	Flanshaw Junior, Infant and Nursery School **Purple Mash Progression of Skills and Knowledge**						
Teaching and Learning area	**Knowledge and Skill Progression** **What should an age-related pupil know and be able to do in each year group?** **Bold**-Knowledge fundamental **Highlight**-Cross curricular link						
	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Computer Science (Coding) Understand algorithms, predict and debug		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	Children can explain that an algorithm is a set of instructions to complete a task. When designing simple programs, children show an awareness of the need to be precise with their algorithms so that they can be successfully converted into code. Children can 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. Children can identify the parts of a program that respond to specific events and initiate specific actions. For	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	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	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.	

		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.	example, they can write a cause and effect sentence of what will happen in a program.	beginning to understand the difference in the effect of using a timer command rather than a repeat command when creating repetition effects. 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 communicating in this way. 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	these with other coding structures including variables to achieve the effects that they design in their programs. As well as understanding how variables can be used to store information while a program is executing, they are able to use and manipulate the value of variables. Children can make use of user inputs and outputs such as 'print to screen'. e.g. 2Code. 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	

				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. Children demonstrate the importance of having a secure password and not sharing this with anyone else. Furthermore, children can explain the negative implications of failure to keep passwords safe and secure. They understand the importance of staying safe and the importance of their conduct when using familiar communication tools such as 2Email in Purple Mash. They know more than one way to report unacceptable content and contact. Y 3 Children's designs for their programs show	such as Logo, they can 'read' programs with several steps and predict the outcome accurately. 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.	

				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.			
Vocabulary							
Information Technology Organise Store and manipulate		Children are able to sort, collate, edit and store simple digital content e.g. children can name, save and retrieve their work and follow simple instructions to access online resources, use Purple Mash 2Quiz example (sorting shapes), 2Code design mode (manipulating backgrounds) or	Children demonstrate an ability to organise data using, for example, a database such as 2Invesitigate and can retrieve specific data for conducting simple searches. Children are able to edit more complex digital data such as music compositions within 2Sequence. Children are confident when creating, naming, saving and retrieving content. Children use a range of media in their digital	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	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	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.	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

		using pictogram software such as 2Count.	content including photos, text and sound.	spreadsheet software (2calculate).	information and data.		solutions and are able to identify improvements, making some refinements.
Vocabulary							
Digital Literacy Uses of computing		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.	Children recognise the main component parts of hardware which allow computers to join and form a network.			
FUNDAMENTALS		**I can switch a laptop on/off or log off.** **I can log onto the network using a 2 letter login.** **I can use a track pad and left click function.** **I can open and close a software programme.** **I can discuss technology I have**	**I can login using my name and password. (By HT3)** **I can save work within PPMAsh with support.** **I can load work from PPMAsh with support to continue a project.** **I can begin to use the undo button to correct a mistake.**	**I can use a range of logins and passwords for different programmes in my lessons. Login / PPMash / TTR / digi-maps** **I can copy / paste text, images and web addresses.** I can hand in my saved work from my 2dos I can run more than one programme and minimise / maximise between the two.		I can move between files and folders. I can select appropriate ICT tools / software to complete a task. I can download / upload resources to / from an online website. **I know that a right click will bring up a further menu.** **I know some advantages and disadvantages to using ICT.** I can duplicate and run between two open programmes.	

		used in and out of school.				
Vocabulary		Turn on / off, Login, track pad (mouse) Left click, open / close, Programme	Cursor, documents folder, save, undo, understand [x] – close, Website (Online / Off line)	Copy, paste, minimise, maximise, link, address,	Right click, download, upload	
Esafety Use technology safely, respectfully – keeping safe.		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.	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. They know a at least one way to report unacceptable 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 recognise the value in preserving their privacy when online for their own and other people's safety.
Vocabulary		Happy Worried Trustworthy Safe "Think Before You Click"	Report Private Open Shared Secret Kind Polite Friendly Certificate Guidance	Avatar ID Name Age appropriate Monitor Password Private	Data Protection Share Terms & Conditions Small Print	
ASSEMBLY FOCUS 1a – Self image 1b – online relationships 2a online bullying 2b onlne reputation 3a health Wellbeing 3b Privacy and security		Cycle 1 Term 1a If I am sad, worried or uncomfortable, I should speak to….. Term 1b There is different information online,	Cycle 2 Term 1a I can understand how someone might behave different online and offline. Term 1b	Cycle 1 Term 1a I understand what my online identity is and how information can be gathered by it.	Cycle 2 Term 1a Positive ways to interact with people online. Term 1b	Cycle 3 Term 1a What does my online identity say about me? Term 1b	Cycle 4 Term 1a I can evaluate and challenge online representations of different

		we all have different likes and dislikes. Term 2a I can describe how to behave online in ways that wont upset others. Term 2b I can recognise that information can stay online and could be copied. Term 3a I can follow rules to stay safe online and keep healthy, both in school and at home. Term 3b I can recognise information that is personal to someone (address, school, family name, telephone numbers etc)	I understand there are different ways to communicate with others online. Term 2a What is online bullying and how does it make people feel? Term 2b Information we put online can stay there for a long time. Term 3a I understand I should take breaks from using technology for my own health. Term 3b What do we mean by Private – what information should be kept private online?	Term 1b How is my online relationship different to an offline one. Term 2a What evidence of online bullying may occur – and where to get support. Term 2b What information is safe to share online and what is not. Term 3a How can spending too much time online be negative to my health? Term 3b What information is being collected about me online? All yr3 focus	Information shared online can have different impact on different people Term 2a How can information posted affect others feeling / reputation? Term 2b Is your life an open book, what information are you sharing online? Term 3a Is being online distracting me from life? Term 3b What is digital consent? All yr 4 focus	How should I communicate with people on line (close friends, others, strangers) Term 2a How is online bullying different to bullying in the physical world? Term 2b How might you be judged by your online information? Term 3a What is being sceptical and how to make choices about online trustworthiness. Term 3b What am I committing to with app permissions? All year 5 focus	races, disabilities and genders. Term 1b What may be the consequences of sharing something online? Term 2a Capturing bullying content – keeping evidence. Term 2b How might others interpret your online presence? Term 3a What is F.O.M.O. and the impact of technology on my health? Term 3b Do you really read the online terms and conditions? All year 6 focu

Internet Safety Week Focus		I know who I can trust and ask for help when I am worried about something online.	I can discuss websites and apps I use that are suitable / and understand why some apps and games have different age ratings.	They can discuss safe and acceptable uses of Social media Sites and the dangers of avatars.	I know what information may be "out there" about me and what information I need to be more protective over. I know that information online can be saved / stored without my permission even if I have deleted it from my own account.
					I know to ask permission before accepting terms and conditions or downloading online