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|  | **0-3 Years - N1 (The Nest & Jan Nursery Starters)** | **3-4 Years – N1 (Jan Nursery Starters) & N2 (Sep Nursery Starters)** | **Reception** |
| **Disciplinary Knowledge:**  Discussion  Exploration  First-hand experience of technology | **Key Vocabulary:**  See KS1 & KS2 Computing Vocabulary List | **Key Vocabulary:**  See KS1 & KS2 Computing Vocabulary List | **Key Vocabulary:**  See KS1 & KS2 Computing Vocabulary List |
| **Substantive Knowledge:**  Develop manipulation & control.  Explore different materials & tools. | **Substantive Knowledge:**  Explore how things work.  Know that there are different countries in the world & talk about the differences they have experienced or seen in photos. | **Substantive Knowledge:**  Comment on images of familiar situations in the past.  Compare & contrast characters from stories, including figures from the past.  Draw information from a simple map. |

**Progression Document for KS1/KS2**

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|  | **Year 1** | **Year 2** | **Year 3** |
| **Disciplinary Knowledge:**  First-hand experience of technology  Discussion  Exploration  Demonstration  Collaboration  Producing documents  Working with partners | **Key Vocabulary:**  See KS1 & KS2 Computing Vocabulary List | **Key Vocabulary:**  See KS1 & KS2 Computing Vocabulary List | **Key Vocabulary:**  See KS1 & KS2 Computing Vocabulary List |
| **Substantive Knowledge:**   1. To identify technology 2. To identify a computer & its main parts 3. To use a mouse in different ways 4. To use a keyboard to type on a computer 5. To use the keyboard to edit text 6. To create rules for using technology responsibly 7. To describe what different freehand tools do 8. To use the shape tool & the line tools 9. To make careful choices when painting a digital picture 10. To explain why I chose the tools I used 11. To use a computer on my own to paint a picture 12. To compare painting a picture on a computer & on paper 13. To explain what a given command will do 14. To act out a given word 15. To combine forwards & backwards commands to make a sequence 16. To combine four direction commands to make sequences 17. To plan a simple program 18. To find more than one solution to a problem 19. To label objects 20. To identify that objects can be counted 21. To describe objects in different ways 22. To count objects with the same properties 23. To compare groups of objects 24. To answer questions about groups of objects 25. To use a computer to write 26. To add & remove text on a computer 27. To identify that the look of text can be changed on a computer 28. To make careful choices when changing text 29. To explain why I used the tools that I chose 30. To compare typing on a computer to writing on paper 31. To choose a command for a given purpose 32. To show that a series of commands can be joined together 33. To identify the effect of changing a value 34. To explain that each sprite has its own instructions 35. To design the parts of a project 36. To use my algorithm to create a program | **Substantive Knowledge:**   1. To recognise the uses & features of information technology 2. To identify the uses of information technology in the school 3. To identify information technology beyond school 4. To explain how information technology helps us 5. To explain how to use information technology safely 6. To recognise that choices are made when using information technology 7. To use a digital device to take a photograph 8. To make choices when taking a photograph 9. To describe what makes a good photograph 10. To decide how photographs can be improved 11. To use tools to change an image 12. To recognise that photos can be changed 13. To describe a series of instructions as a sequence 14. To explain what happens when we change the order of instructions 15. To use logical reasoning to predict the outcome of a program 16. To explain that programming projects can have code & artwork 17. To design an algorithm 18. To create & debug a program that I have written 19. To recognise that we can count & compare objects using tally charts 20. To recognise that objects can be represented as pictures 21. To create a pictogram 22. To select objects by attribute & make comparisons 23. To recognise that people can be described by attributes 24. To explain that we can present information using a computer 25. To say how music can make us feel 26. To identify that there are patterns in music 27. To experiment with sound using a computer 28. To use a computer to create a musical pattern 29. To create music for a purpose 30. To review & refine our computer work 31. To explain that a sequence of commands has a start 32. To explain that a sequence of commands has an outcome 33. To create a program using a given design 34. To change a given design 35. To create a program using my own design 36. To decide how my project can be improved | **Substantive Knowledge:**   1. To explain how digital devices function 2. To identify input & output devices 3. To recognise how digital devices can change the way we work 4. To explain how a computer network can be used to share information 5. To explore how digital devices can be connected 6. To recognise the physical components of a network 7. To explain that animation is a sequence of drawings or photographs 8. To relate animated movement with a sequence of images 9. To plan an animation 10. To identify the need to work consistently & carefully 11. To review & improve an animation 12. To evaluate the impact of adding other media to an animation 13. To explore a new programming environment 14. To identify that commands have an outcome 15. To explain that a program has a start 16. To recognise that a sequence of commands can have an order 17. To change the appearance of my project 18. To create a project from a task description 19. To create questions with yes/no answers 20. To identify the attributes needed to collect data about an object 21. To create a branching database 22. To explain why it is helpful for a database to be well structured 23. To plan the structure of a branching database 24. To independently create an identification tool 25. To recognise how text & images convey information 26. To recognise that text & layout can be edited 27. To choose appropriate page settings 28. To add content to a desktop publishing publication 29. To consider how different layouts can suit different purposes 30. To consider the benefits of desktop publishing 31. To explain how a sprite moves in an existing project 32. To create a program to move a sprite in four directions 33. To adapt a program to a new context 34. To develop my program by adding features 35. To identify & fix bugs in a program 36. To design & create a maze-based challenge |

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|  | **Year 4** | **Year 5** | **Year 6** |
| **Disciplinary Knowledge:**    First-hand experience of technology  Working with partners  Producing documents  Discussion  Peer teaching | **Key Vocabulary:**  See KS1 & KS2 Computing Vocabulary List | **Key Vocabulary:**  See KS1 & KS2 Computing Vocabulary List | **Key Vocabulary:**  See KS1 & KS2 Computing Vocabulary List |
| **Substantive Knowledge:**   1. To describe how networks physically connect to other networks 2. To recognise how networked devices make up the internet 3. To outline how websites can be shared via the World Wide Web (WWW) 4. To describe how content can be added & accessed on the World Wide Web (WWW) 5. To recognise how the content of the WWW is created by people 6. To evaluate the consequences of unreliable content 7. To identify that sound can be recorded 8. To explain that audio recordings can be edited 9. To recognise the different parts of creating a podcast project 10. To apply audio editing skills independently 11. To combine audio to enhance my podcast project 12. To evaluate the effective use of audio 13. To identify that accuracy in programming is important 14. To create a program in a text-based language 15. To explain what ‘repeat’ means 16. To modify a count-controlled loop to produce a given outcome 17. To decompose a task into small steps 18. To create a program that uses count-controlled loops to produce a given outcome 19. To explain that data gathered over time can be used to answer questions 20. To use a digital device to collect data automatically 21. To explain that a data logger collects ‘data points’ from sensors over time 22. To recognise how a computer can help us analyse data 23. To identify the data needed to answer questions 24. To use data from sensors to answer questions 25. To explain that the composition of digital images can be changed 26. To explain that colours can be changed in digital images 27. To explain how cloning can be used in photo editing 28. To explain that images can be combined 29. To combine images for a purpose 30. To evaluate how changes can improve an image 31. To develop the use of count-controlled loops in a different programming environment 32. To explain that in programming there are infinite loops & count controlled loops 33. To develop a design that includes two or more loops which run at the same time 34. To modify an infinite loop in a given program 35. To design a project that includes repetition 36. To create a project that includes repetition | **Substantive Knowledge:**   1. To explain that computers can be connected together to form systems 2. To recognise the role of computer systems in our lives 3. To experiment with search engines 4. To describe how search engines select results 5. To explain how search results are ranked 6. To recognise why the order of results is important, & to whom 7. To explain what makes a video effective 8. To identify digital devices that can record video 9. To capture video using a range of techniques 10. To create a storyboard 11. To identify that video can be improved through reshooting & editing 12. To consider the impact of the choices made when making & sharing a video 13. To control a simple circuit connected to a computer 14. To write a program that includes count-controlled loops 15. To explain that a loop can stop when a condition is met 16. To explain that a loop can be used to repeatedly check whether a condition has been met 17. To design a physical project that includes selection 18. To create a program that controls a physical computing project 19. To use a form to record information 20. To compare paper & computer-based databases 21. To outline how you can answer questions by grouping & then sorting data 22. To explain that tools can be used to select specific data 23. To explain that computer programs can be used to compare data visually 24. To use a real-world database to answer questions 25. To identify that drawing tools can be used to produce different outcomes 26. To create a vector drawing by combining shapes 27. To use tools to achieve a desired effect 28. To recognise that vector drawings consist of layers 29. To group objects to make them easier to work with 30. To apply what I have learned about vector drawings 31. To explain how selection is used in computer programs 32. To relate that a conditional statement connects a condition to an outcome 33. To explain how selection directs the flow of a program 34. To design a program which uses selection 35. To create a program which uses selection 36. To evaluate my program | **Substantive Knowledge:**   1. To explain the importance of internet addresses 2. To recognise how data is transferred across the internet 3. To explain how sharing information online can help people to work together 4. To evaluate different ways of working together online 5. To recognise how we communicate using technology 6. To evaluate different methods of online communication 7. To review an existing website & consider its structure 8. To plan the features of a web page 9. To consider the ownership & use of images (copyright) 10. To recognise the need to preview pages 11. To outline the need for a navigation path 12. To recognise the implications of linking to content owned by other people 13. To define a ‘variable’ as something that is changeable 14. To explain why a variable is used in a program 15. To choose how to improve a game by using variables 16. To design a project that builds on a given example 17. To use my design to create a project 18. To evaluate my project 19. To create a data set in a spreadsheet 20. To build a data set in a spreadsheet 21. To explain that formulas can be used to produce calculated data 22. To apply formulas to data 23. To create a spreadsheet to plan an event 24. To choose suitable ways to present data 25. To recognise that you can work in three dimensions on a computer 26. To identify that digital 3D objects can be modified 27. To recognise that objects can be combined in a 3D model 28. To create a 3D model for a given purpose 29. To plan my own 3D model 30. To create my own digital 3D model 31. To create a program to run on a controllable device 32. To explain that selection can control the flow of a program 33. To update a variable with a user input 34. To use a conditional statement to compare a variable to a value 35. To design a project that uses inputs & outputs on a controllable device 36. To develop a program to use inputs & outputs on a controllable device |