Yorke Mead Primary School
COMPUTING CURRICULUM – Herts for Learning Primary Computing Scheme 2022/23

Year 1 AUTUMN

Key Theme : Unit 1.1 Online safety and **Unit 1.9** Technology outside school **Lets create** lessons 1-3 Understanding digital texts and the difference between hardware and software. **Unit 1.3** Pictograms,

National Curriculum:

Unit 1.1 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.

Unit 1.9 Recognise common uses of information technology beyond school

Unit 1.3 Use technology purposefully to create, organise, store, manipulate and retrieve digital content

Learning Theme:

The theme of these units to ensure that children are able to work on a computer safely and securely. They learn to login and take ownership of their own learning area. Children begin to become familiar with Purple Mash and how to navigate around the system. Children begin to explore digital texts, using varied devices and software to create digital content. They investigate differences between input and output and hardware and software. They explore the idea of a network related to computers at home and school, logging on to their area with support. They use unplugged computing approaches to explore the devices they use. They consider eSafe practice.

Digital Literacy:	Unit 1.9 Technology outside of school	Information Technology
Unit 1.1 Online Safety Key learning x 4	**Key learning** x2	**Unit 1.3 Pictograms**
To log in safely. • To learn how to find saved work in the Online Work area and find teacher comments. • To learn how to search Purple Mash to find resources. • To become familiar with the icons and types of resources available in the Topics section. • To start to add pictures and text to work. • To explore the Tools and Games section of Purple Mash. • To learn how to open, save and print. • To understand the importance of logging out.	To walk around the local community and find examples of where technology is used. • To record examples of technology outside school. **Let's Create Key Learning x3 (HERTS)** – To understand that digital texts can include words, numbers, graphics, film, and sound To understand the difference between computer hardware and software. To become familiar with a computer keyboard and the placement of certain keys.	To understand that data can be represented in picture format. • To contribute to a class pictogram. • To use a pictogram to record the results of an experiment.

Yorke Mead Primary School
COMPUTING CURRICULUM – Herts for Learning Primary Computing Scheme 2022/23

Previous Learning To be reinforced/ WT ARE	**Core Learning Intentions** Age Related	**Extension Opportunities** ARE+	**Key Vocabulary**
Unit 1.1 Online safety			Alert A system that lets you know if you have something to look at. Button An area where you click to make something happen. Device A piece of electrical equipment made for a purpose. File Name The name given to an online piece of work. Icon An image on a web page that you can click on to navigate to somewhere. Avatar A digital picture to represent someone. Log in Using a username and password to access a system. Log out Leaving a computer system. Notification user different options. A message telling you about something. My Work Area The place on Purple
With support, children demonstrate an awareness of online safety using their own private usernames and passwords for Purple Mash (Unit 1.1 Lesson 1). This can be assisted by using printed login cards. Children take ownership of their work and save this in their own private space (Unit 1.1 Lesson 1).	Children demonstrate an understanding of the importance of online safety, using their own private usernames and passwords for Purple Mash (Unit 1.1 Lesson 1). Most children will be able to demonstrate an understanding of the reasons for keeping their password private including talking about the meaning of 'private information' (Lesson 1) and actively demonstrate this in lessons (Throughout all lessons in Unit 1.1). Children take ownership of their work and will be able to save their work, using a memorable file name, to their own personal space on Purple Mash and understand that this can be retrieved later Unit 1.1 Lesson 1. Most children will be able to add their name to their picture in lesson 1. In lesson 2, most children will be able to explain that their teacher was able to connect with them online to leave a message in Purple Mash. They could contribute to the class discussion relating this to other forms of digital communication. Most children will be able to give a simple explanation of the way to word comments online when given the example of their teacher commenting upon their work. Throughout this unit most children	Children demonstrate an understanding of the importance of online safety using their own private usernames and passwords for Purple Mash. 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. Children demonstrating greater depth understand the principle but not the terminology of 'intellectual property' e.g., children might say 'I am saving my work, in my folder because I have created it and it belongs to me'	

	will be able to contribute their ideas about communicating appropriately and relate online and off-line appropriate behaviour. Most children will be able to open Purple Mash and use the search bar within Purple Mash to find resources (lesson 2). They can suggest appropriate words to search with to find the results that they are looking for.		Mash where your work is stored. Only you and your teachers can access this. Private Keeping information restricted from other people.
Unit 1.9 Technology outside school			**Computer** An electronic device for storing and processing data. **Technology** Science and engineering knowledge put into practical use to solve problems or invent useful tools.
With support, children understand what is meant by technology and can identify a limited number of examples both in and out of school. Children record this using (Unit 1.9 Lesson 1. Worksheet 1) & (Unit 1.9 Lesson 2. Worksheet 1).	Children understand what is meant by technology and can identify a variety of examples both in and out of school. Children record this using (Unit 1.9 Lesson 1. Worksheet 1) & (Unit 1.9 Lesson 2. Worksheet 1). Children' discussion shows that they have a good understanding about the technological devices in use in their daily lives and how some of these facilitate communication of a variety of formats. Children can explain at a basic level that we should treat others politely regardless of the means of communication. Children can compare the speed and ease of technology to non-technological actions e.g., e-mail, buying an app or painting on screen	Children understand what is meant by technology and can identify a variety of examples both in and out of school. They can explain why a certain technology has been chosen as a solution to a specific problem. Children record this using (Unit 1.9 Lesson 1. Worksheet 1) & (Unit 1.9 Lesson 2. Worksheet 1).	
Let's create lessons 1-3 Understanding digital texts and the difference between hardware and software.			• Optional: Names of hardware, e.g. computer, visualiser, webcam, microphone, microscope, smartphone etc
• • Knows that information can be retrieved from computers. • • Knows how to operate simple equipment, e.g. turns on CD player, uses remote control etc • • Shows an interest in technological toys with knobs or pulleys or real	• • With increasing confidence log on to a school space or network. • • Begin to be aware that work is stored on the school network. • • With support access work on network; save in a prepared folder.	• Log on to a school space/network independently. • Know work is stored on school network, not individual machines. • Be aware of some areas on the network. • Save and retrieve in prepared folders on network; generally use suitable file names.	

objects such as cameras or mobile phones. • Shows skill in making toys work by pressing parts or lifting flaps to achieve effects such as sound, movements or new images.	• • Develop use of different input devices; begin to name them. • Begin to relate terms hardware and software to some resources.	• Know we use input devices to enter data. • Use different input devices with confidence. • Accurately identifies resources as hardware or software.	
Information Technology unit 1.3 Pictograms	**Information Technology unit 1.3 Pictograms**	**Information Technology unit 1.3 Pictograms**	• **Collect Data** Gathering facts and information. **Compare** Looking at what is the same and what is different. **Data** A collection of information, used to help answer questions. **Pictogram** A diagram that uses pictures to represent data. **Record Results** Writing down what you have found out. **Title** The name given to a piece of work. •
With support, children can organise a limited set of data into a physical pictogram (Unit 1.3 Lesson 1) and a virtual pictogram (Unit 1.3 Lesson 2). With support, children use this data to answer given questions. Working as a group, children can create, store, retrieve and share their pictograms (Unit 1.3 Lesson 3).	• Children can collate and organise class data into a physical pictogram (Unit 1.3 Lesson 1) and a virtual pictogram (Unit 1.3 Lesson 2) Children can then interrogate this data to answer given questions. Children can create, store, retrieve and share their own pictograms (Unit 1.3 Lesson 3). • Most children will be able to save their pictograms, using a memorable file name, to their own personal space on Purple Mash and understand that this can be retrieved later (Unit 1.3 Lesson 3.) • Children can represent simple collected data in an appropriate pictogram by using 2Count (Unit 1.3. Lesson 3). Most children can collate data from rolling a die and record the results within 2Count. They demonstrate that they can use 2Count to group c	Children can collate and organise class data into a physical pictogram (Unit 1.3 Lesson 1) and a virtual pictogram (Unit 1.3 Lesson 2) Children can then interrogate this data to present statements about the data e.g. 'The second most popular form of transport was…'. Independently, children can create, store, retrieve and share their own pictograms (Unit 1.3 Lesson 3).	

Yorke Mead Primary School
COMPUTING CURRICULUM – Herts for Learning Primary Computing Scheme 2022/23

Year 1   SPRING

Key Theme : Unit 1.2 Grouping and sorting, **Unit 1.4** Lego building, **Unit 1.6** animated story books

National Curriculum:

Units 1.2 and 1.4 Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions.

Units 1.6 Use technology purposefully to create, organise, store, manipulate and retrieve digital content

Learning Theme: Children learn to animate on screen and to create their own e-books. Instructions are taught through Lego building and the children are made aware of the importance of following instructions.

Information Technology unit 1.6	Computer Science Units 1.2 and 1.4
Key learning	**Key learning**
	Unit 1.2 Grouping and sorting X2
Unit 1.6 Animated story books X5	To sort items using a range of criteria. • To sort items on the computer using the 'Grouping' activities in Purple Mash.
To introduce e-books and the 2Create a Story tool. • To add animation to a story. • To add sound to a story, including voice recording and music the children have composed. • To work on a more complex story, including adding backgrounds and copying and pasting pages. • To share e-books on a class display board.	**Unit 1.4 Lego building X3**
	To compare the effects of adhering strictly to instructions to completing tasks without complete instructions. • To follow and create simple instructions on the computer. • To consider how the order of instructions affects the result

Previous Learning To be reinforced /WT ARE	Core Learning Intentions Age Related	Extension Opportunities Next steps/ ARE+	Key Vocabulary
Information Technology unit 1.6 Animated story books	Information Technology unit 1.6 Animated story books	Information Technology unit 1.6 Animated story books	• **Animation** An object that moves on screen. **Clip-**

With support, children use the 'My Simple Story' aspect of 2Create a Story to create a simple interactive story (Unit 1.6 Lesson 1). With limited success, children can manipulate the properties of their story by changing the images, adding animations (Unit 1.6 Lesson 2) and sound (Unit 1.6 Lesson 3) as well as typing, copying and pasting pages (Unit 1.6 Lesson 5). Children are taught the importance of saving their work, overwriting saved files and retrieving their saved work (Unit 1.6 Lesson 1).	• Children can use the 'My Story' aspect of 2Create a Story to create an interactive story (Unit 1.6 Lesson 1). • They can manipulate the properties of their story by changing the images, adding animations (Unit 1.6 Lesson 2) and sound (Unit 1.6 Lesson 3) as well as typing, copying and pasting pages (Unit 1.6 Lesson 5). • Children are taught the importance of saving their work, overwriting saved files and retrieving their saved work. Children can include their name and date within the text of their e-books. Children demonstrate their understanding by discussing e-books and by sharing their own book with others on a class display board. Children make valid comparisons between paper book and e-books. They can apply their knowledge of paper book when developing their e-books. Most children will be able to save their animated story files, using a memorable file name, to their own personal space on Purple Mash and understand that this can be retrieved later Unit 1.6 Lesson 1.	• Children can use the 'My Story' aspect of 2Create a Story to create a detailed interactive story (Unit 1.6 Lesson 1). • This demonstrates their ability to combine all the aspects available within the software e.g., recording their own sounds and importing backgrounds, to enhance their narrative. Children are taught the importance of saving their work, overwriting saved files and retrieving their saved work (Unit 1.6 Lesson 1). Furthermore, they can publish this to a class display board (Unit 1.6 Lesson 5).	**art Gallery** A place in software such as 2Create a Story where a library of images can be found and inserted into a file. **Background** An image inserted into a file that sits behind text, objects, or buttons. **E-book** A book that can be read on the computer or on a tablet. **Edit** means to change something. For example, change some text to improve it. **Font** The style of text used in a piece of writing on a Sound computer or tablet. **Sounds** can be uploaded into software from a file or created. **Sound Effect** A sound other than speech or music made for use in a play, film or computer file. **Text** Words, letters, numbers or symbols entered

			into a computer, such as writing text in 2Create a Story.
Computer Science Units 1.2 and 1.4			. **Criteria** A way in which something is judged. **Groups** Objects arranged and put together because they have features in common. **Sort** Put things together by features they have in common.
Unit 1.2 Grouping and sorting	**Unit 1.2 Grouping and sorting**	**Unit 1.2 Grouping and sorting**	
With support, children can physically sort items using a limited number of given criteria (Unit 1.2 Lesson 1). Using Purple Mash, children can sort items into two clearly defined groups using given criteria (Unit 1.2 Lesson 2).	Children can physically sort, collate, edit, present, search through, re-order and re-structure items using a range of given criteria (Unit 1.2 Lesson 1). Using Purple Mash, children can sort items into three clearly defined groups using given criteria (Unit 1.2 Lesson 2). Most children can sort physical objects using a range of criteria e.g., shape: Number of sides, colour, equal length sides etc. They can apply this skill within Purple Mash using the range of sorting activities with more than one criterion (All of Unit 1.2).	Children demonstrate their depth of understanding by creating their own criteria for items against which they can physically sort, collate, edit, present, search through, re-order and re-structure and explain their reasoning (Unit 1.2 Lesson 1). Using Purple Mash, children can also sort items into Venn diagrams using given criteria (Unit 1.2 Lesson 2).	
Unit 1.4 Lego Builders	**Unit 1.4 Lego Builders**	**Unit 1.4 Lego Builders**	
Children understand that to achieve the effect they want when building something, they need to follow instructions. They can give another child instruction to build a simple model, but their instructions might not anticipate all possibilities. Children know that computers need instructions to operate. Children can attempt to write instructions for a simple recipe but might not include all required steps.	Children can assimilate a set of simple Lego model instructions and look at the outcomes produced from these instructions. They can state where an error has occurred on one of the models from the instructions given (Unit 1.4. Lesson 1). Children understand the effect that accuracy of the instructions has on the outcome. Children can give each other precise simple instructions and follow them to create the desired outcomes for their Lego model (Unit 1.4. Lesson1). They can give another child instruction to build a simple model, anticipating	Children understand the effect that precise accuracy of the instructions has on the outcome. Children can give instructions that demonstrate they are anticipating the outcome. They can give another child detailed instruction to build a simple model, anticipating the information that the other child will need to make an accurate replica at a more detailed level. Children know that an algorithm is a set of instructions used to solve a problem or achieve an objective. Children know that an algorithm written for a computer to follow is called a program. They	

	the information that the other child will need to make an accurate replica. Children can compare their digital paintings within 2Paint and show an understanding as to why they are different. They can consider that instructions are needed to give the pictures uniformity and as such are able to follow a set of instructions (Algorithm) to achieve this (Unit 1.4. Lesson 2). Children know that an algorithm is a set of instructions used to solve a problem or achieve an objective. Children know that an algorithm written for a computer to follow is called a program. Children can debug a very simple set of printed instructions for a recipe, the approach they use should entail breaking the instructions into smaller parts to support interpretation. Most children can create a set of written instructions for other pupils to follow e.g., the 'coders and robot' game (Unit 1.4. Lesson 2). Children can confidently debug simple errors in other children's written instructions for recipes (Unit 1.4). Children understand that very precise instructions need to be given to a computer for it to accurately carry out intended outcomes. These precise instructions can be broken down into smaller parts. Children can demonstrate this by playing a 'coders and robots' game (Unit 1.4. Lesson 2).	can work out what is wrong in an algorithm when the steps are out of order and can debug the algorithm. They can write their own algorithm for a recipe	

Year 1 SUMMER

Key Theme: Unit 1.5 maze explorers, Unit 1.8 spread sheets Unit 1.7 coding

National Curriculum:

Unit 1.5 maze explorers- 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.

Unit 1.8 spread sheets- Use technology purposefully to create, organise, store, manipulate and retrieve digital content

Unit 1.7 coding - 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.

Learning Theme:
Children will continue to identify algorithms and how they are used in computing. They will be introduced to coding and the different skills that are required in this unit. This will lead to them constructing their own computer program.

Information Technology	Computer science
Key learning	**Key learning**
Unit 1.7 Spread sheets	**Unit 1.5 maze explorers**
To know what a spreadsheet program looks like. • To locate 2Calculate in Purple Mash. • To enter data into spreadsheet cells. • To use 2Calculate image tools to add clipart to cells. • To use 2Calculate control tools: lock, move cell, speak and count.	To understand the functionality of the direction keys. • To understand how to create and debug a set of instructions (algorithm). • To use the additional direction keys as part of an algorithm. • To understand how to change and extend the algorithm list. • To create a longer algorithm for an activity. • To

set challenges for peers. • To access peer challenges set by the teacher as 2Dos.

Unit 1.7 coding
To understand what instructions are and predict what might happen when they are followed. • To use code to make a computer program. • To understand what object and actions are. • To understand what an event is. • To use an event to control an object. • To begin to understand how code executes when a program is run. • To understand what backgrounds and objects are. • To plan and make a computer program.

Previous Learning	Core Learning Intentions	Extension Opportunities	Key Vocabulary
To be reinforced /WT ARE	**Age Related**	**Next steps/ ARE+**	
• Unit 1.5 Maze Explorer	• Unit 1.5 Maze Explorer	• Unit 1.5 Maze Explorer	• **Algorithm** A precise, step-by-step set of instructions used to solve a problem or achieve an objective. **Challenge** A task to be completed. **Direction** The path that something travels. For example, a robot moving forwards, backwards or diagonal. **Instruction** Detailed information about how something should be done or operated. **Left and Right** A position
• Children can use the buttons to move their character purposefully. They move one step at a time towards the goal rather than anticipating several steps. In (Unit 1.5 Lesson 2), they needed support with challenges 4 and 5 which require anticipating several steps. Children can tackle challenges 4-6 with support, though they might not complete all challenges. They are starting to be able to work out why their program doesn't work as they expect and know that it is due to the instructions which they are inputting rather than a fault with the computer understanding the instructions. With support, children can explain the possible ways to make their turtle move. When looking at a program they can 'read' the code one line at a time but might not be able to envision the bigger picture of the overall effect of the program. When presented with an example from challenges 4-6, they will struggle to work out where the turtle will end up at the end of the program but will know that it will move.	• Children can use the buttons to move their character purposefully. They can plan their moves several steps at a time towards the goal rather than one step at a time. In (Unit 1.5 Lessons 2 & 3), they were able to complete challenges 4 and 5 which require anticipating several steps. In (Unit 1.5 Lessons 2 & 3), children can complete challenges 4 and 5 which require anticipating several steps to build a program. They know that any unexpected outcome is due to the code that they have created and make logical attempts to try to fix this code rather than attributing it to a fault with the computer understanding the instructions. Children can explain the possible ways to make their turtle move in the different levels of 2Go. When looking at a program they can 'read' the code one line at a time and make good attempts to envision the bigger picture of the overall effect of the program. When presented with an example from challenges 4-6, they can sometimes work out where the turtle will end up	Children choose to plan their moves several steps at a time towards the goal even reaching the goal in one 'run' of the program rather than one step at a time. In (Unit 1.5 Lessons 2 & 3, they were able to complete challenges 4 - 6 which require anticipating several steps with ease. Children challenge themselves by creating their own complex challenges. Children choose to plan their moves several steps at a time towards the goal. In (Unit 1.5 Lessons 2 & 3), they can complete challenges 4 - 6 which require anticipating several steps with ease. Children challenge themselves by creating their own complex challenges. They intuitively debug their	

	at the end of the program and when they are incorrect, they will make good attempts to work out why. Most children will be able to save their 2go maze files, using a memorable file name, to their own personal space on Purple Mash and understand that this can be retrieved later Unit 1.5 Lesson 4. Using 2Go, children can use simple direction keys in conjunction with a number pad (add a unit of measurement) to move an on-screen character to specific locations on a screen. They demonstrate that their sequence of buttons relates to their thinking of how to solve a problem of getting character from point A to point B (Unit 1.5. Lesson 1). As children move through this unit, they demonstrate an ability to successfully use diagonal direction keys combined with number pad to refine their solution for solving a problem (Unit 1.5. Lessons 2 to 3). Most children can make a screen character 'sprite' navigate to a specific place using 2Go. Using strategies such as drawing the route with their finger, counting squares with a grid and testing how many squares each command moves the character, the children have broken down a problem to solve a solution (Unit 1.5. Lesson 1). Children can use the 'list' feature in 2Go to generate an algorithm to solve a given problem. They test their instructions until they finally make an algorithm which works (Unit 1.5. Lesson 2). Their skill of breaking down a problem to solve it is evident in their ability to create increasingly longer and more complex algorithms, including number of units moved and diagonal controls (Unit 1.5. Lessons 3 & 4). Most children can change an algorithm to create a different outcome when using 2Go. Their skill at debugging an algorithm and then changing it to perform an intended outcome is secure.	code knowing that any unexpected outcome is down to the code and not the computer's understanding. Children can explain the possible ways to make their turtle move in the different levels of 2Go. When looking at a program they can 'read' the code one line and envision the bigger picture of the overall effect of the program. When presented with an example from challenges 4-6, they can often work out where the turtle will end up at the end of the program and when they are incorrect, they are able to work out why	which relates to something. For example, make the fish move left of the screen. **Route** A path an object or thing takes to get somewhere. **Undo** If we make a mistake, we can press the undo button. Unit A unit such as make the turtle move 2 units (squares).

	Children use alternative algorithms to achieve the same outcomes, beginning to understand refinement of instruction (Unit 1.5. Lesson 3).		
● Unt 1.8 Spread sheets	**● Unt 1.8 Spread sheets**	**● Unt 1.8 Spread sheets**	**● Lock cell** This feature lets a user lock a cell so its contents can't be deleted. **Speak tool** This tool will speak the contents of a cell containing a number each time the value changes. **Calculations** Maths calculations can be entered into a cell. For example, the total of two cells can be added together using a calculation that appears in a new cell. **Column** Boxes running vertically in a spreadsheet. **Move cell** The move tool lets a user move the contents of a cell to a new cell. **Spreadsheet** A computer program that represents information in a grid of rows and columns. **Cell** An individual section of a spreadsheet grid. It contains data or calculations. **Count**
With support, children can save and open sheets (Unit 1.8 Lesson 1), enter a limited quantity of data into cells (Unit 1.8 Lesson 1), manipulate data using the 'move cell' tool (Unit 1.8 Lesson 2) and use the image toolbox to add clipart (Unit 1.8 Lesson 2).	Using the 2Calculate spreadsheet, children can save and open sheets (Unit 1.8 Lesson 1). Most Children will be able to save their 2Calculate files, using a memorable file name, to their own personal space on Purple Mash and understand that this can be retrieved later. They can enter data into cells (Unit 1.8 Lesson 1), manipulate data using the 'move cell' tool (Unit 1.8 Lesson 2) and use the image toolbox to add clipart (Unit 1.8 Lesson 2).	Using the 2Calculate spreadsheet, children can save and open sheets (Unit 1.8 Lesson 1), enter data into cells (Unit 1.8 Lesson 1), manipulate data using the 'move cell' tool (Unit 1.8 Lesson 2) and use the image toolbox to add clipart (Unit 1.8 Lesson 2). Children will demonstrate greater depth by explaining the data and sorting it (suggested extension).	

			tool in 2Calculate, this counts the number of cells with a value that matches the value of the cell to the left of the tool. Image A drawing or photograph that users can import into a file. Row Boxes running horizontally in a spreadsheet. Value Images can have values given to them. For example, an apple could be given a value of 1 and a
Unit 1.7 coding	**Unit 1.7 coding**	**Unit 1.7 coding**	• **Action** Types of commands which are run on an object. They could be used to move an object or change a property. **Algorithm** A precise step by step set of instructions used to solve a problem or achieve an objective. **Background** The part of the program design that shows behind everything else. It sets the scene for the story or game. Key Vocabulary **Code** Instructions written
• Children can use the buttons to move their character purposefully. They move one step at a time towards the goal rather than anticipating several steps. In (Unit 1.5 Lesson 2), they needed support with challenges 4 and 5 which require anticipating several steps. Children can tackle challenges 4-6 with support, though they might not complete all challenges. They are starting to be able to work out why their program doesn't work as they expect and know that it is due to the instructions which they are inputting rather than a fault with the computer understanding the instructions. With support, children can explain the possible ways to make their turtle move. When looking at a program they can 'read' the code one line at a time but might not be able to envision the bigger picture of the overall effect of the program. When presented with an example from challenges	• Children can use the buttons to move their character purposefully. They can plan their moves several steps at a time towards the goal rather than one step at a time. In (Unit 1.5 Lessons 2 & 3), they were able to complete challenges 4 and 5 which require anticipating several steps. In (Unit 1.5 Lessons 2 & 3), children can complete challenges 4 and 5 which require anticipating several steps to build a program. They know that any unexpected outcome is due to the code that they have created and make logical attempts to try to fix this code rather than attributing it to a fault with the computer understanding the instructions. Children can explain the possible ways to make their turtle move in the different levels of 2Go. When looking at a program they can 'read' the code one line at a time and make good attempts to envision the bigger picture of the overall effect of the program. When	• Children choose to plan their moves several steps at a time towards the goal even reaching the goal in one 'run' of the program rather than one step at a time. In (Unit 1.5 Lessons 2 & 3), they were able to complete challenges 4 - 6 which require anticipating several steps with ease. Children challenge themselves by creating their own complex challenges. Children choose to plan their moves several steps at a time towards the goal. In (Unit 1.5 Lessons 2 & 3), they can complete challenges 4 - 6 which require anticipating several steps with ease. Children challenge themselves by creating their own complex challenges. They intuitively debug their code knowing that any unexpected outcome is down to the code and not the computer's understanding. Children can explain the possible ways to make their turtle move in the different levels of 2Go. When looking at a program they can	

4-6, they will struggle to work out where the turtle will end up at the end of the program but will know that it will move.

presented with an example from challenges 4-6, they can sometimes work out where the turtle will end up at the end of the program and when they are incorrect, they will make good attempts to work out why. Most children will be able to save their 2go maze files, using a memorable file name, to their own personal space on Purple Mash and understand that this can be retrieved later Unit 1.5 Lesson 4. Using 2Go, children can use simple direction keys in conjunction with a number pad (add a unit of measurement) to move an on-screen character to specific locations on a screen. They demonstrate that their sequence of buttons relates to their thinking of how to solve a problem of getting character from point A to point B (Unit 1.5. Lesson 1). As children move through this unit, they demonstrate an ability to successfully use diagonal direction keys combined with number pad to refine their solution for solving a problem (Unit 1.5. Lessons 2 to 3). Most children can make a screen character 'sprite' navigate to a specific place using 2Go. Using strategies such as drawing the route with their finger, counting squares with a grid and testing how many squares each command moves the character, the children have broken down a problem to solve a solution (Unit 1.5. Lesson 1). Children can use the 'list' feature in 2Go to generate an algorithm to solve a given problem. They test their instructions until they finally make an algorithm which works (Unit 1.5. Lesson 2). Their skill of breaking down a problem to solve it is evident in their ability to create increasingly longer and more complex algorithms, including number of units moved and diagonal controls (Unit 1.5.

'read' the code one line and envision the bigger picture of the overall effect of the program. When presented with an example from challenges 4-6, they can often work out where the turtle will end up at the end of the program and when they are incorrect, they are able to work out why.

using symbols and words that can be interpreted by a computer. **Command** A single instruction in a computer program. **Debug/Debugging** Finding a problem in the code and fixing it. **Event** Something that causes a block of code to be run. **Execute** To run a computer program. Input Information going into the computer. Can include moving or clicking the mouse, using the keyboard, swiping and tilting the device

	Lessons 3 & 4). Most children can change an algorithm to create a different outcome when using 2Go. Their skill at debugging an algorithm and then changing it to perform an intended outcome is secure. Children use alternative algorithms to achieve the same outcomes, beginning to understand refinement of instruction (Unit 1.5. Lesson 3).		

Yorke Mead Primary School
COMPUTING CURRICULUM – Herts for Learning Primary Computing Scheme 2022/23

Year 2   AUTUMN

Key Theme: Unit 2.4 Questioning, Investigating which software support writing (Herts) unit 2.6 Creating pictures/ comparing digital and non-digital images (Herts) Unit 2.7 Making music

National Curriculum
Units 2.4, 2.6, 2.7   Comparing digital and non-digital images.
Use technology purposefully to create, organise, store, manipulate and retrieve digital content

Learning Theme:
Children build understanding of digital texts. They use varied devices and software with increased precision to create digital content. They revisit differences between input and output and hardware and software. They develop understanding of networks related to computers at home and school, logging on to their areas. They build understanding of algorithms using unplugged approaches. They develop eSafe practice.

Information Technology	Digital Literacy
Key Learning	
	Key Learning
Unit 2.4 Questioning	
To learn about data handling tools that can give more information than pictograms. • To use yes/no questions to separate information. • To construct a binary tree to identify items. • To use 2Question (a binary tree database) to answer questions. • To use a database to answer more complex search questions. • To use the Search tool to find information.	**Investigating ways in which software supports writing. (Herts)**
	Demonstrate how to use 2Simple 2Paint a Picture – show how to change pen size/colour. Choose the swirly option.
Unit 2.6 Creating pictures	Explain that we are going to make the same picture in a classroom using traditional methods.
To learn the functions of the 2Paint a Picture tool. • To learn about and recreate the Impressionist style of art (Monet, Degas, Renoir). • To recreate Pointillist art	Ask what traditional methods are for creating a painting/drawing?

and look at the work of pointillist artists such as Seurat. • To learn about the work of Piet Mondrian and recreate the style using the lines template. • To learn about the work of William Morris and recreate the style using the patterns template. • To explore surrealism and eCollage.

Unit 2.7 Making music
To make music digitally using 2Sequence. • To explore, edit and combine sounds using 2Sequence. • To edit and refine composed music. • To think about how music can be used to express feelings and create tunes which depict feelings. • To upload a sound from a bank of sounds into the Sounds section. • To record and upload environmental sounds into Purple Mash. • To use these sounds to create tunes in 2Sequence.

Previous Learning To be reinforced /WT ARE	Core Learning Intentions Age Related	Extension Opportunities Next steps/ ARE+	Key Vocabulary
Unit 2.4 Questioning	**Unit 2.4 Questioning**	**Unit 2.4 Questioning**	**Binary Tree** A simple way of sorting information into two categories. Key Vocabulary Data A collection of information, used to help answer questions. Database A computerised system that makes it easy to search, select and store information. Field A single piece of data in a database which makes up a
With support, children can create basic pictograms using 2Count to represent a simple data set (Unit 2.4 Lesson 1). Children may need concrete representation to understand how to organise and search for data. With support, this physical representation can then be transferred into 2Investigate and used to answer simple questions on a data set (Unit 2.4 Lesson 5). Using 2Question, children use a binary tree to sort information and can manipulate their	Using 2Count, children can create pictograms to represent data (Unit 2.4 Lesson 1). Children demonstrate their ability to organise data using a database in 2Investigate and can run simple searches on their data set (Unit 2.4 Lesson 5). Using 2Question, children use a binary tree to sort information and can manipulate their data, answering questions relating to this (Unit 2.4 Lesson 4). Children will store and retrieve data throughout Unit 2.4. Most children will be able to design their own physical binary tree to sort pictures of children (Unit 2.4 Lesson 3). They will be able to apply this skill into using 2Question to answer questions. Most children can design a binary tree using 2Question to sort pictures (Unit 2.4. Lesson 3). They can use	Using 2Count, children can create pictograms to represent data (Unit 2.4 Lesson 1). Children demonstrate their ability to organise data using a database in 2Investigate and can run complex searches on their data set (Unit 2.4 Lesson 5). Using 2Question, children use a binary tree to sort information and can manipulate their data, answering questions relating to this (Unit 2.4 Lesson 4). Children will store and retrieve data throughout Unit 2.4. Children demonstrating greater depth can create their own questions using the data and will use skills covered in other units to assist with this.	

data, answering questions relating to this (Unit 2.4 Lesson 4). With support, children can store and retrieve data throughout Unit 2.4.	their own created binary trees to support the answering of related questions to the data (Unit 2.4. Lesson 5).		record. Pictogram A diagram that uses pictures to represent data. Question A sentence written or spoken to find information. Record An item in a database with a variety of information about a specific entry. Search Looking for specific information. On a database, you can use the 'Find' tool. Sort Put things together by features they have in common.
Unit 2.6 Creating pictures	**Unit 2.6 Creating pictures**	**Unit 2.6 Creating pictures**	Art A visual form of creative activity and imagination. Fill Causing an area to become full, in this case, of colour. Palette Within computer graphics, this is the range of colours or shapes available to the user. Style A particular way in which something looks or is formed. Impressionism The impressionist
• Teachers may wish to allocate tablets to children who have difficulty in controlling a mouse. With support children can create an image on 2Paint a Picture replicating an established style e.g., pointillism (Unit 2.6 Lesson 2). Children can enhance a picture using the tools within 2Paint a Picture which demonstrates their ability to manipulate a digital image (Throughout all lessons in Unit 2.6). Throughout this unit, children show that they can efficiently store and retrieve their work from their saved area on Purple Mash.	• Using 2Paint a Picture, children can create an image replicating an established style e.g., pointillism (Unit 2.6 Lesson 2). Children can enhance a picture using the tools within 2Paint a Picture which demonstrates their ability to manipulate a digital image (Throughout all lessons in Unit 2.6). They can combine and use multiple effects & features to enhance their patterns, such as rotational effects, repeat style buttons and size slider (Unit 2.6. Lesson 4). Throughout this unit, children show that they can efficiently store and retrieve their work from their saved area on Purple Mash. Most children will be able to successfully create their own pieces of inspired art using 2Paint a Picture. They will be able to use a range of effects and	• To demonstrate greater depth, children achieve expected outcomes. In addition to this, using the eCollage (Unit 2.6 Lesson 5) tool on 2Paint a Picture, they can upload a background image of their choice and manipulate this using the tools and ability to layer images to create a given style. In doing this, children demonstrate their ability to seamlessly use all aspects of the software and therefore greater depth. Throughout this unit, children show that they can efficiently store and retrieve their work from their saved area on Purple Mash.	

	functions, such as e-collage, in 2Paint a Picture (Unit 2.6. Lesson 4) & (Unit 2.6. Lesson 5).		movement began in the 1860s and became most popular in the 1870s and 1880s. It differed from the common art of the time because it wasn't religious art, showing scenes from religious stories or specific events, but was just intended to capture a scene at a moment. The art gave an 'impression' of the scene. Pointillism Pointillism was a development of impressionism. It was invented mainly by George Seurat and Paul Signac. Pointillist paintings are created by using small dots in different colours to build up the whole picture. Colours are placed near each other rather than mixed. Surrealism Explored the subconscious areas of the mind.

			The artwork often made little sense as it was usually trying to depict a dream or random thoughts.
Unit 2.7 Making music	**Unit 2.7 Making music**	**Unit 2.7 Making music**	•
• With support, children use the sounds within 2Sequence to create a simple composition (Unit 2.7 Lesson 1). They demonstrate their ability to manipulate digital content by editing and amending their composition (Unit 2.7 Lesson 1). Throughout this unit, with support, children show that they can store and retrieve their work from their saved area on Purple Mash.	• Children use the sounds within 2Sequence to create a composition (Unit 2.7 Lesson 1). They demonstrate their ability to manipulate digital content by editing and amending their composition (Unit 2.7 Lesson 1). They will have explored different sounds to utilise within their tune and functions such as tempo (Unit 2.7 Lesson 1). Children create, upload, and use their own sounds as part of this (Unit 2.7 Lesson 3). Throughout this unit, children show that they can efficiently store and retrieve their work from their saved area on Purple Mash.	• Children achieve all expected outcomes. In addition, using 2Beat, children can create a simple drum composition and export this as an mp3. They can then upload this into 2Sequence allowing them to add greater complexity to their composition. In doing this, children demonstrate their ability to seamlessly use all aspects of the software and therefore greater depth. Throughout this unit, children show that they can efficiently store and retrieve their work from their saved area on Purple Mash.	• Sound Effect A sound other than speech or music. Soundtrack A recording of the musical accompaniment of a film or tv programme. Speed The number of beats per minute (bpm) played in the music. Tempo The speed at which the music plays. Volume How loud or quiet the music is. Compose To create a piece of music. Note A single tone in music. Beat A rhythmic unit in music.
• **Investigating ways in which software supports writing. (Herts)**	• **Investigating ways in which software supports writing. (Herts)**	• **Investigating ways in which software supports writing. (Herts)**	•

• Purposefully use suggested digital tools for their work.	• **Purposefully use suggested digital tools for their work, including simple word processing and graphics** • **With limited support create a simple animation using given images** • **Discuss how they use technology for still image and animation in and beyond school** • **Share their work with others, beginning to use feedback and self-review to improve their work** •	• **Selects the appropriate tool from a limited range to create and amend their work, including simple word processing and graphics** • **Create a simple animation selecting their images** • **Talk about how they use technology for their still image and animation work at home and school** • **Share their work with others, use feedback and elf-review to improve their work.** •	• Digital texts • Non-digital • Animation • Word processing terms: font, bold, italic, highlight, style

Year 2 SPRING

Key Theme : Unit 2.5 effective searching U**nit 2.8** Presenting ideas   Mind Maps (Herts) **Unit 2.3** Spreadsheets

National Curriculum:

Recognise common uses of information technology beyond school.

Use technology purposefully to create, organise, store, manipulate and retrieve digital content

Learning Theme:

Children develop understanding of researching using non-digital and digital sources, including the World Wide Web. They understand the need to check their research results. They present their research. They use charts, graphs and mind maps. They begin to respect copyright and ownership and know who to talk to if they are worried.

Information Technology	Digital Literacy
Unit 2.8 Presenting ideas Key Learning To explore how a story can be presented in different ways. • To make a quiz about a story or class topic. • To make a fact file on a non-fiction topic. • To make a presentation to the class. **Unit 2.3 Spreadsheets key learning** To use 2Calculate image, lock, move cell, speak and count tools to make a counting machine. • To learn how to copy and paste in 2Calculate. • To use the totalling tools. • To use a spreadsheet for money calculations. • To use the 2Calculate equals tool to check calculations. • To use 2Calculate to collect data and produce a graph. **Mind Maps (Herts) key learning** They present their research. They use charts, graphs and mind maps. They begin to respect copyright and ownership and know who to talk to if they are worried.	**Unit 2.5 Effective Searching Key Learning** • To understand the terminology associated with searching. • To gain a better understanding of searching on the Internet. • To create a leaflet to help someone search for information on the Internet.

Previous Learning To be reinforced /WT ARE	Core Learning Intentions Age Related	Extension Opportunities Next steps/ ARE+	Key Vocabulary
Unit 2.8 Presenting ideas	**Unit 2.8 Presenting ideas**	**Unit 2.8 Presenting ideas**	

With support throughout, children use the software 2Create a Story on Purple Mash to create a simple narrative (Unit 2.8 Lesson 4). An emerging child will be able to explain their narrative to the teacher whilst referring to their 2Create a Story file. Throughout this unit, with support, children show that they can store and retrieve their work from their saved area on Purple Mash.	Children use the software 2Quiz (Unit 2.8 Lesson 2) 2Publish+, 2Connect (Unit 2.8 Lesson 3) and 2Create a Story on Purple Mash to create and present a narrative (Unit 2.8 Lesson 4). This demonstrates the children's understanding of how digital content can be represented in many forms. Throughout this unit, children show that they can efficiently store and retrieve their work from their saved area on Purple Mash. Throughout this unit, children are presenting ideas in different formats for different audiences. Most children can adapt their content to suit the audience and format. When children feedback to others whether face-to-face or online, their input shows consideration for the other person's feelings. Most children will be able to use Purple Mash as a platform for collaboration. Specifically, they will create a presentation for their class using a tool of their choice (Unit 2.8 Lesson 4). Most children can plan their own presentation which will utilise either: 2Connect, 2Create a Story or a Publishing Template (Unit 2.8 Lesson 4). They will effectively select the most appropriate tool to use during the planning and resource gathering stage of the task (Unit 2.8 Lesson 4). Most children can make improvements to their quizzes they have made in 2Quiz, fully able to select the most appropriate question out of the 8 choices (Unit 2.8. Lesson 2). Children can utilise a variety of software to manipulate and present	Independently, children choose the software to use to represent their narrative and reason why- 2Quiz (Unit 2.8 Lesson 2) 2Publish+, 2Connect (Unit 2.8 Lesson 3) on Purple Mash to create and present a narrative (Unit 2.8 Lesson 4). This demonstrates the children's understanding of how digital content can be represented in many forms. Throughout this unit, children show that they can efficiently store and retrieve their work from their saved area on Purple Mash.	**E-book** An electronic version of a printed book that can be read on a computer or a specifically designed handheld device. **Fact file** A document containing all the important information about one subject. **Fiction** A book or story that is written about imaginary characters and events and not based on real people or places. **Mind map** A tool for organising and representing knowledge. They form a web of ideas which are all interconnected. **Node** A way to represent a concept or idea using text and/or images. **Non-fiction** Writing that is about real people or events rather than stories that have **Quiz** A test of knowledge,

	digital content and information (Unit 2.8. Lesson 3).		especially as a competition between individuals or teams as a form of entertainment.
Unit 2.3 Spreadsheets	**Unit 2.3 Spreadsheets**	**Unit 2.3 Spreadsheets**	**Block Graph** This is a type of graph that displays data with blocks. These can be made using cells, colours and labels in 2Calculate **Cell** An individual section of a spreadsheet grid. It contains data or calculations. **Count tool** in 2Calculate, this counts the number of cells with a value of the cell to the left of the tool. **Copy** This feature copies the contents of highlighted cells without deleting the contents of them into a clipboard. **Drag** Contents of a cell can be dragged to another cell using the drag tool in 2Calculate. **Equals** This symbol can be used in 2Calculate to find the answer to a calculation. **Equals tool** Tests whether the entered calculation in the cells to the left of the tool has the correct answer in the cell to
With support, children can open, edit and save sheets in 2Calculate (Throughout Unit 2.3). Children can enter a small set of data into cells (Throughout Unit 2.3). With support, they can allocate a value to an image (Unit 2.3 Lesson 1) and manipulate data using copying, cutting and pasting allowing them to solve puzzles (Unit 2.3 Lesson 2) - support in the form of a visual prompt may be given here to aid children in using keyboard short cuts). Children use images and can present data in a variety of ways (Unit 2.3 Lesson 4).	Using the 2Calculate spreadsheet, children can open, edit and save sheets (Throughout Unit 2.3). Children can enter data into cells (Throughout Unit 2.3), allocate a value to an image (Unit 2.3 Lesson 1) and manipulate data using copying, cutting and pasting allowing them to solve puzzles (Unit 2.3 Lesson 2). Children use images and can present data in a variety of ways (Unit 2.3 Lesson 4). Most children will be able to create a spreadsheet which includes a graph based on simple data collected. Their planned spreadsheet and graph are likely to contain pre-compiled shared data. They can add colour and appropriate labels to their spreadsheet and graph respectively (Unit 2.3. Lesson 4). Most children will be able to produce a spreadsheet which can help them solve simple mathematical puzzles, calculate how many coins are required to pay for an amount and present data graphically. Using spreadsheets, the children can model an idea through them (Unit 2.3.). Children can utilise spreadsheets both own and pre-made to manipulate data e.g., create a manual graph from a table, produce desired calculations on numerical data e.g., simple addition calculations (Unit 2.3. Lesson 3). Children can answer questions on data e.g., the most and least popular flavours (Unit 2.3. Lesson 4). Most children will be able to use 2Calculate to record collected data into a table	Using the 2Calculate spreadsheet, children can independently open, edit and save sheets and support others in doing this (Throughout Unit 2.3). Children can enter a wider amount data into cells (Throughout Unit 2.3), allocate a value to an image (Unit 2.3 Lesson 1) and manipulate data seamlessly using keyboard short cuts for copying, cutting and pasting, allowing them to solve puzzles (Unit 2.3 Lesson 2). Children use images and can present data in a variety of ways (Unit 2.3 Lesson 4). Children will demonstrate greater depth by explaining the data and summarising this into simple statements (Unit 2.3 Lesson 4).	

	and use this data to create a block graph manually (Unit 2.3. Lesson 4).		the right of the tool. **Label** A way to identify data in a spreadsheet. For example, a label heading for ice cream flavours children like. **Row** Vertical reference points for the cells in a spreadsheet. **Speak tool** This tool will speak the contents of a cell containing a number each time the value changes. **Table** Tables can be created in 2Calculate, these have headings and are a neat **Column** Horizontal reference points for the cells in a spreadsheet. **Total** In 2Calculate the total tool will calculate the total of all cells above, below or next to it dependent on which total tool used. --------------------- **Digital Footprint** The information about a person that exists on the Internet as a result of their online activity. **Network** Connected devices that can
Mind Maps (Herts)	**Mind Maps (Herts)**	**Mind Maps (Herts)**	
n/a	use technology purposefully to create, organise, store, manipulate and retrieve digital content. Create simple mind maps	• Know he areas on the network they need to use. • Create folders to save and retrieve work in on network. Use suitable file names	
• **Unit 2.5 Effective Searching**	• **Unit 2.5 Effective Searching**	• **Unit 2.5 Effective Searching**	
With support, children can retrieve relevant digital content using a search engine. Children understand the basic terminology of internet, such as: internet, search, webpage and world wide web (Unit 2.5 Lesson 1). Furthermore, they can identify the layout points and features of a search engine (Unit 2.5 Lesson 2) such as- 'search bar', 'number of results' and 'key information'. Using this knowledge, they can attempt a simple quiz about the internet (Unit 2.5 Lesson 1). Using 2Publish+, children can create a leaflet to demonstrate what they have learned- this may demonstrate a limited understanding but is factually correct (Unit 2.5 Lesson 3). Children can apply their learning of effective searching beyond the classroom.	Children can effectively retrieve relevant, purposeful digital content using a search engine. Children understand the terminology (Unit 2.5 Lesson 1), layout and features of a search engine (Unit 2.5 Lesson 2). Using this knowledge, they can answer a quiz about the internet (Unit 2.5 Lesson 1). Children can apply their learning of effective searching beyond the classroom. In lesson 2, children can relate the creation of a digital footprint to their search history and make contributions to the class discussion about this. Most children will plan and create their own leaflet within Purple Mash which shares their learning about safe searching. They will actively seek out the most appropriate template to use from the three suggested ones which will bring their plan to life (Unit 2.5. Lesson 3). Most children can successfully find the solutions for answers to a problem or quiz using a search engine	Independently, children can effectively retrieve relevant, purposeful digital content using a search engine and can alter the search phrase to yield relevant results. Children understand the terminology (Unit 2.5 Lesson 1), layout and features of a search engine (Unit 2.5 Lesson 2) and use this to assist with its	

	(Unit 2.5. Lesson 2). They understand that they do not have to search for just words, they can also ask a search engine a question (Unit 2.5. Lesson 2).		send and receive information, voice and video. **Domain** Part of the Internet owned by an individual, company or organisation. **Search Engine** A program to help you find web pages on the Internet. **Web Address** Identifying address for a file or web page on the Internet. Also known as URL. **Web Page** A single page which can include images, videos and charts.

Year 2 SUMMER

Key Theme : Unit 2.2   Online Safety   Unit 2.1 Coding

National Curriculum:

Unit 2.2 Online Safety
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.

Unit 2.1 Coding
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.

Learning Theme:
The online safety units within the Computing Scheme of Work provide in-depth coverage of computing related online safety aspects.
Children will be learning how to use the Search tool to find resources on Purple Mash. • They will be using 2Paint-a-Picture. • They will be sharing work to a Display Board. • They will be using 2Respond (2Email) to start to communicate by email on Purple Mash. • They will be learning about what a digital footprint is and how to think about the information that they leave online.

Computer Science Unit 2.1 Coding	Digital Literacy Unit 2.2 Online Safety
Key Learning To understand what an algorithm is. • To create a computer program using an algorithm. • To create a program using a given design. • To understand the collision detection event. • To understand that algorithms follow a sequence. • To design an algorithm that follows a timed sequence. • To understand that different objects have different properties. • To understand what different events do in code. • To understand the function of buttons in a program. • To understand and debug simple programs	**Key Learning** To know how to refine searches using the Search tool. • To use digital technology to share work on Purple Mash to communicate and connect with others locally. • To have some knowledge and understanding about sharing more globally on the Internet. • To introduce Email as a communication tool using 2Respond simulations. • To understand how we should talk to others in an online situation. • To open and send simple online communications in the form of email. • To understand that information put online leaves a digital footprint or trail. • To identify the steps that can be taken to keep personal data and hardware secure.

Previous Learning To be reinforced /WT ARE	**Core Learning Intentions** Age Related	**Extension Opportunities** Next steps/ ARE+	**Key Vocabulary**
Unit 2.2 Online Safety With support, children are beginning to understand how to use the Purple Mash search bar and know the implications of inappropriate searches (Unit 2.2 Lesson 1). With support, they can share their work using the display board (Unit 2.2 Lesson 1). Furthermore, using 2Respond activities, the children develop an understanding of how to use email safely and responsibly (Unit 2.2 Lesson 2). They also know how to report inappropriate content to their teacher.	• Unit 2.2 Online Safety Children understand how to use the Purple Mash search bar and know the implications of inappropriate searches (Unit 2.2 Lesson 1). Most children will be able to explain what a digital footprint is, that it is permanent and their online behaviour influences what it shows (lesson 3). Most children will be able to give reasons for keeping their password safe that include protecting their personal information. Most children will be able to express the good and bad sides of digital technology. In lesson 3, they can give examples of positive effects on life as well as negative. Children add their name to work but show a differentiation between full name and first name only when information is to be shared online. Most children will be able to share their work to a Display Board (lesson 1). By sharing their work using the display board, children begin to understand how things are shared electronically (Unit 2.2 Lesson 1). Most children will be able to open and respond to simulated emails in 2Email (lesson 2) Most children will be able to open and send email responses to simulated emails in 2Email (Unit 2.2 Lesson 2). Furthermore, using 2Respond activities the	• Unit 2.2 Online Safety Children understand how to use the Purple Mash search bar (Unit 2.2 Lesson 1) and for greater depth can refine searches using Boolean search terms (AND, OR NOT). They know the implications of inappropriate searches. Children can share their work using the Display Board and begin to understand how things are shared electronically (Unit 2.2 Lesson 1). Furthermore, using 2Respond activities, the children develop an understanding of how to use email safely and responsibly (Unit 2.2 Lesson 2). They also know how to report inappropriate content to their teacher.	• **Attachment** A computer file sent with an email. **Digital footprint** the information about a person that exists on the Internet as a result of their online activity. **Filter** A feature of search engines, where a user can filter results according to criteria. For example, news, date published. Internet A way to send information from one computer to another anywhere in the world using technology such as phones, satellites and radio links. Personal information This is information that is

	children develop an understanding of how to use email safely and responsibly (Unit 2.2 Lesson 2). They also know how to report inappropriate content to their teacher		personal to someone. For example, their favourite food, their name and age. **Private information** This is personal information that should be kept secure. For example, their date of birth, their full address, credit card numbers. Secure Users online should take steps to help keep their personal and private information secure.
• Unit 2.1 Coding	• Unit 2.1 Coding	• Unit 2.1 Coding	• **Action** Types of commands, which are run on an object. They could be used to move an object or change a property. **Background** In 2Code the background is an image in the design that does not change. **Algorithm** A precise step by step set of instructions used to solve a problem or achieve an objective. **Bug** A problem in a computer program that stops it working the way it was
Children know that an algorithm is related to giving instructions. They can relate a simple one-step algorithm to the outcome of code in Free code Chimp. For example, in Lesson 1 they have been able to make a program that follows the algorithm e.g., 'when the helicopter is clicked it takes off'. With support, children can create a simple one step program that achieves a specific purpose. With support, children can identify and correct errors (Unit 2.1 Lesson 6). With support, children can identify the parts of an algorithm that control and initiate specific actions. Based on this, with support, children can predict what will happen in a program (Unit 2.1 Lesson 4).	Children can explain that an algorithm is a set of instructions to complete a task. They have turned algorithms of more than one step into code using free code Chimp. For example, in Lesson 4 and 5 they have been able to make a program that follows their algorithm e.g., 'when the animal is clicked it moves forward then turns right'. Children show an awareness of the need to be precise in their designs so that algorithms can be successfully translated into code. (Unit 2.1 Lesson 5). Children use a planning format on paper before implementing on screen within 2Code as they recognise this is the best approach for designing a solution. They can use the Design Mode within 2Code	Children can explain and give examples that an algorithm is a set of instructions to complete a specific task. They can create complex and logical algorithms of several steps that accomplish the aim of the task that can be easily utilized to create executable code. Children show an awareness of the need to be precise in their designs so that algorithms can be successfully translated into code (Unit 2.1 Lesson 5). Children can create more complex programs that utilize all the coding constructs that they have learnt about and extend their own learning by trying out different ways to code that achieve a specific purpose. Children can identify and correct	

	to carefully see how their planned program will look and are able to switch into Code Mode to apply movements to objects (Unit 2.1. Lesson 4). They confidently include objects, actions, events and outputs successfully within their 2Code programs. Children can talk through code which contains a timer command, explaining where this command is positioned and what will happen (Unit 2.1. Lesson 3). Children can predict program outcomes and attempt to debug. For example, (Unit 2.1 Lesson 6). Children can identify the parts of a program that respond to specific events and initiate specific actions. Based on this, children can predict and describe, using a cause and effect sentence, what will happen in a program. (Unit 2.1 Lesson 6). Children can debug their own and other's programs using design documentation to test against (Unit 2.1 Lesson 6)	errors. For example, (Unit 2.1 Lesson 6). An exceeding pupil will be able to apply their knowledge as a transferable skill across a range of debugging scenarios including making logical attempts to debug their own more complex code. Children can identify the parts of a program that respond to specific events and initiate specific actions. Based on this, children can adopt a systematic approach for predicting the behaviour of programs. Furthermore, using cause and affect language, Children can reason in detail about what will happen in a program. For example, (Unit 2.1 Lesson 5).	designed. **Click events** An event that is triggered when the user clicks on an object. **Collision detection** In 2Code, this measures whether 2 objects have touched each other. **Command** A single instruction in 2Code. **Debug / Debugging** Fixing code that has errors so that the code will run the way it was designed to. **Event** An occurrence that causes a block of code to be run. The event could be the result of user action such as the user pressing a key or clicking the screen. **Execute** This is the proper word for when you run the code. We say, 'the program (or code)

Yorke Mead Primary School
COMPUTING CURRICULUM – Herts for Learning Primary Computing Scheme 2022/23

Year 3 AUTUMN

Key Theme: Unit 3,2 Online Safety Unit 3.3 Spreadsheets

National Curriculum:

Unit 3.2 Use technology safely, respectfully, and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.

Init 3.3 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.

Learning Theme:

Information Technology Unit 3.3 Spreadsheets	Digital Literacy Unit 2.2 Online Safety
Key Learning	**Key Learning**
• To know what makes a safe password. • To learn methods for keeping passwords safe. • To understand how the Internet can be used in effective communication. • To understand how a blog can be used to communicate with a wider audience. • To consider the truth of the content of websites. • To learn about the meaning of age restrictions symbols on digital media and devices.	To know what makes a safe password. • To learn methods for keeping passwords safe. • To understand how the Internet can be used in effective communication. • To understand how a blog can be used to communicate with a wider audience. • To consider the truth of the content of websites. • To learn about the meaning of age restrictions symbols on digital media and devices.

Previous Learning To be reinforced /WT ARE	Core Learning Intentions Age Related	Extension Opportunities Next steps/ ARE+	Key Vocabulary
			•
Unit 3.3 Spreadsheets	• Unit 3.3 Spreadsheets	• Unit 3.3 Spreadsheets	

• Children know that they can use a spreadsheet to present their collected data as a chart or graph (lesson 1). With support, they can create and begin to interpret graphs of simple data. They are beginning to understand the use of symbols to represent more than, less than and equals to and use the spreadsheet tools to explore the outcome of comparing numbers and calculations (lesson 2). Children can find specific cell locations within a spreadsheet (lesson 3).	• Most children can create a table of data on a spreadsheet and can use this to automatically create charts/graphs from data. Children will be able to select the most suitable type of chart to use for their data, edit headers and apply axis labels (Unit 3.3. Lesson 1). Children can create their own number lines within 2Calculate including 'more than', 'less than' and 'equal' tools (Unit 3.3. Lesson 2). Children can collect and enter data within 2Calcualte, they are able to use the graphing tool to create suitable graphical representations of the data they have within a table (Unit 3.3. Lesson 1).	• Children demonstrating greater depth will explore more complex functioning of the 2Calculate tools to create their own spreadsheets to explore number and interpret their own data.	• **Appropriate** When using online services such as blogging or sharing information. It's important that users behave appropriately. Users should be truthful, respectful, kind, seek any permissions and report anything they feel uncomfortable with **Spoof** An imitation of something that appears to look genuine **Blog** A regularly updated website or web page, typically one run by an individual or small group, that is written in an informal or conversational style. Inappropriate Behaviour or content online that is upsetting, rude, unkind or makes someone feel unsafe or concerned. **Vlog** A personal website or social media account where a person regularly

			posts short videos. **Verify** When seeking content online, it is important that a user verifies the information. They can do this by checking other sources and looking for signs that may indicate inaccuracy in the
Unit 2.2 Online Safety	**Unit 2.2 Online Safety**	**Unit 2.2 Online Safety**	•
• With prompting, children can understand that it is important to have a secure password that is not shared with anyone else (Unit 3.2 Lesson 1). Children can give a negative example of failure to keep passwords secure (Unit 3.2 Lesson 1). Children are beginning to identify some of the main things to look for when deciding whether the information on a website is trustworthy or not (Unit 3.2 Lesson 2).	• Children understand the importance of a secure password and not sharing this with anyone else (Unit 3.2 Lesson 1). Furthermore, children understand the negative implications of failure to keep passwords safe and secure and can suggest examples of good and poor passwords (Unit 3.2 Lesson 1). When using the internet, children can appraise the accuracy of the information on a website and make decisions on whether it is a trustworthy source of information (Unit 3.2 Lesson 2). In lesson 1, children have a choice of topics about which to blog. Most children will have gained an understanding that it is not acceptable to use the work of others or post images of others without consent. Most children recognise the PEGI ratings and can give examples of why content is rated and how this protects them (lesson 3) Most children can contribute to a class collaborative file about the effects of inappropriate content with useful suggestions (lesson 3). Most children can answer the quiz questions in lesson 3, their answers demonstrating that	• Children demonstrating greater depth will be able to give a clear explanation and examples of why having a secure, confidential password is essential and give negative examples of it not being secure and confidential (Unit 3.2 Lesson 1). Children will be able to appraise the accuracy of information shared on a website and a provide suitable evidence to support their decisions on whether it is trustworthy or not (Unit 3.2 Lesson 2).	•

	they are developing their understanding of the features of online communication. In lesson 1, their blog posts and comments are appropriate. Most children can express the need to tell a trusted adult if they are upset by anything online, in lesson 3 their responses illustrate that they have taken this message onboard. Most children will be able to use Purple Mash as a platform for collaboration. Specifically, they will create a spoof website for other children to read and share on a class display board (Unit 3.2 Lesson 2). In lesson 2, most children can use suitable keywords when trying to verify sources.		

Yorke Mead Primary School
COMPUTING CURRICULUM – Herts for Learning Primary Computing Scheme 2022/23

Year 3 SPRING

Key Theme : **Unit 3.6** Branching Database   and **Unit 3.5** Email (including email safety

National Curriculum:

Unit 3.6 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
Unit 3.1 Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.
Unit 3.1 Use sequence, selection and repetition in programs; work with variables and various forms of input and output.
Unit 3.1 Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs

Learning Theme:
Children learn to use software to use and create their own databases. They will understand how to use databases in a variety of contexts and the reasons for their use. Email allows the children to understand how we can communicate with each other through computing in a safe and secure manner. E-safety will play a significant part in this unit, making the children aware of the dangers associated with emailing and how to prevent them.

Information Technology unit 3.6	Digital Literacy unit 3.5
Key learning	**Key learning**
Unit 3.6 Branching Database	**Unit 3.5 Email (including email safety)**
To sort objects using just 'yes' or 'no' questions. • To complete a branching database using 2Question. • To create a branching database of the children's choice.	To think about different methods of communication. • To open and respond to an email using an address book. • To learn how to use email safely. • To add an attachment to an email. • To explore a simulated email scenario.

| Previous Learning
To be reinforced /WT ARE | Core Learning Intentions
Age Related | Extension Opportunities
Next steps/ ARE+ | Key Vocabulary |
|---|---|---|---|
| | | | |

Information Technology unit 3.6 Branching database	Information Technology unit 3.6 Branching database	Information Technology unit 3.6 Branching database	**Binary Tree** Another name for a branching database. **Data** A collection of information, especially facts or numbers, obtained by observation, questions or measurement to be analysed and used to help decision-making. **Branching database** Used to classify groups of objects. It is used to help identify the objects by answering questions with either 'yes' or 'no'. Branching databases can also be called binary trees. **Database** A collection of data organised in such a way that it can be searched, and information found easily. Database usually refers to data stored on computers. **Debugging** The process of identifying and removing errors
With support and using concrete paper resources, children will begin to understand what a branching database is (Unit 3.6 Lesson 1). In a small, supported group, they will collect, sort, and present their information using the paper resources. Children will then turn their paper branching database into a digital version using 2Question (Unit 3.6 Lesson 2, 3 and 4). The resulting branching database will demonstrate a limited number of branches.	Using 2 Question, children will learn how to create a branching database that accomplishes a given goal. They will understand how to collect, analyse, evaluate, and present their data and information throughout the unit initially as a paper Yes/No game (Unit 3.6 Lesson 1) and then as a digital version of a branching database (Unit 3.6 Lesson 2, 3 and 4). Most children can create a branching database and are able to successfully debug it to improve the quality of their digital content creation. Their branching database would have been carefully planned before utilising 2Question (Unit 3.6. Lessons 3 & 4). Most children will be able to create a branching database which includes suitable text, titles and gathering of appropriate images from online and importing them (Unit 3.6. Lessons 3 &4). Children can make their own branching databases, collating and organising data by sets of questions they have considered appropriate (Unit 3.6 Lesson 1. Children analyse each other's branching databases and can make further suggestions for improvement (Unit 3.6 Lessons 3 & 4)	Children demonstrating greater depth understand the specific characteristics of a branching database and its application in real world situations. Furthermore, they understand the needs of the end user and can adapt their program to reflect this using supporting information (Notes can be added to each layer of the branching database).	
Digital Literacy unit 3.5 Email (including email safety)	. **Digital Literacy unit 3.5 Email (including email safety)**	**Digital Literacy unit 3.5 Email (including email safety)**	

With prompting, children can list a range of ways the internet can be used to provide different methods of communication. Using 2Connect (Unit 3.5 Lesson 1) they can identify the disadvantages and advantages of each method. With some support, children can open, respond, and send emails to others in the class (Unit 3.5 Lesson 2) and demonstrate a basic understanding of email conventions and safety (Unit 3.5 Lesson 3 & 4). They are aware of how to attach files to an email (Unit 3.5 Lesson 6). With support throughout, children will use 2Email and 2Quiz to develop their understanding and knowledge of email systems. Using the software, children will create a simple quiz with a limited number of questions (Unit 3.5 Lesson 4) and attach this file in a guided situation (Unit 3.5 Lesson 5) to an email. Children will demonstrate some understanding about how this information needs to be presented (Unit 3.5 Lesson 2). With support, children understand the importance of staying safe (Unit 3.5 Lesson 3) when using email and will partially demonstrate this knowledge during the unit. As part of a small, guided group, children apply their knowledge of email safety through the creation of a quiz on staying safe when emailing (Unit 3.5 Lesson 4).

Children can list a range of ways the internet can be used to provide different methods of communication. Using 2Connect (Unit 3.5 Lesson 1) they can explain and compare each communication method. Most children will be able to exchange email communications using 2Email. This will take the form of both simulated email communication scenarios and real email communication with their peers. (Unit 3.5 Lessons 2-6) Most children will be able to open and respond to an email, altering the size of the font, as well as the formatting of the text. They will be able to select a person from their address book and compose a suitable email to send them (Unit 3.5. Lesson 2). Children will be able to add attachments to an email they compose and use the CC functionality correctly (unit 3.5. Lesson 5). They will recognise obvious errors such as spelling due to the inbuilt wizard and will use their editing skills to address such errors. Children understand the importance of staying safe (Unit 3.5 Lesson 3) when using email and have demonstrated knowledge of this through the writing of class rules for their conduct when using email systems (Unit 3.5 Lesson 3). Children apply Purple Mash Computing Scheme of Work – Unit 3.5 Email – Assessment Guidance Need more support? Contact us: Tel: +44(0)208 203 1781 | Email: support@2simple.com | Twitter: @2simplesoftware 25 Assessment Guidance their knowledge

Children can provide a comprehensive list of the range of ways the internet can be used to provided different methods of communication. Using 2Connect (Unit 3.5 Lesson 1) they can explain the benefits and drawbacks of each communication method and provide life scenarios where each one could be used. With ease, children open, respond and send emails to others in the class (Unit 3.5 Lesson 2). They are not only able to demonstrate an understanding of email conventions and keeping safe but can explain why conventions and certain recognised positive behaviours are expected and the possible consequences of not abiding by them (Unit 3.5 Lessons 3 & 4). They know how to attach files to emails and can explain why we must be careful with attachments (Unit 3.5 Lesson 6). Children demonstrating greater depth will exhibit their ability to support others during this unit. Using the software, children will create a quiz and further resources (Unit 3.5 Lesson 4) and attach these as multiple files (Unit 3.5 Lesson 5) to an email in response to a fictional email from a well-known character. Children demonstrating greater depth can justify and explain why they have presented information in the way that they have (Unit 3.5 Lesson 2). Children demonstrating greater depth, understand the importance of staying safe (Unit 3.5 Lesson 3) when using email and can apply these principles to the related aspects of messaging. Children demonstrate their knowledge through taking an active role in the writing of class rules and quiz creation on appropriate conduct when using email

from computer hardware or software.
CC A way of sending a copy of your email to other people so they can see the information in it.

Attachment A file, which could be a piece of work or a picture, that is sent with the email.
Communication The sharing or exchanging of information by speaking, writing, or using some other medium such as email. **BCC** Blind Carbon Copy: A way of privately sending a copy of your email to other people so they can see the information in it, without the recipient knowing.
Trusted Contact A person who you know and trust, making an email from them safe to open.
Save to draft Allows you to

	of email safety through the creation of a quiz on staying safe when emailing (Unit 3.5 Lesson 4). In lesson 3, children can suggest why they need to seek permission before sharing photos. In lesson 1, children can refer to what they learnt in Unit 3.2 regarding Online Safety when suggesting the way to communicate appropriately online. Children's email messages illustrate that they have taken on board messages about appropriate communication with a regard for their audience. In lesson 3, this forms part of the slideshow discussion., children include this as part of their guidelines for step 5. Most children will be able to evaluate and explain the effectiveness of different methods of communication and collate these in a concept map using 2Connect (Unit 3.5 Lesson 1).	systems and can expand on their points to explain their reasoning (Unit 3.5 Lesson 3).	compose an email and save it to draft folder to review later before sending.

Yorke Mead Primary School
COMPUTING CURRICULUM – Herts for Learning Primary Computing Scheme 2022/23

Year 3 SUMMER

Key Theme: Unit 3.1 Coding   **Unit 3.9** Presenting

National Curriculum:

Unit 3.1 Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.

Unit 3.1 Use sequence, selection, and repetition in programs; work with variables and various forms of input and output.

Unit 3.1 Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs

Unit 3.9 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.

Unit 3.9 Use technology safely, respectfully, and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.

Learning Theme:

Children learn to create their own PowerPoint presentation including a range of features such as pictures, animation, sounds and video. They will also learn to use the skills learnt in previous weeks to design and present an effective presentation. Children will use their coding knowledge to create a range of programs with different coding features such as run, test and debug.

Information Technology Unit 3.9 Presenting	Computer Science Unit 3.1 Coding
Key Learning	**Key Learning**
• To understand the uses of PowerPoint. • To create a page in a presentation. • To add media to a presentation. • To add animations to a presentation. • To add timings to a presentation. • To use the skills learnt to design and create an engaging presentation.	To understand what a flowchart is and how flowcharts are used in computer programming. • To understand that there are different types of timers and select the right type for purpose. • To understand how to use the repeat command. • To understand the importance of nesting. • To design and create an interactive scene.

Previous Learning	Core Learning Intentions	Extension Opportunities	Key Vocabulary

To be reinforced /WT ARE	Age Related	Next steps/ ARE+	
•	•	•	•
Computer Science Unit 3.1 Coding • Children can design and code a program that follows a simple sequence (Unit 3.1 Lessons 1 and 2). Children can make good attempts to 'read' code and predict what will happen in a program which can help them to correct errors (Unit 3.1 Lessons 2 and 3). Children's designs for their programs, show that they are thinking of the structure of a simple program in logical, achievable steps (lessons 5 and 6). Children know that presentation software allows the user to put together a file made of slides to present. Slides can include text, images, animations, and sounds. With support children can add text, pictures, and shapes to a slide. Children can insert slides into a presentation though they might not be able to anticipate the order of the slides. Children know that slides can have animations and can add transition animations with support.	**Computer Science Unit 3.1 Coding** Children have a clear idea of how to design and code a program that follows a simple sequence (Unit 3.1 Lessons 2 and 3). Children experiment with the use of timers to achieve delay effects in their programs – they understand the difference between timer-after and timer-every commands. (Unit 3.1 Lesson 2) Children' designs for their programs, show that they are thinking of the structure of a simple program in logical, achievable steps with attention to specific events that initiate specific actions. (Unit 3.1 Lessons 5 & 6). Most children can explain the choice of commands they have included in their program and what they achieve (Unit 3.1 Lessons 5 & 6). Children are able to use the repeat command to program a turtle to draw a square (Unit 3.1 Lesson 3) Children are beginning to understand how code is structured and are able to apply this knowledge when debugging (Unit 3.1 Lesson 4). Most children can integrate multimedia components such as sounds, animation and images into their coding. They can apply specific actions to these objects to animate them as part of the overall process of creating their own program (Unit 3.1. Lessons 5 and 6). They can be reflective on how successful they are at creating their programs and how the previous learning has helped them (Unit 3.1.).	**Computer Science Unit 3.1 Coding** • Children's designs show that they are thinking of the required task and how to accomplish this in code (Unit 3.1 Lessons 5 & 6). Children can identify an error within a program that prevents it following the desired algorithm and then fix it (Unit 3.1). Children make intuitive attempts to debug their own programs as they increase in complexity (Unit 3.1 Lesson 4). Children are able to use the repeat command to produce outcomes beyond the set task (Unit 3.1 Lesson 3) Children have a good understanding of timers within timers in a program (Unit 3.1 Lessons 2 and 4) and this is evidenced in their program designs (Unit 3.1 Lessons 5 & 6). Children exhibit greater ease at fixing their own bugs as their coding becomes more complex. (Lessons 5 and 6).	• **Action** The way that objects change when programmed to do so. For example, move or change a property. **Algorithm** A precise step by step set of instructions used to solve a problem or achieve an objective. **Background** In 2Code the background is an image in the design that does not change. **Bug** A problem in a computer program that stops it working the way it was designed. **Collision Detection Event** The event of two objects colliding. **Code** Writing the code for a computer program. **Debug/Debugging** Fixing code that has errors so that the code will run the way it was designed to. **Nesting** When coding commands are put inside other commands. These commands only run
	• •		

			when the outer command runs. • **(Refer to knowledge organiser for more vocab)**
Information Technology Unit 3.9 Presenting Children know that presentation software allows the user to put together a file made of slides to present. Slides can include text, images, animations, and sounds. With support children can add text, pictures, and shapes to a slide. Children can insert slides into a presentation though they might not be able to anticipate the order of the slides. Children know that slides can have animations and can add transition animations with support.	**Information Technology Unit 3.9 Presenting** • • Children can add text. pictures and shapes to a slide and format them with tools such as shadows and borders. Children can insert slides into a presentation. Children can use transition effects between slides and animations of the objects in slides. Children can explore the use of timings to a presentation (version dependant).	**Information Technology Unit 3.9 Presenting** Children can incorporate video and audio into slideshows. Children appraise the animation effects available to them and make decisions about what to include and what to leave out for the most effective presentation.	**Animation** The process of adding movement to still objects. **Presentation** A visual way of displaying information to an audience that is clear and engaging. It can contain text, images, animation, and videos. **Slide A** single page within a presentation. **Slideshow A** collection of pages arranged in sequence that contains text and images to present

			to an audience. **Media** Information in the form of words, sounds, numbers, images, or graphics in electronic, print, or broadcast form. **Font formatting** Changing the appearance of text on the screen. **Border Properties** The style of the border around text or an object including the colour, thickness, and dashes.

Year 4 AUTUMN

Key Theme: Unit 4.2 Online safety and Unit 4.4 Writing for audiences

National Curriculum:

Unit 4.2 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.

Unit 4.2 Use technology safely, respectfully, and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.

Unit 4.4 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.

Learning Theme:

Children will learn the importance of being safe online. Be made aware of the importance of keep personal information safe and how to behave appropriately online. In unit 4.4 Writing for audiences, children learn that technology can be used to organise, reorganise, develop, and explore ideas, and that working with information in this way can aid understanding. It also gives children opportunities to discuss their experiences of using ICT and how it is used in the wider world.

Information Technology Unit 4.4	Digital Literacy Unit 4.2
Key Learning To explore how font size and style can affect the impact of a text. • To use a simulated scenario to produce a news report. • To use a simulated scenario to write for a community campaign.	**Key Learning** To understand how children can protect themselves from online identity theft. • To understand that information put online leaves a digital footprint or trail and that this can aid identity theft. • To identify the risks and benefits of installing software including apps. • To understand that copying the work of others and presenting it as their own is called 'plagiarism' and to consider the consequences of plagiarism. • To identify appropriate behaviour when participating or contributing to collaborative online projects for learning. • To identify the positive

	and negative influences of technology on health and the environment. • To understand the importance of balancing game and screen time with other parts of their lives.		

Previous Learning To be reinforced /WT ARE	Core Learning Intentions Age Related	Extension Opportunities Next steps/ ARE+	Key Vocabulary
• Unit 4.2 Online safety	• Unit 4.2 Online safety	• Unit 4.2 Online safety	• **Ad Fly** An online advertising marketplace that allows publishers to monetize their website traffic by placing advertisements on their site. **Plagiarism** Taking someone else's work or ideas and passing them off as one's own. **Citation** Making reference to the original source of a piece of information quotation or image. **Cookies** A small amount of data generated by a website and saved by a web browser. Its purpose is to remember information about the user. **Digital footprint** the information about a person that exists on the Internet as a result of their online activity. **Malware** Software that is specifically designed to disrupt, damage, or gain
• Children contribute their ideas to discussion of spam email (lesson 1), malware (lesson 2) and plagiarism (lesson 3). They have included appropriate content in their Top Tips for Online Safety publication (lesson 2). They have been able to share their work online. With support throughout, children show an understand what online safety is. In a small group, they can use 2Connect (Unit 4.2 Lesson 1) to map out the key features of online safety. Children produce a simple leaflet, postcard, or slideshow etc about online safety, which can then be used as part of presentation to parents (Unit 4.2 Lesson 1)	• Children have decided upon the most important online safety messages to communicate and have shared these ideas in their Top Tips for Online Safety publication (lesson 2). They put this knowledge into action in their own online activity. Children can explore key concepts relating to online safety using 2Connect Unit 4.2 Lesson 1). They help others to understand the importance of online safety (Unit 4.2 Lesson 2) and apply their knowledge through the creation of online safety resources which are then used as part of presentation to parents (Unit 4.2 Lesson 1). Using the example from lesson 1, children can give some examples of things to look out for in an email to ensure that it from a valid source and is not a phishing scam email. They can explain what can be learnt by looking at the padlock details for a website (lesson 1). Most children can reflect upon positive and negative aspects of a digital footprint and can give examples of the care they would take when sharing online in relation to their and others' digital footprint (lesson 1). Most children can give reasons for taking care when installing apps or software. They know what Malware is and the possible impact of computer viruses and can give recommendations for how best to ensure that they only install valid software as part of	• Children have decided upon the most important online safety messages to communicate and have shared these ideas in their Top Tips for Online Safety publication (lesson 2). Children demonstrate that they are making connections between the positive possibilities that technology provides e.g., collaboration and sharing and the possible downsides of this such as malware and phishing. They actively use this knowledge to support their own online activities safely. Children demonstrating greater depth understand the key concepts and implications of the choices they make relating to online safety (Unit 4.2 Lesson 1). They help others to understand the importance of online safety (Unit 4.2 Lesson 2) and apply their knowledge and approach to staying safe online in all areas of the curriculum (Unit 4.2 Lesson 1).	

their top tips document in lesson 2. Most children can give reasons for limiting screen time that include the effect on physical and mental health. In lesson 4, they were able to reflect on their own screen time and collective class screen time and begin to make informed decisions about when to limit their own screen time Most children can explain how plagiarism is stealing, they are beginning to be able to identify the aspects of sharing that would be classed as plagiarism (lesson 3). In lesson 4, children were able to include actions for reporting cyberbullying or inappropriate content in their screen time study document. By completing lesson 4, most children would have saved both online and locally to a device and are able to explain the differences between the two storage types. Most children will be able to identify key messages that should be shared with other children and parents about online safety, including identification of reliable content from websites found via common search engines (Unit 4.2 Lessons 1 & 2).

unauthorised access to a computer system. **Phishing** Practice of sending email pretending to be from reputable companies in order to persuade individuals to reveal personal information, such as passwords and credit cards numbers. **Ransomware** A type of malicious software designed to block access to a computer system until a sum of money is paid. **SMART rules** A set of rules based around the word SMART designed to help you stay safe when online. SMART represents the words Safe, Meet, Accept, Reliable, Tell.. Watermark Watermarks are used mainly on images or videos to show who the content belongs to.

4.4 Writing for audiences	4.4 Writing for audiences	4.4 Writing for audiences	
• With support throughout, children will use 2Connect (Unit 4.4 Lesson 4 and 5) and 2 Publish+ (Unit 4.4 Lesson 4 and 5) to create limited content in small groups linked to a 2Simulate scenario (Unit 4.4 Lesson 2, 3, 4 and 5). Using the variety of software, children change the font style to make it appropriate for their audience (Unit 4.4 Lesson 1).	• Children will use 2Connect (Unit 4.4 Lesson 4 and 5) and 2 Publish+ (Unit 4.4 Lesson 4 and 5) to create content linked to a 2Simulate scenario (Unit 4.4 Lesson 2, 3, 4 and 5) for a select audience. Using the variety of software, children must make informed choices about the best way to present their information e.g., appropriate font and text formatting (Unit 4.4 Lesson 1). Most children can alter font types, styles, and sizes to suit an intended audience for digital content	• Children demonstrating greater depth will seamlessly use a variety of software including 2Connect (Unit 4.4 Lesson 4 and 5) and 2 Publish+ (Unit 4.4 Lesson 4 and 5) to create content linked to a 2Simulate scenario (Unit 4.4 Lesson 2, 3, 4 and 5) for a variety of different audiences. Using the variety of software, children must make informed choices about the best way to present their information e.g.,	**Campaign** An organised course of action to achieve a goal. **Genre** The style or category type of a piece of art, music, or writing. **Opinion** A view or judgment someone forms about something, not always based on fact. **Reporter** A

	using 2Publish and incorporate, with ease, images from clipart banks and internet sources (Unit 4.4. Lesson 1).	appropriate font and text formatting and give reasons for their choices (Unit 4.4 Lesson 1).	person who reports news or conducts interviews for the press or broadcasting media. **Viewpoint** The way someone sees or thinks about something.

Year 4 SPRING

Key Theme : Spreadsheets (Herts) and Unit 4.4 Writing for audiences

National Curriculum:

Spreadsheets and unit 4.4 - 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.

Learning Theme:

Children the use of the excel computer program to show and manipulate a range of data. They allow the children to collect data and present it in an organized way and to manage it to provide further information. For example, they can be used to sort information, share it with other users, and create graphs, such as bar graphs and pie charts. In unit 4.4, children learn that technology can be used to organise, reorganise, develop, and explore ideas, and that working with information in this way can aid understanding. It also gives children opportunities to discuss their experiences of using ICT and how it is used in the wider world.

Information Technology

<u>Key Learning</u>

Spreadsheets (Herts)

To format cells as currency, percentage, decimal to different decimal places or fraction. •. • To combine tools to make spreadsheet activities such as timed times tables tests. • To use a spreadsheet to model a real-life situation. • To add a formula to a cell to automatically make a calculation in that cell.

Unit 4.4 Writing for audiences

To explore how font size and style can affect the impact of a text. • To use a simulated scenario to produce a news report. • To use a simulated scenario to write for a community campaign.

Previous Learning To be reinforced/ WT ARE	Core Learning Intentions Age Related	Extension Opportunities ARE+	Key Vocabulary

Information Technology Spreadsheets (herts)	Information Technology Spreadsheets (herts)	Information Technology Spreadsheets (herts)	
• Suggest ways to find information on a specific site, including using keywords	Know a search engine uses key words to locate information from websites Use key words to find relevant information Enter and format data in a spreadsheet Create appropriate graphs/charts Use arithmetic operators in formulae	Turn questions into search criteria Create a spreadsheet to collect and analyse their findings; draw conclusions Create different graphs; explore options/formats Develop simple formulae using arithmetic operators to carry out calculations for a purpose	• Spreadsheet A computer program that represents data in cells in a grid of rows and columns. Any cell in the grid may contain either data or a formula that describes the value to be inserted based on the values in other cells. Formula A group of letters, numbers, or other symbols which represents a scientific or mathematical rule. The plural of formula is formulae. Average A number expressing the typical value in a set of data. Also known as the mean. It is calculated by dividing the sum of the values in the set by their number. Column Boxes running vertically in a spreadsheet. Budget The amount of money

			available to spend on a project.
Information Technology Unit 4.4 Writing for audiences With support throughout, children will use 2Connect (Unit 4.4 Lesson 4 and 5) and 2 Publish+ (Unit 4.4 Lesson 4 and 5) to create limited content in small groups linked to a 2Simulate scenario (Unit 4.4 Lesson 2, 3, 4 and 5). Using the variety of software, children change the font style to make it appropriate for their audience (Unit 4.4 Lesson 1).	**Information Technology Unit 4.4 Writing for audiences** Children will use 2Connect (Unit 4.4 Lesson 4 and 5) and 2 Publish+ (Unit 4.4 Lesson 4 and 5) to create content linked to a 2Simulate scenario (Unit 4.4 Lesson 2, 3, 4 and 5) for a select audience. Using the variety of software, children must make informed choices about the best way to present their information e.g., appropriate font and text formatting (Unit 4.4 Lesson 1). Most children can alter font types, styles and sizes to suit an intended audience for digital content using 2Publish and incorporate, with ease, images from clipart banks and internet sources (Unit 4.4. Lesson 1).	**Information Technology Unit 4.4 Writing for audiences** Children demonstrating greater depth will seamlessly use a variety of software including 2Connect (Unit 4.4 Lesson 4 and 5) and 2 Publish+ (Unit 4.4 Lesson 4 and 5) to create content linked to a 2Simulate scenario (Unit 4.4 Lesson 2, 3, 4 and 5) for a variety of different audiences. Using the variety of software, children must make informed choices about the best way to present their information e.g., appropriate font and text formatting and give reasons for their choices (Unit 4.4 Lesson 1).	• Campaign An organised course of action to achieve a goal. Format The way in which something is arranged or set out. Font A set of type which shows words and numbers in a particular style and size. Genre The style or category type of a piece of art, music or writing. Opinion A view or judgment someone forms about something, not always based on fact. Reporter A person who reports news or conducts interviews for the press or broadcasting media. Viewpoint The way someone

			sees or thinks about something.

Year 4 SUMMER

Key Theme: **Unit 4.5** Using Logo   **Unit 4.1** Coding

National Curriculum:

Unit 4.5 and Unit 4.1

 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

Unit 4.1 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.

Learning Theme:

Children will build on prior coding knowledge Children will often be able to solve their own problems when they get stuck, either by reading through their code again or by asking their peers; this models the way that coding work is really done.

In Logo the children will learn common commands and constructs of the Logo programming language. Develop their ability to compose algorithms for drawing mathematical structures and turn these into Logo code.

Computer Science Units 4.5 and 4.1

Key learning

Unit 4.5 Using Logo

To learn the structure of the coding language of Logo. • To input simple instructions in Logo. • Using 2Logo to create letter shapes. • To use the Repeat function in Logo to create shapes. • To use and build procedures in Logo.

Unit 4.1 Coding

To begin to understand selection in computer programming. • To understand how an IF statement works. • To understand how to use co-ordinates in computer programming. • To understand the 'repeat until' command. • To understand how an IF/ELSE statement works. • To understand what a variable is in programming. • To use a number variable. • To create a playable game.

Previous Learning To be reinforced/ WT ARE	Core Learning Intentions Age Related	Extension Opportunities ARE+	Key Vocabulary
Unit 4.5 Using Logo Children can 'read' small 2Logo programs and predict the outcome using some logical reasoning although they might not always be correct (Unit 4.5 Lesson 1). Children think about the 2Logo commands that they need in small steps, one or two commands at a time. When their code does not execute as they expect, they can sometimes find the error independently but as the code becomes longer, they need support to do so (Unit 4.5 Lesson 2). They understand that the repeat command makes things happen more than once but might not be able to plan the repeat; they work out a solution using trial-and-error that includes some logic (Unit 4.5 Lesson 3). They can create a procedure but might not realise the full value of creating a procedure to make quality code and save coding the same thing many times over (Unit 4.5 Lesson 4).	**Unit 4.5 Using Logo** Children can 'read' 2Logo programs with several steps and predict the outcome accurately (Unit 4.5 Lesson 1) & (Unit 4.5 Lesson 3). Children can think about the 2Logo commands that they need steps of two or more commands at a time before executing the code to check the result e.g., fd 4 rt 90 fd 6 rt 90. When their code does not execute as they expect, they can sometimes find the error independently but as the code becomes longer, they need support to do so (Unit 4.5 Lesson 2). They understand the repeat command and can plan simple repeat structures before executing rather than relying on trial-and-error (Unit 4.5 Lesson 3). They experiment with repeating procedures to make more complex patterns (Unit 4.5 Lesson 4). They understand the value of a procedure in making code more efficient and call these procedures appropriately (Unit 4.5 Lesson 4). Most children can manipulate instructions within 2Logo to create common shapes using repeat functions (Unit 4.5. Lesson 3). They can edit instructions to produce shapes created in the most efficient way including using the Procedures function (Unit 4.5. Lesson 4). In (Unit 4.5 Lesson 4), they can use some knowledge of mathematics to understand how the patterns are formed.	**Unit 4.5 Using Logo** Children enjoy and challenge themselves to think about the 2Logo commands that they need in long steps of several commands at a time before executing the code to check the result e.g., fd 4 rt 90 fd 6 rt 90 fd 5 lt 90 fd 9 These commands include repeats alongside sequential steps. They fully understand the value of the pu and pd commands to achieve the effects that they desire (Unit 4.5 Lesson 1). When their code does not execute as they expect, they use logical reasoning and debugging techniques such as running accumulating parts of the code to find the source of the error independently (Unit 4.5 Lesson 2). They create procedures and call these procedures efficiently; they can refine their code to put procedure calls within other procedures (Unit 4.5 Lesson 4). They experiment with repeating procedures to make more complex patterns demonstrating the mathematical understanding behind the patterns (Unit 4.5 Lesson 4). Children can 'read' increasingly complex 2Logo programs with several steps and predict the outcome accurately (Unit 4.5 Lesson 3) including procedures within repeats (Unit 4.5 Lesson 4).	• **Debugging** The process of identifying and removing errors from computer hardware or software. **Grid** The template around which the 2Logo turtle moves. LOGO Commands (e.g., FD, BK, RT, LT) A list of commands inputted into 2Logo to move the turtle around the screen. **Multi Line Mode** Type several lines of commands in the text area. **Procedure** Pieces of Logo text with a procedure name that can be run by calling them by name. Saves time if you want to print to screen lots of the same shape.

Unit 4.1 Coding	Unit 4.1 Coding	Unit 4.1 Coding	
Children's designs for their programs show that they are thinking of the structure of a simple program in logical, achievable steps (Unit 4.1 Lesson 1). Children can make good attempts to 'read' code and predict what will happen in a program which can help them to correct errors in their code. With support, children can turn a real-life situation into an algorithm for a program that has cause and effect (Unit 4.1 Lesson 2) and use their algorithm to write simple programs using 2Code (Unit 4.1 Lesson 2). Furthermore, they can identify errors within their programs and make logical attempts to fix it (Unit 4.1). Children attempt to introduce selection into their code using simple 'if statements' (Unit 4.1 Lesson 2). Children's use of these structures is experimental; they cannot always predict the outcome accurately or anticipate the structures required when planning their code. They have a developing idea that a variable can be used to store information in a program, in lesson 5 they can follow the examples but might struggle when applying this with their own ideas.	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 (Unit 4.1 Lessons 1 and 6). Children can identify an error within a program that prevents it following the desired algorithm and then fix it (Unit 4.1), they apply these techniques to their own code to fix bugs. Children understand IF and IF/ ELSE statements for selection and combine these with other coding structures including variables to achieve the effects that they design in their programs (Unit 4.1 Lesson 4). Their design demonstrates their growing understanding of when a coded solution will require repetition e.g., in Lesson 4 'Reginal Rocket' children can see that the position of the rocket is changed repeatedly until it is in line with the rocket launch pad. They can explain the new command 'Repeat Until'. They make use of user input (Unit 4.1 Lesson 2) and outputs such as 'print to screen' (Unit 4.1 Lesson 4) as well as sound and movement of objects. They understand how variables can be used to store information while a program is executing (Unit 4.1 Lesson 5) and make attempts to use and manipulate the value of variables. Children's designs for their programs show that they are thinking of the structure of a simple program in logical, achievable steps with attention to specific events that initiate specific actions (Unit 4.1 Lessons 1 and 6). Children can 'read' others' code and predict what will happen in a program which helps them to correct errors (Unit 4.1). They can also make good attempts to fix their own bugs as their coding becomes more complex (Unit 4.1 Lesson 6). Most children can create programs which accomplish a specific	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 and variables (Unit 4.1 Lessons 1, 4 and 5). Children can identify an error within a program that prevents it following the desired algorithm and then fix it (Unit 4.1). Children make intuitive attempts to debug their own programs as they increase in complexity (Unit 4.1 Lesson 6). Children realise the constraints of creating purely sequential programs and intuitively grasp the concepts of selection (Unit 4.1 Lessons 2, 3 and 4), repetition (Unit 4.1 Lesson 4) and variables (Unit 4.1 Lesson 5). Children like to challenge themselves to combine these with other coding structures to achieve the effects that they design in all their programs (Unit 4.1). Their designs are ambitious but logical and achievable. Children's designs for their programs show that they are absorbing new knowledge of coding structures such as IF statements, repetition, and variables. Children can 'read' others' code and predict what will happen in a program which helps them to correct errors (Unit 4.1). They can also make good attempts to fix their own bugs as their coding becomes more complex (Unit 4.1 Lesson 6).	Code blocks A way to write code using blocks which each have an object or an action. Each group of blocks will run when a specific condition is met or when an event occur. . Design In coding, this is a plan for the program showing the visual look of the user interface (the screen) with the objects. The algorithm can be represented as part of the design, showing actions and events. 'If' Statement A computer uses an IF statement to decide which bit of code to run. IF a condition is true, then the commands inside the block will be run. 'If/Else' Statement A conditional

	goal utilising a variety of media such as images, sounds and animation effects. (Unit 4.1 Lessons 1 and 6). Children can interpret the flowcharts used to represent IF/ELSE statements (Unit 4.1 Lesson 4) and create their own when planning their programs.		command. This tests a statement. If the condition is true, then the commands inside the 'if block' will be run. If the condition is not met, then the commands inside the 'else block' are run. (**Refer to knowledge organiser for more vocab)**

Year 5 AUTUMN

Key Theme :

National Curriculum:

Unit 5.2   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.

Unit 5.2   Use technology safely, respectfully, and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact

Herts Coding   Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts

Herts Coding   Use sequence, selection, and repetition in programs; work with variables and various forms of input and output.

Herts Coding   Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.

 Herts Coding   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.

Learning Theme: Children investigate automated systems in the wider world and the use of sensors within them. They create, test, debug and refine algorithms, pseudocode and the related programs using sequence, selection, repetition ad variables. They program physical devices, controlling inputs and outputs, relating to their study of automated systems. In the Unit of Online safety children critically about the information that they share online both about themself and others. • Children know who to tell if they are upset by something that happens online. • Children can use the SMART rules as a source of guidance when online.

Digital Literacy Unit 5.2 Online Safety	Computer Science Coding logo and scratch (herts)
Key Learning	**Key Learning**
To gain a greater understanding of the impact that sharing digital content can have. • To review sources of support when using technology and children's responsibility to one another in their online behaviour. • To know how to maintain secure passwords. • To understand the advantages, disadvantages, permissions, and purposes of altering an image digitally and the reasons for this. • To be aware of appropriate and inappropriate text, photographs and videos and the impact of sharing these online. • To learn about how to reference sources in their work. • • To search the Internet with a consideration for the reliability of the results of sources to check validity and understand the impact of incorrect information. To ensure reliability through using different methods of communication.	

Previous Learning To be reinforced/ WT ARE	Core Learning Intentions Age Related	Extension Opportunities ARE+	Key Vocabulary
• **Unit 5.2 Online Safety**	• **Unit 5.2 Online Safety**	• **Unit 5.2 Online Safety**	• **Citation** Making reference to the original source of a piece of information quotation or image.
• Children demonstrate a developing understanding of their responsibility to others as well as to themselves when communicating and sharing content online. They know what to do if they are upset by online content and know that there are rules such as the SMART rules to protect them (lesson 1). With support throughout, children demonstrate an understanding of what the SMART rules are but may find it difficult to apply all of these to using technology safely and respectfully (Unit 5.1 Lesson 1). They can create a simple comic strip to teach other children about online safety (Unit 5.2 Lesson 2).	• Children demonstrate an understanding of their responsibility to others as well as to themselves when communicating and sharing content online. Children demonstrate a clear understanding of what the SMART rules are and how they should be applied to using technology safely and respectfully (Unit 5.1 Lesson 1). In lesson 1, children demonstrate that they are developing critical thinking skills in their online experience and know what sorts of inappropriate content should be reported. They can apply their knowledge in the creation of a comic strip to teach other children about online safety (Unit 5.2 Lesson 2). When doing image editing in lesson 2, they were able to see both the positive and	• Children are developing a deeper understanding of the interaction of the positive benefits and negative risks of innovative technology. They take advantage of these technologies in their work but are mindful of protecting themselves and others from harm. Children demonstrating greater depth have a detailed knowledge of what the SMART rules are and understand how these are applied to using technology safely and respectfully. Furthermore, they understand the implications of improper use of technology and the internet (Unit 5.1 Lesson 1). They can apply their knowledge in the creation of a detailed comic strip to teach other children about online safety (Unit 5.2 Lesson 2).	• **PEGI ratings** These show the age that digital content is suitable for and the type of content that it contains. • **Creative Commons Licence** A non-profit organisation who provide free licences for creators to use. If an image has a CC

	negative consequences of technological developments including altering images both in terms of impact upon themselves and impact upon others. In lesson 3, children can explain why citations must be considered when using the work of others. They know that there is a convention for recording citations and can put this into practice in their work. In lesson 3, children's contributions demonstrate a growing awareness of the context of communication and an ability to view the communication from the intended audience's point-of-view. Most children will be able demonstrate that they understand what is meant by reliable and can build on their ability to identify reliable content. In lesson 3 while completing the citation writing frame, they were able to recognise that it is not a good idea to rely upon only 1 source for information		licence, you may usually use the image for non-commercial purposes. You must still give credit to the original creator of the image. • **Phishing** The practice of sending email pretending to be from reputable companies in order to persuade individuals to reveal personal information, such as passwords and Password credit cards numbers. • **Spoof** An imitation of something that appears to look genuine.
• **Coding logo and scratch (herts)** • • Know abstraction omits detail, which is not needed, and this supports program design • • Know sensors can be inputs to programs • • Link their understanding of programming to automated devices in the wider world • • Design, create, test and debug algorithms and programs to achieve specific goals • • Understand that we can use algorithms to support program design • • Know a program is a sequence written in a programming language for a specific task • • Understand sets of program commands can be saved in named procedures	• **Coding logo and scratch (herts)** • Identify the sensors within varied automatic control systems and explain how they work • Know automated systems respond to inputs from sensors • Design, debug and refine algorithms to solve problems, review effectiveness • Know well-designed algorithms support improved design and efficiency in programs • Use decomposition in algorithms and programs, knowing it is key to precise design • Use sequence, repetition, and selection appropriately in algorithms and programs • Explore the use of variables in their programs	• **Coding logo and scratch (herts)** • Describe the role of sensors in a range of automatic control systems • Use abstraction to explain similarities in digital systems and identify rules for behaviours • Create effective and appropriate algorithms and programs; adapt for new/changed situations • Critically review their algorithms and programs • Understand precise, clear, well-designed algorithms support efficient programs • Write, test, debug and refine efficient programs using decomposition, repetition, and selection • Use variables in programs to create a simple scoring system or timer	• • Algorithm • Sequence • Repetition • Tinker • Test • Debug • Refine • Abstraction • Simulation • Procedure • Sensors • Automated control system • Variables comments

• • Understand algorithms/programs must be precise and unambiguous; check for this • • Use decomposition in algorithms/programs • Use repetition to improve efficiency	• Design, test, debug and refine programs for physical and onscreen devices and systems in several programming environments • Use logical reasoning to predict outcomes in programs and detect errors • Build and program a device with at least one input and one output • Demonstrate understanding of selection in various contexts, including sensor inputs to simple automated devices they have built • Critically evaluate their work using peer and self-review to modify and improve it	• Use different programming environments to design, test, debug and refine programs for physical and onscreen devices and systems • Use logical reasoning accurately and consistently to detect and correct errors • Build and program a device with inputs and outputs • Use selection effectively including sensor input data in programs for their automated device • Critically evaluate their work; identifying and implement improvements and refinements	

Year 5 SPRING

Key Theme : Unit 5.4 Databases

National Curriculum:

Unit 5.4 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.

Learning Theme:

Children will be using the database program 2Investigate to learn about the functions of databases. Children understand the different ways to search a database, learning to successfully input data into a database.

Information Technology unit 5.4 databases

Key learning

To learn how to search for information in a database. • To contribute to a class database. • To create a database around a chosen topic.

Previous Learning To be reinforced/ WT ARE	Core Learning Intentions Age Related	Extension Opportunities ARE+	Key Vocabulary
Information Technology Unit 5 .4 Databases • With support, children can contribute to the design of a collaborative (Unit 5.4 Lesson 2) and individual database, although this may be with limited success (Unit 5.4 Lesson 3 and 4). They can design and enter information accurately into their own simple database and create basic questions about their database for their classmates to answer. Furthermore, they can use the search functionalities to answer simple questions (Unit 5.4 Lesson 1, Lesson 3 and 4).	**Information Technology Unit 5 .4 Databases** • Children can contribute to the design of a collaborative (Unit 5.4 Lesson 2) and individual database (Unit 5.4 Lesson 3 and 4). They can design and enter information accurately into their own database and create questions about their database for their classmates to answer. Furthermore, they can use the search functionalities to answer questions (Unit 5.4 Lesson 1 and Lesson 3 and 4). Most children will be able to create a database within	**Information Technology Unit 5 .4 Databases** • Children demonstrating greater depth will lead a small group in the design and creation of a collaborative (Unit 5.4 Lesson 2) database. They can create an individual database with a greater number of fields and create complex search questions about their database for their classmates to answer (Questions using and/or statements). Furthermore, they can seamlessly use the search functionalities to answer complex questions (Unit 5.4 Lesson 1 and lesson 3 and 4.	• **Collaborative** Produced by, or involving, two or more parties working together. **Data** A collection of information, especially facts or numbers, obtained by observation, questions or measurement to be analysed and used

2Investigate which contains contextualised information relating to a topic. They can add fields which are appropriate for the topic choice and present data using graphical tools, table views, and search for appropriate content to be displayed to answer a question (Unit 5.4. Lessons 3 & 4). Throughout this unit, children will be learning how to effectively utilise a database. They will respond to feedback from peers and the class teacher. Most children can interrogate a database, including the different ways the data can be sorted and displayed – Table view, Find, Sort, Charts (Unit 5.4 Lesson 1). They can use more advanced features such as the 'statistics tool' to display multiple pieces of statistical information at the same time and produce reports on specific criterion (Unit 5.4 Lesson 1 & 2). Exceeding Children demonstrating greater dept

to help decision-making. **Database** A set of data that can be held in a computer in a format that can be searched and sorted for information. **Field** A heading in a database record against which information is entered. **Group** Putting similar pieces of information together in a database so it is easy to read, understand and interpret. **Database Report** A way of producing a written paragraph that incorporates the data from the fields and records of the database. **Sort** Organising data by a rule such as alphabetical or numerical. **Arrange** Sorting information in order against a search request. **Avatar** An icon or figure representing a person in a video

			game, Internet forum, etc.

Yorke Mead Primary School
COMPUTING CURRICULUM – Herts for Learning Primary Computing Scheme 2022/23

Year 5 SUMMER

Key Theme: Unit 5.5 Games Sketch up (Unit 5.6 and Herts)

National Curriculum:

Unit 5.5 Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.

Unit 5.5 and Unit 5.6 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

Learning Theme:
Children will learn to use 2Design and make tool. They will be designing printing and making 3D models. They will also design make and evaluate their own game to share with their peers.

Information Technology Unit 5.6 Modelling	Computer Science Unit 5.5 Games
Key Learning	Key Learning
To plan a game. • To design and create the game environment. • To design and create the game quest. • To finish and share the game. • To self and peer evaluate.	To be introduced to 2Design and make and the skills of computer aided design. • To explore the effect of moving points when designing. • To design a 3D Model to fit certain criteria. • To refine and print a model.

Previous Learning To be reinforced/ WT ARE	Core Learning Intentions Age Related	Extension Opportunities ARE+	Key Vocabulary
Computer Science Unit 5.5 Games • When creating their games, children think about the component parts and design these as components in a theme rather than completely isolated parts. They increase playability through trial-and-error methods rather than a planned strategy for the design. With support and in small groups, children can use a given success criteria to verbally review and analyse what makes a successful computer game (Unit 5.5	**Computer Science** Unit 5.5 Games • Most children can plan a computer game (2DIY3D) using a template. They carefully use the 'Think about' feature in the planning templates to assess their progress against the tasks and how well they have considered key criteria (Unit 5.5. All lessons). When creating their games, children think about the component parts and design these as components in a theme rather than completely	**Computer Science** Unit 5.5 Games • Children think about the entirety of their game at the design stage and can consider the game environment, objects and characters and the interactions of these components and their impact on playability to design a good end-user experience before proceeding with the construction stage. Children demonstrating greater depth can create their own success criteria to review, analyse and verbally justify	**Animation** Creating an illusion of movement. **Customise** Modify (something) to suit an individual

Lesson 1). When creating their own game, limited consideration is given to the end user, but the game does demonstrate simple functionality (Unit 5.5 Lesson 2/3). Furthermore, children can say what they like and do not like about a game (Unit 5.5 Lesson 5).	isolated parts. They consider aspects such as the movement of the characters and goal objects to increase playability. When designing the game environment, they do this with the end-user experience in mind. Most children can combine text, sound, and graphic components within a 2DIY3D game. Their games demonstrate a well-planned approach, with appropriate use of text, sound, and graphic components. They easily mix their approaches for image use such as uploading and using the drawing tools. Successful application of animation features to objects is applied to enhance their games (Unit 5.5. Lessons 2, 3 & 4). Children can use a given success criteria to review and analyse what makes a successful computer game (Unit 5.5 Lesson 1). Children consider the end user of their game by designing appropriate settings and characters that maintain the user's interest and engagement levels (Unit 5.5 Lesson 2/3). Furthermore, children demonstrate the ability to objectively review and evaluate a range of completed games (Unit 5.5 Lesson 5). Children can evaluate their own and others' games with 2DIY3D for content and design. They use this peer and self-assessment opportunity to make improvements to their own game (Unit 5.5. Lesson 5). Feedback which focuses on the design elements of their game against key criteria such as playability, challenge, engagement, use of advanced features and suitability for intended audience.	what makes one computer game more successful than another (Unit 5.5 Lesson 1). Throughout the design and creation of their game, the needs of the end user have been considered. The game creator evaluates and reviews their game during the process and makes amendments where necessary and justifies their edits verbally (Unit 5.5 Lesson 2/3/5).	or task. **Interactive** Responding to a user's input on a computer or device. **Texture** High frequency detail or colour information on a computer-generated graphic. **Perspective** Representing three dimensional objects on a two-dimensional surface to give the right impression of their height, width, depth, and position in relation to each other.
Information Technology Unit 5.6 Modelling	**Information Technology Unit 5.6 Modelling**	**Information Technology Unit 5.6 Modelling**	CAD – Computer aided Design A

With support, children can use the ready-made templates within using 2Design and make to design the recognisable form of a building (Lesson 1). They will evaluate, refine, edit, and adapt models to suit a design brief (Lesson 2, 3 & 4).	• Children will use the ready-made templates within 2Design and make to design the recognisable form of a building (Lesson 1). They will evaluate, refine, edit, and adapt models to suit a design brief (Lessons 2, 3 and 4). Most children can design a 3D model to fit certain criteria using a template from 2Publish. They can present their work making use of screenshots incorporated within their template (Lesson 3). Children designs demonstrate that they have considered the brief and can discuss changes they intend to make to their designs to refine them for printing (Lesson 4). Most children will invite feedback which focuses on how well their designs meet an intended purpose, explicitly, the skill of editing existing polygons.	• Using 2Design and Make, children demonstrating great depth can use the geometric shapes and the addition of up to 24 points to design the recognisable form of a building (Lesson 1). They will evaluate, refine, edit, and adapt models to suit a design brief (Lesson 2, 3 and 4).	**CAD** computer program or app allows you to design a 3D object or environment in 2D and visualise it in 3D on the screen from many angles. **Pattern Fill** A tool where you can add a customised repeating pattern to the surface of the net. **Points** The points on a 3D net which create the corners of the 3D shape. **Design Brief** A document for a design project, defining the core details, including the goal and strategy.

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Year 6 AUTUMN

Key Theme: Unit 6.3 and Unit 6.9 Spreadsheets (google docs)

National Curriculum:

Unit 6.3 and Unit 6.9 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.

Learning Theme:

Children know some uses of a spreadsheet tool. • Children can navigate around a spreadsheet using cell references. • Children can enter data into cells. • Children understand new vocabulary relating to spreadsheets: cells, columns, rows, cell names, sheets, workbook. Children can create a spreadsheet to answer a mathematical question relating to probability. • Children can take copy and paste shortcuts. • Children can problem solve using the count tool.

Information Technology

Key Learning

Unit 6.3 Spreadsheets

To use a spreadsheet to investigate the probability of the results of throwing many dice. • To use a spreadsheet to calculate the discount and final prices in a sale. • To use a spreadsheet to plan how to spend pocket money and the effect of saving money. • To use a spreadsheet to plan a school charity day to maximise the money donated to charity.

Unit 6.9 Spreadsheets (Google docs)

To know what a spreadsheet looks like. • To navigate and enter data into cells. • To introduce some basic data formulae for percentages, averages, and max and min numbers. • To demonstrate how the use of spreadsheets can save time and effort when performing calculations. • To use a spreadsheet to model a situation. • To demonstrate how a spreadsheet can make complex data clear by manipulating the way it is presented. • To create a variety of graphs in sheets. • To apply spreadsheet skills to solving problems.

Previous Learning	Core Learning Intentions	Extension Opportunities	Key Vocabulary
To be reinforced/ WT ARE	Age Related	ARE+	

Unit 6.3 Spreadsheets	Unit 6.3 Spreadsheets	Unit 6.3 Spreadsheets	**Rows** Boxes running horizontally in a spreadsheet. **Spreadsheet** A computer program that represents data in cells in a grid of rows and columns. Any cell in the grid may contain either data or a formula that describes the value to be inserted based on the values in other cells. **Columns** Boxes running vertically in a spreadsheet. **Formula** A group of letters, numbers, or other symbols which represents a scientific or mathematical rule. The plural of formula is formulae.
• With support throughout, children can create a simple spreadsheet and collect a limited set of data using 2Calculate that answers a mathematical problem relating to probability (Unit 6.3 Lesson 1). Children can use a spreadsheet to model a real-life situation (Unit 6.3 Lesson 3). Children can represent data in a given format (Unit 6.3 Lesson 1) and turn this data into a graph (Unit 6.3 Lesson 1).	• Children can create a spreadsheet and collect data using 2Calculate that answers a mathematical problem relating to probability (Unit 6.3 Lesson 1). Children can use a spreadsheet to model a real-life situation (Unit 6.3 Lesson 3). Most children will be able to create spreadsheets which contain visual elements such as suitable graphs which represent their data (Unit 6.3. Lesson 1). They will select an appropriate graphical representation of their data from the available choice. They can create a computational model which successfully solves a given problem (Unit 6.3. Lesson 2). Their use of tools and features to maximise spreadsheet content is secure such as: 'How many', 'function', 'format' and 'image toolbar' (Unit 6.3). They interrogate and refine data with increasing efficiency. For example, children create a spreadsheet to answer a mathematical question, creating a computational model or to support with planning a school event. They utilise advanced features such as the 'formula wizard' for efficiency and know the best layouts to use to support easier interrogations of data (Unit 6.3).	• Children demonstrating greater depth can create a spreadsheet using 2Calculate that demonstrates a systematic and logical approach. They can then use this to successfully collate, select and manipulate this data, allowing them to answer a mathematical problem relating to probability (Unit 6.3 Lesson 1). Children understand the importance of data in real-life situations and can use spreadsheets to successfully model this (Unit 6.3 Lesson 3). Furthermore, they choose the most appropriate way to convert and represent their data and can give their reasons behind this choice (Unit 6.3 Lesson 1).	
Unit 6.9 Spreadsheets (Google docs)	Unit 6.9 Spreadsheets (Google docs)	Unit 6.9 Spreadsheets (Google docs)	**Auto fit** A function of a spreadsheet that alters column widths to fit data. **Cell**
• With support, children can save and open workbooks and navigate to different sheets within a workbook (Lesson 1). Children can enter data into cells (Lesson 1) and find specific cell locations within a spreadsheet (lesson 1). Children understand some of the new vocabulary relating to spreadsheets: cells, columns, rows, cell names, sheets, workbook. Children might need support navigating the different menus and icons within the software. With specific guidance,	• Children have a good understanding of a variety of purposes for using spreadsheets. Children appreciate the advantage of using a spreadsheet for certain tasks over a paper-based method. Children understand and use the new vocabulary relating to spreadsheets: cells, columns, rows, cell names, sheets, workbook. They can locate frequently used functions and tools and know how to find the functions that they need. Children can use a	• Children can suggest situations in which a spreadsheet would help them to model a situation and make decisions or accomplish a task. Children actively make use of the in-built functions of a spreadsheet such as series fill, mathematical formulae (lesson 2) and the SUM function (lesson 3) to help them accomplish a task without needing to be specifically instructed which functions to use where. Children understand the idea of using a	

children can use a spreadsheet to carry out basic calculations including some of the operators (addition, subtraction, multiplication, and division) using formulae (lesson 2). They might need support when deciding where to use them and what the information shows. With step-by-step assistance, children can create a spreadsheet to model a specific situation and calculate the answer to a one-step problem (lesson 3 & lesson 7). Children have explored features such as flash fill, convert text to tables and splitting cells and have an understanding that this can make data clearer. They need support to use these functions and interpret the data (lesson 4). Children know that a spreadsheet can create graphs from data. With specific instructions, children can make a graph from data and use it to answer a simple question (lesson 6). NB Lesson 8 provides an opportunity for children to demonstrate many of the skills taught in the previous lessons and can be useful as the basis for assessment.

spreadsheet to carry out basic calculations including all the operators (addition, subtraction, multiplication, and division) using formulae (lesson 2). Children know that tools such as series fill exist and can make use of the assistance they provide. Children understand the idea of using a spreadsheet to model a situation. Given a precise situation and guidance on layout, they can create a useful model. They can use it to answer questions (lesson 3 & lesson 7). With direction, children can use flash fill, convert text to tables, splitting cells and sorting for organising and presenting their data in a spreadsheet (lesson 4). Children know how to incorporate formulae for percentages, averages, max and min into their spreadsheets (lesson 5). They are beginning to develop a critical eye when it comes to the conclusions that can be made from data (lesson 5). Children can use graphic functionality within a spreadsheet program to make their data clearer and use this to answer questions (lesson 6). NB Lesson 8 provides an opportunity for children to demonstrate many of the skills taught in the previous lessons and can be useful as the basis for assessment.

spreadsheet to model a situation. They can make good attempts to create models using a spreadsheet and can use the relevant functions of the spreadsheet to answer questions (lesson 3 & lesson 7). They are self-motivated to extend the applicability of a spreadsheet model to explore factors of the situation that were not specifically directed by a teacher. Children' knowledge of methods such as flash fill, convert text to tables and splitting cells (lesson 4) formulae for percentages, averages, max and min (lesson 5) allows them to analyse their own data and helps them to make informed decisions about what data to collect and in what format. Children use a critical eye when it comes to the conclusions that can be made from data. (Lesson 5). Children choose from the range of graphical representations within the spreadsheet software to choose the one that makes their data clearest to answer questions (Lesson 6). NB Lesson 8 provides an opportunity for children to demonstrate many of the skills taught in the previous lessons and can be useful as the basis for assessment.

Reference Each cell has a cell reference that shows its position. The cell reference is displayed in the box on the top left Chart (not on tablet version. **Conditional formatting** When a cell or cells are formatted in a specific way depending upon the values in the cell or cells. **Delimiter** A character that separates each piece of data. **Formula(e)** A group of letters, numbers, or other symbols which represent a mathematical

rule. It allows a spreadsheet to carry out calculations. **Formula Bar** An area of the spreadsheet into which formulae can be entered using the '=' sign to open the formula. **Range** A collection of selected cells: all the numbers you want to appear in a calculation. For example, A1:A12 includes all the cells from A1 to A12. **Computational Model** Creating or using a simulation (a model) of a real-life situation, on a computer. **Spreadsheet** A

			software tool used for organising information and performing calculations on the data. A spreadsheet workbook file is organised into sheets. **Text Wrapping** This displays the cells contents on multiple lines rather than one long line, allowing all the contents to be shown.

Year 6 SPRING

Key Theme : Unit 6.4 Blogging Purple Mash and Herts scheme Unit 6.1 Coding
National Curriculum:

Unit 6.4 Blogging Purple Mash - 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.
Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact*.

Unit 6.1 Coding

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.

Learning Theme:

They know the school's Online Safety rules and are proactive in encouraging other children to keep safe online. Children will build on their own coding knowledge learnt through each year from year 1. This will provide the children with the opportunity to create their own adventure game. The blogging unit of work uses the Purple Mash tool 2Blog and is designed to help children learn the basic principles of creating and maintaining a blog in a controlled and safe environment. Using 2Blog, this unit will give children a basic understanding of how to plan, create and present their own blog. For more information about managing 2Blog,

Information Technology	Computer Science
Key learning:	Key learning:
Unit 6.4 Blogging Purple Mash and Herts scheme To identify the purpose of writing a blog. • To identify the features of a successful blog. • To plan the theme and content for a blog. • To understand how to write a blog and a blog post. • To consider the effect upon the audience of changing the visual properties of the blog. • To understand how to contribute to an existing blog. • To understand how and why blog posts are approved by the teacher. • To understand the importance of commenting on blogs.	**Unit 6.1 Coding** To design a playable game with a timer and a score. • To plan and use selection and variables. • To understand how the launch command works. • To use functions and understand why they are useful. • To understand how functions are created and called. • To use flowcharts to create and debug code. • To create a simulation of a room in which devices can be controlled. • To understand how user input can be used in a program. • To understand how 2Code can be used to make a text-adventure game.

Previous Learning To be reinforced/ WT ARE	Core Learning Intentions Age Related	Extension Opportunities ARE+	Key Vocabulary
Unit 6.4 Blogging Purple Mash and Herts scheme	• Unit 6.4 Blogging Purple Mash and Herts scheme	• Unit 6.4 Blogging Purple Mash and Herts scheme	**Approval** The act of acknowledging something is appropriate. **Vlog** A personal website or social media account where a person regularly posts short videos. **Collaborate** Work jointly on an activity or project. **Blog** A regularly updated website or web page, typically one run by an individual or small group, that is written in an informal or
Children can identify some of the key features of a blog and share these using 2Write (Unit 6.4 Lesson 1). With limited support, they can create a suitable blog for a purpose and can post comments on an existing class blog (Unit 6.4 Lessons 3 & 4). Children are aware there is an approval process that their posts go through and demonstrate an awareness of the issues surrounding inappropriate posts and cyberbullying (Unit 6.4 Lessons 3 & 4). Children understand the importance of being respectful on the Internet. Children understand the basic features of a blog and some of the differences between a blog page and a blog post (Unit 6.4 Lesson 1). Children work collaboratively (Unit 6.4 Lesson 2) and individually (Unit 6.4 Lesson 3) to plan, design and create a simple blog. Children	Children can identify the key features of a blog and share these using 2Write (Unit 6.4 Lesson 1). They can create a blog for a specific purpose and can post comments on an existing class blog (Unit 6.4 Lesson 2 & 3). Children recognise the approval process that their posts go through and demonstrate an awareness of the issues surrounding inappropriate posts and cyberbullying (Unit 6.4 Lesson 4). Children understand the features of a blog and the differences between a blog page and a blog post (Unit 6.4 Lesson 1). Children work collaboratively (Unit 6.4 Lesson 2) and individually (Unit 6.4 Lesson 3) to plan, design and create a blog. Children become active contributors to a blog, carefully considering their responses to blog posts (Unit 6.4 Lesson 4). Children become active contributors to a blog,	Children can critique good examples of blogs share these using 2Write (Unit 6.4 Lesson 1). They can create a range of blogs for a specific purpose and audience and can comment on an existing class blog (Unit 6.4 all lessons). Children understand why there is an approval process for any posts and understand the issues surrounding inappropriate posts and cyberbullying (Unit 6.4 Lesson 4). Children demonstrating greater depth, understand that 2Blog is an introduction to the world of blogging and is a way for the user to become a content creator on the internet. As such the content included in their blog carefully considers the end user (throughout unit). Children demonstrating greater depth, understand that 2Blog is an introduction to the world of blogging and is a way for the user to become a content creator on the internet. As such they understand the implications of inappropriate use of the blog and how this relates to the real world.	

become contributors to a blog, their responses to blog posts may be basic (Unit 6.4 Lesson 4). Most children will be able to create a blog with multimedia content and format it appropriately using 2Blog (Unit 6.4. Lessons 2 & 3). They can post comments and blog posts to existing blogs with a complete awareness of how information is presented has an impact on the audience (Unit 6.4).

Unit 6.1 Coding

Children are beginning to be able to turn a more complex programming task into an algorithm by identifying the important aspects of the task (abstraction) and then decomposing them in a logical way with support (Unit 6.1 Lessons 1 and 2). They can then use this design to write a program using 2Code. Children understand sequence, selection and repetition in programs and can use them in their simplest forms. They will require support when combing these aspects e.g., using selection within a repeat in a game (Unit 6.1 Lessons 1, 2 and 6). With support, children can plan, design and create a simple program that includes a single variable relating to timing. They can also include a button which will launch another program (Unit 6.1 Lessons 1 and 2). They will usually require support to make use of variables and manipulate variables in their code and in understanding the way that functions are beneficial (Unit 6.1 Lessons 1-4). As their coding becomes more complex,

carefully considering their responses to blog posts to ensure that they are always respectful (Unit 6.4 Lesson 4). Children understand the implications of inappropriate use of the blog. In lesson 1, children create a collaborative file with tips for good blog posts, this should include notes about citing sources. Children should then follow this advice when creating their blogs.

Unit 6.1 Coding

Children are beginning to be able to turn a more complex programming task into an algorithm by identifying the important aspects of the task (abstraction) and then decomposing them in a logical way using their knowledge of possible coding structures and applying skills from previous programs. They can then use this design to write a program using 2Code (Unit 6.1 Lessons 1 and 2). Children can translate algorithms that include sequence, selection and repetition into code and their own designs show that they are thinking of how to accomplish the set task in code utilising such structures including nesting structures within each other (Unit 6.1 Lessons 1-6). Children can plan, design and create a program that includes variables relating to timing and scoring along with buttons which launch other programs (Unit 6.1 Lessons 1 and 2). Furthermore, children will consider how to organise their code using multiple tabs (Unit 6.1 Lessons 1, 2, 3 and 5). They

Unit 6.1 Coding

Children can turn a more complex programming task into an algorithm by identifying the important aspects of the task (abstraction) and then decomposing them in a logical way using their knowledge of possible coding structures and applying skills from previous programs. They can then use this design to write a program using 2Code (Unit 6.1 Lessons 1 and 2). Children's designs show that they are thinking both of the required task, and of how to accomplish this in code. Children test and debug their program as they go and can use logical methods to identify the approximate cause of any bugs then test systematically to identify the specific line of code that is causing the problem. Children intuitively grasp the concepts of selection, repetition and variables and make use of the various commands to use input from users and produce output including sound and movement. Children like to challenge themselves to combine these with other coding structures to achieve the effects that they design to personalise and to improve their programs (Unit 6.1 Lessons 4-6). They are also thinking about good structure to their code with a view to debugging such

conversational style. **Blog post** A piece of writing or other item of content published on a blog **Archive** In this case, where older blog or vlog posts are stored. **Commenting** To express an opinion or reaction in speech or writing.

Event An occurrence that causes a block of code to be run. The event could be the result of user action such as the user pressing a key (when Key) or clicking or swiping the screen (when clicked, when swiped) or when objects interact (collision). In 2Code, the event commands are used to create blocks of code that are run when events happen. **Decomposition** A method of breaking down a task into manageable components. This

they will require support to tackle debugging in a logical rather than a trial-and-error method. Children can make good attempts to 'read' code and predict what will happen in a program (Unit 6.1 Lessons 4-6). They can usually interpret a program in parts but will need support to put the separate parts of a complex algorithm or program together to explain the program as a whole (Unit 6.1 Lesson 6).

use functions within their code to eradicate unnecessary code and make their programming more efficient (Unit 6.1 Lesson 3). Purple Mash Computing Scheme of Work Unit 6.1 Coding – Assessment Guidance Need more support? Contact us: Tel: +44(0)208 203 1781 | Email: support@2simple.com | Twitter: @2simplesoftware 30 Assessment Guidance Their coding displays an understanding of the function of variables in coding (Unit 6.1 Lessons 1 and 2 and Lesson 6), outputs such as sound and movement (Unit 6.1 Lessons 1 and 2), inputs from the user of the program such as button clicks (Unit 6.1 Lessons 3, 4 & 5) and the value of Functions (Unit 6.1 Lesson 3). Children can make good attempts to 'read' code and predict what will happen in a program (Unit 6.1 Lessons 4 and 6). They can usually interpret a program in parts and can make logical attempts to put the separate parts of a complex algorithm or program together to explain the program as a whole (Unit 6.1 Lesson 6). Children test and debug their program as they go and can use logical methods to identify the approximate cause of any bugs but might need support to identify the specific line of code that is causing the problem as the complexity of the programs increases. They try to improve and debug their own programs (Unit 6.1 All Lessons). Within their programs, they can use features such as interactivity with the end users with the desired effect of adding greater impact. (Unit 6.1. Lesson 5 and 6). Most children demonstrate a secure understanding of the impact of changing the position of

as the use of tabs and functions to organise code and the naming of variables.

makes coding easier as the components can then be coded separately and then brought back together in the program. **Execute\Run** Clicking the Play button to make the computer respond to the code. Execute is the technical word for when you run the code. We say, 'the program (or code) executes.' **Function** A block or sequence of code that you can access when you need it, so you don't have to rewrite the code repeatedly. Instead, you simply call the function each time you want it. **Repeat** This command can be used to make a block of commands run a set number of times or forever. **Selection** is a decision command. When selection is used, a

instructions within 2Code. With this knowledge, they can demonstrate use of the tabs feature to carefully section code for the intention of easier debugging and less code error, as their coding becomes more complex.

program will choose which bit of code to run depending on a condition. In 2Code selection is accomplished using 'if' or 'if/else' statements. **Simulation** A model that represents a real or imaginary situation. Simulations can be used to explore options and to test predictions. Tab In 2Code, this is a way to organise a program into separate pages (tabs) of code. Timer Use this command to run a block of commands after a timed delay or at regular intervals. **Sequence** This is when a computer program runs commands in order. **Variable** A named area in computer memory. A variable has a name and a value. The program can change this

			variable value. Variables are used in programming to keep track of things that can change while a program is running. **Repeat Until** In 2Code this command will repeat a block of commands until a condition is met.

Yorke Mead Primary School
COMPUTING CURRICULUM – Herts for Learning Primary Computing Scheme 2022/23

Year 6 SUMMER

Key Theme: Unit 6.5 Text adventures   Unit 6.6 Networks

National Curriculum:

Unit 6.5 Text adventures
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.

Unit 6.6 Networks
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

Learning Theme:
Children will be learning to create their own story based adventure games including elements of coding. Children will also learn how the internet works through research and discuss what they feel the future might hold.

Computer Science Units 6.5 and 6.6
Key learning
Unit 6.5 Text adventures
Using 2Design and make, children demonstrating great depth can use the geometric shapes and the addition of up to 24 points to design the recognisable form of a building (Lesson 1). They will evaluate, refine, edit, and adapt models to suit a design brief (Lesson 2, 3 and 4).

Unit 6.6 Networks
To learn about what the Internet consists of. • To find out what a LAN and a WAN are. • To find out how the Internet is accessed in school. • To research and find out about the age of the Internet. • To think about what the future might hold.

Previous Learning To be reinforced/ WT ARE	Core Learning Intentions Age Related	Extension Opportunities ARE+	Key Vocabulary
Unit 6.5 Text adventures	**Unit 6.5 Text adventures**	**Unit 6.5 Text adventures**	• **Text-based Adventure** A computer game that uses text instead of graphics. **Debug\ Debugging Fixing** code that has errors so that the code will run the way it was designed to. **Sprite** A computer graphic which may be programmed to move on-screen. **Selection** When selection is used, a program will choose a different outcome depending on a condition. **Function** In this context, a section of code that gets run when it is called from the main code. A function in a program is usually a piece of code that gets run lots of times.
• Children can turn a simple story with at least one decision into a logical design using 2Connect (Unit 6.5 Lesson 1). They might need support when completing the decision tree. Children can create individual pages in 2Create a Story (Unit 6.5 Lesson 2) but will need support to link these parts in a logical way. In (Unit 6.5 Lesson 3), they can design a simple map with a sequence of rooms and one item to collect. In (Unit 6.5 Lesson 4), they will need support to turn their designs into code but can succeed in representing the player navigating to different rooms. They can debug a simple program with support. In (Unit 6.5 Lesson 4), they will need support to relate the examples to their own design, especially when using variables, but will be able to code some of the elements of their own design independently and can write code that take input from the user. Children can relate the example design to the example program and can predict what will happen in the program using the design document. In (Unit 6.5 Lesson 4), they can use their design to test whether their program has bugs but will need support to identify where these bugs are in their code and to fix them.	• Children can turn a simple story with 2 or 3 levels of decision making into a logical design using 2Connect (Unit 6.5 Lesson 1). Having seen an example, they can use this to make the story their own. Children can create the pages for the component parts of the design in 2Create a Story (Unit 6.5 Lesson 2) and make good attempts to link these parts in a logical way. They might need support when debugging the linked pages if things do not proceed as expected. In (Unit 6.5 Lesson 3), they can make a design map with a sequence of rooms including rooms in which the player needs to make a choice to complete the game and collect items. In (Unit 6.5 Lesson 4), they can use the example code to turn their own designs into code. Children will debug as they code and might need some support in identifying the cause of some bugs. Children can relate the example design to the example program and can predict what will happen in the program using the design document. In their own program, they can use their design algorithm to debug their adventure story. In (Unit 6.5 Lesson 4), they can use their design to test whether their program has bugs and identify where in their code, their bugs occur. Most children apply their knowledge of coding and the fundamental order of instructions through creating their own story-based adventure game. They can identify errors in their code and specifically errors that could impact on the order of events and specific actions when buttons are pressed (Unit 6.5 Lesson 2). Most children demonstrate how algorithms are useful	• Children can turn a simple story with 3 or more levels of decision making into a logical design using 2Connect (Unit 6.5 Lesson 1). They can ensure that the design is complete and logical. Children can use 2Create a Story to make the component parts of the design (Unit 6.5 Lesson 2) and link these parts in a logical way. They can then debug in a logical way using their design document if things do not proceed as expected. In (Unit 6.5 Lesson 3), they can make a comprehensive design map with a sequence of rooms including rooms in which the player needs to make a choice and collect items in a certain order to complete the game. In (Unit 6.5 Lesson 4), they can use the example code to turn their own designs into code. Children will debug as they code using their designs and notes as a guide. In (Unit 6.5 Lesson 4), they understand and can adapt the use of variables to their own design and can write code that takes input from the user and gives output to the user. Children can relate the example design to the example program and can predict what will happen in the program using the design document. In their own program, they can use their design algorithm to debug their adventure story and foresee elements that they need to code. In (Unit 6.5 Lesson 4), they can use their design to test whether their program has bugs and identify where in their code, their bugs occur. While coding, they refer to and annotate, their design with	

	for representing a solution to a problem e.g. During the creation of their own story-based adventure games within 2Code they can systematically test their code against its intended outcome (Unit 6.5 Lesson 2). Most children can carefully plan before constructing digital content such as a text adventure game. Using 2Connect, children can carefully identify the data and information they need to incorporate within their intended coded games. As they advance onto coding, the children can extract and manipulate bits of data and strings of text for the purpose of their game functionality (Unit 6.5 Lessons 1 & 4).		
Unit 6.6 Networks	**Unit 6.6 Networks**	**Unit 6.6 Networks**	**Hub\Switch** The connection point for networks where data packets from many locations converge and are then sent out to different devices. **Local area network (LAN)** A computer network that links devices within a building or group of adjacent buildings, especially one with a radius of less than 1 km. **Wide area network** (WAN) A collection of local-area networks (LANs) or other networks that communicate with one another over a
Children can turn a simple story with at least one decision into a logical design using 2Connect (Unit 6.5 Lesson 1). They might need support when completing the decision tree. Children can create individual pages in 2Create a Story (Unit 6.5 Lesson 2) but will need support to link these parts in a logical way. In (Unit 6.5 Lesson 3), they can design a simple map with a sequence of rooms and one item to collect. In (Unit 6.5 Lesson 4), they will need support to turn their designs into code but can succeed in representing the player navigating to different rooms. They can debug a simple program with support. In (Unit 6.5 Lesson 4), they will need support to relate the examples to their	Children can turn a simple story with 2 or 3 levels of decision making into a logical design using 2Connect (Unit 6.5 Lesson 1). Having seen an example, they can use this to make the story their own. Children can create the pages for the component parts of the design in 2Create a Story (Unit 6.5 Lesson 2) and make good attempts to link these parts in a logical way. They might need support when debugging the linked pages if things do not proceed as expected. In (Unit 6.5 Lesson 3), they can make a design map with a sequence of rooms including rooms in which the player needs to make a choice to complete the game and collect items. In (Unit 6.5 Lesson 4), they can use the example code to turn their own designs into code. Children will debug as they code and might need some support in identifying the cause of some bugs. Children can relate the example design to the example program and can predict what will happen in the program using the design document. In their own program, they can use their design algorithm to	Children can turn a simple story with 3 or more levels of decision making into a logical design using 2Connect (Unit 6.5 Lesson 1). They can ensure that the design is complete and logical. Children can use 2Create a Story to make the component parts of the design (Unit 6.5 Lesson 2) and link these parts in a logical way. They can then debug in a logical way using their design document if things do not proceed as expected. In (Unit 6.5 Lesson 3), they can make a comprehensive design map with a sequence of rooms including rooms in which the player needs to make a choice and collect items in a certain order to complete the game. In (Unit 6.5 Lesson 4), they can use the example code to turn their own designs into code. Children will debug as they code using their designs and notes as a guide. In (Unit 6.5 Lesson 4), they understand and can adapt the use of variables to their own design and can write code that takes input from the user and gives output to the user. Children can relate the example design to the example program and	

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