St Peter's CE(VA) Primary School

Love Christ
Love Learning
Love One Another

Computing

April 2020-2023

Vision Statement St Peter's (VA) CE Primary

"You shall love the Lord your God with all your heart, and with all your soul, and with all your strength, and with all your mind; and your neighbour as yourself." Luke 10:

At St Peter's the life and teachings of Jesus Christ are at the heart of our school. Here pupils are valued, cared for and developed to their fullest potential; spiritually, intellectually and physically. The nurturing environment encourages and challenges the pupils to be creative, responsible, tolerant and have a love of learning to become citizens of the World who contribute to society.

This policy goes hand in hand with the teaching and learning policy.

Intent:
At St Peter's we recognise that developed, thorough, focused planning leads to effective teaching and learning. As a result of this we have decided to follow the Purple Mash Computing Scheme of Work. The specific plan for computing is as follows,

- Staff have a clear understanding of the wider curriculum and how the curriculum is built at St Peter's. They make pertinent links and connections amongst subjects, as well as devising activities to practise skills and learning.
- Staff will cover units from each of these strands of Computing:
    - Computer Science
    - Information Technology
    - Digital Literacy
- All classes will start with the unit of online safety at the start of Autumn one and year one will also be introduced to Purple Mash.
- The Reception class will focus on Online Safety and introducing the children to computers and iPads. By the end of the year children should be able to turn on the computer and log onto their area.
- Each Year group will have a number of different units (see Yearly Overview), but all KS1 and KS2 classes will complete the two progressive units of **Coding** and **Spreadsheets**.
- In our first year of implementing Purple Mash (2021-2022), all classes will carry out the Crash Course units for Coding and Spreadsheets as these units are provided for classes that are new to Purple Mash. This will allow the children to learn the key knowledge to complete these units.
- These units will be completed and repeated year on year, in every KS1 and KS2 class, except to accommodate mixed year classes.
- Each unit is between two and eight lessons long and can contain up to four activities and sometimes an extension activity. Some lessons may take more than one, one hour lesson to complete, especially in our first year of implementing it.
- Here is the break down of the number of lessons for each year group:
    - Year 1 – 31 lessons
    - Year 2 – 32 lessons
    - Year 3 – 32 lessons with an optional 6 lessons

    - Year 4 – 37 lessons
    - Year 5 – 32 lessons with an optional 8 lessons
    - Year 6 – 35 lessons with an optional 9 lessons
- Staff will follow the computing scheme of work and for each unit of work they will use the slideshow to support them in teaching the lessons and to use with the children to work through the lesson.
- The Structure of a slideshow is:
    - Aims of the lesson
    - Success Criteria of the lesson
    - Vocabulary
    - Exposition
    - Activities
    - Extension
    - Review Success Criteria
- There are also Teacher Videos on the Purple Mash site to support staff in teaching the objectives and activities of the unit.
- All the resources needed to complete the lessons are found in the Computing Scheme of Work section of the Purple Mash website.
- Staff will use the computing progression map to ensure they are aware of the progression across the scheme of work and that it is implemented. This will also allow staff to be understand of what their class have done in the previous year and what they will be moving onto in the next year.
- Staff will use the Knowledge organisers and Overviews from the Purple Mash units to plan and teach the units.
- There will be both computer and non-computer-based activities.
- Staff will set 2Dos for the children to complete, these will be the resources from the slideshows. When children have completed the 2Do, they will hand the 2Do in and write a comment about their work. Staff will then mark the work, adding a comment that may contain an action and a positive comment. They will also add the judgements of the lesson (the strand of computing and objectives) and assess how they did. Staff can also add a reward.
- Throughout a unit of work, children will need to complete a range of activities, some will be modelled and guided through by the teacher, some paper activities and some independent activities on the computer/iPad. Each child will have their own account on Purple Mash and will be expected to complete the work on their own account using either an iPad or computer.
- The work that will be completed by the children will be evidence in the class computing book. There will be evidence for each activity that the children complete during the unit.
- Staff will complete a unit overview, which will outline an appropriate structure of the lessons to the unit and exactly what part of the lesson was completed when.
- Subject knowledge is strong across all topics and common misconceptions are understood and planning takes this into account.

Computing book:

- Each class intake will have their own computing book, which will follow them up through the school.
- Using the provided templates, staff will follow this structure.
    - First, there will be an overview sheet which will include the unit title and the objectives for that unit. Below the objectives, staff will recap the process of their unit. They will detail and explain the lessons that they have covered and how long it took to complete the lessons. They will explain the activities and what the children have completed.
    - After, there will be the work that has been completed by the children throughout the unit. This will include both examples of all the paper activities and the computing activities the children have completed. There will be four examples of each piece of work (SEND, LA, MA and HA).

Related Policies / Documents

- Long term plans
- Curriculum planning file
- Class yearly objectives
- Progression Maps
- Unit Overview sheet
- Purple Mash Computing Scheme of Work – Overview
- Purple Mash Computing Scheme of Work – Slideshows
- Purple Mash Computing Scheme of Work – Knowledge Organisers
- Purple Mash Computing Scheme of Work - Vocabulary

Implementation:

For computing there are three strands of computing: Computer Science, Information Technology and Digital Literacy. There are then either eight or nine units for each class which cover the three strands. Each unit has its own aims that need to be covered by the end of the unit. These aims will form the basis of the individual lessons.

At St Peter's we recognise that each staff member brings different styles and skills to the table, which we celebrate. However, to ensure that there is a consistent approach across all subjects and all year groups, teaching needs to follow the following ethos as the foundation for their practise (see Teaching and Learning Policy for more detail). Within Computing, we are following the Purple Mash scheme of work to support staff in the teaching of Computing. We will be following the planning of the scheme and using the resources linked to it.

- Staff will ensure that all strands and objectives are covered during the year.
- At the beginning of each year, the first unit that will be covered will be Online Safety for every year group.
- The Reception class will focus on Online Safety throughout the year and will teach this through the medium of stories. The children will be introduced to computers and iPads and by the end of the year the children should be able to turn on the computer and log onto their area.
- Teachers will use the Purple Mash Slideshows to teach the exposition of the lessons.
- The activities for the lessons will be provided by the slideshows.

- During each unit of work the children will be building up their knowledge through guided and modelled activities. These will be built up step by step, giving children access to videos and hints to support them in trying to approach some of the challenges independently.

Structure of Individual lesson:

- Individual lessons:
    - First 5 minutes of the lesson will be re-capping what was learnt in the previous lesson.
    - Using the slideshow, introduce the unit and the aim/aims that will be covered during the lesson.
    - Discuss the success criteria of the lesson.
    - Staff will then work through the slideshow, whether it explains the vocabulary first, introducing new concepts or starting the first activity.
    - Go through expectations for the activity, whether it be using the computers or not. All children should have access to either an iPad or computer to complete the work on their own account.
    - Children are then to complete the appropriate activity, while staff provide teaching points to move on children's learning. Staff will check for misconceptions and will address them.
    - Children then need to self-assess at the end of the lesson verbally to the teacher as they review the success criteria.

Related Policies / Documents

- Subject polices
- Progression Maps
- Long term plans
- Curriculum planning file
- Class yearly objectives
- Unit Overview sheet
- Purple Mash Computing Scheme of Work – Overview
- Purple Mash Computing Scheme of Work – Slideshows
- Purple Mash Computing Scheme of Work – Knowledge Organisers
- Purple Mash Computing Scheme of Work - Vocabulary

Impact:

- Staff constantly review lessons and practise ensuring effective teaching and learning is happening, or understanding what changes need to be made to future teaching.

- Staff will consistently follow the feedback policy when marking any written work that the children have completed, during the lesson.
- Children are given timely oral feedback throughout the lesson to ensure that misconceptions are addressed and to push learning on.
- Staff will then mark the work completed in the 2Do after the child has handed it in. They will add a comment that may contain an action and a positive comment. They will also add the judgements of the lesson (the strand of computing and objectives) and assess how they did, by either putting emerging, expected or exceeding. Staff can also add a reward.
- Skills ladders are filled in after each unit.
- Staff will analyse skills ladders to see where objectives need to be revisited to secure them and will plan opportunities to address these.
- Subject leader will analyse skills ladders to ensure coverage of skills and identify any gaps.
- Subject leader will record report grades to track children's progress year on year.

Related Policies / Documents

- Assessment Policy
- Feedback and marking strategies

Professional Responsibilities:

- Staff model positive attitudes to learning.
- Parental support is encouraged to help support children at home and give parents a clear idea of what is expected of the children this is done through half termly data sharing, termly parents evening, open door policy and yearly written reports.
- Staff hold accountability for pupil outcomes and complete data analysis termly.
- Staff attend and provide continuing professional development, support and keep up to date with developments in education.
- Subject leader will attend relevant CPD opportunities and cluster meetings.

- Slideshows from Purple Mash to be used for each lesson, with the resources and activities provided.
- Weekly Planning Overview to be completed by teachers as they work through the unit of work.
- Teachers are to recap previous learning at the beginning of the lesson.
- Each year, the children should cover Online Safety first and reception will continue to look at Online Safety throughout the year.
- Aims and success criteria is to be explained to the children at the beginning of the lesson, after the recap.
- Each child should have access to a laptop or iPad during the lesson, so they can complete the work on their own area.
- All objectives for each unit to be covered in each topic to ensure coverage by the end of the year.
- Teachers are to add judgements and marking comments to the children's work.
- Children to be taught/have knowledge of key vocabulary.
- High expectations of presentation and knowledge to be shown throughout the children's work.

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Year B: Long term Plan – Computing – This has been edited to accommodate the mixed classes.

	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9
Reception	Reception will focus on Online Safety and introducing the children to computers and iPads. By the end of the year children should be able to turn on the computer and log onto their area.								
Year 1	Online Safety & Exploring Purple Mash	Grouping & sorting	Pictograms	Lego Builders	Maze Explorers	Animated Story Books	Coding	Spreadsheets	Technology outside school
Year 2	Online Safety	Coding	Spreadsheets	Questioning	Effective Searching	Creating Pictures	Making Music	Presenting ideas	
Year 3/4	Online Safety	Branching Databases	Coding	Spreadsheets	Touch Typing	Email (Inc. email safety)	Simulations	Graphing	Presenting
Year 5	Online Safety	Coding	Spreadsheets	Databases	Game Creator	3D Modelling	Concept Maps	Word Processing	
Year 6	Online Safety	Coding	Spreadsheets	Blogging	Text Adventures	Networks	Quizzing	Understanding Binary	Spreadsheets

Predominant Area of Computing (most units will include aspects of all strands)		
Computer Science	Information Technology	Digital Literacy

Year C:

	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9
Reception	Reception will focus on Online Safety and introducing the children to computers and iPads. By the end of the year children should be able to turn on the computer and log onto their area.								
Year 1	Online Safety & Exploring Purple Mash	Grouping & sorting	Pictograms	Lego Builders	Maze Explorers	Animated Story Books	Coding	Spreadsheets	Technology outside school
Year 2	Online Safety	Coding	Spreadsheets	Questioning	Effective Searching	Creating Pictures	Making Music	Presenting ideas	
Year 3	Online Safety	Branching Databases	Coding	Spreadsheets	Touch Typing	Email (inc. email safety)	Simulations	Graphing	Presenting
Year 4/5	Online Safety	Coding (Crash Course)	Spreadsheets (Crash Course)	Writing for different audiences	Logo	Animation	Effective Searching	Hardware Investigators	Making Music
Year 6	Online Safety	Coding	Spreadsheets	Blogging	Text Adventures	Networks	Quizzing	Understanding Binary	Spreadsheets

Predominant Area of Computing (most units will include aspects of all strands)		
Computer Science	Information Technology	Digital Literacy

Year D:

	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9
Reception	Reception will focus on Online Safety and introducing the children to computers and iPads. By the end of the year children should be able to turn on the computer and log onto their area.								
Year 1	Online Safety & Exploring Purple Mash	Grouping & sorting	Pictograms	Lego Builders	Maze Explorers	Animated Story Books	Coding	Spreadsheets	Technology outside school
Year 2	Online Safety	Coding	Spreadsheets	Questioning	Effective Searching	Creating Pictures	Making Music	Presenting ideas	
Year 3	Online Safety	Branching Databases	Coding	Spreadsheets	Touch Typing	Email (inc. email safety)	Simulations	Graphing	Presenting
Year 4	Online Safety	Coding (Crash Course)	Spreadsheets (Crash Course)	Writing for different audiences	Logo	Animation	Effective Searching	Hardware Investigators	Making Music
Year 5/6	Online Safety Unit 5.2 and Unit 6.2	Coding (Crash Course)	Spreadsheets (Crash Course)	Databases	Game Creator	3D Modelling	Concept Maps	Word Processing	

Predominant Area of Computing (most units will include aspects of all strands)		
Computer Science	Information Technology	Digital Literacy

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Curriculum Progression Map - Computing

	Objectives : KS1	Objectives: KS2	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Computer Science	**Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions.**	**Design, write and debug programs that accomplish specific goals, including controlling or stimulating physical systems; solve problems by decomposing them into smaller parts.**	Children understand that an algorithm is a set of instructions used to solve a problem or achieve an objective. They know that an algorithm written for a computer is called a program.	Children can explain that an algorithm is a set of instructions to complete a task. When designing simple programs, children show an awareness of the need to be precise with their algorithms so that they can be successfully converted into code.	Children can turn a simple real-life situation into an algorithm for a program by deconstructing it into manageable parts. Their design shows that they are thinking of the desired task and how this translates into code. Children can identify an error within their program that prevents it following the desired algorithm and then fix it.	When turning a real-life situation into an algorithm, the children's design shows that they are thinking of the required task and how to accomplish this in code using coding structures for selection and repetition. Children make more intuitive attempts to debug their own programs.	Children may attempt to turn more complex real-life situations into algorithms for a program by deconstructing it into manageable parts. Children are able to test and debug their programs as they go and can use logical methods to identify the approximate cause of any bug but may need some support identifying the specific line of code.	Children are 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. Children test and debug their program as they go and use logical methods to identify the cause of bugs, demonstrating a systematic approach to try and identify a particular line of code causing a problem.
	Create and debug simple programs.	**Use sequence, selection and repetition in**	Children can work out what is wrong with a simple	Children can create a simple program that	Children demonstrate the ability to design and	Children's use of timers to achieve repletion effects	Children can translate algorithms that include	Children translate algorithms that include sequence,

		programs; work with variables and various forms of input and output.	algorithm when the steps are out of order, e.g. The Wrong Sandwich in Purple Mash and can write their own simple algorithm, e.g. Colouring in a Bird activity. Children know that an unexpected outcome is due to the code they have created and can make logical attempts to fix the code, e.g. Bubbles activity in 2Code.	achieves a specific purpose. They can also identify and correct some errors, e.g. Debug Challenges: Chimp. Children's program designs display a growing awareness of the need for logical, programmable steps.	code a program that follows a simple sequence. They experiments with timers to achieve repetition effects in their programs. Children are beginning to understand the difference in the effect of using a timer command rather than a repeat command when creating repetition effects.	are becoming more logical and are integrated into their program designs. They understand 'IF Statements' for selection and attempt to combine these with other coding structures including variables to achieve the effects that they design in their programs. As well as understanding how variables can be used to store information while a program is executing, they are able to use and manipulate the value of variables. Children can make use of user inputs and outputs such as 'print to screen', e.g. **2Code**.	sequence, selection and repletion into code with increasing ease and their own designs show that they are thinking of how to accomplish the set task in code utilising such structures. They are combining sequence, selection and repetition with other coding structures to achieve their algorithm design.	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. Coding displays an improving understanding of variables in coding, outputs such as sound and movement, inputs from the user of the program such as button clicks and the value of functions.
	Use logical reasoning to predict the behaviour of simple programs.	**Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.**	When looking at a program, children can read code one line at a time and make good attempts to envision the bigger picture of the overall effect of the program. Children can, for example, interpret	Children can identify the parts of a program that respond to specific actions. For example, they can write a cause and effect sentence of what will happen in a program.	Children's designs for their programs show that they are thinking of the structure of program in logical achievable steps and absorbing some new knowledge of coding structures. For example,	Children's designs for their programs show that they are thinking of the structure of a program in logical, achievable steps and absorbing some new knowledge of coding structures. For example, 'IF'	When children code, they are beginning to think about their code structure in terms of the ability to debug and interpret the code later, e.g. the use of tabs to organise code and the naming of variables.	Children are able to interpret a program in parts and can make logical attempts to put the separate parts of a complex algorithm together to explain the program as a whole.

			where the turtle in 2Go challenges will end up at the end of the program.		repetition and use of timers. They make good attempts to 'step through' more complex code in order to identify errors in algorithms and can correct this. E.g., In programs such as Logo, they can 'read' programs with several steps and predict the outcome accurately.	statements, repetition and variables. They can trace code and use step-through methods to identify errors in code and make logical attempts to correct this. In programs such as Logo, they can 'read' programs with several steps and predict the outcome accurately.		
		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.			Children can list a range of ways that the internet can be used to provide different methods of communication. They can use some of these methods of communication, e.g. being able to open and respond to and attach using 2Email. They can describe appropriate email conventions when communicating in this way.	Children recognise the main component parts of hardware which allow computers to join and form a network. Their ability to understand the online safety implications associated with the ways the internet can be used to provide different methods of communication is improving.	Children understanding the value of computer networks but are also aware of the main dangers. They recognise what personal information is and can explain how this can be kept safe. Children can select the most appropriate form of online communications contingent on audience and digital content, e.g. **2Blog, 2Email, Display Boards.**	Children understand and can explain in some depth the difference between the internet and the World Wide Web. Children know what a WAN and LAN are and can describe how they access the Internet in school.

Information Technology	**Use technology purposefully to create, organise, store, manipulate and retrieve digital content.**	**Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.**	Children are able to sort, collate, edit and store simple digital content e.g. children can name, save and retrieve their work and follow simple instructions to access online resources, use Purple Mash **2Quiz** example (sorting shapes), **2Code** design mode (manipulating background) or using pictogram software such as **2count**.	Children demonstrate an ability to organise data using, for example, a database such as **2Investigate** and can retrieve specific data for conducting simple searches. Children are able to edit more complex digital data such as music compositions within **2Sequence**. Children are confident when creating, naming, saving and retrieving content. Children use a range of media in their digital content including photos, text and sound.	Children can carry out simple searches to retrieve digital content. They understand that to do this, they are connecting to the internet and using a search engine such as Purple Mash search or internet-wide search engines.	Children understand the function, features and layout of a search engine. They can appraise selected webpages for credibility and information at a basic level.	Children search with greater complexity for digital content when using a search engine. They are able to explain in some detail how credible a webpage is and the information it contains.	Children readily apply filters when searching for digital content. They are able to explain in detail how credible a webpage is and the information it contains. They compare a range of digital content sources and are able to rate them in terms of content quality and accuracy. Children use critical thinking skills in everyday use of online communication.

		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.			Children can collect, analyse, evaluate and present data and information using a selection of Software, e.g. using branching database (**2Question**), using software such as **2Graph**. Children can consider what software is most appropriate for a given task. They can create purposeful content to attach to emails, e.g. **2Respond**.	Children are able to make improvements to digital solutions based on feedback. Children make informed software choices when presenting information and data. They create linked content using a range of software such as **2Connect** and **2Publish+**. Children share digital content within their community, i.e. using virtual **Display Boards.**	Children are able to make appropriate improvements to digital solutions based on feedback received and can confidently comment on the success of the solution. E.g. creating their own program to meet a design brief using **2Code**. They objectively review solutions from others. Children are able to collaboratively create content and solutions using digital features with software such as collaborative mode. They are able to use several ways of sharing digital content, i.e. **2Blog, Display Boards and 2Email.**	Children make clear connections to the audience when designing and creating digital content. The children design and create their own blogs to become a content creator on the Internet, e.g. 2Blog. They are able to use criteria to evaluate the quality of digital solutions and are able to identify improvements, making some refinements.

Digital Literacy	**Recognise common uses of information technology beyond school.**		Children understand what is meant by technology and can identify a variety of examples both in and out of school. They can make a distinction between objects that use modern technology and those that do not e.g. a microwave vs. a chair.	Children can effectively retrieve relevant, purposeful digital content using a search engine. They can apply their learning of effective searching beyond the classroom. They can share this knowledge, e.g. **2Publish example template**. Children make links between technology they see around them, coding and multimedia work they do in school e.g. **animations, interactive code and programs**.				

	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.	Children understand the importance of keeping information, such as their usernames and passwords, private and actively demonstrate this in lessons. Children take ownership of their work and save this in their own private space such as their My Work folder on Purple Mash.	Children know implications of inappropriate online searches. Children begin to understand how things are shared electronically such as posting work to the Purple Mash display board. They develop an understanding of using email safety by using **2Respond** activities on Purple Mash and know ways of reporting inappropriate behaviours and content to a trusted adult.	Children demonstrate the importance of having a secure password and not sharing this with anyone else. Furthermore, children can explain the negative implications of failure to keep passwords safe and secure. They understand the importance of staying safe and the importance of their conduct when using familiar communication tools such as 2Email in Purple Mash. They know more than one way to report unacceptable content and contact.	Children can explore key concepts relating to online safety using concept mapping such as **2Connect**. They can help others to understand the importance of online safety. Children know a range of ways of reporting inappropriate content and contact.	Children have a secure knowledge of common online safety rules and can apply this by demonstrating the safe and respectful use of a few different technologies and online services. Children implicitly relate appropriate online behaviour to their right to personal privacy and mental wellbeing of themselves and others.	Children demonstrate the safe and respectful use of a range of different technologies and online services. They identify more discreet inappropriate behaviours through developing critical thinking, e.g. 2Respond activities. They recognise the value in preserving their privacy when online for their own and other people's safety.

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Curriculum Progression Map - Computing

	Objectives: KS1	Objectives: KS2	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Computer Science	**Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions.** **Create and debug simple programs.**	**Design, write and debug programs that accomplish specific goals, including controlling or stimulating 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.**	I can explain that an algorithm is a set of instructions. **(1.4, 1.5, 1.7)** I know that an algorithm written for a computer is called a program. **(1.4, 1.7)** I can work out what is wrong when the steps are out of order in instructions. **(1.4, 1.7)** I can say that if something does not work how it should it is because my code is incorrect. **(1.7)** I can try and fix my code if it isn't working properly. **(1.7)** I can make good guesses of what is going to happen in a program. For example, where the turtle might go. **(1.5, 1.7)**	I can explain an algorithm is a set of instructions to complete a task. **(2.1)** I know I need to carefully plan my algorithm so it will work when I make it into code. **(2.1)** I can design a simple program using 2Code that achieves a purpose. **(2.1)** I can find and correct some errors in my program. **(2.1)** I can say what will happen in a program. **(2.1)** I can spot something in a program that has an action or effect (does Something. **(2.1)**	I can make a real-life situation into an algorithm for a program. **(3.1)** I can design an algorithm carefully, thinking about what I want it to do and how I can turn it into code. **(3.1)** I can identify an error in my program and fix it. **(3.1)** I can experiment with timers in my programs. **(3.1)** I can identify the difference in using the effect of a timer or repeat command in my code. **(3.1)** I am able to design a program thinking logically about the sequence of steps required. **(3.1)** I can experiment with the effect of using repeat commands. **(3.1)** I can read programs with several steps and predict what it will do. **(3.1)** I can identify different ways that the internet can be used for communication. **(3.5)** I can use email such as 2Email to respond to others appropriately and attach files. **(3.5)**	I can turn a real-life situation to solve into an algorithm, using a design that shows how I can accomplish this in code. **(4.1, 4.5)** I can use repetition in my code. For example, using a loop that continues until a condition is met such as the correct answer being entered. **(4.1)** I can use timers within my program designs more accurately to create repetition effects. **(4.1)** I can use selection (decision) in my programming. For example, using an 'if statement' for a question being asked and the program takes one of two paths. **(4.1)** I can use variables within my program and know how to change the value of variables. **(4.1)** I can use the user inputs and output features within my program, such as 'Print to screen'. **(4.1)** I can identify errors in my code by using different methods, such as steeping through lines of code and fixing them. **(4.1)** I can read programs that contain several steps and predict the outcomes with increasing accuracy. **(4.1, 4.5)** I recognise the main component parts of hardware which allow computers to join and form a network. **(4.8)** I understand that network and communication components can be found in many different devices which allow them to join the internet. **(4.2, 4.7, 4.8)**	I can make more complex real-life problems into algorithms for a program. **(5.1)** I can test and debug my programs as I work. **(5.1, 5.5)** I can convert (translate) algorithms that contain sequence, selection and repetition into code that works. **(5.1)** I can use sequence, selection, repetition, and some other coding structures in my code. **(5.1)** I can organise my code carefully for example, naming variables and using tabs. I know this will help me debug more efficiently. **(5.1)** I can use logical methods to identify the cause of any bug with support to identify the specific line of code. **(5.1)** I know the importance of computer networks and how they help solve problems and enhance communication. **(5.2)** I recognise the main dangers that can be perpetuated via computer networks. **(5.2)** I can explain what personal information is and know strategies for keeping this safe. **(5.2)** I can use the most appropriate form of online communication according to the digital content. For example, use 2Email, 2Blog and Display Boards. **(5.2 & others)**	I can turn a complex programming task into an algorithm. **(6.1)** I can identify the important aspects of a programming task (abstraction). **(6.1)** I can decompose important aspects of a programming task in a logical way, identifying appropriate coding structures that would work. **(6.1)** I can test and debug my program as I work on it and use logical methods to identify a cause of a bug. **(6.1)** I can identify a specific line of code that is causing a problem in my program and attempt a fix. **(6.1)** I can translate algorithms that include sequence, selection and repetition into code and nest these structures within each other. **(6.1)** I can use inputs and outputs within my coded programs such as sound, movement and buttons and represent the state of an object **(6.1, 6.7)** I can interpret (understand) a program in parts and can make logical attempts to put the separate parts together in an algorithm to explain the program as a whole. **(6.1)** I can explain the difference between the internet and the World Wide Web. **(6.2, 6.4,6.6)** I can explain what a WAN and LAN is and describe the process of how access to the internet in school is possible. **(6.2,6.6.6)**

Information Technology	**Use technology purposefully to create, organise, store, manipulate and retrieve digital content.**	**Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.** **Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.**	I can sort sound, pictures and text. **(1.2)** I can add sound, pictures and text to a program such as 2Create a Story. **(1.6)** I can change content on a file such as text, sound and images. **(1.3, 1.6, 1.7, 1.8)** I can name my work. **(1.2, 1.3, 1.6, 1.7, 1.8)** I can save my work. **(1.2, 1.3, 1.6, 1.7, 1.8)** I can find my work. **(1.2, 1.3, 1.6, 1.7, 1.8)**	I can organise data – for example, using a database such as 2Investigate. **(2.3, 2.4)** I can find data using specific searches – for example, using 2Investigate. **(2.4, 2.5)** I can use several programs to organise information – for example, using binary trees such as 2Question or spreadsheets such as 2Calculate. **(2.4, 2.8)** I can edit digital data such as data in music composition software like 2Sequence. **(2.7 and most units)** I can name, save and find my work. **(2.3, 2.4, 2.6, 2.7, 2.8 & most units)** I can include photos, text and sound in my creations. **(2.8, 2.6)**	I can carry out searches to find digital content on a range of online systems, such as within Purple Mash or on an internet search engine. **(Across units)** I can collect data and input it into software. **(3.3, 3.6, 3.8)** I can analyse data using features within software to help such as, formula in 2Calculate **(spreadsheets). (3.3, 3.6, 3.8)** I can present data and information using different software such as 2Question (branching database) or 2Graph (graphing tool). **(3.3, 3.6, 3.8,3.9)** I can consider what the most appropriate software to use when given a task by my teacher. **(Across units)** I can create purposeful (appropriate) content and attach this to emails. **(3.3, 3.5, 3.6, 3.7, 3.8, 3.9)**	I understand the purpose of a search engine and the main features within it. **(4.7)** I can look at information on a webpage and make predictions about the accuracy of information contained within it. **(4.7)** I can create and improve my solutions to a problem based on feedback. For example, create a program using 2Code. **(4.1, 4.2)** I can review solutions that others have created, using a checklist of criteria. **(4.1, 4.2)** I can work collaboratively to create content and solutions. **(4.1, 4.3, 4.4,4.8)** I can share digital content using a variety of applications such as: 2Blog, 2Email and Display Boards. **(Across units)**	I can search precisely when using a search engine. For example, I know I can add additional words or removes words to help find better results. **(5.2)** I can explain in detail how accurate, safe and reliable the content is on a webpage. **(5.2)** I can make appropriate improvements to digital work I have created. **(Across units)** I can comment on how successful a digital solution is that I have created. For example, a program built in 2Code that sorts decimals numbers. **(Across units)** I can work collaboratively with others creating solutions to problems using appropriate software such as 2Code. **(Across units)** I can use collaborative modes such as within 2Connect to work with others and share it. **(5.7)**	I can use filters when searching for digital content. **(6.2,6.9)** I can explain in detail how accurate and reliable a webpage and its content is. **(6.2)** I can compare a range of digital content sources and rate them in terms of content quality and accuracy. **(6.1, 6.3, 6.4, 6.5, 6.7,6.9)** I can consider the intended audience carefully when I design and make digital content. **(6.1, 6.3, 6.4, 6.5, 6.7,6.9)** I can design and create my own online blogs. **(6.4)** I can use criteria to evaluate the quality of my own and others digital solutions, suggesting refinements. **(6.1, 6.3, 6.4, 6.5, 6.7,6.9)**

Digital Literacy	**Recognise common uses of information technology beyond school.** **Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.**	**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.**	I can say what technology is. **(1.9)** I can say what examples of technology are in school. **(1.9)** I can say what examples of technology are at home. **(1.9)** I know that a chair uses old technology and a smart phone uses new technology. **(1.9)** I can keep my login information safe. **(1.1 and most units)** I can save my work in a safe place such as 'My Work' folder. **(1.1 and most units)**	I can find information I need using a search engine. **(2.5)** I know the consequences of not searching online safely. **(2.2, 2.5)** I can share work and communicate electronically – for example using 2Email or the display boards. **(2.2 and others)** I can report unkind behaviour and things that upset me online, to a trusted adult. **(2.2)** I can see where technology is used at school such as in the office or canteen. **(2.2)** I understand that my creations such as programs in 2Code, need similar skills to the adult world. e.g. The program used for collecting money for school trips. **(2.1)**	I can create a secure password. **(3.2)** I can explain the importance of having a secure password and not sharing it with others. **(3.2, 3.5)** I can explain the negative consequences of not keeping passwords safe and secure. **(3.2, 3.5)** I understand the importance of keeping safe online and behaving respectfully. **(3.2)** I can use communication tools such as 2Email respectfully and use good etiquette. **(3.2, 3.5)** I can report unacceptable content and contact online in more than one way to a trusted adult. **(3.2)**	I have a good understanding of the online safety rules we learn at school. **(4.2 & across curriculum)** I can demonstrate how to use different online technologies safely. **(4.2 & across curriculum)** I can demonstrate how to use a few different online services safely. **(4.2 & across curriculum)** I know I have a right to privacy both on and offline. **(4.2 & across curriculum)** I recognise that my wellbeing can be affected by how I use technology. **(4.2 & across curriculum)** I can report with ease any concerns with content and contact online and know immediate strategies to keep safe. **(4.2 & across curriculum)**	I have a secure knowledge of online safety rules taught at school. **(5.2 & across units)** I can demonstrate the safe and respectful use of different online technologies and online services. **(5.2 & across units)** I always relate appropriate online behaviour to my right to have personal privacy. **(5.2 & across units)** I know how to not let my mental wellbeing or others be affected by use of online technologies and services. **(5.2 & across units)**	I can demonstrate safe and respectful use of a range of different technologies and online services. **(6.2, 6.4)** I can identify more discrete inappropriate behaviours online. For example, someone who may be trying to groom me or someone else. **(6.2)** I can use critical thinking to help me stay safe online. **(6.2)** I know the value of protecting my privacy and others online. **(6.2, 6.4)**

Unit Theme					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
1.1 – Online Safety 1.2 – Grouping & Sorting 1.3 – Pictograms 1.4 – Lego Builders 1.5 – Maze Explorers 1.6 – Animated Stories 1.7 – Coding 1.8 – Spreadsheets 1.9 – Tech Outside School	2.1 - Coding 2.2 - Online Safety 2.3 - Spreadsheets 2.4 - Questioning 2.5 - Effective Searching 2.6 - Creating Pictures 2.7 - Making Music 2.8 - Presenting Ideas	3.1 - Coding 3.2 - Online Safety 3.3 - Spreadsheets 3.4 - Typing 3.5 - Email 3.6 - Branching Data 3.7 - Simulations 3.8 - Graphing 3.9 - Presenting	4.1 - Coding 4.2 - Online Safety 4.3 - Spreadsheets 4.4 - Writing for different audiences 4.5 - Logo 4.6 - Animation 4.7 - Effective Searching 4.8 - Hardware Investigators	5.1 - Coding 5.2 - Online Safety 5.3 - Spreadsheets 5.4 - Databases 5.5 - Game Creator 5.6 - 3D Modelling 5.7 - Concept Maps 5.8 - Word Processing	6.1 - Coding 6.2 - Online Safety 6.3 - Spreadsheets 6.4 - Blogging 6.5 - Text Adventures 6.6 - Networks 6.7 - Binary 6.9 - Spreadsheets

Computing – Autumn 1 – Online Safety
Planning Overview – Year 6 (Example)

WB	30/8/2021	6/9/2021	13/9/2021	20/9/2020	27/9/2020	4/10/2020	11/10/2020	18/10/2020
Lesson from Purple Mash	Getting to know our children week	Teacher Absent which resulted in pushing back the introduction to Purple Mash.	Standon Bowers Week	Introduction to Purple Mash. Getting the children to log on. **Lesson 1: Message in a Game** <u>Aims:</u> • To identify benefits and risks of mobile devices broadcasting the location of the user/device, e.g., apps accessing location. • To identify secure sites by looking for privacy seals of approval, e.g., https, padlock icon. • To identify the benefits and risks of giving personal information and device access to different software.	**Lesson 2: Online Behaviour** <u>Aims:</u> • To review the meaning of a digital footprint and understand how and why people use their information and online presence to create a virtual image of themselves as a user. • To have a clear idea of appropriate online behaviour and how this can protect themselves and others from possible online dangers, bullying and inappropriate behaviour. • To begin to understand how information online can persist and give away details of those who share or modify it.	**Lesson 2: Online Behaviour** - Continued	**Lesson 3: Screen Time** <u>Aims:</u> • To understand the importance of balancing game and screen time with other parts of their lives, e.g. explore the reasons why they may be tempted to spend more time playing games or find it difficult to stop playing and the effect this has on their health. • To identify the positive and negative influences of technology on health and the environment.	Broke up for October Half term
Activity				**Activity 1: 2DIY 3D Game** (completed the pre-made online safety game) **Activity 2: Creating Your Own Game** (children started making a game but edited the pre-made game due to not using Purple Mash before). Extension: Not done	**Activity 1: Applicants Database** (children filled in most of the applicant database and then we reviewed the rest as a class). **Activity 2: Writing Template** (the children started to fill in their writing template on what a digital footprint is). Children continued this into the next lesson.	**Activity 2: Writing Template** (the children continued to fill in their writing template on what a digital footprint is). **Homework task** (screen time) given out to the children.	**Activity 1: Home Study** (we discussed the results of the Home Study and answered the questions off the PowerPoint). **Activity 2: Entering Data** (children started entering their data onto a collaborative database). Will need to continue after half term for one lesson.	

St Peter's CE (VA) Primary School
Computing – Year 6, Unit 6.2 – Autumn 1 (Example)

During our Online Safety unit, we have focused on exploring how to be safe online, understanding the different symbols, explaining what a digital footprint is and carry out our own investigation into screen time.

These are the objectives that we have focused on:

- Understand computer networks, including the Internet; how they can provide multiple services, such as the World Wide Web; and the opportunities they offer for communication and collaboration.
- Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.
- Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.

Lesson 1 – Message in a Game (completed in two lessons)

During this lesson, these were our aims:

- To identify benefits and risks of mobile devices broadcasting the location of the user/device, e.g., apps accessing location.
- To identify secure sites by looking for privacy seals of approval, e.g., https, padlock icon.
- To identify the benefits and risks of giving personal information and device access to different software.

Activities done:

Activity 1: Online Safety Game – In this game we looked at the different symbols and vocabulary associated with online safety. The children had to collect all the safe symbols and avoid all the risks.

Activity 2: Creating their own game using the online safety symbol. Children adapted the game, using 2DIY3D, to make their own using the risk symbols and the online safety symbols. Children did not finish their games.

Lesson 2 – Online Behaviour (completed in two lessons)

During this lesson, these were our aims:

- To review the meaning of a digital footprint and understand how and why people use their information and online presence to create a virtual image of themselves as a user.
- To have a clear idea of appropriate online behaviour and how this can protect themselves and others from possible online dangers, bullying and inappropriate behaviour.
- To begin to understand how information online can persist and give away details of those who share or modify it.

Activities done:

First, we recapped the term digital footprint as the children had not come across this term before.

Activity 1: Applicants database. The children became digital footprint detectives and filled in a sheet that looked at the applicants and the information that they had summited. They explored if the applicant had shared personal information, if they would be a suitable candidate for the football management scholarship, whether they had any conflicting information and if they had any undesirable information or images online. We then shared our findings.

Activity 2: Writing Frame. Children completed a writing frame on what they had learnt about what a digital footprint is and its implications. They also looked at how to stay safe online and what to do if they encounter upsetting content or they are concerned.
Homework set: Children had to complete a screen time activity sheet.

Lesson 3 – Screen Time (completed in three lessons)
During this lesson, there were our aims:

- To understand the importance of balancing game and screen time with other parts of their lives, e.g., explore the reasons why they may be tempted to spend more time playing games or find it difficult to stop playing and the effect this has on their health.
- To identify the positive and negative influences of technology on health and the environment.

Activities done:
Activity 1 - Home Study. First, we looked at our screen time activity sheets that we completed for homework and calculated the average number of hours sleep and the number of minutes spent on screen activities and off-screen activities.
Activity 2 – Entering Data. The children entered their information onto a collaborative database using 2Investigate.
Activity 3 - Data Analysis. We then looked at the data and created some graphs. We then saved one using the snipping tool.
Activity 4 – Writing Frame. Using the writing frame, the children wrote up their findings from our screen time study. They came up with ideas to have a balance of on screen time activities and off-screen activities.