# Computing

# Curriculum Map and Assessment Framework

**Computing – EYFS**

| ELG | Pupil outcomes / Year 1 readiness<br>Computing knowledge and understanding | Other opportunities to develop computing understanding |
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| Children recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes. | – I can operate simple equipment (e.g. using a remote control, turning on a CD player)<br>– I can complete a simple program (e.g. playing a simple game on an iPad)<br>– I can take photographs of my work using a school camera or iPad | • A range of programmable toys (e.g. Bee-bots)<br>• Recording their voices using talking tins<br>• Use of MiniMash |

**Key Stage 1**

| Computing Curriculum Expectations – KS1 | Year 1 | | | Year 2 | | |
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| **Computer Science** | **Autumn** | **Spring** | **Summer** | **Autumn** | **Spring** | **Summer** |
| 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 | | | | | | |
| **Information Technology** | | | | | | |
| Use technology purposefully to create, organise, store, manipulate and retrieve digital content | | | | | | |
| **Digital Literacy** | | | | | | |
| 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 | | | | | | |

| Term and Focus | NC objectives<br>Pupils should be taught about: | The Big Idea | How will I think and act like a Computer Scientist | Pupil Outcomes<br>Computing knowledge and understanding |
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| **Year 1 Autumn Term**<br><br>**Unit 1.1 Safety & Exploring Purple Mash**<br><br>**Area of Computing: Digital Literacy** | 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 | Use and communicate online safely and respectfully | • Use of subject specific vocabulary.<br>• Use and access digital technology of different forms i.e. iPads, Chromebooks and laptops.<br>• Ask relevant questions about the use of digital technology<br>• Recall instructions using the correct sequence and vocabulary<br>• Describe what I notice about the learning taking place.<br>• Understand the importance of keeping information private and actively demonstrating this.<br>• Taking ownership of their own private space to save work. | • I can keep my login information safe.<br>• I can save my work in a safe place such as 'My Work' folder. |
| **Curriculum Narrative**<br><br>**Previous Learning** | Children would have been exposed to a range of technology both in school and at home. Pupils will be familiar with different forms of digital technology and some subject specific vocabulary. | | | |

| Term and Focus | NC objectives<br>Pupils should be taught about: | The Big Idea | How will I think and act like a Computer Scientist | Pupil Outcomes<br>Computing knowledge and understanding |
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| **Year 1 Autumn Term**<br><br>**Unit 1.2 Grouping and sorting**<br><br>**Area of Computing: Computer Science** | Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions. | Organise, store, retrieve, manipulate and present data. | • Use of subject specific vocabulary.<br>• Use and access digital technology of different forms i.e. iPads, Chromebooks and laptops.<br>• Ask relevant questions about the use of digital technology<br>• Recall instructions using the correct sequence and vocabulary<br>• Describe what I notice about the learning taking place. | – I can sort sound, pictures and text.<br>– I can name my work.<br>– I can save my work.<br>– I can find my work.<br>– I can keep my login information safe.<br>– I can save my work in a safe place such as 'My Work' folder. |

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| **Curriculum Narrative**<br><br>**Previous Learning** | Children will have some experience programming toys such as Bee – bots using algorithms. | |

| Term and Focus | NC objectives<br>Pupils should be taught about: | The Big Idea | How will I think and act like a Computer Scientist | Pupil Outcomes<br>Computing knowledge and understanding |
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| **Year 1 Autumn Term**<br><br>**Unit 1.3 Pictograms**<br><br>**Area of Computing: Information Technology** | Use technology purposefully to create, organise, store, manipulate and retrieve digital content. | Organise, store, retrieve, manipulate and present data. | • Use of subject specific vocabulary.<br>• Use and access digital technology of different forms i.e. iPads, Chromebooks and laptops.<br>• Ask relevant questions about the use of digital technology<br>• Recall instructions using the correct sequence and vocabulary<br>• Describe what I notice about the learning taking place. | – I can change content on a file such as text, sound and images<br>– I can name my work.<br>– I can save my work.<br>– I can find my work.<br>– I can keep my login information safe.<br>– I can save my work in a safe place such as 'My Work' folder. |
| **Curriculum Narrative**<br><br>**Previous Learning** | Children would have been exposed to a range of technology both in school and at home. Pupils will be familiar with different forms of digital technology and some subject specific vocabulary. | | | |

| Term and Focus | NC objectives<br>Pupils should be taught about: | The Big Idea | How will I think and act like a Computer Scientist | Pupil Outcomes<br>Computing knowledge and understanding |
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| **Year 1 Spring Term**<br><br>**1.4 Lego Builders**<br><br>**Area of Computing:** | Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions. | Understand use of algorithms.<br><br>Design, write and test programs to achieve | • Use of subject specific vocabulary.<br>• Use and access digital technology of different forms i.e. iPads, Chromebooks and laptops.<br>• Ask relevant questions about the use of digital technology<br>• Recall instructions using the correct sequence and vocabulary | – I can explain that an algorithm is a set of instructions.<br>– I know that an algorithm written for a computer is called a program.<br>– I can work out what is wrong when the steps are out of order in instructions. |

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| **Computer Science** | | goals, including solving problems.<br><br>Use logical reasoning to make predictions. | • Describe what I notice about the learning taking place.<br>• Begin to explore editing code. | – I can keep my login information safe.<br>– I can save my work in a safe place such as 'My Work' folder. |
| **Curriculum Narrative**<br><br>**Previous Learning** | Children would have been exposed to a range of technology both in school and at home. Pupils will be familiar with different forms of digital technology and some subject specific vocabulary. | | | |

| Term and Focus | NC objectives<br>Pupils should be taught about: | The Big Idea | How will I think and act like a Computer Scientist | Pupil Outcomes<br>Computing knowledge and understanding |
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| **Year 1 Spring Term**<br><br>**Unit 1.5 Maze Explorers**<br><br>**Area of Computing: Computer Science** | Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions.<br><br>Create and debug simple programs<br><br>Use logical reasoning to predict the behaviour of simple programs. | Understand use of algorithms.<br><br>Design, write and test programs to achieve goals, including solving problems.<br><br>Use logical reasoning to make predictions. | • Use of subject specific vocabulary.<br>• Use and access digital technology of different forms i.e. iPads, Chromebooks and laptops.<br>• Ask relevant questions about the use of digital technology<br>• Recall instructions using the correct sequence and vocabulary<br>• Describe what I notice about the learning taking place.<br>• Begin to explore editing code. | – I can explain that an algorithm is a set of instructions.<br>– I can work out what is wrong when the steps are out of order in instructions.<br>– I can make good guesses of what is going to happen in a program. For example, where the turtle might go.<br>– I can keep my login information safe.<br>– I can save my work in a safe place such as 'My Work' folder. |

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| **Curriculum Narrative**<br><br>**Previous Learning** | Children would have been exposed to a range of technology both in school and at home. Pupils will be familiar with different forms of digital technology and some subject specific vocabulary. | |

| Term and Focus | NC objectives<br>Pupils should be taught about: | The Big Idea | How will I think and act like a Computer Scientist | Pupil Outcomes<br>Computing knowledge and understanding |
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| **Year 1 Spring Term**<br><br>**Unit 1.6 Animated Story Books**<br><br>**Area of Computing: Information Technology** | Use technology purposefully to create, organise, store, manipulate and retrieve digital content | Design, write and test programs to achieve goals, including solving problems.<br><br>Uses of IT outside of school. | • Use of subject specific vocabulary.<br>• Use and access digital technology of different forms i.e. iPads, Chromebooks and laptops.<br>• Ask relevant questions about the use of digital technology<br>• Recall instructions using the correct sequence and vocabulary<br>• Describe what I notice about the learning taking place.<br>• Begin to explore editing code. | – I can name my work.<br>– I can find my work.<br>– I can save my work.<br>– I can keep my login information safe.<br>– I can save my work in a safe place such as 'My Work' folder.<br>– I can change content on a file such as text, sound and images.<br>– I can add sound, pictures and text to a program such as 2Create a Story. |
| **Curriculum Narrative**<br><br>**Previous Learning** | Children would have been exposed to a range of technology both in school and at home. Pupils will be familiar with different forms of digital technology and some subject specific vocabulary. | | | |

| Term and Focus | NC objectives<br>Pupils should be taught about: | The Big Idea | How will I think and act like a Computer Scientist | Pupil Outcomes<br>Computing knowledge and understanding |
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| **Year 1 Summer Term**<br><br>**Unit 1.7 Coding**<br><br>**Area of Computing:** | Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions.<br><br>Create and debug simple programs | Understand use of algorithms<br><br>Design, write and test programs to achieve goals, | • Use of subject specific vocabulary.<br>• Use and access digital technology of different forms i.e. iPads, Chromebooks and laptops.<br>• Ask relevant questions about the use of digital technology<br>• Recall instructions using the correct sequence and vocabulary | – I can name my work.<br>– I can find my work.<br>– I can save my work.<br>– I can keep my login information safe.<br>– I can save my work in a safe place such as 'My Work' folder. |

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| **Computer Science** | Use logical reasoning to predict the behaviour of simple programs.<br><br>Use technology purposefully to create, organise, store, manipulate and retrieve digital content | including solving problems.<br><br>Use logical reasoning to make predictions. | • Describe what I notice about the learning taking place.<br>• Begin to explore editing code. | – I can change content on a file such as text, sound and images.<br>– I can make good guesses of what is going to happen in a program. For example, where the turtle might go.<br>– I can try and fix my code if it isn't working properly.<br>– I can say that if something does not work how it should it is because my code is incorrect. |
| **Curriculum Narrative**<br><br>**Previous Learning** | Children would have been exposed to a range of technology both in school and at home. Pupils will be familiar with different forms of digital technology and some subject specific vocabulary. | | | |

| Term and Focus | NC objectives<br>Pupils should be taught about: | The Big Idea | How will I think and act like a Computer Scientist | Pupil Outcomes<br>Computing knowledge and understanding |
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| **Year 1 Summer Term**<br><br>**Unit 1.8 Spreadsheets**<br><br>**Area of Computing: Information Technology** | Use technology purposefully to create, organise, store, manipulate and retrieve digital content | Organise, store, retrieve, manipulate and present data. | • Use of subject specific vocabulary.<br>• Use and access digital technology of different forms i.e. iPads, Chromebooks and laptops.<br>• Ask relevant questions about the use of digital technology<br>• Recall instructions using the correct sequence and vocabulary<br>• Describe what I notice about the learning taking place.<br>• Begin to explore editing code. | – I can name my work.<br>– I can find my work.<br>– I can save my work.<br>– I can keep my login information safe.<br>– I can save my work in a safe place such as 'My Work' folder.<br>– I can change content on a file such as text, sound and images. |
| **Curriculum Narrative**<br><br>**Previous Learning** | Children would have been exposed to a range of technology both in school and at home. Pupils will be familiar with different forms of digital technology and some subject specific vocabulary. | | | |

| Term and Focus | NC objectives<br>Pupils should be taught about: | The Big Idea | How will I think and act like a Computer Scientist | Pupil Outcomes<br>Computing knowledge and understanding |
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| **Year 1 Summer Term**<br><br>**Unit 1.9 Technology outside school**<br><br>**Area of Computing: Digital Literacy** | Recognise common uses of information technology beyond school | Recognise uses of IT outside of school. | • Use of subject specific vocabulary.<br>• Use and access digital technology of different forms i.e. iPads, Chromebooks and laptops.<br>• Ask relevant questions about the use of digital technology<br>• Recall instructions using the correct sequence and vocabulary<br>• Describe what I notice about the learning taking place.<br>• Begin to explore editing code. | – I can say what technology is.<br>– I can say what examples of technology are in school.<br>– I can say what examples of technology are at home.<br>– I know that a chair uses old technology and a smart phone uses new technology.<br>– I can save my work in a safe place such as 'My Work' folder.<br>– I can keep my login information safe |
| **Curriculum Narrative**<br><br>**Previous Learning** | Children would have been exposed to a range of technology both in school and at home. Pupils will be familiar with different forms of digital technology and some subject specific vocabulary. | | | |

| Term and Focus | NC objectives<br>Pupils should be taught about: | The Big Idea | How will I think and act like a Computer Scientist | Pupil Outcomes<br>Computing knowledge and understanding |
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| **Year 2 Autumn**<br><br>**Unit 2.1 Coding**<br><br>**Area of Computing: Computer Science** | Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions.<br><br>Create and debug simple programs<br><br>Use logical reasoning to predict the behaviour of simple programs. | Understand use of algorithms.<br><br>Design, write and test programs to achieve goals, including solving problems. | • Use of subject specific vocabulary.<br>• Use and access digital technology of different forms i.e. iPads, Chromebooks and laptops.<br>• Ask relevant questions about the use of digital technology<br>• Recall instructions using the correct sequence and vocabulary<br>• Describe what I notice about the learning taking place.<br>Begin to explore editing code. | – I can edit digital data such as data in music composition software like 2Sequence.<br>– I can name, save and find my work.<br>– I understand that my creations such as programs in 2Code, need similar skills to the adult world. E.g. The program used for collecting money for school trips. |

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| | | Use logical reasoning to make predictions. | | |
| **Curriculum Narrative** | **Previous Learning-** Unit 1.7 Coding, Unit 1.5 Maze Explorers, 1.4 Lego Builders**,** Unit 1.2 Grouping and sorting<br>Children understand that an algorithm is a set of instructions used to solve a problem or achieve an objective. They know that an algorithm written for a computer is called a program. Children can work out what is wrong with a simple algorithm when the steps are out of order, e.g. The Wrong Sandwich in Purple Mash and can write their own simple algorithm, e.g. Colouring in a Bird activity. Children know that an unexpected outcome is due to the code they have created and can make logical attempts to fix the code, e.g. Bubbles activity in 2Code. When looking at a program, children can read code one line at a time and make good attempts to envision the bigger picture of the overall effect of the program. Children can, for example, interpret where the turtle in 2Go challenges will end up at the end of the program | | | |

| Term and Focus | NC objectives<br>Pupils should be taught about: | The Big Idea | How will I think and act like a Computer Scientist | Pupil Outcomes<br>Computing knowledge and understanding |
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| **Year 2 Autumn**<br><br>**Unit 2.2 Online Safety**<br><br>**Area of Computing: Digital Literacy** | 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. | Use and communicate online safely and respectfully. | • Use of subject specific vocabulary.<br>• Use and access digital technology of different forms i.e. iPads, Chromebooks and laptops.<br>• Ask relevant questions about the use of digital technology<br>• Recall instructions using the correct sequence and vocabulary<br>• Describe what I notice about the learning taking place. Begin to explore editing code. | – I can edit digital data such as data in music composition software like 2Sequence<br>– I can name, save and find my work.<br>– I can see where technology is used at school such as in the office or canteen.<br>– I can report unkind behaviour and things that upset me online, to a trusted adult.<br>– I can share work and communicate electronically – for example using 2Email or the display boards.<br>– I know the consequences of not searching online safely. |
| **Curriculum Narrative**<br><br>**Previous Learning** | **Previous Learning Unit 1.1 Safety & Exploring Purple Mash**<br>Children understand the importance of keeping information, such as their usernames and passwords, private and actively demonstrate this in lessons. Children take ownership of their work and save this in their own private space such as their My Work folder on Purple Mash | | | |

| Term and Focus | NC objectives<br>Pupils should be taught about: | The Big Idea | How will I think and act like a Computer Scientist | Pupil Outcomes |
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| **Year 2 Spring Term**<br><br>**Unit 2.3 Spreadsheets**<br><br>**Area of Computing: Information technology** | Use technology purposefully to create, organise, store, manipulate and retrieve digital content. | Organise, store, retrieve, manipulate and present data. | • Use of subject specific vocabulary.<br>• Use and access digital technology of different forms i.e. iPads, Chromebooks and laptops.<br>• Ask relevant questions about the use of digital technology<br>• Recall instructions using the correct sequence and vocabulary<br>• Describe what I notice about the learning taking place.<br>Begin to explore editing code. | – I can edit digital data such as data in music composition software like 2Sequence.<br>– I can name, save and find my work.<br>– I can organise data – for example, using a database such as 2Investigate. |
| **Curriculum Narrative** | **Previous Learning** Unit 1.8 Spreadsheets<br>Children are able to sort, collate, edit and store simple digital content e.g. children can name, save and retrieve their work and follow simple instructions to access online resources, use Purple Mash 2Quiz example (sorting shapes), 2Code design mode (manipulating backgrounds) or using pictogram software such as 2Count. | | | |

| Term and Focus | NC objectives Pupils should be taught about: | The Big Idea | How will I think and act like a Computer Scientist | Pupil Outcomes Computing knowledge and understanding |
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| **Year 2 Spring Term**<br><br>**Unit 2.4 Questioning**<br><br>**Area of Computing: Information Technology** | Use technology purposefully to create, organise, store, manipulate and retrieve digital content | Organise, store, retrieve, manipulate and present data. | • Use of subject specific vocabulary.<br>• Use and access digital technology of different forms i.e. iPads, Chromebooks and laptops.<br>• Ask relevant questions about the use of digital technology<br>• Recall instructions using the correct sequence and vocabulary<br>• Describe what I notice about the learning taking place.<br>Begin to explore editing code. | – I can edit digital data such as data in music composition software like 2Sequence.<br>– I can name, save and find my work.<br>– I can share work and communicate electronically – for example using 2Email or the display boards.<br>– I can use several programs to organise information – for example, using binary trees such as 2Question or spreadsheets such as 2Calculate.<br>– I can find data using specific searches – for example, using 2Investigate. |
| **Curriculum Narrative** | **Previous Learning**<br>Children are able to sort, collate, edit and store simple digital content e.g. children can name, save and retrieve their work and follow simple instructions to access online resources, use Purple Mash 2Quiz example (sorting shapes), 2Code design mode (manipulating backgrounds) or using pictogram software such as 2Count. | | | |

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| | | – I can organise data – for example, using a database such as 2Investigate. |

| Term and Focus | NC objectives<br>Pupils should be taught about: | The Big Idea | How will I think and act like a Computer Scientist | Pupil Outcomes<br>Computing knowledge and understanding |
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| **Year 2 Spring Term Unit 2.5 Effective Searching**<br><br>**Area of Computing: Information Technology** | Use technology purposefully to create, organise, store, manipulate and retrieve digital content<br><br>Recognise common uses of information technology beyond school. | Use and communicate online safely and respectfully. | • Use of subject specific vocabulary.<br>• Use and access digital technology of different forms i.e. iPads, Chromebooks and laptops.<br>• Ask relevant questions about the use of digital technology<br>• Recall instructions using the correct sequence and vocabulary<br>• Describe what I notice about the learning taking place.<br>Begin to explore editing code. | – I can edit digital data such as data in music composition software like 2Sequence.<br>– I can name, save and find my work.<br>– I can share work and communicate electronically – for example using 2Email or the display boards.<br>– I know the consequences of not searching online safely.<br>– I can find information I need using a search engine.<br>– I can find data using specific searches – for example, using 2Investigate. |
| **Curriculum Narrative** | **<u>Previous Learning</u>**<br>Children are able to sort, collate, edit and store simple digital content e.g. children can name, save and retrieve their work and follow simple instructions to access online resources, use Purple Mash 2Quiz example (sorting shapes), 2Code design mode (manipulating backgrounds) or using pictogram software such as 2Count. Children 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 | | | |

| Term and Focus | NC objectives<br>Pupils should be taught about: | The Big Idea | How will I think and act like a Computer Scientist | Pupil Outcomes<br>Computing knowledge and understanding |
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| **Year 2 Summer**<br><br>**Unit 2.6 Creating Pictures**<br><br>**Area of Computing:** | Use technology purposefully to create, organise, store, manipulate and retrieve digital content. | Organise, store, retrieve, manipulate and present data. | • Use of subject specific vocabulary.<br>• Use and access digital technology of different forms i.e. iPads, Chromebooks and laptops.<br>• Ask relevant questions about the use of digital technology<br>• Recall instructions using the correct sequence and vocabulary<br>• Describe what I notice about the learning taking place. | – I can edit digital data such as data in music composition software like 2Sequence.<br>– I can name, save and find my work.<br>– I can share work and communicate electronically – for example using 2Email or the display boards. |

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| **Information technology** | | | Begin to explore editing code. | – I can include photos, text and sound in my creations. |
| **Curriculum Narrative** | **<u>Previous Learning</u>**<br>Children are able to sort, collate, edit and store simple digital content e.g. children can name, save and retrieve their work and follow simple instructions to access online resources, use Purple Mash 2Quiz example (sorting shapes), 2Code design mode (manipulating backgrounds) or using pictogram software such as 2Count. | | | |

| Term and Focus | NC objectives<br>Pupils should be taught about: | The Big Idea | How will I think and act like a Computer Scientist | Pupil Outcomes<br>Computing knowledge and understanding |
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| **Year 2 Summer**<br><br>**Unit 2.7 Making Music**<br><br>**Area of Computing: Information Technology** | Use technology purposefully to create, organise, store, manipulate and retrieve digital content | Organise, store, retrieve, manipulate and present data. | • Use of subject specific vocabulary.<br>• Use and access digital technology of different forms i.e. iPads, Chromebooks and laptops.<br>• Ask relevant questions about the use of digital technology<br>• Recall instructions using the correct sequence and vocabulary<br>• Describe what I notice about the learning taking place. Begin to explore editing code. | – I can edit digital data such as data in music composition software like 2Sequence.<br>– I can name, save and find my work.<br>– I can share work and communicate electronically – for example using 2Email or the display boards. |
| **Curriculum Narrative** | **<u>Previous Learning</u>**<br>Children are able to sort, collate, edit and store simple digital content e.g. children can name, save and retrieve their work and follow simple instructions to access online resources, use Purple Mash 2Quiz example (sorting shapes), 2Code design mode (manipulating backgrounds) or using pictogram software such as 2Count. | | | |

| Term and Focus | NC objectives<br>Pupils should be taught about: | The Big Idea | How will I think and act like a Computer Scientist | Pupil Outcomes<br>Computing knowledge and understanding |
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| **Year 2 Summer**<br><br>**Unit 2.8** | Use technology purposefully to create, organise, store, manipulate and retrieve digital content | Understand use of algorithms.<br><br>Organise, store, | • Use of subject specific vocabulary.<br>• Use and access digital technology of different forms i.e. iPads, Chromebooks and laptops.<br>• Ask relevant questions about the use of digital technology | – I can edit digital data such as data in music composition software like 2Sequence.<br>– I can name, save and find my work. |

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| **Writing and Presenting Ideas**<br><br>**Area of Computing: Information Technology** | | retrieve, manipulate and present data. | • Recall instructions using the correct sequence and vocabulary<br>• Describe what I notice about the learning taking place. Begin to explore editing code. | – I can share work and communicate electronically – for example using 2Email or the display boards.<br>– I can include photos, text and sound in my creations.<br>– I can use several programs to organise information – for example, using binary trees such as 2Question or spreadsheets such as 2Calculate. |
| **Curriculum Narrative** | **Previous Learning**<br>Children are able to sort, collate, edit and store simple digital content e.g. children can name, save and retrieve their work and follow simple instructions to access online resources, use Purple Mash 2Quiz example (sorting shapes), 2Code design mode (manipulating backgrounds) or using pictogram software such as 2Count. | | | |

**Key Stage Two**

| Computing National Curriculum Expectations Key stage 2 | Year 3 | | | Year 4 | | | Year 5 | | | Year 6 | | |
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| | Aut | Spr | Sum | Aut | Spr | Sum | Aut | Spr | Sum | Aut | Spr | Sum |
| **Computer Science**<br>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. | | | | | | | | | | | | |
| **Information Technology**<br>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. | | | | | | | | | | | | |
| **Digital Literacy**<br>Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. | | | | | | | | | | | | |

| Term and Focus | NC objectives<br>Pupils should be taught about: | The Big Idea | How will I think and act like a Computer Scientist | Pupil Outcomes<br>Computing knowledge and understanding |
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| **Year 3**<br>**Autumn**<br><br>**Unit 3.1**<br>**Coding**<br><br>**Area of Computing:**<br>**Computer Science** | Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts<br><br>Use sequence, selection and repetition in programs; work with variables and various forms of input and output.<br><br>Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs | Understand use of algorithms<br><br>Design, write and test programs to achieve goals, including solving problems.<br><br>Use logical reasoning to make predictions | • Use of subject specific vocabulary.<br>• Use and access digital technology of different forms i.e. iPads, Chromebooks and laptops.<br>• Ask relevant questions about the use of digital technology<br>• Recall instructions using the correct sequence and vocabulary<br>• Describe what I notice about the learning taking place.<br>• Begin to explore editing code.<br>• Contribute to the class blog, reflecting and evaluating work. | - I can make a real-life situation into an algorithm for a program.<br>- I can design an algorithm carefully, thinking about what I want it to do and how I can turn it into code.<br>- I can identify an error in my program and fix it.<br>- I can experiment with timers in my programs.<br>- I can identify the difference in using between the effect of a timer or repeat command in my code.<br>- I know that a variable stores information while a program is running (executing).<br>- I can identify 'If' statements, repetition and variables.<br>- I can read programs with several steps and predict what it will do.<br>- I can consider what the most appropriate software to use when given a task by my teacher<br>- I can carry out searches to find digital content on a range of online systems, such as within Purple Mash or on an internet search engine. |
| **Curriculum Narrative** | **<u>Previous Learning</u>**<br>Children can explain that an algorithm is a set of instructions to complete a task. When designing simple programs, children show an awareness of the need to be precise with their algorithms so that they can be successfully converted into code. Children can create a simple program that achieves a specific purpose. They can also identify and correct some errors, e.g. Debug Challenges: Chimp. Children's program designs display a growing awareness of the need for logical, programmable steps. Children can identify the parts of a program that respond to specific events and initiate specific actions. For example, they can write a cause and effect sentence of what will happen in a program | | | |

| Term and Focus | NC objectives<br>Pupils should be taught about: | The Big Idea | How will I think and act like a Computer Scientist | Pupil Outcomes<br>Computing knowledge and understanding |
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| **Year 3 Autumn**<br><br>**Unit 3.2 Online Safety**<br><br>**Area of Computing: Digital Literacy** | Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. | Use and communicate online safely and respectfully | • Use of subject specific vocabulary.<br>• Use and access digital technology of different forms i.e. iPads, Chromebooks and laptops.<br>• Ask relevant questions about the use of digital technology<br>• Recall instructions using the correct sequence and vocabulary<br>• Describe what I notice about the learning taking place.<br>• Begin to explore editing code.<br>• Contribute to the class blog, reflecting and evaluating work. | – I can create a secure password.<br>– I can explain the importance of having a secure password and not sharing it with others.<br>– I can explain the negative consequences of not keeping passwords safe and secure.<br>– I understand the importance of keeping safe online and behaving respectfully.<br>– I can use communication tools such as 2Email respectfully and use good etiquette.<br>– I can report unacceptable content and contact online in more than one way to a trusted adult.<br>– I can consider what the most appropriate software to use when given a task by my teacher<br>– I can carry out searches to find digital content on a range of online systems, such as within Purple Mash or on an internet search engine. |
| **Curriculum Narrative** | **<u>Previous Learning</u>**<br>Children understand the importance of keeping information, such as their usernames and passwords, private and actively demonstrate this in lessons. Children take ownership of their work and save this in their own private space such as their My Work folder on Purple Mash.<br>Children know the implications of inappropriate online searches. Children begin to understand how things are shared electronically such as posting work to the Purple Mash display board. They 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. | | | |

| Term and Focus | NC objectives<br>Pupils should be taught about: | The Big Idea | How will I think and act like a Computer Scientist | Pupil Outcomes<br>Computing knowledge and understanding |
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| **Year 3 Autumn**<br><br>**Unit 3.3 Spreadsheets**<br><br>**Area of Computing: Information Technology** | 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 | Organise, store, retrieve, manipulate and present data<br><br>Use logical reasoning to make predictions | • Use of subject specific vocabulary.<br>• Use and access digital technology of different forms i.e. iPads, Chromebooks and laptops.<br>• Ask relevant questions about the use of digital technology<br>• Recall instructions using the correct sequence and vocabulary<br>• Describe what I notice about the learning taking place.<br>• Begin to explore editing code.<br>• Contribute to the class blog, reflecting and evaluating work. | – I can carry out searches to find digital content on a range of online systems, such as within Purple Mash or on an internet search engine.<br>– I can collect data and input it into software.<br>– I can analyse data using features within software to help such as, formula in 2Calculate (spreadsheets).<br>– I can present data and information using different software such as 2Question (branching database) or 2Graph (graphing tool).<br>– I can consider what the most appropriate software to use when given a task by my teacher.<br>– I can create purposeful (appropriate) content and attach this to emails. |
| **Curriculum Narrative** | **<u>Previous Learning</u>**<br>Children are able to sort, collate, edit and store simple digital content e.g. children can name, save and retrieve their work and follow simple instructions to access online resources, use Purple Mash 2Quiz example (sorting shapes), 2Code design mode (manipulating backgrounds) or using pictogram software such as 2Count. Children demonstrate an ability to organise data using, for example, a database such as 2Invesitigate and can retrieve specific data for conducting simple searches. Children are able to edit more complex digital data such as music compositions within 2Sequence. Children are confident when creating, naming, saving and retrieving content. Children use a range of media in their digital content including photos, text and sound. | | | |

| Term and Focus | NC objectives Pupils should be taught about: | The Big Idea | How will I think and act like a Computer Scientist | Pupil Outcomes Computing knowledge and understanding |
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| **Year 3 Spring**<br><br>**Unit 3.4 Touch Typing**<br><br>**Area of Computing: Information Technology** | 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 | Understand computer networks.<br><br>Design, write and test programs to achieve goals including | • Use of subject specific vocabulary.<br>• Use and access digital technology of different forms i.e. iPads, Chromebooks and laptops.<br>• Ask relevant questions about the use of digital technology<br>• Recall instructions using the correct sequence and vocabulary<br>• Describe what I notice about the learning taking place.<br>• Begin to explore editing code.<br>• Contribute to the class blog, reflecting and evaluating work. | - I can consider what the most appropriate software to use when given a task by my teacher<br>– I can carry out searches to find digital content on a range of online systems, such as within Purple Mash or on an internet search engine.<br>– I know what is meant by the home, bottom and top rows.<br>– I know and understand the names of the fingers. |

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| | | solving problems. | | – I can use two hands to type the letters on the keyboard.<br>– I can touch type using both left and right hands. |
| **Curriculum Narrative** | **<u>Previous Learning</u>**<br>Children are able to sort, collate, edit and store simple digital content e.g. children can name, save and retrieve their work and follow simple instructions to access online resources, use Purple Mash 2Quiz example (sorting shapes), 2Code design mode (manipulating backgrounds) or using pictogram software such as 2Count. Children demonstrate an ability to organise data using, for example, a database such as 2Invesitigate and can retrieve specific data for conducting simple searches. Children are able to edit more complex digital data such as music compositions within 2Sequence. Children are confident when creating, naming, saving and retrieving content. Children use a range of media in their digital content including photos, text and sound. | | | |

| Term and Focus | NC objectives<br>Pupils should be taught about: | The Big Idea | How will I think and act like a Computer Scientist | Pupil Outcomes<br>Computing knowledge and understanding |
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| **Year 3 Spring**<br><br>**Unit 3.5 Email and email safety**<br><br>**Area of Computing:** | 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.<br><br>Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. | Use and communicate online safely and respectfully<br><br>Recognise uses of IT outside of school | • Use of subject specific vocabulary.<br>• Use and access digital technology of different forms i.e. iPads, Chromebooks and laptops.<br>• Ask relevant questions about the use of digital technology<br>• Recall instructions using the correct sequence and vocabulary<br>• Describe what I notice about the learning taking place.<br>• Begin to explore editing code.<br>• Contribute to the class blog, reflecting and evaluating work. | - I can consider what the most appropriate software to use when given a task by my teacher<br>– I can carry out searches to find digital content on a range of online systems, such as within Purple Mash or on an internet search engine.<br>– I can create purposeful (appropriate) content and attach this to emails. |

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| **Digital Literacy** | 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. | | | – I can use communication tools such as 2Email respectfully and use good etiquette.<br>– I can explain the negative consequences of not keeping passwords safe and secure.<br>– I can explain the importance of having a secure password and not sharing it with others.<br>– I can list a range of different ways to communicate.<br>– I can read and respond to a series of email communications |
| **Curriculum Narrative** | **<u>Previous Learning</u>**<br>Children are able to sort, collate, edit and store simple digital content e.g. children can name, save and retrieve their work and follow simple instructions to access online resources, use Purple Mash 2Quiz example (sorting shapes), 2Code design mode (manipulating backgrounds) or using pictogram software such as 2Count. Children demonstrate an ability to organise data using, for example, a database such as 2Invesitigate and can retrieve specific data for conducting simple searches. Children are able to edit more complex digital data such as music compositions within 2Sequence. Children are confident when creating, naming, saving and retrieving content. Children use a range of media in their digital content including photos, text and sound. Children know the implications of inappropriate online searches. Children begin to understand how things are shared electronically such as posting work to the Purple Mash display board. They 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. | | | |

| Term and Focus | NC objectives Pupils should be taught about: | The Big Idea | How will I think and act like a Computer Scientist | Pupil Outcomes Computing knowledge and understanding |
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| **Year 3 Summer**<br><br>**Unit 3.6 Branching Databases**<br><br>**Area of Computing: Information Technology** | 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 logical reasoning to make predictions<br><br>Understand computer networks | • Use of subject specific vocabulary.<br>• Use and access digital technology of different forms i.e. iPads, Chromebooks and laptops.<br>• Ask relevant questions about the use of digital technology<br>• Recall instructions using the correct sequence and vocabulary<br>• Describe what I notice about the learning taking place.<br>• Begin to explore editing code.<br>• Contribute to the class blog, reflecting and evaluating work. | - I can consider what the most appropriate software to use when given a task by my teacher<br>– I can carry out searches to find digital content on a range of online systems, such as within Purple Mash or on an internet search engine.<br>– I can collect data and input it into software<br>– I can analyse data using features within software to help such as, |

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| **Curriculum Narrative** | **Previous Learning**<br>Children understand the function, features and layout of a search engine. They can appraise selected webpages for credibility and information at a basic level. . Children are able to make improvements to digital solutions based on feedback. Children make informed software choices when presenting information and data. They create linked content using a range of software such as 2Connect and 2Publish+. Children share digital content within their community, i.e. using Virtual Display Boards. | formula in 2Calculate (spreadsheets).<br>– I can present data and information using different software such as 2Question (branching database) or 2Graph (graphing tool).<br>– I can create purposeful (appropriate) content and attach this to emails. |

| Term and Focus | NC objectives<br>Pupils should be taught about: | The Big Idea | How will I think and act like a Computer Scientist | Pupil Outcomes<br>Computing knowledge and understanding |
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| **Year 3 Summer**<br><br>**Unit 3.7 Simulations**<br><br>**Area of Computing: Information Technology** | 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. | Organise, store, retrieve, manipulate and present data<br><br>Use logical reasoning to make predictions | • Use of subject specific vocabulary.<br>• Use and access digital technology of different forms i.e. iPads, Chromebooks and laptops.<br>• Ask relevant questions about the use of digital technology<br>• Recall instructions using the correct sequence and vocabulary<br>• Describe what I notice about the learning taking place.<br>• Begin to explore editing code.<br>• Contribute to the class blog, reflecting and evaluating work. | - I can consider what the most appropriate software to use when given a task by my teacher<br>– I can carry out searches to find digital content on a range of online systems, such as within Purple Mash or on an internet search engine.<br>– I know that a computer simulation can represent real and imaginary situations.<br>– I can give suggestions of advantages and problems of simulations.<br>– I can begin to evaluate simulations by comparing them with real situations and considering their usefulness.<br>– I can identify the relationships and rules on which the simulations are based |
| **Curriculum Narrative** | **Previous Learning**<br>Children understand the function, features and layout of a search engine. They can appraise selected webpages for credibility and information at a basic level. . Children are able to make improvements to digital solutions based on feedback. Children make informed software choices when presenting information and data. They create linked content using a range of software such as 2Connect and 2Publish+. Children share digital content within their community, i.e. using Virtual Display Boards. | | | |

| Term and Focus | NC objectives<br>Pupils should be taught about: | The Big Idea | How will I think and act like a Computer Scientist | Pupil Outcomes<br>Computing knowledge and understanding |
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| **Year 3 Summer**<br><br>**Unit 3.8 Graphing**<br><br>**Area of Computing: Information Technology** | 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. | Organise, store, retrieve, manipulate and present data<br><br>Use logical reasoning to make predictions | • Use of subject specific vocabulary.<br>• Use and access digital technology of different forms i.e. iPads, Chromebooks and laptops.<br>• Ask relevant questions about the use of digital technology<br>• Recall instructions using the correct sequence and vocabulary<br>• Describe what I notice about the learning taking place.<br>• Begin to explore editing code.<br>• Contribute to the class blog, reflecting and evaluating work. | - I can consider what the most appropriate software to use when given a task by my teacher<br>– I can carry out searches to find digital content on a range of online systems, such as within Purple Mash or on an internet search engine.<br>– I can collect data and input it into software<br>– I can analyse data using features within software to help such as, formula in 2Calculate (spreadsheets).<br>– I can present data and information using different software such as 2Question (branching database) or 2Graph (graphing tool).<br>– I can create purposeful (appropriate) content and attach this to emails. |
| **Curriculum Narrative** | **<u>Previous Learning</u>**<br>Children understand the function, features and layout of a search engine. They can appraise selected webpages for credibility and information at a basic level. . Children are able to make improvements to digital solutions based on feedback. Children make informed software choices when presenting information and data. They create linked content using a range of software such as 2Connect and 2Publish+. Children share digital content within their community, i.e. using Virtual Display Boards. | | | |

| Term and Focus | NC objectives<br>Pupils should be taught about: | The Big Idea | How will I think and act like a Computer Scientist | Pupil Outcomes<br>Computing knowledge and understanding |
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| **Year 4 Autumn**<br><br>**Unit 4.1 Coding**<br><br>**Area of Computing: Computer Science** | Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.<br><br>Use sequence, selection and repetition in programs; work with variables and various forms of input and output.<br><br>Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.<br><br>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. | Understand use of algorithms<br><br>Design, write and test programs to achieve goals, including solving problems.<br><br>Use logical reasoning to make predictions | • Use of subject specific vocabulary.<br>• Use and access digital technology of different forms i.e. iPads, Chromebooks and laptops.<br>• Ask relevant questions about the use of digital technology<br>• Recall instructions using the correct sequence and vocabulary<br>• Describe what I notice about the learning taking place.<br>• Begin to explore editing code.<br>• Contribute to the class blog, reflecting and evaluating work. | – I can turn a real-life situation to solve into an algorithm, using a design that shows how I can accomplish this in code<br>– I can use repetition in my code. For example, using a loop that continues until a condition is met such as the correct answer being entered.<br>– I can use timers within my program designs more accurately to create repetition effects. For example, I can create a counting machine.<br>– I can use selection (decision) in my programming. For example, using an 'if statement' for a question being asked and the program takes one of two paths.<br>– I can use variables within my program and know how to change the value of variables.<br>– I can use the user inputs and output features within my program, such as 'Print to screen'.<br>– I can identify errors in my code by using different methods, such as steeping through lines of code and fixing them.<br>– I can read programs that contain several steps and predict the outcomes with increasing accuracy.<br>– I can review solutions that others have created, using a checklist of criteria.<br>– I can work collaboratively to create content and solutions. |
| **Curriculum Narrative** | **<u>Previous Learning</u>**<br>Children can turn a simple real-life situation into an algorithm for a program by deconstructing it into manageable parts. Their design shows that they are thinking of the desired task and how this translates into code. Children can identify an error within their program that prevents it following the desired algorithm and then fix it. Children demonstrate the ability to design and code a program that follows a simple sequence. They experiment with timers to achieve repetition effects in their programs. Children are beginning to understand the difference in the effect of using a timer command rather than a repeat command when creating repetition effects. Children understand how variables can be used to store information while a program is executing. Children's designs for their programs show that they are thinking of the structure of a program in logical, achievable steps and absorbing some new knowledge of coding structures. For example, 'if' statements, repetition and variables. They make good attempts to 'step through' more complex code in order to identify errors in algorithms and can correct this. e.g. traffic light algorithm in 2Code. In programs such as Logo, they can 'read' programs with several steps and predict the outcome accurately. Children can list a range of ways that the internet can be used to provide different methods of communication. They can use some of these methods of communication, e.g. being able to open, respond to and attach files to emails using 2Email. They can describe appropriate email conventions when communicating in this way | | | |

| Term and Focus | NC objectives Pupils should be taught about: | The Big Idea | How will I think and act like a Computer Scientist | Pupil Outcomes Computing knowledge and understanding |
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| **Year 4 Autumn**<br><br>**Unit 4.2 Online Safety**<br><br>**Area of Computing: Digital Literacy** | 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.<br><br>Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. | Use and communicate online safely and respectfully | • Use of subject specific vocabulary.<br>• Use and access digital technology of different forms i.e. iPads, Chromebooks and laptops.<br>• Ask relevant questions about the use of digital technology<br>• Recall instructions using the correct sequence and vocabulary<br>• Describe what I notice about the learning taking place.<br>• Begin to explore editing code.<br>• Contribute to the class blog, reflecting and evaluating work. | – I have a good understanding of the online safety rules we learn at school<br>– I can demonstrate how to use different online technologies safely.<br>– I can demonstrate how to use a few different online services safely<br>– I know I have a right to privacy both on and offline.<br>– I recognise that my wellbeing can be affected by how I use technology.<br>– I can report with ease any concerns with content and contact online and know immediate strategies to keep safe.<br>– I can create and improve my solutions to a problem based on feedback. For example, create a program using 2Code.<br>– I can review solutions that others have created, using a checklist of criteria.<br>– I understand that network and communication components can be found in many different devices which allow them to join the internet. |
| **Curriculum Narrative** | **<u>Previous Learning</u>**<br>Children can list a range of ways that the internet can be used to provide different methods of communication. They can use some of these methods of communication, e.g. being able to open, respond to and attach files to emails using 2Email. They can describe appropriate email conventions when communicating in this way.<br>Children demonstrate the importance of having a secure password and not sharing this with anyone else. Furthermore, children can explain the negative implications of failure to keep passwords safe and secure. They understand the importance of staying safe and the importance of their conduct when using familiar communication tools such as 2Email in Purple Mash. They know more than one way to report unacceptable content and contact. | | | |

| Term and Focus | NC objectives Pupils should be taught about: | The Big Idea | How will I think and act like a Computer Scientist | Pupil Outcomes Computing knowledge and understanding |
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| **Year 4 Spring**<br><br>**Unit 4.3 Spreadsheets**<br><br>**Area of Computing: Information Technology** | 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. | Organise, store, retrieve, manipulate and present data<br><br>Use logical reasoning to make predictions | • Use of subject specific vocabulary.<br>• Use and access digital technology of different forms i.e. iPads, Chromebooks and laptops.<br>• Ask relevant questions about the use of digital technology<br>• Recall instructions using the correct sequence and vocabulary<br>• Describe what I notice about the learning taking place.<br>• Begin to explore editing code.<br>• Contribute to the class blog, reflecting and evaluating work. | – I can work collaboratively to create content and solutions.<br>– |
| **Curriculum Narrative** | **<u>Previous Learning</u>**<br>Children can collect, analyse, evaluate and present data and information using a selection of software, e.g. using a branching database (2Question), using software such as 2Graph. Children can consider what software is most appropriate for a given task. They can create purposeful content to attach to emails, e.g. 2Respond. | | | |

| Term and Focus | NC objectives Pupils should be taught about: | The Big Idea | How will I think and act like a Computer Scientist | Pupil Outcomes Computing knowledge and understanding |
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| **Year 4 Spring**<br><br>**Unit 4.4 Writing for different audiences**<br><br>**Area of Computing: Information Technology** | 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. | Organise, store, retrieve, manipulate and present data | • Use of subject specific vocabulary.<br>• Use and access digital technology of different forms i.e. iPads, Chromebooks and laptops.<br>• Ask relevant questions about the use of digital technology<br>• Recall instructions using the correct sequence and vocabulary<br>• Describe what I notice about the learning taking place.<br>• Begin to explore editing code.<br>• Contribute to the class blog, reflecting and evaluating work. | – I can work collaboratively to create content and solutions. |
| **Curriculum Narrative** | **<u>Previous Learning</u>**<br>Children can collect, analyse, evaluate and present data and information using a selection of software, e.g. using a branching database (2Question), using software such as 2Graph. Children can consider what software is most appropriate for a given task. They can create purposeful content to attach to emails, e.g. 2Respond. | | | |

| Term and Focus | NC objectives Pupils should be taught about: | The Big Idea | How will I think and act like a Computer Scientist | Pupil Outcomes Computing knowledge and understanding |
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| **Year 4 Spring**<br><br>**Unit 4.8 Hardware Investigators**<br><br>**Area of Computing: Computer Science** | 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 logical reasoning to make predictions<br><br>Understand computer networks | • Use of subject specific vocabulary.<br>• Use and access digital technology of different forms i.e. iPads, Chromebooks and laptops.<br>• Ask relevant questions about the use of digital technology<br>• Recall instructions using the correct sequence and vocabulary<br>• Describe what I notice about the learning taking place.<br>• Begin to explore editing code.<br>• Contribute to the class blog, reflecting and evaluating work. | – I recognise the main component parts of hardware which allow computers to join and form a network.<br>– I understand that network and communication components can be found in many different devices which allow them to join the internet.<br>– I can work collaboratively to create content and solutions. |
| **Curriculum Narrative** | **<u>Previous Learning</u>**<br>Children can list a range of ways that the internet can be used to provide different methods of communication. They can use some of these methods of communication, e.g. being able to open, respond to and attach files to emails using 2Email. They can describe appropriate email conventions when communicating in this way. | | | |

| Term and Focus | NC objectives Pupils should be taught about: | The Big Idea | How will I think and act like a Computer Scientist | Pupil Outcomes Computing knowledge and understanding |
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| **Year 4 Summer**<br><br>**Unit 4.5 Logo**<br><br>**Area of Computing: Computer Science** | Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts<br><br>Use sequence, selection and repetition in programs; work with variables and various forms of input and output.<br><br>Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs | Understand use of algorithms<br><br>Design, write and test programs to achieve goals, including solving problems.<br><br>Use logical reasoning | • Use of subject specific vocabulary.<br>• Use and access digital technology of different forms i.e. iPads, Chromebooks and laptops.<br>• Ask relevant questions about the use of digital technology<br>• Recall instructions using the correct sequence and vocabulary<br>• Describe what I notice about the learning taking place.<br>• Begin to explore editing code.<br>• Contribute to the class blog, reflecting and evaluating work. | – I can read programs that contain several steps and predict the outcomes with increasing accuracy.<br>– I can turn a real-life situation to solve into an algorithm, using a design that shows how I can accomplish this in code |

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| | | to make predictions | | |
| **Curriculum Narrative** | **<u>Previous Learning</u>**<br>Children can turn a simple real-life situation into an algorithm for a program by deconstructing it into manageable parts. Their design shows that they are thinking of the desired task and how this translates into code. Children can identify an error within their program that prevents it following the desired algorithm and then fix it. Children demonstrate the ability to design and code a program that follows a simple sequence. They experiment with timers to achieve repetition effects in their programs. Children are beginning to understand the difference in the effect of using a timer command rather than a repeat command when creating repetition effects. Children understand how variables can be used to store information while a program is executing. Children's designs for their programs show that they are thinking of the structure of a program in logical, achievable steps and absorbing some new knowledge of coding structures. For example, 'if' statements, repetition and variables. They make good attempts to 'step through' more complex code in order to identify errors in algorithms and can correct this. e.g. traffic light algorithm in 2C | | | |

| Term and Focus | NC objectives<br>Pupils should be taught about: | The Big Idea | How will I think and act like a Computer Scientist | Pupil Outcomes<br>Computing knowledge and understanding |
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| **Year 4 Summer**<br><br>**Unit 4.6 Animation**<br><br>**Area of Computing: Information Technology** | 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 | Design, write and test programs t o achieve goals, including solving problems. | • Use of subject specific vocabulary.<br>• Use and access digital technology of different forms i.e. iPads, Chromebooks and laptops.<br>• Ask relevant questions about the use of digital technology<br>• Recall instructions using the correct sequence and vocabulary<br>• Describe what I notice about the learning taking place.<br>• Begin to explore editing code.<br>• Contribute to the class blog, reflecting and evaluating work. | – |
| **Curriculum Narrative** | **<u>Previous Learning</u>**<br>Children can collect, analyse, evaluate and present data and information using a selection of software, e.g. using a branching database (2Question), using software such as 2Graph. Children can consider what software is most appropriate for a given task. They can create purposeful content to attach to emails, e.g. 2Respond. | | | |

| Term and Focus | NC objectives Pupils should be taught about: | The Big Idea | How will I think and act like a Computer Scientist | Pupil Outcomes Computing knowledge and understanding |
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| **Year 4 Summer**<br><br>**Unit 4.7 Effective Search**<br><br>**Area of Computing: Information Technology** | Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content. | Organise, store, retrieve, m anipulate a nd present da ta<br><br>Use logical reasoning to make predictions | • Use of subject specific vocabulary.<br>• Use and access digital technology of different forms i.e. iPads, Chromebooks and laptops.<br>• Ask relevant questions about the use of digital technology<br>• Recall instructions using the correct sequence and vocabulary<br>• Describe what I notice about the learning taking place.<br>• Begin to explore editing code.<br>• Contribute to the class blog, reflecting and evaluating work. | – I understand that network and communication components can be found in many different devices which allow them to join the internet.<br>– I understand the purpose of a search engine and the main features within it.<br>– I can look at information on a webpage and make predictions about the accuracy of information contained within it. |
| **Curriculum Narrative** | **<u>Previous Learning</u>**<br>Children can carry out simple searches to retrieve digital content. They understand that to do this, they are connecting to the internet and using a search engine such as Purple Mash search or internet-wide search engines. | | | |

| Term and Focus | NC objectives Pupils should be taught about: | The Big Idea | How will I think and act like a Computer Scientist | Pupil Outcomes Computing knowledge and understanding |
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| **Year 5 Autumn**<br><br>**Unit 5.1 Coding**<br><br>**Area of Computing: Computer Science** | Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts<br><br>Use sequence, selection and repetition in programs; work with variables and various forms of input and output<br><br>Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.<br><br>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. | Understand use of algorithms<br><br>Design, write and test programs to achieve goals, including solving problems.<br><br>Use logical reasoning to make predictions | • Use of subject specific vocabulary.<br>• Use and access digital technology of different forms i.e. iPads, Chromebooks and laptops.<br>• Ask relevant questions about the use of digital technology<br>• Recall instructions using the correct sequence and vocabulary<br>• Describe what I notice about the learning taking place.<br>• Begin to explore editing code.<br>• Contribute to the class blog, reflecting and evaluating work. | – I can make more complex real-life problems into algorithms for a program.<br>– I can test and debug my programs as I work.<br>– I can convert (translate) algorithms that contain sequence, selection and repetition into code that works.<br>– I can use sequence, selection, repetition, and some other coding structures in my code.<br>– I can organise my code carefully for example, naming variables and using tabs. I know this will help me debug more efficiently.<br>– I can use logical methods to identify the cause of any bug with support to identify the specific line of code. |
| **Curriculum Narrative** | **<u>Previous Learning</u>**<br>. When turning a real-life situation into an algorithm, the children's design shows that they are thinking of the required task and how to accomplish this in code using coding structures for selection and repetition. Children make more intuitive attempts to debug their own programs. Children's use of timers to achieve repetition effects are becoming more logical and are integrated into their program designs. They understand 'if statements' for selection and attempt to combine these with other coding structures including variables to achieve the effects that they design in their programs. As well as understanding how variables can be used to store information while a program is executing, they are able to use and manipulate the value of variables. Children can make use of user inputs and outputs such as 'print to screen'. e.g. 2Code. Children's designs for their programs show that they are thinking of the structure of a program in logical, achievable steps and absorbing some new knowledge of coding structures. For example, 'if' statements, repetition and variables. They can trace code and use step through methods to identify errors in code and make logical attempts to correct this. e.g. traffic light algorithm in 2Code. In programs such as Logo, they can 'read' programs with several steps and predict the outcome accurately. Children recognise the main component parts of hardware which allow computers to join and form a network. Their ability to understand the online safety implications associated with the ways the internet can be used to provide different methods of communication is improving. | | | |

| Term and Focus | NC objectives Pupils should be taught about: | The Big Idea | How will I think and act like a Computer Scientist | Pupil Outcomes Computing knowledge and understanding |
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| **Year 5 Autumn**<br><br>**Unit 5.2 Online Safety**<br><br>**Area of Computing: Digital Literacy** | 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<br><br>Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact | Use and communicate online safely and respectfully | • Use of subject specific vocabulary.<br>• Use and access digital technology of different forms i.e. iPads, Chromebooks and laptops.<br>• Ask relevant questions about the use of digital technology<br>• Recall instructions using the correct sequence and vocabulary<br>• Describe what I notice about the learning taking place.<br>• Begin to explore editing code.<br>• Contribute to the class blog, reflecting and evaluating work. | – I know the importance of computer networks and how they help solve problems and enhance communications.<br>– I recognise the main dangers that can be perpetuated via computer networks.<br>– I can explain what personal information is and know strategies for keeping this safe.<br>– I can use the most appropriate form of online communication according to the digital content. For example, use 2Email, 2Blog and Display Boards.<br>– I can search precisely when using a search engine. For example, I know I can add additional words or removes words to help find better results.<br>– I can explain in detail how accurate, safe and reliable the content is on a webpage.<br>– I have a secure knowledge of online safety rules taught at school.<br>– I can demonstrate the safe and respectful use of different online technologies and online services.<br>– I always relate appropriate online behaviour to my right to have personal privacy.<br>– I know how to not let my mental wellbeing or others be affected by use of online technologies and services. |
| **Curriculum Narrative** | Children recognise the main component parts of hardware which allow computers to join and form a network. Their ability to understand the online safety implications associated with the ways the internet can be used to provide different methods of communication is improving.<br>Children can explore key concepts relating to online safety using concept mapping such as 2Connect. They can help others to understand the importance of online safety. Children know a range of ways of reporting inappropriate content and contact. | | | |

| Term and Focus | NC objectives Pupils should be taught about: | The Big Idea | How will I think and act like a Computer Scientist | Pupil Outcomes Computing knowledge and understanding |
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| **Year 5 Spring**<br><br>**Unit 5.3 Spreadsheets**<br><br>**Area of Computing: Information Technology** | 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. | Organise, store, retrieve, manipulate and present data<br><br>Use logical reasoning to make predictions | • Use of subject specific vocabulary.<br>• Use and access digital technology of different forms i.e. iPads, Chromebooks and laptops.<br>• Ask relevant questions about the use of digital technology<br>• Recall instructions using the correct sequence and vocabulary<br>• Describe what I notice about the learning taking place.<br>• Begin to explore editing code.<br>• Contribute to the class blog, reflecting and evaluating work. | – I can make appropriate improvements to digital work I have created.<br>– I can comment on how successful a digital solution is that I have created. For example, a program built in 2Code that sorts decimals numbers.<br>– I can work collaboratively with others creating solutions to problems using appropriate software such as 2Code. |
| **Curriculum Narrative** | **<u>Previous Learning</u>**<br>. Children are able to make improvements to digital solutions based on feedback. Children make informed software choices when presenting information and data. They create linked content using a range of software such as 2Connect and 2Publish+. Children share digital content within their community, i.e. using Virtual Display Boards. | | | |

| Term and Focus | NC objectives Pupils should be taught about: | The Big Idea | How will I think and act like a Computer Scientist | Pupil Outcomes Computing knowledge and understanding |
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| **Year 5 Spring**<br><br>**Unit 5.4 Databases**<br><br>**Area of Computing: Information Technology** | 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. | Organise, store, retrieve, manipulate and present data<br><br>Use logical reasoning to make predictions | • Use of subject specific vocabulary.<br>• Use and access digital technology of different forms i.e. iPads, Chromebooks and laptops.<br>• Ask relevant questions about the use of digital technology<br>• Recall instructions using the correct sequence and vocabulary<br>• Describe what I notice about the learning taking place.<br>• Begin to explore editing code.<br>• Contribute to the class blog, reflecting and evaluating work. | – I can make appropriate improvements to digital work I have created.<br>– I can comment on how successful a digital solution is that I have created. For example, a program built in 2Code that sorts decimals numbers.<br>– I can work collaboratively with others creating solutions to problems using appropriate software such as 2Code. |

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| **Curriculum Narrative** | **Previous Learning**<br>. Children are able to make improvements to digital solutions based on feedback. Children make informed software choices when presenting information and data. They create linked content using a range of software such as 2Connect and 2Publish+. Children share digital content within their community, i.e. using Virtual Display Boards. | |

| Term and Focus | NC objectives<br>Pupils should be taught about: | The Big Idea | How will I think and act like a Computer Scientist | Pupil Outcomes<br>Computing knowledge and understanding |
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| **Year 5 Summer**<br><br>**Unit 5.5 Game Creator**<br><br>**Area of Computing: Computer Science** | Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.<br><br>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. | Understand use of algorithms<br><br>Design, write and test programs to achieve goals, including solving problems.<br><br>Use logical reasoning to make predictions | • Use of subject specific vocabulary.<br>• Use and access digital technology of different forms i.e. iPads, Chromebooks and laptops.<br>• Ask relevant questions about the use of digital technology<br>• Recall instructions using the correct sequence and vocabulary<br>• Describe what I notice about the learning taking place.<br>• Begin to explore editing code.<br>• Contribute to the class blog, reflecting and evaluating work. | – I can test and debug my programs as I work.<br>– I can make appropriate improvements to digital work I have created.<br>– I can comment on how successful a digital solution is that I have created. For example, a program built in 2Code that sorts decimals numbers.<br>– I can work collaboratively with others creating solutions to problems using appropriate software such as 2Code. |
| **Curriculum Narrative** | **Previous Learning**<br>When turning a real-life situation into an algorithm, the children's design shows that they are thinking of the required task and how to accomplish this in code using coding structures for selection and repetition. Children make more intuitive attempts to debug their own programs.<br>Children are able to make improvements to digital solutions based on feedback. Children make informed software choices when presenting information and data. They create linked content using a range of software such as 2Connect and 2Publish+. Children share digital content within their community, i.e. using Virtual Display Boards. | | | |

| Term and Focus | NC objectives Pupils should be taught about: | The Big Idea | How will I think and act like a Computer Scientist | Pupil Outcomes Computing knowledge and understanding |
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| **Year 5 Summer**<br><br>**Unit 5.6 3D Modelling**<br><br>**Area of Computing: Information Technology** | 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. | Organise, store, retrieve, manipulate and present data | • Use of subject specific vocabulary.<br>• Use and access digital technology of different forms i.e. iPads, Chromebooks and laptops.<br>• Ask relevant questions about the use of digital technology<br>• Recall instructions using the correct sequence and vocabulary<br>• Describe what I notice about the learning taking place.<br>• Begin to explore editing code.<br>• Contribute to the class blog, reflecting and evaluating work. | – I can make appropriate improvements to digital work I have created.<br>– I can comment on how successful a digital solution is that I have created. For example, a program built in 2Code that sorts decimals numbers.<br>– I can work collaboratively with others creating solutions to problems using appropriate software such as 2Code. |
| **Curriculum Narrative** | **<u>Previous Learning</u>**<br>. Children are able to make improvements to digital solutions based on feedback. Children make informed software choices when presenting information and data. They create linked content using a range of software such as 2Connect and 2Publish+. Children share digital content within their community, i.e. using Virtual Display Boards. | | | |

| Term and Focus | NC objectives Pupils should be taught about: | The Big Idea | How will I think and act like a Computer Scientist | Pupil Outcomes Computing knowledge and understanding |
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| **Year 5 Summer**<br><br>**Unit 5.7 Concept Maps**<br><br>**Area of Computing: Information Technology** | 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. | Organise, store, retrieve, manipulate and present data | • Use of subject specific vocabulary.<br>• Use and access digital technology of different forms i.e. iPads, Chromebooks and laptops.<br>• Ask relevant questions about the use of digital technology<br>• Recall instructions using the correct sequence and vocabulary<br>• Describe what I notice about the learning taking place.<br>• Begin to explore editing code.<br>• Contribute to the class blog, reflecting and evaluating work. | – I can make appropriate improvements to digital work I have created.<br>– I can comment on how successful a digital solution is that I have created. For example, a program built in 2Code that sorts decimals numbers.<br>– I can work collaboratively with others creating solutions to problems using appropriate software such as 2Code. |
| **Curriculum Narrative** | **<u>Previous Learning</u>**<br>. Children are able to make improvements to digital solutions based on feedback. Children make informed software choices when presenting information and data. They create linked content using a range of software such as 2Connect and 2Publish+. Children share digital content within their community, i.e. using Virtual Display Boards. | | | |

| Term and Focus | NC objectives<br>Pupils should be taught about: | The Big Idea | How will I think and act like a Computer Scientist | Pupil Outcomes<br>Computing knowledge and understanding |
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| **Year 6**<br>**Autumn**<br><br>**Unit 6.1 Coding**<br><br>**Area of Computing: Computer Science** | Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.<br><br>Use sequence, selection and repetition in programs; work with variables and various forms of input and output.<br><br>Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.<br><br>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. | Understand use of algorithms<br><br>Design, write and test programs to achieve goals, including solving problems.<br><br>Use logical reasoning to make predictions | • Use of subject specific vocabulary.<br>• Use and access digital technology of different forms i.e. iPads, Chromebooks and laptops.<br>• Ask relevant questions about the use of digital technology<br>• Recall instructions using the correct sequence and vocabulary<br>• Describe what I notice about the learning taking place.<br>• Begin to explore editing code.<br>• Contribute to the class blog, reflecting and evaluating work. | – I can turn a complex programming task into an algorithm.<br>– I can identify the important aspects of a programming task (abstraction).<br>– I can decompose important aspects of a programming task in a logical way, identifying appropriate coding structures that would work.<br>– I can test and debug my program as I work on it and use logical methods to identify a cause of a bug.<br>– I can identify a specific line of code that is causing a problem in my program and attempt a fix.<br>– I can translate algorithms that include sequence, selection and repetition into code and nest these structures within each other.<br>– I can use inputs and outputs within my coded programs such as sound, movement and buttons and represent the state of an object<br>– I can interpret (understand) a program in parts and can make logical attempts to put the separate parts together in an algorithm to explain the program as a whole. |
| **Curriculum Narrative** | **<u>Previous Learning</u>**<br>Children may attempt to turn more complex real-life situations into algorithms for a program by deconstructing it into manageable parts. Children are able to test and debug their programs as they go and can use logical methods to identify the approximate cause of any bug but may need some support identifying the specific line of code. Children can translate algorithms that include sequence, selection and repetition into code with increasing ease and their own designs show that they are thinking of how to accomplish the set task in code utilising such structures. They are combining sequence, selection and repetition with other coding structures to achieve their algorithm design. When children code, they are beginning to think about their code structure in terms of the ability to debug and interpret the code later, e.g. the use of tabs to organise code and the naming of variables. Children are able to make appropriate improvements to digital solutions based on feedback received and can confidently comment on the success of the solution. e.g. creating their own program to meet a design brief using 2Code. They objectively review solutions from others. Children are able to collaboratively create content and solutions using digital features within software such as collaborative mode. They are able to use several ways of sharing digital content, i.e. 2Blog, Display Boards and 2Email. | | | |

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| | | – I can compare a range of digital content sources and rate them in terms of content quality and accuracy.<br>– I can consider the intended audience carefully when I design and make digital content.<br>– I can use criteria to evaluate the quality of my own and others digital solutions, suggesting refinements |

| Term and Focus | NC objectives Pupils should be taught about: | The Big Idea | How will I think and act like a Computer Scientist | Pupil Outcomes Computing knowledge and understanding |
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| **Year 6 Autumn**<br><br>**Unit 6.2 Online Safety**<br><br>**Area of Computing: Digital Literacy** | 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.<br><br>Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.<br><br>Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. | Understand use of algorithms<br><br>Design, write and test programs to achieve goals, including solving problems.<br><br>Use logical reasoning to make predictions<br><br>Use and communicate online safely and | • Use of subject specific vocabulary.<br>• Use and access digital technology of different forms i.e. iPads, Chromebooks and laptops.<br>• Ask relevant questions about the use of digital technology<br>• Recall instructions using the correct sequence and vocabulary<br>• Describe what I notice about the learning taking place.<br>• Begin to explore editing code.<br>• Contribute to the class blog, reflecting and evaluating work. | – I can demonstrate safe and respectful use of a range of different technologies and online services.<br>– I can identify more discrete inappropriate behaviours online. For example, someone who may be trying to groom me or someone else.<br>– I can use critical thinking to help me stay safe online.<br>– I know the value of protecting my privacy and others online.<br>– I can use filters when searching for digital content.<br>– I can explain in detail how accurate and reliable a webpage and its content is.<br>– I can explain the difference between the internet and the World Wide Web.<br>– I can explain what a WAN and LAN is and describe the process of how |

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| | | respectfully | | access to the internet in school is possible. |
| **Curriculum Narrative** | **<u>Previous Learning</u>**<br>Children understand the value of computer networks but are also aware of the main dangers. They recognise what personal information is and can explain how this can be kept safe. Children can select the most appropriate form of online communications contingent on audience and digital content, e.g. 2Blog, 2Email, Display Boards. Children search with greater complexity for digital content when using a search engine. They are able to explain in some detail how credible a webpage is and the information it contains. Children have a secure knowledge of common online safety rules and can apply this by demonstrating the safe and respectful use of a few different technologies and online services. Children implicitly relate appropriate online b | | | |

| Term and Focus | NC objectives<br>Pupils should be taught about: | The Big Idea | How will I think and act like a Computer Scientist | Pupil Outcomes<br>Computing knowledge and understanding |
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| **Year 6 Autumn**<br><br>**Unit 6.3 Spreadsheets**<br><br>**Area of Computing: Information Technology** | 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. | Organise, store, retrieve, manipulate and present data<br><br>Use logical reasoning to make predictions | • Use of subject specific vocabulary.<br>• Use and access digital technology of different forms i.e. iPads, Chromebooks and laptops.<br>• Ask relevant questions about the use of digital technology<br>• Recall instructions using the correct sequence and vocabulary<br>• Describe what I notice about the learning taking place.<br>• Begin to explore editing code.<br>• Contribute to the class blog, reflecting and evaluating work. | – I can compare a range of digital content sources and rate them in terms of content quality and accuracy.<br>– I can consider the intended audience carefully when I design and make digital content.<br>– I can use criteria to evaluate the quality of my own and others digital solutions, suggesting refinements. |

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| **Curriculum Narrative** | **Previous Learning**<br>Children are able to make appropriate improvements to digital solutions based on feedback received and can confidently comment on the success of the solution. e.g. creating their own program to meet a design brief using 2Code. They objectively review solutions from others. Children are able to collaboratively create content and solutions using digital features within software such as collaborative mode. They are able to use several ways of sharing digital content, i.e. 2Blog, Display Boards and 2Email. | |

| Term and Focus | NC objectives Pupils should be taught about: | The Big Idea | How will I think and act like a Computer Scientist | Pupil Outcomes Computing knowledge and understanding |
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| **Year 6 Spring**<br><br>**Unit 6.4 Blogging**<br><br>**Area of Computing: Information Technology** | 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.<br><br>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.<br><br>Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. | Understand computer networks<br><br>Use and communicate online safely and respectfully | • Use of subject specific vocabulary.<br>• Use and access digital technology of different forms i.e. iPads, Chromebooks and laptops.<br>• Ask relevant questions about the use of digital technology<br>• Recall instructions using the correct sequence and vocabulary<br>• Describe what I notice about the learning taking place.<br>• Begin to explore editing code.<br>• Contribute to the class blog, reflecting and evaluating work. | – I know the value of protecting my privacy and others online.<br>– I can demonstrate safe and respectful use of a range of different technologies and online services.<br>– I can use criteria to evaluate the quality of my own and others digital solutions, suggesting refinements.<br>– I can design and create my own online blogs.<br>– I can consider the intended audience carefully when I design and make digital content.<br>– I can compare a range of digital content sources and rate them in terms of content quality and accuracy.<br>– I can explain the difference between the internet and the World Wide Web. |
| **Curriculum Narrative** | **Previous Learning**<br>Children understand the value of computer networks but are also aware of the main dangers. They recognise what personal information is and can explain how this can be kept safe. Children can select the most appropriate form of online communications contingent on audience and digital content, e.g. 2Blog, 2Email, Display Boards.<br>Children are able to make appropriate improvements to digital solutions based on feedback received and can confidently comment on the success of the solution. e.g. creating their own program to meet a design brief using 2Code. They objectively review solutions from others. Children are able to collaboratively create content and solutions using digital features within software such as collaborative mode. They are able to use several ways of sharing digital content, i.e. 2Blog, Display Boards and 2Email. | | | |

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| | Children have a secure knowledge of common online safety rules and can apply this by demonstrating the safe and respectful use of a few different technologies and online services. Children implicitly relate appropriate online behaviour to their right to personal privacy and mental wellbeing of themselves and others. | |

| Term and Focus | NC objectives<br>Pupils should be taught about: | The Big Idea | How will I think and act like a Computer Scientist | Pupil Outcomes<br>Computing knowledge and understanding |
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| **Year 6 Spring**<br><br>**Unit 6.9 Spreadsheets (With Excel or Googlesheets)**<br><br>**Area of Computing: Information Technology** | Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.<br><br>Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.<br><br>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. | Understand use of algorithms<br><br>Design, write and test programs to achieve goals, including solving problems.<br><br>Use logical reasoning to make predictions | • Use of subject specific vocabulary.<br>• Use and access digital technology of different forms i.e. iPads, Chromebooks and laptops.<br>• Ask relevant questions about the use of digital technology<br>• Recall instructions using the correct sequence and vocabulary<br>• Describe what I notice about the learning taking place.<br>• Begin to explore editing code.<br>• Contribute to the class blog, reflecting and evaluating work. | – I can use filters when searching for digital content.<br>– I can compare a range of digital content sources and rate them in terms of content quality and accuracy.<br>– I can consider the intended audience carefully when I design and make digital content.<br>– I can use criteria to evaluate the quality of my own and others digital solutions, suggesting refinements. |
| **Curriculum Narrative** | **<u>Previous Learning</u>**<br>Children may attempt to turn more complex real-life situations into algorithms for a program by deconstructing it into manageable parts. Children are able to test and debug their programs as they go and can use logical methods to identify the approximate cause of any bug but may need some support identifying the specific line of code. When children code, they are beginning to think about their code structure in terms of the ability to debug and interpret the code later, e.g. the use of tabs to organise code and the naming of variables. Children search with greater complexity for digital content when using a search engine. They are able to explain in some detail how credible a webpage is and the information it contains.<br>Children have a secure knowledge of common online safety rules and can apply this by demonstrating the safe and respectful use of a few different technologies and online services. Children implicitly relate appropriate online behaviour to their right to personal privacy and mental wellbeing of themselves and others. | | | |

| Term and Focus | NC objectives Pupils should be taught about: | The Big Idea | How will I think and act like a Computer Scientist | Pupil Outcomes Computing knowledge and understanding |
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| **Year 6 Spring**<br><br>**Unit 6.6 Networks**<br><br>**Area of Computing: Computer Science** | 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. | Understand computer networks | • Use of subject specific vocabulary.<br>• Use and access digital technology of different forms i.e. iPads, Chromebooks and laptops.<br>• Ask relevant questions about the use of digital technology<br>• Recall instructions using the correct sequence and vocabulary<br>• Describe what I notice about the learning taking place.<br>• Begin to explore editing code.<br>• Contribute to the class blog, reflecting and evaluating work. | – I can explain what a WAN and LAN is and describe the process of how access to the internet in school is possible.<br>– I can explain the difference between the internet and the World Wide Web |
| **Curriculum Narrative** | **<u>Previous Learning</u>**<br>Children understand the value of computer networks but are also aware of the main dangers. They recognise what personal information is and can explain how this can be kept safe. Children can select the most appropriate form of online communications contingent on audience and digital content, e.g. 2Blog, 2Email, Display Boards. | | | |

| Term and Focus | NC objectives Pupils should be taught about: | The Big Idea | How will I think and act like a Computer Scientist | Pupil Outcomes Computing knowledge and understanding |
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| **Year 6 Summer**<br><br>**Unit 6.8 Coding - Understanding Binary**<br><br>**Area of Computing: Computer Science** | Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.<br><br>Use sequence, selection and repetition in programs; work with variables and various forms of input and output.<br><br>Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs. | Understand use of algorithms<br><br>Design, write and test programs to achieve goals, including solving problems. | • Use of subject specific vocabulary.<br>• Use and access digital technology of different forms i.e. iPads, Chromebooks and laptops.<br>• Ask relevant questions about the use of digital technology<br>• Recall instructions using the correct sequence and vocabulary<br>• Describe what I notice about the learning taking place.<br>• Begin to explore editing code.<br>• Contribute to the class blog, reflecting and evaluating work. | – I can explain how binary relates to computer memory.<br>– I can write the numbers 0 to 10 using binary.<br>– I know Machine code is the code that signals to a computer which transistors should be on or off.<br>– I know machine code is written in binary. |

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| | 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 logical reasoning to make predictions.<br><br>Organise, store, retrieve, manipulate and present data | | |
| **Curriculum Narrative** | **<u>Previous Learning</u>**<br>Children have gained experience coding but this is their first time looking at binary code. | | | |

| Term and Focus | NC objectives<br>Pupils should be taught about: | The Big Idea | How will I think and act like a Computer Scientist | Pupil Outcomes<br>Computing knowledge and understanding |
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| **Year 6 Summer**<br><br>**Unit 6.5 Text Adventure**<br><br>**Area of Computing: Computer Science** | Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.<br><br>Use sequence, selection and repetition in programs; work with variables and various forms of input and output.<br><br>Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.<br><br>Select, use and combine a variety of software (including internet services) on a range of | Understand use of algorithms<br><br>Design, write and test programs to achieve goals, including solving problems. | • Use of subject specific vocabulary.<br>• Use and access digital technology of different forms i.e. iPads, Chromebooks and laptops.<br>• Ask relevant questions about the use of digital technology<br>• Recall instructions using the correct sequence and vocabulary<br>• Describe what I notice about the learning taking place.<br>• Begin to explore editing code.<br>• Contribute to the class blog, reflecting and evaluating work. | – I can use criteria to evaluate the quality of my own and others digital solutions, suggesting refinements.<br>– I can consider the intended audience carefully when I design and make digital content.<br>– I can compare a range of digital content sources and rate them in terms of content quality and accuracy. |

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| | 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 logical reasoning to make predictions | | |
| **Curriculum Narrative** | **<u>Previous Learning</u>**<br>Children may attempt to turn more complex real-life situations into algorithms for a program by deconstructing it into manageable parts. Children are able to test and debug their programs as they go and can use logical methods to identify the approximate cause of any bug but may need some support identifying the specific line of code. Children can translate algorithms that include sequence, selection and repetition into code with increasing ease and their own designs show that they are thinking of how to accomplish the set task in code utilising such structures. They are combining sequence, selection and repetition with other coding structures to achieve their algorithm design. When children code, they are beginning to think about their code structure in terms of the ability to debug and interpret the code later, e.g. the use of tabs to organise code and the naming of variables. Children are able to make appropriate improvements to digital solutions based on feedback received and can confidently comment on the success of the solution. e.g. creating their own program to meet a design brief using 2Code. They objectively review solutions from others. Children are able to collaboratively create content and solutions using digital features within software such as collaborative mode. They are able to use several ways of sharing digital content, i.e. 2Blog, Display Boards and 2Email. | | | |

| Term and Focus | NC objectives<br>Pupils should be taught about: | The Big Idea | How will I think and act like a Computer Scientist | Pupil Outcomes<br>Computing knowledge and understanding |
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| **Year 6 Summer**<br><br>**Unit 6.7 Quizzing**<br><br>**Area of Computing: Information technology** | 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. | Organise, store, retrieve, manipulate and present data<br><br>Use logical reasoning to make predictions | • Use of subject specific vocabulary.<br>• Use and access digital technology of different forms i.e. iPads, Chromebooks and laptops.<br>• Ask relevant questions about the use of digital technology<br>• Recall instructions using the correct sequence and vocabulary<br>• Describe what I notice about the learning taking place.<br>• Begin to explore editing code.<br>• Contribute to the class blog, reflecting and evaluating work. | – I can use inputs and outputs within my coded programs such as sound, movement and buttons and represent the state of an object.<br>– I can compare a range of digital content sources and rate them in terms of content quality and accuracy.<br>– I can consider the intended audience carefully when I design and make digital content**.**<br>– I can use criteria to evaluate the quality of my own and others digital solutions, suggesting refinements. |
| **Curriculum Narrative** | **<u>Previous Learning</u>**<br>Children are able to make appropriate improvements to digital solutions based on feedback received and can confidently comment on the success of the solution. e.g. creating their own program to meet a design brief using 2Code. They objectively review solutions from others. Children are able to collaboratively create content and solutions using digital features within software such as collaborative mode. They are able to use several ways of sharing digital content, i.e. 2Blog, Display Boards and 2Email. | | | |