Badsley Primary School

Subject: Computing

Coverage

	FS2	Y1	Y2	Y3	Y4	Y5	Y6
Autumn 1	**Unit : Paint** Mouse control Click and Drag 2simple paint	Unit 1.2 Grouping and Sorting Unit 1.9 Technology outside of school	Unit 2.4 Questioning Unit 2.2 Online Safety- Lesson 1	Unit 3.1 Coding (Crash course)	Unit 4.5 Logo Unit 4.8 Hardware	Unit 5.8 Word processing (Google Docs)	Unit 6.9 Spreadsheets (Google docs)
Autumn 2	**Unit : Navigation** Log into class page and Log off. Start to use Purple Mash Access Mini mash. 2spublish Tizzys Tools Simple city- Café (topic base)	Unit 1.3 Pictograms Unit 1.4 Lego Builders	Unit 2.6 Creating Pictures Unit 2.5 Effective searching -Lesson 1	Unit 3.3 Spreadsheets (Crash Course)	Unit 4.1 Coding (Crash Course)	Unit 5.3 Spreadsheets	Unit 6.1 Coding
Spring 1 & 2	**Unit : Music Explorers.** Double click Open a program from desktop 2simple 2explore- music - Making music using toolbar. **Hector Protector – 8 lessons over spring term.**	Unit 1.1 Online safety Unit 1.5 Maze Explorers Unit 1.7 Coding	Unit 2.8 Presenting ideas Unit 2.2 Online Safety (Internet Safety week) Unit 2.3 Spreadsheets (Crash Course) Unit 2.5 Effective searching Lesson 2 & Lesson 3	Unit 3.2 Online Safety Unit 3.6 Branching Database Unit 3.5 Email	Unit 4.2 Online Safety Unit 4.7 Effective searching Unit 4.4 Writing for different audiences	Unit 5.1 Coding Unit 5.2 Online Safety Unit 5.7 Concept Maps	Unit 6.2 Online safety- revisit Unit 6.7 Quizzing

	Unit : Early Coding & Pictograms Double click Logging on and log off 2count- (pets) 2go – Early Coding Tizzys tools- Control Early coding						
Summer 1	**Unit Publishing** Keyboard – Capital letter, Full stop, space bar for finger spaces. Simple City – Adding labels & words. 2publish plus- Typing lists- Tizzys Write (level 3)	Unit 1.6 Animated Books	Unit 2.1 Coding (Crash Course)	Unit 3.4 Touch Typing	Unit 4.6 Animation Unit 4.9 Making Music	Unit 5.4 Database Unit 5.6 3D Modelling	Unit 6.6 Networks
Summer 2	**Unit Publishing for a purpose** To begin to log onto Mini mash using icon on desktop Simulation continued- Recycling Centre and water cycle.	Unit 1.8 Spreadsheets	Unit 2.1 Coding (Continued) Unit 2.7 Making music	Unit 3.8 Graphing Unit 3.7 Simulations	Unit 4.3 Spreadsheets (Crash Course)	Unit 5.5 Game Creator	Unit 6.4 Blogging

Vocabulary progression

	FS2	Y1	Y2	Y3	Y4	Y5	Y6
Need to know	Computer Chromebook i-pad	Online Safety and exploring purple mash	Coding	Coding	Coding	Concept Maps	Coding
	On/off Scroll Mouse Screen Type Letters Space Draw Mini-mash Log in Log off Control Click Drag Keyboard Open Space bar	Avatar Button Device log in File Notifications My work Password Topic Toolbar typing	Algorithm Bug Background Collision detection Command Debug Event Instruction Object Run Sequence Timer	Code Input Repeat Test	Action Code blocks Design Coordinates Execute Flowchart Nest Prompt Implement Variable	Concept Connection Collaborate Heading Node	Execute Flowchart Properties Repeat Sequence variable
		Grouping and Sorting	Online Safety	Online Safety	Online Safety	Coding	Spreadsheets
		Equal Criteria Groups sort	Digital footprint Email Filter Internet Identify Personal information Private Information Protection Search Secure Sharing	Appropriate Inappropriate Password Permission Verify Website	Attachment Collaborate Cookies Copyright Data analysis Phishing Report SMART rules Spam Virus	Abstract Algorithm Co-ordinates Decomposition Efficient Friction Function Input Output Predict Properties Random Repeat	Chart Columns Percentage Probability Spreadsheet
			Spreadsheets	Spreadsheets	Spreadsheet	Online Safety	Blogging

			Block graph Cell Column Row Copy Count tool Cut Data Information Equal tool Image value Speak tool Total Table	Bar graph Cell address Data Equals More than/ Less than Pie Chart	Average Budget Calculations Decimal place Formula Percentage Timer Spinner tool	Appropriate Avatar Citation Collaborate Communication Critical thinking Digital footprint Encrypt Malware Ownership Phishing	Approval Archive Blog Commenting Vlog
		Pictograms	Questioning	Touch Typing		3D modelling	Online Safety
		Collect data Compare Pictogram Results title	Avatar Binary tree Data Database Field Information Pictogram Question Record Search Sort	Keys Posture Typing		2D 3D Design Brief Net Pattern Fill Points Template	Data Analysis Inaapropriate Password Secure Spoof
		Effective Searching	Email			Databases	Text Adventures
			Browser Device Digital Footprint Domain Internet Network Search Engine Web address Web page / Web site URL	Attachment Communication Compose Inbox Email Password Personal information Trusted contact		Arrange Chart Data Field Group Record Search Sort Statistics	Function Link

		Lego builders	Creating Pictures	Branching Database		Spreadsheets	Networks
		Code Computer Debugging Instructions Sequence	Clipart Dilute ECollage Fill Impressionism Palette Pointillism Rotated Style Surrealism	Binary Tree Branching database Database Debugging		Advance mode Area Budget Columns Format Formula Perimeter Profit Rows	
		Maze Explorers	Making Music	Simulations			Ethernet Hosting Network Router Website
		Direction Delete Route Right and left unit	Bars Beat Compose Note Tune Repeat Soud effect Sound Track Tempo	Analysis Evaluation Modelling Realistic Simulation Solution			
		Animated Story books		Graphing			Quizzing
		Animation Background Clip art Copy Eraser Paint tools Font Play mode		Chart Column Axis Investigation Sorting Survey Tally Chart Title			Audience Audio Clone Cloze Statistics Preview
		Coding					
		Action Background					

	FS2	Y1	Y2	Y3	Y4	Y5	Y6
		Click Code Coding Instruction Scene Sound Software					
		Spreadsheets					
		Button Cell Column Delete Data Row Select spreadsheet		Presenting with Microsoft Powerpoint			Binary
		Technology outside school		Animation Audio Duration Editing Layer Presentation Preview Review Slide Textbox Timing Transition			Binary Bit Decimal Denary Digit Integer Transistor
		Computer technology					
Exposed to							

EYFS and National Curriculum

	FS2	Y1	Y2	Y3	Y4	Y5	Y6

Computer Science	Computer Science	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. -Use logical reasoning to predict the behaviour of simple programs.	**Computer Science** - Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. - Use sequence, selection and repetition in programs; work with variables and various forms of input and output. - Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs. - Understand computer networks, including the internet; how they can provide multiple services, such as the World Wide Web, and the opportunities they offer for communication and collaboration.			
	Information Technology	Information Technology -Use technology purposefully to create, organise, store, manipulate and retrieve digital content.	Information Technology -Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content. - Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.			
	Digital Literacy -	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.	Digital Literacy -Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concern about content and contact.			

Progression of knowledge and skills

Concept	FS2	Y1	Y2	Y3	Y4	Y5	Y6
Computer Science	To understand and follow simple instructions (algorithms)

Beginning to verbally compose simple instructions.

To use a simple program or device to program instructions. | Learn that an algorithm is a set of instructions used to solve a problem or achieve an objective. They know that a computer program turns an algorithm into code that the computer can understand

Learn to work out what is wrong with a simple algorithm when the steps are out of order, e.g. The Wrong Sandwich in Purple Mash and can write their own simple algorithm, e.g. Colouring in a Bird activity. Children know that an unexpected outcome is due to the code they have created and can make logical attempts to fix the code, e.g. Bubbles activity in 2Code. | 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.

Can create a simple program that achieves a specific purpose. They can also identify and correct some errors, e.g. Debug Challenges: Chimp. Children's program designs display a growing awareness of the need for logical, programmable steps.

To identify the parts of a program | -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. Can identify an error within their program that prevents it following the desired algorithm and then fix it.
- Demonstrate the ability to design and code a program that follows a simple sequence. They experiment with timers to achieve repetition effects in their programs. Beginning to understand the difference in the effect of using a timer command rather than a repeat command | -When turning a real-life situation into an algorithm, the children's design shows that they are thinking of the required task and how to accomplish this in code using coding structures for selection and repetition. Children make more intuitive attempts to debug their own programs.
- Children's use of timers to achieve repetition effects are becoming more logical and are integrated into their program designs. They understand 'IF statements' for selection and attempt to combine these with other coding structures including variables to achieve the effects that they design in their programs. As well as understanding how variables can be used to store information | Children may attempt to turn more complex real-life situations into algorithms for a program by deconstructing it into manageable parts. Children are able to test and debug their programs as they go and can use logical methods to identify the approximate cause of any bug but may need some support identifying the specific line of code.

- Children can translate algorithms that include sequence, selection and repetition into code with increasing ease and their own designs show that they are thinking of how to accomplish the set task in code utilising such structures. They are combining sequence, selection and repetition with other coding structures to achieve | 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 to identify a particular line of code causing a problem.

- Children 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 |

| | | Learn to read code one line at a time and make good attempts to envision the bigger picture of the overall effect of the program. Children can, for example, interpret where the turtle in 2Go challenges will end up at the end of the program. | that respond to specific events and initiate specific actions. For example, they can write a cause and effect sentence of what will happen in a program | when creating repetition effects. - 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, 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. - Can list a range of ways that the Internet ca n be used to provide different methods of communication. | while a program is executing, they are able to use and manipulate the value of variables. Children can make use of user inputs and outputs such as 'print to screen'. e.g. 2Code. - Children's designs for their programs show that they are thinking of the structure of a program in logical, achievable steps and absorbing some new knowledge of coding structures. For example, 'IF' statements, repetition and variables. They can trace code and use step-through methods to identify errors in code and make logical attempts to correct this. In programs such as Logo, they can 'read' programs with several steps and predict the outcome accurately. | their algorithm design.

When children code, they are beginning to think about their code structure in terms of the ability to debug and interpret the code later, e.g. the use of tabs to organise code and the naming of variables.

Children understand the value of computer networks but are also aware of the main dangers. They recognise what personal information is and can explain how this can be kept safe. Children can select the most appropriate form of online communications contingent on audience and digital content, e.g. 2Blog, 2Email, Display Boards. | 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.

- 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.

-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. |

				They can use some of these methods of communication, e.g. being ab le to open, respond to and attach files to emails us ing 2Email. They can de scribe appropriate email conventions w hen 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.		
Unit		Unit 1.2 Grouping & sorting – 2DIY Unit 1. 4 Lego Builders -2DIY Unit 1.5 -Maze Explorers- 2go Unit 1/7 -Coding -2code	Unit 2.1 Coding-2code	3.1 Coding -2Code	4.1 Coding -2Code 4.5 Logo- Logo 4.8 Hardware Investigations	Unit 5.1 Coding -2Code Unit 5.5 Game Creator-2DIY, 3D	No Computer science taught Understanding binary Networks Text adventures Coding
Information Technology	Recognise the letters in my name on a computer keyboard and type my name. Enter letters and numbers using a word processor.	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	Children demonstrate an ability to organise data using, for example, a database such as 2Invesitigate and can retrieve specific data for	-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	-Children understand the function, features and layout of a search engine. They can appraise selected webpages for credibility and	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	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

	Beginning to identify the main keys for word processing e.g. space bar, return key, full stop To use various tools including brushes and pens in a paint package. To be aware that documents can be saved and retrieved.	instructions to access online resources, use Purple Mash 2Quiz example (sorting shapes), 2Code design mode (manipulating backgrounds) or using pictogram software such as 2Count.	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.	such as Purple Mash search or internet-wide search engines. - Can collect, analyse, evaluate and present data and information using a selection of software, e.g. using a branching database (2Question), using software such as 2Graph. Children can consider what software is most appropriate for a given task. They can create purposeful content to attach to emails, e.g. 2Respond.	information at a basic level. - Children are able to make improvements to digital solutions based on feedback. Children make informed software choices when presenting information and data. They create linked content using a range of software such as 2Connect and 2Publish+. Children share digital content within their community, i.e. using Virtual Display Boards.	information it contains. Children are able to make appropriate improvements to digital solutions based on feedback received and can confidently comment on the success of the solution. e.g. creating their own program to meet a design brief using 2Code. They objectively review solutions from others. Children are able to collaboratively create content and solutions using digital features within software such as collaborative mode. They are able to use several ways of sharing digital content, i.e. 2Blog, Display Boards and 2Email.	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. 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.
Unit		Unit 1.3 Pictograms - 2count Unit 1.6 Animated story books -2 create a story	Unit 2.3 Spreadsheets - 2calculate Unit 2.4 Questioning-	3.3 Spreadsheets- 2Calculate 3.4 Touch Typing - 2Type 3.6 Branching Database- 2Questions	4.3 Spreadsheets- 2Calculate 4.4 Writing for different audience - 2Email, 2Connect, 2DIY	5.3 Spreadsheets - 2Calculate 5.4 Databases- 2Question, 2Investigate 5.6 3D Modelling- 2Design & make	6.3 Spreadsheets- 2Calculate 6.9 Spreadsheets - MS Excel 6.7 Quizzing – 2Quiz, 2DIY, Text toolkit, 2Investgate

		Unit 1.6 Spreadsheets - 2calculate	2Question, 2investigate Unit 2.6 Creating pictures- 2Paint a picture Unit 2.7 Making music – 2sequence Unit 2.7 Presenting ideas- Various	3.7 Simulation - 2Simulate, 2 Publish 3.8 Graphing - 2Graph 3.9 Presenting - Microsoft Word	4.6 Animation- 2Animate 4.7 Effective searching -Browser 4.9 Making music- Busy Beats	5.7 Concept Maps- 2Connect 5.8 Word Processing-MS Word	
Digital Literacy	To understand cameras take still and moving images.

Recognise everyday uses of technology. | 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 | - 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 | -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. |

				unacceptable content and contact.			
Units		Unit 1.9 Technology outside of school – Various software	Unit 2.5 Effective Searching- Browsers	3.5 Email -2Email, 2Conneect, 2 DIY 3.2 Online Safety-Various	4.2 Online Safety-Various	Unit 5.2 Online Safety - Various	6.2 Online Safety-Various
Online Safety	To understand that my password belongs to me. To understand that there are rules to stay safe when using the internet. To understand that I need an adult with me when using the internet and to ask for help when I need it.	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 the implications of inappropriate online searches. Children begin to understand how things are shared electronically such as posting work to the Purple Mash display board. They develop an understanding of using email safely by using 2Respond activities on Purple Mash and know ways of reporting inappropriate behaviours and content to a trusted adult.	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 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	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 learn about how to reference sources in their work. To search	• To identify benefits and risks of mobile devices broadcasting the location of the user/device. • To identify secure sites by looking for privacy seals of approval. • To identify the benefits and risks of giving personal information. • To review the meaning of a digital footprint. • To have a clear idea of appropriate online behaviour. • To begin to understand how information online can persist. • To understand the importance of balancing game and screen time

					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.	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. To be aware of appropriate and inappropriate text, photographs and videos and the impact of sharing these online.	with other parts of their lives. • To identify the positive and negative influences of technology on health and the environment.
Unit			Unit 1.1 Online Safety & exploring-Purple Mash - Various software Road Map Programming Data collection and analysis Online Safety Instructional Keeping Safe Present Data	Unit 2.2 Online Safety-Various	Unit 3.2 Online Safety	4.2 Online Safety-Various	5.2 Online Safety - Various	6.2 Online Safety-Various