real life, face to face friends and learn how to respond if an online friend asks them a personal question.</li><li>• Learn to create secure passwords for their accounts, learn about spam and how to deal with it, and decode website privacy policies,</li></ul>
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- Understand the implications for the information that they share online and how some websites might use that information without their knowledge.
- Understand their roles as digital citizens in an online community, where they reflect on how they are responsible not only for themselves but for others, in order to create a safe and comfortable environment. Learn that the Internet is a public space and then develop the skills to protect their privacy and respect the privacy of others
- Explore how they interact with others and are introduced to the concept of cyberbullying.
- Learn how to communicate to be a responsible member of a connected culture effectively in order to prevent miscommunication
- Understand the basics of online searching, including how to use effective keywords. Learn to conduct searches that provide them with the most helpful and relevant information

- understanding the implications for the info that they share online.  
Explore their roles as digital citizens in an online community, where they reflect on their responsibilities and learn that good digital
- citizens are responsible and respectful in the digital world.
- Explore the nature of online audiences and permanency of information online. Begin to
- understand the significance of published information and personal information.  
Understand what it means to be a good digital citizen as they interact with others online by
- understanding how to prevent and respond to cyberbullying.  
Learn how to communicate effectively to prevent
- miscommunication in order to be a responsible member of a connected culture  
Consider the impact of their online presence on their own self- image and the way others see them and explore how to construct a positive online profile.
- Learn the 'do's and don'ts' of copying and pasting information to avoid plagiarism.
- Learn how to avoid plagiarism by putting information in their own words, putting excerpted information into quotes, and providing citations.



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<b>ICT</b>	<p><b>Digital Publishing:</b> Learn how to use software to create an e-book, brochure or poster on a given subject.</p> <p><b>Presentations:</b> Learn to write and deliver a presentation on a given subject.</p> <p><b>Graphics:</b> Learn how to take, adapt or create images to enhance or further develop their work</p> <p><b>Animations:</b> Learn how to develop a storyboard and then create a simple animation.</p> <p><b>Sound and video:</b> Record and edit media to create a short sequence.</p> <p><b>Working with data:</b> Learn to search, sort and graph information.</p>	<p><b>Digital Publishing:</b> Learn how to use software to create an e-book, brochure or poster on a given subject, incorporating a range of media. <b>Presentations:</b> Learn to write and deliver a presentation, incorporating a range of media.</p> <p><b>Graphics:</b> Learn how to take, adapt or create images to enhance or further develop their work and incorporate it in a wider project.</p> <p><b>Animations:</b> Learn how to develop a storyboard and then create a simple animation, extending the process by editing the final product using video editing software.</p> <p><b>Sound and video:</b> Record and edit media to create a short sequence, extending the process by editing the final product using video editing software.</p> <p><b>Working with data:</b> Learn to search, sort and graph information.</p> <p><b>Modelling:</b> Learn how to use a spreadsheet to model data.</p>
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