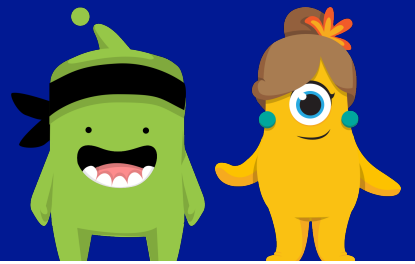
FLORENCE MELLY COMMUNITY PRIMARY SCHOOL

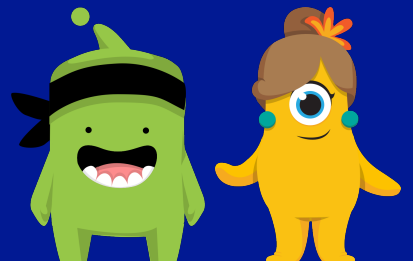
COMPUTITNG CUMULATIVE END GOALS – KS1

IF YOU CAN DREAM IT, YOU CAN DO IT!



	Computer Science Pupils develop an understanding of the concepts through:	**Digital Literacy & ICT Beyond School** Pupils develop an understanding of the concepts through:	**Information Technology** Pupils develop an understanding of the concept through:
Year 1	• Give instructions to a friend and follow their instructions to move around a space. • Describe what happens when buttons are pressed on a robot or device. • Press buttons in the correct order to make a robot follow a short sequence. • Understand what an algorithm is and be able to create a simple algorithm. • Understand and explain how algorithms are used in every day life. • Begin to predict what will happen for a short sequence of instructions. • Begin to use different software or applications to create movement and patterns on a screen. • Use the word debug to correct an algorithm that doesn't work in the way it was intended.	**Digital Literacy** • Understand why we need passwords. • Understand that we must keep passwords private. • Explain what personal information is. • Understand that we must keep personal information private. • Communicate safely and respectfully online. • Know what to do when concerned about online content. • Know what to do if someone tries to contact you online. **ICT Beyond School** • Recognise that a range of digital devices and products can be considered computers. • Recognise the ways in which technology is used in their homes and community. • Understand that computers have no intelligence and can do nothing without being programmed. • Begin to identify some of the benefits to using technology.	• Talk about the different ways in which information can be shown. • Use technology to collect information, including photos, videos and sound. • Sort different kinds of information and present it to others. • Add information to a pictogram and talk about their findings. • Use software with support, to create, store and edit digital content using appropriate file and folder names. • Use the keyboard or a word bank on a device to enter text into a program. • Understand some of the basic functions on a keyboard (Backspace, Caps Lock, Enter). • Save information in a specific place and retrieve it again. • Use technology to collect information, including photos, videos and sounds.
Year 2	• Understand what an algorithm is and demonstrate simple linear algorithms. • Be able to explain the order needed to do things to make something happen and to talk about it as an algorithm. • Programme a robot or software to do a particular task. • Look at a basic program and explain what will happen. • Use programming software and applications to make objects move. • Use logical reasoning to predict and debug more complex programs. • Can create and debug with improved confidence & efficiency. • Begin to program using simple block code.	**Digital Literacy** • Understand the need to keep a password private. • Understand the need to keep personal information private. • Demonstrate the use of technology responsibly in terms of how we use it and the time we spend using it. • Know how to report inappropriate content or contact online. **ICT Beyond School** • Children can explain why they use technology in the classroom, in their homes and in the community. • Identify the benefits of using technology, such as creating content and communicating efficiently. • Can identify a computer by knowing that it has inputs, a processor and outputs. • Can identify parts of a computer including what an input and output is.	• Create a graph or chart using data collected on a specific topic area. • Talk about the data that is shown in their chart or graph. • Explain how investigating data can be used to answer a question. • Use a variety of software to manipulate and present digital content in different ways with increasing independence. • Talk about the different ways to use technology to collect information, including a camera or sound recorder. • Use the keyboard on their device to add, delete, edit and format text. • Talk about an online tool that will help them to share their ideas with other people. • Save and open files on the device they use from a specific file location.

FLORENCE MELLY COMMUNITY PRIMARY SCHOOL
COMPUTING CUMULATIVE END GOALS – LKS2
IF YOU CAN DREAM IT, YOU CAN DO IT!

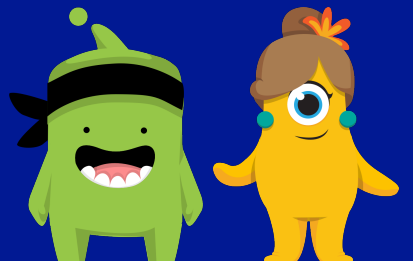


	Computer Science Pupils develop an understanding of the concepts through:	**Digital Literacy & ICT Beyond School** Pupils develop an understanding of the concepts through:	**Information Technology** Pupils develop an understanding of the concept through:
Year 3	• Understand how an algorithm is implemented using a sequence of precise instructions. • Can predict the outcome of a sequence of precise instructions. • Repeatedly test a program and recognise when they need to debug it. • Detect a problem in an algorithm, which could result in a different outcome to the one intended. • Understand what inputs and outputs are, how they can be used. • Provide examples of how to use inputs and outputs effectively. • Design, write, execute and debug programs of increasing complexity that accomplish a specific goal. • Use logical reasoning to predict and debug more complex programs including inputs and outputs.	**Digital Literacy** • Children consider their responsibilities and actions to others online. • Children consider that all of the media they see could have been altered. • Understand how to use a search engine responsibly and safety. **ICT Beyond School** • Save and retrieve work online, on the school network and their own device. • Tell you ways to communicate with others online. • Knows how navigate the web responsibly. • Can carry out effective web searches to collect digital content. • Think about whether they can use images that they find online in their own work.	• Understand the difference between data and information. • Talk about the different ways data can be converted into information. • Search a ready-made database to answer specific questions. • Collect data to help answer questions about a specific topic or theme. • Add to and edit an existing database. • Combine a mixture of text, graphics and sound to share ideas and learning. • Use appropriate keyboard commands to amend text. • Be able to effectively use a spell checker. • Evaluate their work and improve its effectiveness. • Use an appropriate tool to share their work online.
Year 4	• Design simple algorithms using loops and repeats, whilst detecting and correcting errors is debugging. • Write and execute an efficient program, using loops such as forever, repeat & repeat until commands. • Decompose a problem into smaller parts with some verbal reasoning. • Has an understanding of how sequencing, using inputs and repetition in programs has specific effects on the output, works with 'loops' and understands their effect. • Recognise that an algorithm will help to sequence more complex programs. • Use logical reasoning to predict and debug more complex programs including loops and repeats.	**Digital Literacy** • Understand that media can be edited online for advertising and other purposes. • Recognise what is acceptable and unacceptable behaviour when using technology and online services. • Children understand how effective a strong password is and what a strong password looks like. **ICT Beyond School** • Understand the difference between the Internet and online services such as the World Wide Web, instant messaging and email. • Tell you whether a resource they are using is from the World Wide Web, the school network or their own work. • Identify key words to use when searching safely on the World Wide Web. • Show an awareness of a range of Internet services such as the World Wide Web, email and instant messaging. • Explain how to check who owns photos, text and clipart	• Demonstrate the different ways data can be organised. • Demonstrate the different ways data can be converted into information. • Make a branching database. • Collect data and identify where it could be inaccurate. • Plan, create and search a database. • Select the best way to present data to a specific audience. • Log data using a device. • Use photos, video and sound to create an atmosphere when presenting to different audiences. • Be confident to explore new media to extend what they can achieve. • Change the appearance of text to increase its effectiveness depending on the audience or mood. • Create, modify and present documents for a particular purpose and audience. • Use a keyboard confidently and make use of a spellchecker to write and review their work. • Use an appropriate tool to share their work and collaborate online. • Be able to evaluate other people's work and give them constructive feedback to help them improve their work.

FLORENCE MELLY COMMUNITY PRIMARY SCHOOL

COMPUTING CUMULATIVE END GOALS – UKS2

IF YOU CAN DREAM IT, YOU CAN DO IT!



	Computer Science Pupils develop an understanding of the concepts through:	**Digital Literacy & ICT Beyond School** Pupils develop an understanding of the concepts through:	**Information Technology** Pupils develop an understanding of the concept through:
Year 5	• Program a condition that uses a sensor to detect a change, which can select an action within a program. • Decomposes more open- ended problems into smaller parts, provides some reasoning for their choices. • Approaches a range of problems using computationally thinking concepts, helping them to design other algorithms for other specific outcomes. • Design, write and execute an efficient program, including selection (IF...THEN) command. • Change an input to a program to achieve a different output. • Use logical reasoning to predict and debug more complex programs including selection. • Uses programs linked to physical systems and sensors e.g. the alarm goes off when the sensor is triggered. • Design, write and execute an efficient program, which demonstrates and understanding of the difference between, and appropriate use of IF...THEN, IF...THEN...ELSE, and nested IF statements.	**Digital Literacy** • Be aware of their digital footprint. • Understand the dangers of building online relationships. • Explain what the consequences might be to using technology inappropriately or accessing inappropriate content intentionally. **ICT Beyond School** • Use different online tools for different purposes. • Use a search engine effectively to find appropriate information and check the reliability of a website. • Understand how search results are selected and ranked and the algorithms they use. • Recognise and evaluate different types of information they find on the World Wide Web. • Think about the reliability of information they read on the World Wide Web or other Internet services (Fake News)	• Choose an appropriate tool to help them collect data. • Present data in an appropriate way depending on the theme or audience. • Use a spreadsheet and database to collect, record and evaluate data. • Search a database using different operators to refine a search. • Talk about errors in data and suggest how it could be checked. • Use text, photo, sound and video editing tools to evaluate and refine their work. • Be able to use a variety of familiar and unfamiliar software by using a pre existing skill set. • Select, use and combine the appropriate technology tools to create effects in media. • Select an appropriate online or offline tool to create and share ideas. • Evaluate and improve their own work and support others in improving their work. • Acknowledges sources of information appropriately.
Year 6	• Understand the importance of planning, testing and correcting algorithms. • Demonstrate a range of different strategies to solve a problem including: abstraction, decomposition, logic & evaluation. • Understand why sequence & patterns are important when creating simple algorithms that are part of a more complex program. • Gives reasoning for each step within algorithms and applying them to a program. • Understand & develop complex flow diagrams. • Use a variable to increase programming possibilities. • Use a variable and relational operators (e.g. < = >) within a loop to stop a program. • Evaluate the effectiveness and efficiency of an algorithm while continually testing the programming of that program. • Use different inputs (including sensors) to control a device or onscreen action and predict what will happen. • Use logical reasoning to predict and debug more complex programs including: selection, variables and operators.	**Digital Literacy** • Be aware of fake news and how to dissect it. • Understand the difference between misinformation and disinformation. • Understand what Copywriting is and using someone else's work responsibly. • Manage their conduct and contact appropriately and safely when using technology and online services. **ICT Beyond School** • Explain the Internet services they need to use for different purposes. • Describe the different parts of a webpage. • Understands how to construct a website using basic HTML tags. • Explain what copyright is and acknowledge the sources of information that they find online. • Understands how data is transmitted across a network. • Understand what IP is and how it's used. • Can explain how networks use the Internet to send and receive data.	• Select the most effective tool to collect data for their investigation. • Check the data they collect for accuracy and plausibility, • Plan the process needed to investigate a set environment or setting. • Interpret and present the data they collect. • Use the skills developed to interrogate a database. • Use a range of strategies to increase the accuracy of keyword searches. Makes confident inferences about their effectiveness. • Talk about audience, atmosphere and structure when planning a particular media outcome. • Combine a range of media, recognising the contribution of each to achieve a particular outcome. • Confidently identify the potential of unfamiliar technology and how it can be used effectively. • Explain why they select a particular online tool for a specific purpose. • Be digitally discerning when evaluating the effectiveness of their own work and the work of others. • Recognise the importance of copyright and how to acknowledge the sources of information.