# Computing at Abingdon Primary School



#### **Our Bespoke Drivers**







The Power of Word

Role Models of all Protected Characteristics Accessing our local area and all it offers























#### **Our Vision for Computing – Why is Computing important at Abingdon?**

At Abingdon Primary School, we view Computing as a fundamental component of the creative curriculum. It is a subject that not only stands alone but is an integral part of all learning. Computing is now a significant part of daily life and we believe that children should be at the forefront of new technology, with a desire to learn more about our fast-changing world.

We aim to provide our children with a wide range of skills which enables them to be computational thinkers and participate effectively and safely in the digital world. Abingdon's Computing curriculum provides children with pertinent learning opportunities, which ensures they are well-equipped with the skills to help them succeed in today's modern life.



# How is Learning Across Our School is Sequenced?

The Purple Mash Computing Scheme of Work is a comprehensive set of resources that align with the National Curriculum for teaching Computing, Technology and Digital Competence. This Scheme of Work allows for the very best outcomes for all children, as it exposes them to a wide variety of digital tools, technological skills and innovations to enable them to become informed members of the digital community.

The scheme provides the scaffolding for learning key skills, alongside the flexibility to change the context to meet needs of individuals. Purple Mash consists of several computing units which explore a range of programs, tools and new skills. Each unit and lesson has opportunities to recap and review learning from previous lessons and years, whilst continuing to build upon knowledge and practice new skills. There are 3 key areas which are covered in both cycles by all Key Stages, which are Online Safety, Coding and Spreadsheets. These 3 units are sequential throughout Years 1 – 6 as they build their knowledge of how to present ideas effectively, allows them to become confident computer programmers and educates them on the importance of staying safe online.

# mash

## **Content Overview – Cycle A**

			ABIN	GDON PRIMARY SCHO	OL –		C. C. L. L. C.
			Compu	ting Yearly overview C	YCLE A		SCHOOL
CURRICULUM AREA	FS	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
Autumn	Ongoing throughout the year:	Digital Literacy - U Exploring Number o Programs -	<b>nit 1.1 Online Safety &amp;</b> <b>Purple Mash</b> f lessons – 4 - Purple Mash	Digital Literacy - U Number of Programs -	<b>nit 3.2 Online Safety</b> lessons – 3 Purple Mash	Digital Literacy - Unit 5.2 Online Safety Number of lessons – 3 Programs – Purple Mash	
	Technology Around Us	<b>Digital Literacy - Uni</b> Number o Programs - (	<b>t 2.5 Effective Searching</b> If lessons – 3 Google Chrome	Computer Science – U Cou Number of Programs	Unit 3.1 Coding Crash Irse lessons – 8 s – 2Code	Computer Science – Unit 5 Number of lo Programs	5 <b>.1 Coding Crash Course</b> 2ssons – 8 – 2Code
	Hardware	Computer Science - Unit 1.4 Lego Builders       Information Technology - Unit 3.3 Spreadsheets         Number of lessons - 3       Crash Course         Programs - 2DIY       Number of lessons - 3         Programs - 2Calculate       Programs - 2Calculate		Information Technology - Crash C Number of la Programs - 2	Unit 5.3 Spreadsheets ourse essons – 6 PCalculate		
	Online Safety			Programs -	- 2Calculate		
Spring	Drawing skills	Digital Literacy - Unit 1.9 Technology outside of In school Number of lessons - 2		Information Technology - Unit 3.4 Touch Typing Number of lessons – 4 Programs – 2Type		Information Technology - Unit 5.4 Databases Number of lessons – 4 Programs – 2Question, 2Investigate	
	Photography	Computer Science - Un Number o	it 1.2 Grouping & Sorting f lessons – 2	Digital Literacy – Unit 3.5 Email (including email safety) Number of lessons – 6		Computer Science – Unit 5.5 Game Creator Number of lessons – 5 Programs - 2DIY 3D	
		Program Information Technol Pic Number o Programs – 1	ns – 2014 ogy - Unit 2.6 Creating tures f lessons – 5 2PaintAPicture	Programs - ZEma Information Technolog Data Number of Programs -	11, 2Connect, 2D14 gy - Unit 3.6 Branching bases lessons – 4 - 2Question	Information Technology Number of la Programs – 2Des	<b>Unit 5.6 3D Modelling</b> essons – 4 ign and Make
Summer		Information Technolog Number o Programs Computer Science Number o Program Information Technolo Ic Number o Programs – 2Connect, 2 S	y - Unit 1.8 Spreadsheets f lessons - 3 - 2Calculate ce - Unit 1.7 Coding f lessons - 6 ns - 2Code cy - Unit 2.8 Presenting leas f lessons - 4 2Quiz, 2Publish, 2Create A tory	Information Technolog Number of Programs – 2Sir Information Technolog Number of Programs Information Technolog with Goo Number of Programs – (	y - Unit 3.7 Simulations lessons – 3 mulate, 2Publish gy – Unit 3.8 Graphing lessons – 2 – 2Graph ny - Unit 3.9 Presenting gle Slides lessons – 6 Google Slides	Computer Science - Un Number of la Programs – Information Technolo processing with Number of la Programs – G	it 5.7 Concept Maps essons – 4 2Connect gy – Unit 5.8 Word Google Docs essons – 8 oogle Docs

## **Content Overview – Cycle B**

		ABINGDON PRIMARY SCHOOL –							
			Computi	ng Yearly overview	v CYCLE B		SCHOOL		
CURRICULUM AREA	FS	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6		
Autumn	Ongoing throughout the	Digital Literacy	- Unit 1.1 Online Safety &	afety & Digital Literacy - Unit 4.2 Online Safety		Digital Literacy - Unit 6.2 Online Safety			
	gent	Numbe Progran	er of lessons – 4 ns – Purple Mash	Program	ns – Purple Mash	Programs – Purple Mash			
	Technology Around Us	Computer Science	e - Unit 1.5 Maze Explorers	Computer Science	e – Unit 4.1 Coding Crash Course	Computer Science – Unit 6.1 Coding Crash Course			
		Number	er of lessons – 3 grams – 2Go	Numbo Prog	er of lessons – 8 jrams – 2Code	Number of lessons – 8 Programs – 2Code			
	Hardware	Information Techno Number	ology - Unit 2.4 Questioning	Information Technology - Unit 4.3 Spreadsheets Crash Course		Information Technology - Unit 6.3 Spreadshe			
		Programs – 2	Programs – 2Question, 2Investigate Nu Pro		er of lessons – 6 ms – 2Calculate	Number of lessons – 5 Programs – 2Calculate			
Spring	Spring Online Safety		- Unit 2.2 Online Safety er of lessons - 3	Information Technology - Unit 4.4 Writing for different audiences		Computer Science - Unit 6.4 Blogging Number of lessons - 4			
		Programs – Purple Mash		Programs - 2Emai	er of lessons – 5	Programs	– 2Blog		
	Drawing skills	Information Tech	nformation Technology - Unit 1.6 Animated Story Books		Computer Science - Unit 4.5 Logo		it 6.5 Text Adventures essons – 5		
	Photography	Numbe Programs	er of lessons – 5 – 2Create A Story	Numbo	er of lessons – 4 grams – Logo	Programs - 2Co	ode, 2Connect		
	Photography	Information Tech	nology - Unit 2.7 Making	Information Tech	nology - Unit 4.7 Effective	Computer Science - Number of I	Unit 6.6 Networks essons – 3		
		Numbe	Music er of lessons – 3	Numb	Search er of lessons - 3	Programs - 2Wi	rite, 2Connect,		
		Progra	ms – 2Sequence	Program	s – Google Chrome				
Summer		Information Techno	logy - Unit 2.3 Spreadsheets	Information Techn	ology - Unit 4.6 Animation	Information Technolog	y - Unit 6.7 Quizzing		
		Progra	ms – 2Calculate	Progro	ams – 2Animate	Programs – 2Quiz, 2 2Invest	essons – o 2DIY, Text Toolkit, riggte		
		Information Techn	ology - Unit 1.3 Pictograms	Computer Scien	nce – Unit 4.8 Hardware	Information Tech	ngaro		
		Progr	rams – 2Count	Numb	er of lessons – 4	Spreadsheets wit	h Google Sheets		
		Computer Science	e - Unit 2.1 Coding Crash	Pro	grunis – Logo	Programs – G	oogle Sheets		
		Numbe	Course er of lessons – 6	Information Tech	hnology - Unit 4.9 Making Music				
		Prog	rams – 2Code	Numb Progra	er of lessons – 3 ms – Busy Beats				

#### **Vocabulary Progression – General**



#### **Vocabulary Progression – Coding**



#### **Vocabulary Progression – Online Safety**



#### **Vocabulary Progression – Spreadsheets**



		Computer Science		Information Technology	Digital	Literacy
Oracement	Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions.	Create and debug simple programs.	Use logical reasoning to predict the behaviour of simple programs.	Use technology purposefully to create, organise, store, manipulate and retrieve digital content.	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.
Outcome	Children understand 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	Children can 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.	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 where the turtle in 2Go challenges will end up at the end of the program.	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 <b>2Quiz</b> example (sorting shapes), <u>2Code</u> design mode (manipulating backgrounds) or using pictogram software such as <u>2Count</u>	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 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.



		Compute	r Science		Information	Technology	Digital Literacy	
Statement	Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.	Use sequence, selection and repetition in programs; work with variables and various forms of input and output.	Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.	Understand computer networks, including the internet; how they can provide multiple services, such as the World Wide Web, and the opportunities they offer for communication and collaboration.	Use 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.	Use technology safely, respectfully and responsibly; recognise acceptable/ unacceptable behaviour; identify a range of ways to report concern about content and contact.	<b>Y</b> 3
Outcome	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.	Children 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. Children are beginning to understand the difference in the effect of using a timer command rather than a repeat command when creating repetition	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	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, respond to and attach files to emails using 2Email. They can describe appropriate email conventions when	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 can collect, analyse, evaluate and present data and information using a selection of software, e.g. using a branching database <u>(2Question),</u> using software such as <u>QGraph</u> . Children can consider what software is most appropriate for a given task. They can create purposeful content to attach to emails, e.g. <u>2Respond</u> .	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	
		errects.	can correct this. e.g. in programs such as Logo, they can 'read' programs with several steps and predict the outcome accurately.	communicating in this way.			communication tools such as <b>2Email</b> in Purple Mash. They know more than one way to report unacceptable content and contact.	Progression grids of place to track the progress of each element of the

n grids are in ack the each the Computing curriculum.

		Compute	r Science		Information	Technology	Digital Literacy
Statement	Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.	Use sequence, selection and repetition in programs; work with variables and various forms of input and output.	Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.	Understand computer networks, including the internet; how they can provide multiple services, such as the World Wide Web, and the opportunities they offer for communication and collaboration.	Use 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.	Use technology safely, respectfully and responsibly; recognise acceptable/ unacceptable behaviour; identify a range of ways to report concern about content and contact.
Outcome	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	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	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 understand the function, features and layout of a search engine. They can appraise selected webpages for credibility and 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 <u>2Connect</u> and <u>2Publish</u> . Children share digital content within their community, i.e. using Virtual <u>Display</u>	Children can explore key concepts relating to online safety using concept mapping such as <u>2Connect</u> . They can help others to understand the importance of online safety. Children know a range of ways of reporting inappropriate content and contact.
		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.	orgical attempts to correct this. In programs such as Logo, they can 'read' programs with several steps and predict the outcome accurately.			<u>Boards</u> .	



		Compute	r Science		Information	1 Technology	Digital Literacy
Statement	Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.	Use sequence, selection and repetition in programs; work with variables and various forms of input and output.	Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.	Understand computer networks, including the internet; how they can provide multiple services, such as the World Wide Web, and the opportunities they offer for communication and collaboration.	Use 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.	Use technology safely, respectfully and responsibly; recognise acceptable/ unacceptable behaviour; identify a range of ways to report concern about content and contact.
Outcome	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 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.	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 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 <u>2Code</u> . 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. <u>2Blog, Display Boards</u> and <u>2Email</u> .	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.

Y 5

		Compute	r Science		Information	Technology	Digital Literacy	
Statement	Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.	Use sequence, selection and repetition in programs; work with variables and various forms of input and output.	Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.	Understand computer networks, including the internet; how they can provide multiple services, such as the World Wide Web, and the opportunities they offer for communication and collaboration.	Use 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.	Use technology safely, respectfully and responsibly; recognise acceptable/ unacceptable behaviour; identify a range of ways to report concern about content and contact.	
Outcome	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	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 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 <u>value of</u> <u>functions</u>	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 <u>program as a</u> <u>whole</u>	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	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.	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. <b>2Blog</b> . They are able to use criteria to evaluate the quality of digital solutions and are able to identify improvements, making some refinements.	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. <b><u>2Respond</u></b> activities. They recognise the value in preserving their privacy when online for their own and other people's safety.	P p el

Y 6

#### Medium Term Plans – Autumn

Purple Mas	sh Computing Medium	ı Term Plan 🛛 🥚	Digital Literacy	Information	Technology 🦲	Computer Science
Autumn	KS1 - Cycle A	LKS2 - Cycle A	UKS2 - Cycle A	KS1 - Cycle B	LKS2 - Cycle B	UKS2 - Cycle B
Lesson 1	Unit 1.1 Online Safety Lesson 1	Unit 3.2 Online Safety Lesson 1	Unit 5.2 Online Safety Lesson 1	Unit 1.1 Online Safety Lesson 1	Unit 4.2 Online Safety Lesson 1	Unit 6.2 Online Safety
Lesson 2	Unit 1.1 Online Safety Lesson 2	Unit 3.2 Online Safety Lesson 2	Unit 5.2 Online Safety Lesson 2	Unit 1.1 Online Safety Lesson 2	Unit 4.2 Online Safety Lesson 2	Unit 6.2 Online Safety
Lesson 3	Unit 1.1 Online Safety Lesson 3	Unit 3.2 Online Safety Lesson 3	Unit 5.2 Online Safety Lesson 3	Unit 1.1 Online Safety Lesson 3	Unit 4.2 Online Safety Lesson 3	Unit 6.1 Coding Crash Course
Lesson 4	Unit 1.1 Online Safety Lesson 4	Unit 3.1 Coding Crash Course Lesson 1	Unit 5.1 Coding Crash Course Lesson 1	Unit 1.1 Online Safety Lesson 4	Unit 4.2 Online Safety Lesson 4	Unit 6.1 Coding Crash Course
Lesson 5	Unit 2.5 Effective Searching Lesson 1	Unit 3.1 Coding Crash Course Lesson 2	Unit 5.1 Coding Crash Course Lesson 2	Unit 1.5 Maze Explorers Lesson 1	Unit 4.1 Coding Crash Course Lesson 1	Unit 6.1 Coding Crash Course
Lesson 6	Unit 2.5 Effective Searching Lesson 2	Unit 3.1 Coding Crash Course Lesson 3	Unit 5.1 Coding Crash Course Lesson 3	Unit 1.5 Maze Explorers Lesson 2	Unit 4.1 Coding Crash Course Lesson 2	Unit 6.1 Coding Crash Course
Lesson 7	Unit 2.5 Effective Searching Lesson 3	Unit 3.1 Coding Crash Course Lesson 4	Unit 5.1 Coding Crash Course lesson 4	Unit 1.5 Maze Explorers Lesson 3	Unit 4.1 Coding Crash Course Lesson 3	Unit 6.1 Coding Crash Course
Lesson 8	Unit 1.4 Lego Builders Lesson 1	Unit 3.1 Coding Crash Course lesson 5	Unit 5.3 Spreadsheets Lesson 1	Unit 2.4 Questioning Lesson 1	Unit 4.1 Coding Crash Course Lesson 4	Unit 6.1 Coding Crash Course
Lesson 9	Unit 1.4 Lego Builders Lesson 2	Unit 3.1 Coding Crash Course Lesson 6	Unit 5.3 Spreadsheets Lesson 2	Unit 2.4 Questioning Lesson 2	Unit 4.1 Coding Crash Course Lesson 5	Unit 6.1 Coding Crash Course
Lesson 10	Unit 1.4 Lego Builders Lesson 3	Unit 3.1 Coding Crash Course Lesson 7	Unit 5.3 Spreadsheets Lesson 3	Unit 2.4 Questioning Lesson 3	Unit 4.1 Coding Crash Course Lesson 6	Unit 6.1 Coding Crash Course

## Medium Term Plans – Spring

Purple Ma	sh Computing Mediun	n Term Plan 🛛 🔵 🛛	igital Literacy	Information Tec	hnology 🛛 Ca	omputer Science
Spring	KS1 - Cycle A	LKS2 - Cycle A	UKS2 - Cycle A	KS1 - Cycle B	LKS2 - Cycle B	UKS2 - Cycle B
Lesson 1	Unit 1.9 Technology outside of school Lesson 1	Unit 3.4 Touch typing Lesson 1	Unit 5.4 Databases Lesson 1	Unit 2.2 Online Safety Lesson 1	Unit 4.4 Writing for different audiences Lesson 1	Unit 6.4 Blogging Lesson 1
Lesson 2	Unit 1.9 Technology outside of school Lesson 2	Unit 3.4 Touch typing Lesson 2	Unit 5.4 Databases Lesson 2	Unit 2.2 Online Safety Lesson 2	Unit 4.4 Writing for different audiences Lesson 2	Unit 6.4 Blogging Lesson 2
Lesson 3	Unit 1.2 Grouping and sorting Lesson 1	Unit 3.4 Touch typing Lesson 3	Unit 5.4 Databases Lesson 3	Unit 2.2 Online Safety Lesson 3	Unit 4.4 Writing for different audiences Lesson 3	Unit 6.4 Blogging Lesson 3
Lesson 4	Unit 1.2 Grouping and sorting Lesson 2	Unit 3.4 Touch typing Lesson 4	Unit 5.5 Game Creator Lesson 1	Unit 1.6 Animated story books Lesson 1	Unit 4.4 Writing for different audiences Lesson 4	Unit 6.4 Blogging Lesson 4
Lesson 5	Unit 2.6 Creating pictures Lesson 1	Unit 3.5 Email Lesson 1	Unit 5.5 Game Creator Lesson 2	Unit 1.6 Animated story books Lesson 2	Unit 4.5 Logo Lesson 1	Unit 6.5 Text adventures Lesson 1
Lesson 6	Unit 2.6 Creating pictures Lesson 2	Unit 3.5 Email Lesson 2	Unit 5.5 Game Creator Lesson 3	Unit 1.6 Animated story books Lesson 3	Unit 4.5 Logo Lesson 2	Unit 6.5 Text adventures Lesson 2
Lesson 7	Unit 2.6 Creating pictures Lesson 3	Unit 3.5 Email Lesson 3	Unit 5.5 Game Creator Lesson 4	Unit 1.6 Animated tory books Lesson 4	Unit 4.5 Logo Lesson 3	Unit 6.5 Text adventures Lesson 3
Lesson 8	Unit 2.6 Creating pictures Lesson 4	Unit 3.6 Branching databases Lesson 1	Unit 5.6 3D Modelling Lesson 1	Unit 2.7 Making music Lesson 1	Unit 4.7 Effective search Lesson 1	Unit 6.6 Networks Lesson 1
Lesson 9	Unit 2.6 Creating pictures Lesson 5	Unit 3.6 Branching databases Lesson 2	Unit 5.6 3D Modelling Lesson 2	Unit 2.7 Making music Lesson 2	Unit 4.7 Effective search Lesson 2	Unit 6.6 Networks Lesson 2
Lesson 10		Unit 3.6 Branching databases Lesson 3	Unit 5.6 3D Modelling Lesson 3	Unit 2.7 Making music Lesson 3	Unit 4.7 Effective search Lesson 3	Unit 6.6 Networks Lesson 3

#### Medium Term Plans – Summer

Purple Me	ash Computing M	edium Term Plan	l 📃 Digital Literacy	Information	Technology	Computer Science
Summer	KS1 - Cycle A	LKS2 - Cycle A	UKS2 - Cycle A	KS1 - Cycle B	LKS2 - Cycle B	UKS2 - Cycle B
Lesson 1	Unit 1.8 Spreadsheets	Unit 3.7 Simulations	Unit 5.7 Concept maps	Unit 2.3 Spreadsheets	Unit 4.6 Animation	Unit 6.7 Quizzing
	Lesson 1	Lesson 1	Lesson 1	Lesson 1	Lesson 1	Lesson 1
Lesson 2	Unit 1.8 Spreadsheets	Unit 3.7 Simulations	Unit 5.7 Concept maps	Unit 2.3 Spreadsheets	Unit 4.6 Animation	Unit 6.7 Quizzing
	Lesson 2	Lesson 2	Lesson 2	Lesson 2	Lesson 2	Lesson 2
Lesson 3	Unit 1.8 Spreadsheets	Unit 3.7 Simulations	Unit 5.7 Concept maps	Unit 2.3 Spreadsheets	Unit 4.6 Animation	Unit 6.7 Quizzing
	Lesson 3	Lesson 3	Lesson 3	Lesson 3	Lesson 3	Lesson 3
Lesson 4	Unit 1.7 Coding	Unit 3.8 Graphing	Unit 5.7 Concept maps	Unit 1.3 Pictograms	Unit 4.8 Hardware	Unit 6.7 Quizzing
	Lesson 1	Lesson 1	Lesson 4	Lesson 1	investigators	Lesson 4
					Lesson 1	
Lesson 5	Unit 1.7 Coding	Unit 3.8 Graphing	Unit 5.8 Word processing with	Unit 1.3 Pictograms	Unit 4.8 Hardware	Unit 6.7 Quizzing
	Lesson 2	Lesson 2	Google docs	Lesson 2	investigators	Lesson 5
			Lesson 1		Lesson 2	
Lesson 6	Unit 1.7 Coding	Unit 3.9 Presenting with Google slides	Unit 5.8 Word processing with Google docs	Unit 2.1 Coding crash	Unit 4.8 Hardware	Unit 6.9 Spreadsheets with Google Sheets
	Lesson 3	Lesson 1	Lesson 2	Lesson 1	Lesson 3	Lesson 1
Lesson 7	Unit 1.7 Coding	Unit 3.9 Presenting	Unit 5.8 Word processing with	Unit 2.1 Coding crash	Unit 4.8 Hardware	Unit 6.9 Spreadsheets
Leasen	Lesson 4	with Google slides	Google docs	course	investigators	with Google Sheets
	Lesson 4	Lesson 2	Lesson 3	Lesson 2	Lesson 4	Lesson 2
Lesson 8	Unit 2.8 Presenting	Unit 3.9 Presenting	Unit 5.8 Word processing with	Unit 2.1 Coding crash	Unit 4.9 Making music	Unit 6.9 Spreadsheets
	ideas	with Google slides	Google docs	course	Lesson 1	with Google Sheets
	Lesson 1	Lesson 3	Lesson 4	Lesson 3		Lesson 3
Lesson 9	Unit 2.8 Presenting	Unit 3.9 Presenting	Unit 5.8 Word processing with	Unit 2.1 Coding crash	Unit 4.9 Making music	Unit 6.9 Spreadsheets
	ideas	with Google slides	Google docs	course	Lesson 2	with Google Sheets
	Lesson 2	Lesson 4	Lesson 5	Lesson 4		Lesson 4
Lesson 10	Unit 2.8 Presenting	Unit 3.9 Presenting	Unit 5.8 Word processing with	Unit 2.1 Coding crash	Unit 4.9 Making music	Unit 6.9 Spreadsheets
	Lesson 2	Vien Google situes	longe docs	Lesses C	Lesson 3	Lesson 5
	Lesson 3	Lesson 5	Lesson 6	Lesson 5		Lesson 5

#### **Prior Learning**

Prior and Future Learning Links are available on Purple Mash for every unit. This scheme of work is designed to support curriculum sequencing and thoroughly maps out and connects each unit with other units between each year group.

Each unit's prior and future learning areas are clearly presented to make them accessible and easy to refer back to, for both children and teachers. In every unit, it is apparent what learning and knowledge the children should already have, and how this will progress in future years.





#### **Knowledge Organisers**

Knowledge Organisers (KO's) are available for teachers to use in each lesson, however unlike other foundation subjects, teachers and children do not use these KO's in the same way as they do in History or Science for example. Teachers use their knowledge of the children and their teacher judgements to determine how these KO's are used in each classroom during Computing. Some teachers may refer to them when adapting planning and ensuring all content is covered, where others may use them for the vocabulary but not use the document itself. Here are some examples of some we have access to through Purple Mash for each unit...



#### **Whole School Events**

#### Safer Internet Day

Every year as a school, we celebrate Safer Internet Day and do a range of different activities and tasks. We educate our pupils on using technology safely, respectfully and responsibly. We also help our pupils recognise acceptable and unacceptable behaviour online, as well helping them to identify ways of reporting concerns about content and contact.

#### **External Workshops**

As a school, we work with several external companies and volunteers who help us enhance our curriculum and provide exciting opportunities for our children. Last year we worked with The Discovery Team at 3 mobile, and they kindly organised some digital workshops for our children that included things such as movie making, digital posters and stop motion.





Discovery

Power up the possibilities



#### **Key Learning - Posters**

Below is an example of the Computing key learning posters. The posters highlight to the children (using 'key' images), what we want them to know by the end of each term.



#### Assessment

Assessing children's learning is vital to inform their next steps. A full assessment process is embedded within the Purple Mash program, and all staff have access to the Assessment folder which contains everything teachers need to accurately and successfully assess their children. Highquality materials such as guidance, spreadsheets, I can Statements and examples are all available for every year group.



The PM tools and resources that are available are user friendly and editable, so that each teacher may adapt the assessments in order to suit their class and individual children. This is designed to help teachers and leaders accurately assess their children against the National Curriculum objectives for Computing, in-line with the Purple Mash Computing Scheme of Work.



Data Dashboard is a powerful area within Purple Mash which allows teachers to see reports on pupil performance. Features such as creating rewards for pupils, judgements on work and reviewing scores for activities are all reported within Data Dashboard.



Here at Abingdon, we are committed to delivering a fully inclusive environment and curriculum for all of our children to thrive and flourish in. In order for all of our children to achieve to their full potential, we carefully consider the adaptations and extra resources we need to support all individual needs in lessons.

The tools and programs on Purple Mash include features designed to support children with special educational needs (SEN), ensuring that all students feel confident and empowered to achieve success in Computing.



Move the tuna right		$\times$
Can you make the tuna fish move right?	Challenge: Make the tuns fish move right.	∑ ? ← ※ >>>
Visual support		
	▶ 0:00 / 1:01	0 :: 1
Stages		Hint OK

Every lesson has an instructional video to visually and auditorily explain and introduce the tasks. Children can re-watch this as often as possible and children can click on "hints" to help answer part of the task if they need additional support. The computing tools available in school can also help children to access their learning in other subject areas and are utilised as appropriate.

Several programmes on Purple Mash include various different challenges, that range and progress in difficulty, such as 2Go, 2Code and 2Count. Some of these tasks begin easy and get progressively harder, which allows for the majority of children to achieve at least one challenge, therefore being inclusive for all abilities. Other challenges are an extension of the original task or programme, which you can use with your teacher judgement.

2Challenge is a great quick-start tool for supporting learning engagement, promoting challenge, inspiring children and getting children thinking. The concept is based on having key questions presented with cards with information on them.

2Challenge is flexible and non-subject specific.

The majority of tasks and challenges which can be found on Purple Mash, offer video hints that children are able to watch and listen to. This offers discreet support for children to access if they are struggling to complete a task.

#### The wrong bubbles pop

I'm trying to make the bubbles pop when you click them. But when you click a bubble a different bubble disappears Please help fix it for me







These are challenge cards that can be printed and given out during the lesson to children who demonstrate strong Coding knowledge and understanding. This ensures that those children who are secure, can be challenged appropriately with separate and individual tasks.

We use the 'Five-a-day' principle alongside our own current focuses for adaptations here at Abingdon:

- "Nest/Pair/Share"
- Pre-teaching of vocabulary and any key concepts
- Visual resources and dual coding across the whole school
- Chunking learning
- Modelling and addressing misconceptions



Cold Call	No hands up or calling out
	Ask everyone and select who answers
No Opt out	If students get an answer wrong or don't know, go back to them to check that they now know the answer
Check for understanding	Ask a selection of students to relay back what they have understood about the question under discussion
Probing questioning	Make each question and answer exchange a mini dialogue, probing to explore student's understanding
Think Pair Share	Allocate talk partners, set a question with a time limit, ask students to think, then discuss m, then report back.
Say it again better	Accept student' first half -formed responses but then help them reframe a better more complete response
Whole class response	Use techniques like mini whiteboards or ABCD fingers to provide simultaneous responses from a whole class.

Here at Abingdon, we also use Rosenshine's Principles of Instruction, which are a set of suggested strategies and functions, designed for teachers to use in the classroom to enhance and maximise learning. These are used throughout our school universally to both support and challenge children effectively.

# THE PRINCIPLES OF INSTRUCTION DAKEN FROM THE INTERNATIONAL ACADEMY OF EDUCATION Maggested classroom practices of who based these ten principles of instruction and suggested classroom practices of these tenders whose students show the highest gains • research on how the brain acquires and uses new information • research on the dustroom practices of these tenders shows the highest gains • Indings from studies that taught learning strategies to students.





r working memory is small, only handling a few bits (

rmation at once. Avoid its overload - present new

y review is an important component of instruction. It helps ngthen the connections of the material learned. Automatic Il frees working memory for problem solving and creativity.

ew material in order to store it in their long-te

success rate of around 80% has been found to be ontima

howing students are learning and also being challenged

thers taught in small steps follow

res no overloading of students' working me

09 INDEPENDENT PRACTICE





he most successul teachers spend more than half the class Students need cognitive support to help them lear me lecturing, demonstrating and asking questions. Ouestions solve problems. Modelling, worked avanghes and low the teacher to determine how well the maternia is learned.

#### 05 GUIDE STUDENT PRACTICE

07 OBTAIN H



Less successful teachers merely ask "Are there any questic No questions are are taken to mean no problems. False. By contrast, more successful teachers check on all student





#### High quality teaching benefits pupils with SEND The 'Five-a-day' principle



Computing

Additional to and/or different provision

**Communication and Interaction** 

Usina technology Technology can be used by a teacher to model worked examples; it can be used by a student to help them to learn, to practice and to record their learning. For instance, you might use a class visualiser to share students' work or to jointly rework an incorrect model.

## **Provision Pyramids**

At Abingdon, we are fully committed to delivering a Computing curriculum that

Our key to success is a consistent approach across the whole school



#### What do our children say about our curriculum?

Computing lessons are my favourite because they are fun and I like using the Chromebooks -Daoud

> Purple Mash is good because we can make our own things and do different challenges - Robyn

We learn about how to stay safe and responsible online which I think is important - Amber