Computing Overview

Whole school units of learning

Theme Key:		
Computer Science	**Information Technology**	**Digital Literacy**

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Nursery	Personal, Social and Emotional Development links	Personal, Social and Emotional Development links	Physical Development links	Physical Development links	Understanding the World links	Understanding the World links
Reception	Personal, Social and Emotional Development links	Personal, Social and Emotional Development links	Physical Development links	Expressive Arts and Design links	Personal, Social and Emotional Development links	Expressive Arts and Design links
Year 1	**Unit 11 Online Safety & Exploring Purple Mash** Weeks – 4 Programs – Various	**Unit 1.3 Pictograms** Weeks – 3 Programs – 2Count	**Unit 1.5 Maze Explorers** Weeks – 3 Programs – 2Go	**Unit 1.6 Animated Story Books** Weeks – 5 Programs – 2Create A Story	**Unit 1.7 Coding** Weeks – 6 Programs – 2Code	**Unit 18 Spreadsheets** Weeks – 3 Programs – 2Calculate
	Unit 12 Grouping & Sorting Weeks – 2 Programs – 2DIY	**Unit 1.4 Lego Builders** Weeks – 3 Programs – 2DIY				**Unit 1.9 Technology outside school** Weeks – 2 Programs – Various
Year 2	**Unit 2.1 Coding** Weeks – 5 Programs – 2Code	**Unit 2.3 Spreadsheets** Weeks – 4 Programs – 2Calculate	**Unit 2.4 Questioning** Weeks – 5 Programs – 2Question, 2Investigate	**Unit 2.5 Effective Searching** Weeks – 3 Programs – Browser	**Unit 2.6 Creating Pictures** Weeks – 5 Programs – 2PaintAPicture	**Unit 2.7 Making Music** Weeks – 3 Programs – 2Sequence
	Unit 2.2 Online Safety Weeks – 3 Programs – Various					**Unit 2.8 Presenting Ideas** Weeks – 4 Programs – Various
Year 3	**Unit 3.1 Coding** Weeks – 6 Programs – 2Code	**Unit 3.2 Online safety** Weeks – 3 Programs – Various	**Unit 3.4 Touch Typing** Weeks – 4 Programs – 2Type	**Unit 3.5 Email (including email safety)** Weeks – 6	**Unit 3.6 Branching Databases** Weeks – 4 Programs – 2Question	**Unit 3.7 Simulations** Weeks – 3 Programs – 2Simulate, 2Publish

		Unit 3.3 Spreadsheets Weeks – 3 Programs – 2Calculate		Programs – 2Email, 2Connect, 2DIY		**Unit 3.8 Graphing and presenting** Weeks – 3 Programs – 2Graph
Year 4	**Unit 4.1 Coding** Weeks – 6 Main Programs – 2Code	**Unit 4.2 Online safety** Weeks – 4 Programs – Various	**Unit 4.3 Spreadsheets** Weeks – 6 Programs – 2Calculate	**Unit 4.4 Writing for different audiences** Weeks – 5 Programs – 2Email, 2Connect, 2DIY	**Unit 4.5 Logo** Weeks – 4 Programs – Logo	**Unit 4.7 Effective Search** Weeks – 3 Programs – Browser
					Unit 4.6 Animation Weeks – 3 Programs – 2Animate	**Unit 4.8 Hardware Investigators** Weeks – 2
Year 5	**Unit 5.1 Coding** Weeks – 6 Main Programs – 2Code	**Unit 5.2 Online safety** Weeks – 3 Programs - Various	**Unit 5.3 Spreadsheets** Weeks – 6 Programs – 2Calculate	**Unit 5.4 Databases** Weeks – 4 Programs – 2Question, 2Investigate	**Unit 5.6 3D Modelling** Weeks – 4 Programs – 2Design and Make	**Unit 5.8 Word processing (with Microsoft Word or Google Docs)** Weeks – 6/7 Main program – MS Word
				Unit 5.5 Game Creator Weeks – 5 Programs – 2DIY 3D	**Unit 5.7 Concept Maps** Weeks – 3/4 Programs – 2Connect	
Year 6	**Unit 6.1 Coding** Weeks – 6 Main Programs – 2Code	**Unit 6.2 Online safety** Weeks – 2 Programs - Various	**Unit 6.4 Blogging** Weeks – 5 Programs – 2Blog	**Unit 6.5 Text Adventures** Weeks – 5 Programs – 2Code, 2Connect	**Unit 6.6 Networks** Weeks – 3	**Unit 6.8 Binary Week 4** **Programs – 2Code**
		Unit 6.3 Spreadsheets Weeks – 5 Programs – 2Calculate			**Unit 6.7 Quizzing** Weeks – 6 Programs – 2Quiz, 2DIY, Text Toolkit, 2Investigate	**Unit 6.9 Spreadsheets (with Microsoft Excel)** **Weeks – 8** Main program – MS Excel or Google Sheets

Area of Development Links	Nursery	Reception
Personal, Social and Emotional Development	Remember rules without needing an adult to remind them. Talk with others to solve conflicts. Select and use activities and resources, with help when needed. This helps them to achieve a goal they have chosen, or one which is suggested to them. Find solutions to conflicts and rivalries.	Show resilience and perseverance in the face of a challenge. Know and talk about the different factors that support their overall health and wellbeing: sensible amounts of 'screen time'. Be confident to try new activities and show independence, resilience and perseverance in the face of challenge. Explain the reasons for rules, know right from wrong and try to behave accordingly.
Physical Development	Match their developing physical skills to tasks and activities in the setting. Increasingly be able to use and remember sequences and patterns of movements Choose the right resources to carry out their own plan. Use one-handed tools and equipment. Use a comfortable grip with good control.	Develop their small motor skills so that they can use a range of tools competently, safely and confidently. Progress towards a more fluent style of moving, with developing control and grace. Combine different movements with ease and fluency.
Understanding the World	Explore how things work (including electrical toys). Talk about what they see, using a wide vocabulary.	Draw information from a simple map.
Expressive Arts and Design	Develop their own ideas and then decide which materials to use to express them.	Explore, use and refine a variety of artistic effects to express their ideas and feelings. Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. Return to and build on their previous learning, refining ideas and developing their ability to represent them.

Resources to support the teaching and learning	Expressive arts and Design – 2Create A Story, Mashcams, 2Beat, 2Explore, 2Paint a Picture, Paint Projects Physical Development – 2Handwrite, 2paint a Picture, Jigsaw and 2pairs. Personal, Social and Emotional Development – Using tablets, using interactive whiteboards, Using Computers / Laptops. **To access Mini Mash and Purple Mash for more resources:** https://www.purplemash.com/#tab/teachers/computing_sow/computing_sow_reception

Possible trips/enrichment experiences:	Year groups to decide on relevant trips.

Computing Year 1 - Autumn
(Unit 1.1 – Online Safety and Exploring Purple Mash, Unit 1.2 – Grouping and Sorting, Unit 1.3 pictograms and Unit 1.4 Lego Builders)

Year 1	Autumn 1	Autumn 2
National Curriculum objectives	- 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. - Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions.	- Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions. - Use technology purposefully to create, organise, store, manipulate and retrieve digital content
Key Objectives teaching knowledge, understanding and application	**Unit 1.1** • Log in and log out safely and understand why that is important. • Save work to the My Work area and understand that this is private space. • Explore the Tools area of Purple Mash and to learn about the common icons used in Purple Mash for Save, Print, Open, New. **Unit 1.2** • Sort items on the computer using the 'Grouping' activities in Purple Mash or to sort items using a range of criteria (unplugged)	**Unit 1.3** • Understand that data can be represented in picture format. **Unit 1.4** • Follow and create simple instructions on the computer.
Resources to support the teaching and learning	Laptops **See detailed objectives and resources using the link below:** https://static.purplemash.com/mashcontent/applications/schemes_of_work/computing_schemes_of_work/computing_sow_year1_overview/Purple%20Mash%20Scheme%20of%20Work%20Year%201%20Overview.pdf	
Trips/enrichment experiences	Computing after school club (terms may vary)	

Computing Year 1 - Spring

(Unit 1.5 Maze Explorers, and Unit 1.6 Animated Story Books)

Year 1	**Spring 1**	**Spring 2**
National Curriculum objectives	- 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.	- Use technology purposefully to create, organise, store, manipulate and retrieve digital content - 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.
Key Objectives teaching knowledge, understanding and application	**Unit 1.5** • Understand the functionality of the basic direction keys. • Understand how to create and debug a set of instructions (algorithm). • Understand how to change and extend the algorithm list.	**Unit 1.6** • Explore the tools of 2Create a Story's My Simple Story level. • Add animation to a picture and add a sound effect to the picture. • Demonstrate a good understanding of all the tools they have used in 2Create a Story and use these successfully to create their own story • Continue and complete an animated story.
Scheme/Resources to support the teaching and learning	Laptops **See detailed objectives and resources using the link below:** https://static.purplemash.com/mashcontent/applications/schemes_of_work/computing_schemes_of_work/computing_sow_year1_overview/Purple%20Mash%20Scheme%20of%20Work%20Year%201%20Overview.pdf	
Possible trips/enrichment experiences	Computing after school club (terms may vary)	

Computing Year 1- Summer

(Unit 1.7 Coding, Unit 1.8 Spreadsheets and Unit 1.9 Technology Outside of School)

Year 1	Summer 1	Summer 2
National Curriculum objectives	- 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. - Use technology purposefully to create, organise, store, manipulate and retrieve digital content	- Use technology purposefully to create, organise, store, manipulate and retrieve digital content - Recognise common uses of information technology beyond school
Key Objectives teaching knowledge, understanding and application	**Unit 1.7** • Understand that computer programs work by following instructions called code. • Use code to make a computer program. • Understand what an event is. • Understand what backgrounds and objects are. • Understand how to use the scale property • Plan a computer program. • Make a computer program.	**Unit 1.8** • Understand and what a spreadsheet looks like. • Navigate around a spread sheet and enter data • Add clipart images to a spreadsheet • Use the 'move cell' and 'lock' tools. • Use the 'speak' and 'count' tools in 2Calculate to count items. **Unit 1.9** • Find and understand examples of where technology is used in the local community • Record examples of technology outside school.
Scheme/Resources to support the teaching and learning	Laptops **See detailed objectives and resources using the link below:** https://static.purplemash.com/mashcontent/applications/schemes_of_work/computing_schemes_of_work/computing_sow_year1_overview/Purple%20Mash%20Scheme%20of%20Work%20Year%201%20Overview.pdf	
Possible trips/enrichment experiences	Computing after school club (terms may vary)	

Computing Year 2 -Autumn

(Unit 2.4- Questioning and Unit 2.5- Effective Searching)

Year 2	**Autumn 1**	**Autumn 2**
National Curriculum objectives	-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 - 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	- Use technology purposefully to create, organise, store, manipulate and retrieve digital content
Key Objectives teaching knowledge, understanding and application	**Unit 2.1** • Understand what an algorithm is and that it follows a sequence. • Create a computer program using an algorithm. • know what debugging means and understand the need to test and debug a program repeatedly. • Debug simple programs. **Unit 2.2** • Know how to share work electronically using the display boards • Understand that information put online leaves a digital footprint or trail. • Introduce Email as a communication tool using 2Respond simulations- Understand how we talk to others when they are not there in front of us.	**Unit 2.3** • Review prior use of spreadsheets. • Copy and Pasting Totalling tools. • Use a spreadsheet to add amounts. • Create a table and block graph.
Scheme/Resources to support the teaching and learning	Scheme: Purple mash **See detailed key objectives and resources in the link below:** https://static.purplemash.com/mashcontent/applications/schemes_of_work/computing_schemes_of_work/computing_sow_year2_overview/Purple%20Mash%20Scheme%20of%20Work%20Year%202%20Overview.pdf	
Possible trips/enrichment experiences	Computing after school club (terms may vary)	

Computing Year 2 - Spring

(Unit 2.4 Questioning and Unit 2.5 Effective Searching)

Year 2	**Spring 1**	**Spring 2**
National Curriculum objectives	-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 technology purposefully to create, organise, store, manipulate and retrieve digital content.	-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 technology purposefully to create, organise, store, manipulate and retrieve digital content.
Key Objectives teaching knowledge, understanding and application	**Unit 2.4** • Use and Create Pictograms • Use yes/no questions to separate information • Construct a binary tree to separate different items. • Use 2Question (a binary tree) to answer questions • Use a database to answer more complex search questions • Use the Search tool to find information.	**Unit 2.5** • Understand the terminology associated with the Internet and searching. • Gain a better understanding of searching the Internet. • Create a leaflet to help someone search for information on the Internet
Scheme/Resources to support the teaching and learning	Scheme: Purple mash **See detailed key objectives and resources in the link below:** https://static.purplemash.com/mashcontent/applications/schemes_of_work/computing_schemes_of_work/computing_sow_year2_overview/Purple%20Mash%20Scheme%20of%20Work%20Year%202%20Overview.pdf	
Possible trips/enrichment experiences	Computing after school club (terms may vary)	

Computing Year 2 - Summer

(Unit 2.6- Creating pictures, Unit 2.7- Making Music and Unit 2.8- Presenting Ideas)

Year 2	**Summer 1**	**Summer 2**
National Curriculum objectives	-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 technology purposefully to create, organise, store, manipulate and retrieve digital content -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 -Use logical reasoning to predict the behaviour of simple programs -Use technology purposefully to create, organise, store, manipulate and retrieve digital content
Key Objectives teaching knowledge, understanding and application	**Unit 2.6** • Explore 2Paint A Picture. • Look at the work of Impressionist artists and recreate them using the Impressionism template. • Look at the work of pointillist artists such as Seurat and recreate using template. • Look at the work of Piet Mondrian and recreate it using the Lines template. • Look at the work of William Morris and recreate it using the Patterns template. • Look at some surrealist art and create your own using the eCollege function in 2Paint A Picture.	**Unit 2.7** • Introduced to making, exploring and editing music digitally using 2Sequence. • Add sounds to a tune to improve it. • Explore sounds in bank of sounds and record their own sound and upload it into the Sounds section. **Unit 2.8** • Explore how a story can be presented in different way. • Make a quiz about a story or class topic. • Make a fact file on a non-fiction topic • Make a presentation to the class.
Scheme/Resources to support the teaching and learning	Resources: computers/laptops/tablets Scheme: Purple mash **See detailed key objectives and resources in the link below:** https://static.purplemash.com/mashcontent/applications/schemes_of_work/computing_schemes_of_work/computing_sow_year2_overview/Purple%20Mash%20Scheme%20of%20Work%20Year%202%20Overview.pdf	
Possible trips/enrichment experiences	Computing after school club (terms may vary)	

Computing Year 3
(Unit 3.1- Coding, Unit 3.2- Online Safety and Unit 3.3 – Spreadsheets)

Year 3	Autumn 1	Autumn 2
National Curriculum objectives	- 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	- Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. - 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.
Key Objectives teaching knowledge, understanding and application	**Unit 3.1** • Understand what a flowchart is and how flowcharts are used in computer programming • Select the right type of timer for a purpose • Use the repeat command. • Understand the importance of nesting. • Use coding knowledge to create a range of programs • Design and create an interactive scene.	**Unit 3.2** • Consider if what can be read on websites is always true. • Know what makes a safe password, how to keep passwords safe and the consequences of giving your passwords away. • Understand the importance of appropriate Content & Ratings **Unit 3.3** • Find out how spreadsheet programs can automatically create graphs from data. • Introduce the 'more than', 'less than' and 'equals' tools • Learn about describing cells using their addresses.
Scheme/Resources to support the teaching and learning	Purple Mash - Laptops **See detailed objectives and resources using the link below:** https://static.purplemash.com/mashcontent/applications/schemes_of_work/computing_schemes_of_work/computing_sow_year3_overview/Purple%20Mash%20Scheme%20of%20Work%20Year%203%20Overview.pdf	
Possible trips/enrichment experiences	Computing after school club (terms may vary) Apple/ Microsoft workshops on coding	

Computing Year 3
Unit 3.4 – Touch Typing and Unit 3.5 Email (including email safety)

Year 3	Spring 1	Spring 2
National Curriculum objectives	- Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information. - Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.	- Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information. - Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. - 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.
Key Objectives teaching knowledge, understanding and application	**Unit 3.4** • Introduce typing terminology. • Learn how to use the home, top and bottom row keys. • Practice the keys typed with the left hand. • Practice the keys typed with the right hand.	**Unit 3.5** • Know about the different methods of communication. • Open and respond to an email. • Write an email to someone from an address book. • Earn how to use email safely. • Add an attachment to an email. • Explore a simulated email scenario.
Scheme/Resources to support the teaching and learning	Purple Mash - Laptops **See detailed objectives and resources using the link below:** https://static.purplemash.com/mashcontent/applications/schemes_of_work/computing_schemes_of_work/computing_sow_year3_overview/Purple%20Mash%20Scheme%20of%20Work%20Year%203%20Overview.pdf	
Possible trips/enrichment experiences	Computing after school club (terms may vary) Printing clothing shop or factory to see the making of clothing	

Computing Year 3
(Unit 3.6 – Branching Databases, Unit 3.7- Simulations, Unit 3.8- Graphing and Presenting)

Year 3	Summer 1	Summer 2
National Curriculum objectives	- Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information. - Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.	- Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information - Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.
Key Objectives teaching knowledge, understanding and application	**Unit 3.6** • Sort objects using just YES/NO questions. • Complete a branching database using 2Question. • Create a branching database of the children's choice.	**Unit 3.7** • Find out what a simulation is and understand the purpose of simulations. • Explore a simulation, making choices and discussing their effects. • Work through and evaluate a more complex simulation. **Unit 3.8** • Enter data into a graph and answer questions. • Solve an investigation and present the results in graphic form.
Scheme/Resources to support the teaching and learning	Purple Mash - Laptops **See detailed objectives and resources using the link below:** https://static.purplemash.com/mashcontent/applications/schemes_of_work/computing_schemes_of_work/computing_sow_year3_overview/Purple%20Mash%20Scheme%20of%20Work%20Year%203%20Overview.pdf	
Possible trips/enrichment experiences	Computing after school club (terms taken place may vary)	

Computing Year 4 - Autumn
(Unit 4.1 Coding and Unit 4.2 Online Safety)

Year 4	Autumn 1	Autumn 2
National Curriculum objectives	- 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 - Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.	- Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. - 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.
Key Objectives teaching knowledge, understanding and application	**Unit 4.1** • Review coding vocabulary and knowledge. • Create a simple computer program. • Understand how an IF statement works. • Understand how to use coordinates in computer. • Understand the Repeat until command. • Understand what a variable is in programming and use a number variable. • Create a playable game.	**Unit 4.2** • Understand that information put online leaves a digital footprint or trail and that this can aid identity theft. • Identify the risks and benefits of installing software including apps. • Understand that copying the work of others and presenting it as their own is called 'plagiarism' and to consider the consequences of plagiarism. • Identify the positive and negative influences of technology on health and the environment.
Scheme/Resources to support the teaching and learning	Resources: computers/laptops/tablets Scheme: Purple mash **See detailed key objectives and resources in the link below:** https://static.purplemash.com/mashcontent/applications/schemes_of_work/computing_schemes_of_work/computing_sow_year4_overview/Purple%20Mash%20Scheme%20of%20Work%20Year%204%20Overview.pdf	
Possible trips/enrichment experiences	Computing after school club (terms may vary) Microsoft workshops on coding	

Computing Year 4 - Spring
(Unit 4.3-Spreadsheets and Unit 4.4- Writing for different audiences)

Year 4	Spring 1	Spring 2
National Curriculum objectives	- 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.	- 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.
Key Objectives teaching knowledge, understanding and application	**Unit 4.3** - Explore how the numbers entered into cells can be set to either currency or decimal. - Explore how tools can be combined to use 2Calculate to make number games. - Use the line graphing tool in 2Calculate with appropriate data - Use 2Calculate to create a model of a real-life situation - Use the functions of allocating value to images in 2Calculate to make a resource to teach place value	**Unit 4.4** • Explore how font size and style can affect the impact of a text. • Use a simulated scenario to produce a news report. • Use a simulated scenario to write for a community campaign.
Scheme/Resources to support the teaching and learning	Resources: computers/laptops/tablets Scheme: Purple mash **See detailed key objectives and resources in the link below:** https://static.purplemash.com/mashcontent/applications/schemes_of_work/computing_schemes_of_work/computing_sow_year4_overview/Purple%20Mash%20Scheme%20of%20Work%20Year%204%20Overview.pdf	
Possible trips/enrichment experiences	Computing after school club (terms may vary)	

Computing Year 4 - Summer

(Unit 4.5- Logo, Unit 4.6- Animation, Unit 4.7- Effective Search and Unit 4.8- Hardware Investigators)

Year 4	Summer 1	Summer 2
National Curriculum objectives	- Use sequence, selection and repetition in programs; work with variables and various forms of input and output. - Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. - Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs. - 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, including the Internet; how they can provide multiple services, such as the World Wide Web; and the opportunities they offer for communication and collaboration - Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.
Key Objectives teaching knowledge, understanding and application	**Unit 4.5** • Input simple instructions in 2Logo • Use 2Logo to create letter shapes. • Use the Repeat command in 2Logo to create shapes. • Use and build procedures in 2Logo. **Unit 4.6** • Find out how 2Animate animations can be created in a similar way using technology. • Add backgrounds and sounds to animations. • Introducing 'stop motion' animation. • Share animation the class blog.	**Unit 4.7** • Locate information on the search results page. • Use search effectively to find out information. • Assess whether an information source is true and reliable. **Unit 4.8** • Understand the different parts that make up a desktop computer. • Recall the different parts that make up a computer.
Scheme/Resources to support the teaching and learning	Resources: computers/laptops/tablets Scheme: Purple mash **See detailed key objectives and resources in the link below:** https://static.purplemash.com/mashcontent/applications/schemes_of_work/computing_schemes_of_work/computing_sow_year4_overview/Purple%20Mash%20Scheme%20of%20Work%20Year%204%20Overview.pdf	
Possible trips/enrichment experiences	Computing after school club (terms may vary)	

Computing Year 5 – Autumn

(Unit 5.1-Coding and Unit 5.2-Online safety)

Year 5	Autumn 1	Autumn 2
National Curriculum objectives	- Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. - Use sequence, selection and repetition in programs; work with variables and various forms of input and output. - Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.	- Understand computer networks, including the Internet; how they can provide multiple services, such as the World Wide Web; and the opportunities they offer for communication and collaboration. - Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.
Key Objectives teaching knowledge, understanding and application	**Unit 5.1** • Begin to be able to simplify code. • Create a playable game. • understand what a simulation is. • Program a simulation using 2Code. • Know what decomposition and abstraction are in Computer Science. • Take a real-life situation, decompose it and think about the level of abstraction • Use decomposition to make a plan of a real-life situation. • Understand how to use friction in code. • Begin to understand what a function is and how functions work in code. • Understand what the different variable types are and how they are used differently. • Understand how to create a string.	**Unit 5.2** • Gain a greater understanding of the impact that sharing digital content can have. • Review children' responsibility to one another in their online behaviour • Know how to maintain secure passwords. • Be aware of appropriate and inappropriate text, photographs and videos and the impact of sharing these online. • Learn about how to reference sources in their work. • search the Internet with a consideration for the reliability of the results of sources to check validity and understand the impact of incorrect information. • Ensuring reliability through using different methods of communication.
Scheme/Resources to support the teaching and learning	Purple Mash - Laptops **See detailed objectives and resources using the link below:** https://static.purplemash.com/mashcontent/applications/schemes_of_work/computing_schemes_of_work/computing_sow_year5_overview/Purple%20Mash%20Scheme%20of%20Work%20Year%205%20Overview.pdf	
Possible trips/enrichment experiences	Computing after school club (terms taken place may vary)	

Computing Year 5 – Spring

(Unit 5.3 Spreadsheets, Unit 5.4 Databases and Unit 5.5 Game Creator)

Year 5	**Spring 1**	**Spring 2**
National Curriculum objectives	- 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.	- 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 debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.
Key Objectives teaching knowledge, understanding and application	**Unit 5.3** • Use formulae within a spreadsheet to convert measurements of length and distance. • Use the count tool to answer hypotheses about common letters in use. • Use a spreadsheet to model a real-life problem. • Use formulae to calculate area and perimeter of shapes. • Create formulae that use text variables. • Use a spreadsheet to help plan a school cake sale.	**Unit 5.4** • Learn how to search for information in a database. • Contribute to a class database • Create a database around a chosen topic. **Unit 5.5** • Begin planning a game. • Design the game environment. • Design the game quest to make it a playable game. • Finish and share the game. • Self and peer evaluate.
Scheme/Resources to support the teaching and learning	Purple Mash - Laptops **See detailed objectives and resources using the link below:** https://static.purplemash.com/mashcontent/applications/schemes_of_work/computing_schemes_of_work/computing_sow_year5_overview/Purple%20Mash%20Scheme%20of%20Work%20Year%205%20Overview.pdf	
Possible trips/enrichment experiences	Computing after school club (terms taken place may vary)	

Computing Year 5- Summer

(Unit 5.6 3D Modelling, Unit 5.7 Concept Maps and Unit 5.8 Word Processing)

Year 5	Summer 1	Summer 2
National Curriculum objectives	- 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.	- 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.
Key Objectives teaching knowledge, understanding and application	**Unit 5.6** • Be introduced to the 2Design and Make tool • Explore the effect of moving points when designing • Design a 3D model to fit certain criteria. • Refine and print a model. **Unit 5.7** • Understand the uses of a 'concept map'. • Understand and use the correct vocabulary when creating a concept map. • Create a concept map. • Understand how a concept map can be used to retell stories and information. • Create a collaborative concept map and present this to an audience.	**Unit 5.8** • Know what a word processing tool is for. • Add and edit images to a word document. • Know how to use word wrap with images and text. • Change the look of text within a document. • Add features to a document to enhance its look and usability. • Use tables within MS Word to present information. • Introduce children to templates. • Consider page layout including heading and columns.
Scheme/Resources to support the teaching and learning	Purple Mash - Laptops **See detailed objectives and resources using the link below:** https://static.purplemash.com/mashcontent/applications/schemes_of_work/computing_schemes_of_work/computing_sow_year5_overview/Purple%20Mash%20Scheme%20of%20Work%20Year%205%20Overview.pdf	
Possible trips/enrichment experiences	Computing after school club (terms taken place may vary)	

Computing Year 6 – Autumn

(Unit 6.1 – Coding, Unit 6.2 – Online Safety, Unit 6.3- Spreadsheets)

Year 6	Autumn 1	Autumn 2
National Curriculum objectives	- 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. - 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, including the Internet; how they can provide multiple services, such as the World Wide Web; and the opportunities they offer for communication and collaboration - Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content. - Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact*.
Key Objectives teaching knowledge, understanding and application	**Unit 6.1** • Design a playable game with a timer and a score. • Use functions and understand why they are useful. • Use flowcharts to test and debug a program. • Understand how user input can be used in a program. • Understand how 2Code can be used to make a text-based adventure game	**Unit 6.2** • Identify the benefits and risks of giving personal information and device access to different software. • Begin to understand how information online can persist and give away details of those who share or modify it. • Identify the positive and negative influences of technology on health and the environment. **Unit 6.3** • Use a spreadsheet to investigate the probability of the results of throwing many dice. • Use a spreadsheet to plan how to spend pocket money and the effect of saving money. • Use a spreadsheet to plan a school charity day to maximise the money donated to charity.
Scheme/Resources to support the teaching and learning	Resources: computers/laptops/tablets Scheme: Purple mash **See detailed key objectives and resources in the link below:** https://static.purplemash.com/mashcontent/applications/schemes_of_work/computing_schemes_of_work/computing_sow_year6_overview/Purple%20Mash%20Scheme%20of%20Work%20Year%206%20Overview.pdf	
Enrichment experience	Apple/ Microsoft workshops on coding Computing after school club (terms may vary)	

Computing Year 6 – Spring

(Unit 6.4 – Blogging and Unit 6.5 – Text Adventures)

Year 6	**Spring 1**	**Spring 2**
National Curriculum objectives	- 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 technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. - 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.	- 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 explain how some simple algorithms work and to detect and correct errors in algorithms and programs. - Use sequence, selection and repetition in programs; work with variables and various forms of input and output. - Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.
Key Objectives teaching knowledge, understanding and application	**Unit 6.4** • Identify the features of successful blog writing. • Plan the theme and content for a blog • Understand how to write a blog and a blog post	**Unit 6.5** • Find out what a text-based adventure game is and to explore an example made in 2Create a Story. • Use 2Connect plans for a story adventure to make the adventure using 2Create a Story. • Introduce an alternative model for a text adventure which has a less sequential narrative • Use written plans to code a map-based adventure in 2Code.
Scheme/Resources to support the teaching and learning	Resources: computers/laptops/tablets Scheme: Purple mash **See detailed key objectives and resources in the link below:** https://static.purplemash.com/mashcontent/applications/schemes_of_work/computing_schemes_of_work/computing_sow_year6_overview/Purple%20Mash%20Scheme%20of%20Work%20Year%206%20Overview.pdf	
Possible trips/enrichment experiences	Computing after school club (terms may vary)	

Computing Year 6 - Summer

(Unit 6.6 – Networks, Unit 6.7 Quizzing, Unit 6.8 – Understanding Binary, Unit 6.9 Spreadsheets (With Microsoft Excel)

Year 6	Summer 1	Summer 2
National Curriculum objectives	- 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. - 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 debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts - Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs. - 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.
Key Objectives teaching knowledge, understanding and application	**Unit 6.6** • Discover what the children know about the Internet • Find out what a LAN and WAN are • Research and find out about the age of the internet. **Unit 6.7** • Create a picture-based quiz for young children • Learn how to use the question types within 2Quiz • Explore the grammar quizzes • Make a quiz that requires the player to search a database • Make a quiz to test your teachers or parents	**Unit 6.8** • Recognise that digital systems, represent all types of data using number codes that ultimately are patterns of 1s and 0s (called binary digits, which is why they are called digital systems). • Recognise that the numbers 0, 1, 2 and 3 could be represented by the patterns of two binary digits of 00, 01, 10 and 11 • Examine how whole numbers are used as the basis for representing all types of data in digital systems **Unit 6.9** • Know what a spreadsheet looks like • Introduce some basic data formulae in Excel • Use a spreadsheet to model a situation • Demonstrate how Excel can make complex data clear by manipulating the way it is presented • Use formulae for percentages, averages, max and min in spreadsheets • Use a spreadsheet to model a real-life situation
Scheme/Resources to support the teaching and learning	Resources: computers/laptops/tablets Scheme: Purple mash **See detailed key objectives and resources in the link below:** https://static.purplemash.com/mashcontent/applications/schemes_of_work/computing_schemes_of_work/computing_sow_year6_overview/Purple%20Mash%20Scheme%20of%20Work%20Year%206%20Overview.pdf	

enrichment experiences	Computing after school club (terms may vary) Apple/ Microsoft workshops on coding