

Our Computing Adventure



Long Term Overview

EYFS

Although Computing no longer appears in the statutory EYFS curriculum, at Godinton we recognise it as an important learning tool across all areas of the curriculum. In our Reception classes, children are given the opportunity to regularly visit our well-equipped computer suite where they develop their computer literacy in a way that is fun and engaging. Children enhance their mouse control skills by exploring the Purple Mash platform; drawing and colouring pictures, dragging puzzle pieces, and playing simple games. They learn how to log themselves onto a computer and how to select the correct program. Activities are carefully linked to the learning that is taking place in the classroom and is related to the children's interests where possible. In the classroom, an interactive whiteboard, BeeBots and ipads are readily available for children to utilise during their investigation and discovery sessions, alongside everyday technology such as keyboards, old phones and old cameras to be used in imaginary play. Our children partake in National Internet Safety Day and learn how to safely use computing equipment throughout the year.

Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Introduce children to the interactive whiteboard	Introduce Tapestry as a tool for children to share videos	Introduce the computer suite to the children. Explore how to	Continue to develop mouse skills by	Complete simple puzzles and games on	Navigate around the 'Simple City' section on
through playing simple games, and exploring colour and line on	and photographs from home. Use simple recording devices such as sound buttons to	use the computer suite safely and with care. Show children how to log on to	exploring simple colouring pages using 2Simple.	Mini Mash. Use ipads to take pictures of their own	Mini Mash, watching short clips and dragging objects.
ActivInspire. Everyday technology such as old phones, keyboards and cameras to be	record own voices. Begin to use e-books to support the learning of phonics.	a computer using a simple username and password. Demonstrate how to use a mouse to select colours on	Explore simple programmable toys such as Beebots. Continue to develop	work and to record their play.	Introduce the headphones in the computer suite so that children can listen to
included as part of the home corner.	Use the internet, as a whole class, to find out information relating to our Year Group Hero.	2Simple. Manipulate the mouse to draw lines and squiggles. Use 'Smartie the Penguin' as an introduction to e-safety.	children's ability to log on to the computer, increasing in independence.		audio that accompany the Simple City videos.

Topics	Key Skills and Knowledge	Resources
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Computer Science	Programming	Programming and Coding To cover 2 terms.	 Control simple everyday devices to make them produce different outcomes. Understand that an algorithm is a set of instructions used to solve a problem or achieve an objective. Know that an algorithm written for a computer is called a program. Work out what is wrong with a simple algorithm when the steps are out of order. Write a simple algorithm. Know that an unexpected outcome is due to the code that has been created and make logical attempts to fix the code. Read code one line at a time and make good attempts to envision the bigger picture. 	Purple Mash Unit 1.5 and Purple Mash Unit 1.7 Also using Bee-Bots Further resources: Daisy the Dinosaur app Kodable Code for Life
on Technology	Multimedia	Text and multimedia To cover 2 terms.	 Collate, edit and store simple digital content. Start to use a keyboard to type name and simple texts, changing the font, size and colour of the text. Save and retrieve work and follow simple instructions to access online resources Use a range of simple tools in a paint package/image manipulation software to create/modify a picture. Work with others and with support to contribute to a digital class resource which includes text, graphic and sound. Choose suitable sounds from a bank to express ideas. 	Potentially use Purple Mash Unit 1.6 Resources: 2Publish 2Publish Plus 2Paint 2Paint 2Paint a picture Picollage app PuppetPals app
Information	Data	Handling information	 As a class or individually with support, use a simple pictogram or painting program to develop simple graphical awareness/one to one correspondence. Sort, collate, edit and store simple digital content. 	Potentially use Purple Mash Unit 1.3 Resources: 2Count 2Graph Could also cover Purple Mash Unit 1.8 Spreadsheets as well

Literacy	Networks	Understanding Technologies	 Show an awareness that what is created on a computer or tablet device can be shown to other via another device (e.g. printer, projector, iPad mirroring) Understand what is meant by technology and identify a variety of examples both in and out of school. Show awareness of the range of devices and tools encountered in everyday life. Make a distinction between objects that use modern technology and those that do not e.g. a microwave vs. a chair. Contribute ideas to a class email to another class/ school etc. Undertake simple searches on the internet. Talk about different websites and what can be found. 	Potentially use Purple Mash Unit 1.9 Resources: Websites & search engines 2Email
Digital Lite	E-safety	Online Safety To be covered at the start of the year and then reviewed at the beginning of each term or before an internet based lesson	 As a class exercise, explore information from a variety of sources (electronic, paper based, observations of the world around them, etc.). Show an awareness of different forms of information. Understand the importance of keeping information, such as usernames and passwords, private and actively demonstrate this in lessons. Take ownership of their work and save this in their own private space such as their My Work folder on Purple Mash. Talk about different websites and what can be found. 	Lower School AUP Purple Mash unit 1.1 Resources: Know it all website Kidsmart website Thinkyouknow website Be internet legends website Safer Internet Day resources

Units in green are not discreet topics but should be covered throughout the year.

		Topics	Key Skills and Knowledge	Resources
Computer Science	Programming	Coding	 Explain that an algorithm is a set of instructions to complete a task. Show an awareness, when designing simple programs, of the need to be precise with algorithms so that they can be successfully converted into code. Create a simple program that achieves a specific purpose. Identify and correct some errors. Display a growing awareness of the need for logical, programmable steps. Identify the parts of a program that respond to specific events and initiate specific actions. E.g. write a cause and effect sentence of what will happen in a program. Control a device, on and off screen, making predictions about the effect the programming will have. 	Purple Mash Unit 2.1 Further resources: Bee bots Pro-bot Bee bot app Kodable Code for Life Scratch Jr app
ınology		Text and multimedia	 Generate publications and presentations, with help where appropriate with multimedia. Use a range of media - combining text, graphics and sound. Confident when creating, naming, saving and retrieving content. Develop typing skills to enable short sections of text to be typed accurately. Change font alignment and background to text. Start to edit and improve creations. 	Potentially use Purple Mash Unit 2.8 Resources: 2Type 2Publish 2Publish Plus Picollage app PuppetPals app
Information Technology	Multimedia	Digital images	 Take and edit digital photographs using simple photo editing programs. Save, locate and retrieve digital photographs. Use a range of simple tools in a paint package/ image manipulation software to create/ modify a picture to communicate an idea. Create a simple animation to tell a story. Confidently create, name, save and retrieve content. 	Potentially use Purple Mash Unit 2.6 Resources: 2Paint a picture 2Animate Pixlr.com
		Sound and music	 Explore electronic music and sound devices. Compose music from icons. Produce a simple presentation incorporating sounds that have been captured or created. 	Potentially use Purple Mash Unit 2.7 Resources:

	Data	Handling information	 Demonstrate an ability to organise data and retrieve specific data to conduct simple searches. Use a graphing package to collect organise and classify data, selecting appropriate tools to create a graph and answer questions. Enter information into a simple branching database, database or word processor and use it to answer questions. Save, retrieve and edit work. 	Potentially use Purple Mash Units 2.3 and 2.4 Resources: 2Graph 2Question 2Investigate
Literacy	Networks	Understanding Technologies	 Effectively retrieve relevant, purposeful digital content using a search engine. Demonstrate an awareness of how to manage their journey around websites (e.g. using the back/forward button, hyperlinks) Apply learning of effective searching beyond the classroom and share this knowledge. Make links between technology seen at home, coding and multimedia work they do in school, interactive code and programs. Begin to understand how things are shared electronically. Show an awareness of a range of inputs to a computer (IWB, mouse touch screen, microphone, keyboard, etc.) 	Purple Mash Unit 2.5 — Effective Searching Resources: Websites & search engines
Digital L	E-safety	Online Safety To be covered at the start of the year and then reviewed at the beginning of each term or before an internet based lesson	 Know the implications of inappropriate online searches. Begin to understand how things are shared electronically. Develop an understanding of using email safely by using 2Respond activities on Purple Mash and know ways of reporting inappropriate behaviours and content. Begin to show an awareness that computers can be linked to share resources. 	Middle School AUP Purple Mash Unit 2.2 Know it all Kidsmart Thinkyouknow Be internet legends website Safer Internet Day resources

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		Topics	Key Skills and Knowledge	Resources
Computer Science	Programming	Coding	 Understand what a flowchart is and how flowcharts are used in computer programming. Experiment with timers to achieve repetition effects in programs. Understand that there are different types of timers and select the right type for purpose. Explore and learn how to use the repeat command. Investigate and understand the importance of nesting. Design and create an interactive scene. Identify an error within a program that prevents it following the desired algorithm and fix it. 	Purple Mash Unit 3.1 Further resources: Bee bots Pro-bot Bee bot app Kodable Code for Life Scratch Jr app
Information Technology	Multimedia	Text and multimedia Touch typing	 Develop skills to use a range of software to present information. Know that a presentation program is used to present information to an audience in an engaging way. Understand that it can including text, pictures and videos. Understand the purpose of the Slides tool and add slides to presentations. Choose and add media to presentations. Format and position text appropriately. Add shapes and lines to enhance a presentation. Use the skills learnt to design and create an engaging presentation. Introduce typing terminology. Understand the correct way to sit at the keyboard. Learn how to use the home, top and bottom row keys. Practise typing with the left and right hand. 	Potentially use Purple Mash Unit 3.9 Resources: MS Powerpoint MS Word 2Type 2Publish 2Publish Plus Picollage app Potentially use Purple Mash Unit 3.4 Resources: 2Type Nessy's fingers?
Information	Data	Handling information 1	 Discuss and understand different forms of data and why it is important to sort and organise it so as to easily find information. Learn to sort objects using just 'yes' or 'no' questions. Complete a branching database using 2Question. Create a branching database of own choice. 	Potentially use Purple Mash Unit 3.6 Resources: 2Question 2Investigate

		Handling information 2 (short topic)	 Discuss and understand different forms of data and why it is important to sort and organise it so as to easily find information. Enter data into a graph and answer questions. Solve an investigation and present the results in graphic form. 	Potentially use Purple Mash Unit 3.8 Resources: 2Graph Data loggers
		Simulations	 Consider what simulations are; explore a simulation and recognise that they can be useful to widen experience beyond the classroom. Analyse and evaluate a simulation Use models and simulations to find things out and solve problems. Recognise that simulations are useful in widening experience beyond the classroom. 	Potentially use Purple Mash Unit 3.7 Resources: 2Simple City 2Simulate 2Publish
racy	Networks	Understanding Technologies	 Think about different methods of communication. Open and respond to an email using an address book. Learn how to use email safely and understand the importance of staying safe. Add an attachment to an email. Explore a simulated email scenario. Know the importance of their conduct when using a communication tool such as 2Email. 	Purple Mash Unit 3.5 – Email Resources: Websites & search engines
Digital Literacy	E-safety	Online Safety To be covered at the start of the year and then reviewed at the beginning of each term or before an internet based lesson	 Know what makes a safe password. Learn methods for keeping passwords safe and explain why it is important to do so. Understand how the Internet can be used in effective communication. Understand how a blog can be used to communicate with a wider audience. Consider the truth of the content of websites. Learn about the meaning of age restrictions symbols on digital media and devices. 	Middle School AUP Purple Mash Unit 3.2 Know it all Kidsmart Thinkyouknow Be internet legends website Safer Internet Day resources

Topics and Purple Mash Units in purple must be taught. Units in green are not discreet topics but should be covered throughout the year.

		Topics	Key Skills and Knowledge	Resources
		Coding	Begin to understand selection in computer programming, thinking carefully about the required task.	Purple Mash Unit 4.1
			Understand how an IF statement works and how to use co-ordinates in computer	Resources:
			programming.	Scratch
	Ď.		Understand, and use in their algorithms, the 'repeat until' command.	Hour of Code
ဖ	ä.		Begin to understand how an IF/ELSE statement works.	
enc	ram		Know what a variable is in programming and start to use a number variable.	
, C.	Programming		Use all skills acquired to create a playable game.	
Computer Science	<u>a</u>	Control	Show an understanding that Logo is a coding language, and how it is structured.	Purple Mash Unit 4.5
ıte			Children are able to input simple instructions in Logo.	
npr			Use 2Logo to create letter shapes, moving on to use the Repeat function in Logo to	Resources:
l o			create shapes.	2Logo
U			Show an understanding of how to use and build procedures in Logo.	Pro-Bot
	et &	Understanding	Understand that different parts that make up a computer and they all have an	Potentially use Purple Mash Unit
	Networks & the internet	Technologies	important function.	4.8
	two	(short unit)	Recall the different parts that make up a computer.	
	Ne the	(Short unit)	Recognise the main component parts of hardware which allow computers to join and	Resources:
		Text and multimedia	form a network. • Know that a multimedia program is used to present information to an audience in an	Examples of computers Microsoft Publisher
		rext and muttimedia	engaging way.	Microsoft Fublisher
			 Show an understanding of how Publisher works, that each media item is in a separate 	Resources:
			'box' and that those boxes can be layered.	Purple Mash 4.4
>			Choose and add media to documents, appropriately positioned.	Word, Publisher & Powerpoint
log			Edit and manipulate font — size, shape, style — to achieve a particular effect.	Picollage
no			Use multimedia programmes to display cross-curricular learning.	2Tpye
ch	lia			Nessy's fingers
Ĕ	шес	Digital images	Import digital media into an appropriate photo manipulation software.	Photo manipulation software
Information Technology	Multimedia		Edit digital images using a range of tools to convey a specific mood or idea.	2Draw
ma		Digital images	Discuss what makes a good animated film or cartoon.	Potentially use Purple Mash Unit
for		· -	Learn how animations are created by hand.	4.6
<u> </u>			Find out how 2Animate can be created in a similar way using the computer.	
			Learn about onion skinning in animation.	Resources:
			Add backgrounds and sounds to animations.	2 A nimate
			Show an awareness of 'stop motion' animation.	Pivotstick
			Share animation on the class display board.	

		Sound and music	 Identify and discuss the main elements of music. Understand and experiment with rhythm and tempo. Create a melodic phrase. Electronically compose a piece of music. Use sound effects and existing music as well as creating own content. Make improvements to digital media based on feedback. 	Potentially use Purple Mash Unit 4.9 Resources: Busy Beats 2Sequence Audacity
		Effective Searching (short unit)	 Children can locate information on the search results page. Show an ability to search effectively to find out information. Assess whether an information source is true and reliable. 	Purple Mash Unit 4.7
Digital Literacy	safety & Networks	Online Safety To be covered at the start of the year and then	 Children understand how they can protect themselves from online identity theft. Understand that information put online leaves a digital footprint or trail and that this can aid identity theft. Children identify the risks and benefits of installing software including apps. Know that copying the work of others and presenting it as their own is called 'plagiarism' and to consider the consequences of plagiarism. 	Upper School AUP Purple Mash unit 4.2 Know it all Kidsmart Thinkyouknow
ثَ	E-S	reviewed at the beginning of each term or before an internet based lesson	 Identify appropriate behaviour when participating or contributing to collaborative online projects for learning. Children identify the positive and negative influences of technology on health and the environment. Know the importance of balancing game and screen time with other parts of their lives. 	Safer Internet Day resources

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	Topics	Key Skills and Knowledge	Resources
Computer Science Programming	Coding	 Begin to simplify code and create a playable game. Understand what a simulation is and program a simulation using 2Code. Know what decomposition and abstraction are in computer science. Start to take a real-life situation, decompose it and think about the level of abstraction. Understand how to use friction in code. Begin to understand what a function is and how functions work in code. 	Purple Mash Unit 5.1 Further Resources: Scratch Hour of Code Code for Life

		Game Creator	 Understand what the different variables types are and how they are used differently. Understand how to create a string. Understand what concatenation is and how it works. Plan an interesting game. Design and create the game environment using imaginative details. Design and create the game auest; use challenging elements. Appropriately finish and share the game. Be able to self and peer evaluate. 	Potentially use Purple Mash Unit 5.5 Resources: 2DIY3D Sketch Nation (iPads)
	Multimedia	Text and multimedia	 Know what a word processing tool is for. Explore various different types of word processing software: MS Word, Picollage, Book Creator. Add and edit images to a word document. Know how to use word wrap with images and text. Change the look of text within a document. Add features to a document to enhance its look and usability. Use tables within MS Word to present information. Introduce children to templates in MS Word. Consider page layout including heading and columns. Confident use of MS Publisher and Powerpoint to present learning. 	Potentially use Purple Mash Unit 5.8 Resources: Book Creator MS Word, Publisher & Powerpoint Picollage 2Tpye Nessy fingers Search engines
chnology		Graphical Modelling	 Explore the benefits and skills of computer aided design, looking at 2Design and Make or Publisher. Explore the effect of moving points when designing. Explore auto shapes to achieve different effects. Design a 3D Model to fit certain criteria. Manipulate auto shapes to create 2D or 3D models Refine and print a model. 	Potentially use Purple Mash Unit 5.6 Resources: 2Design & Make Publisher
Information Technology	Data	Spreadsheets	 Understand what a spreadsheet is and what it can be used for. Begin to use formulae within a spreadsheet to solve simple mathematical problems. Start to use a spreadsheet to model a real-life problem. Use formulae to calculate area and perimeter of shapes. Start to create formulae that use text variables. Use a spreadsheet to help plan a real-life situation, e.g. a school cake sale. 	Potentially use Purple Mash Unit 5.3 Excel

		Handling Data	Learn how to search for information in a database.	Potentially use Purple Mash Unit
			 Work as a class or group to create a data collection sheet and use it to set up a straight forward database to answer questions. Enter information and interrogate it (by searching, sorting, graphing, etc). Begin to reflect on how useful the collected data and their interrogation was and 	5.4 Resources: 2Question
			whether or not their questions were answered.	2Investigate
		Online Safety	Abide by the school rules for e-safety.	Upper School AUP
			 Gain a greater understanding of the impact that sharing digital content can have. Review sources of support when using technology and children's responsibility to 	Purple Mash unit 5.2
cy	Networks	To be covered at the start	one another in their online behaviour.	Know it all
era	two	of the year and then	Know how to maintain secure passwords.	Kidsmart
Literacy	∞ఠ	reviewed at the beginning of	 Understand the advantages, disadvantages, permissions and purposes of altering an image digitally and the reasons for this. 	Thinkyouknow
Digital	safety	each term or before an internet based lesson	Be aware of appropriate and inappropriate text, photographs and videos and the impact of sharing these online.	Safer Internet Day resources
ō	E-s		Learn about how to reference sources in their work.	Purple Mash Unit 6.2 for extra
			Search the Internet with a consideration for the reliability of the results of	·
			sources to check validity and understand the impact of incorrect information.	resources
			Ensure reliability through using different methods of communication.	

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		Topics	Key Skills and Knowledge	Resources
er Science	ramming	Coding	 Turn a more complex programming task into an algorithm by identifying the important aspects of the task (abstraction). Decompose algorithm in a logical way using knowledge of possible coding structures and applying skills from previous programs. Test and debug program using logical methods. Interpret a program in parts and make logical attempts to put separate parts of an algorithm together. 	Purple Mash Unit 6.1 Further resources: Hour of Code Code for Life
Computer	Progr	Kodu	 Design and build 3D worlds and models. Test, evaluate and modify the system; ensuring that it is fit for purpose. Design a game using 3D worlds and models> Create sequences of commands to control devices in response to sensing (i.e. use inputs as well as outputs). Solve open ended problems in a variety of programming languages. 	Kodu Further resources: Hour of Code Code for Life

		Technology	Learn about input and output devices.	Examples of computers
	et	recimology	 Understand how a computer works and the component parts of a computer. 	Examples of compaters
	ern		Learn to decode binary numbers.	Purple Mash Unit 6.8 for extra
	in.		Understand and can explain in some depth the difference between the internet and	binary resources
	the internet		the World Wide Web.	,,
	≪		Know what a WAN and LAN are and can describe how the internet is accessed the	Purple Mash Unit 6.6 for extra
	Networks		internet in school.	resources on N etworks
	two		Show an understanding of how filtering and monitoring tools affect their use of the	
	Ne		school network and Internet and compare this with their experience of access outside	
			school.	
>		Text and multimedia	Multimedia work show restrained use of effects that help to convey meaning rather	Book Creator
log			than impress.	Word, Publisher & Powerpoint
Information Technology			Use images that have been sourced/ captured/ manipulated as part of a bigger	Picollage
ech	dia	To be taught as part of	project (eg presentation or document)	2Tpye
	.ii.	Learning Adventure	Confident use of Word, Publisher and Powerpoint, as well as other software.	Nessy fingers
tior	Multimedia		Children use full range of editing skills.	Search engines
mai	2		Readily apply filters when searching for digital content.	
for			Compare a range of digital content and rate it in terms of quality and accuracy. For this is detailed as a second state of the information is a second state of the information.	
<u>lu</u>			Explain in detail how credible a webpage is and the information it contains.	
		Blogging	Make clear connections to the audience when designing and creating digital content.	Purple Mash Unit 6.4
	<u>l</u> a		Design and create their own blogs.	
gy	Multimedia		Use criteria to evaluate the quality of digital solutions, identifying improvements,	
olo	ulti		making some refinements.	
hnc	Σ		Use collaborative tools, showing a sensitivity for this type of remote collaboration	
Technology			and communication.	
		Spreadsheets using Excel	Develop spreadsheet skills using advanced formulae	Excel
ior			Set up and use their own spreadsheet, which contains formulae to investigate	
nat	æ		mathematical models. Ask 'what if' questions and change variable in their model.	
Information	Data		Understand the need for accuracy when creating formulae and check regularly for	Purple Mash Unit 6.3 for extra
nfo	Ц		mistakes, by questioning results.	resources
			 Relate their use of spreadsheets to model situations to the wider world. Make sensible choices to present data and information, evaluating the quality of 	
			their work.	
			their work.	

Online Safety To be covered at the start of the year and then reviewed at the beginning of each term or before an internet based lesson To deach
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