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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:**DiscussionExplorationFirst-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 DiscussionExplorationDemonstrationCollaborationProducing documentsWorking 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 partnersProducing documentsDiscussion 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
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