Computing

Intent: Computing at Chaddlewood aims to give pupils the life-skills that will enable them to embrace and utilise new technology in a socially responsible and safe way in order to flourish. We want our pupils to be able to operate in the 21st century workplace and we want them to know the career opportunities that will be open to them if they study computing. We want children to become autonomous, independent users of computing technologies, gaining confidence and enjoyment from their activities.
Not only do we want them to be digitally literate and competent end-users of technology but through our computer science lessons we want them to develop creativity, resilience, problem-solving and critical thinking skills.
The NC content is progressively planned across all year groups and forms the basis for an ambitious curriculum. We deliver this by ensuring that knowledge is taught to be remembered, not merely encountered by providing the opportunity to 'overlap' previous learning. The success criteria is shared with children at the start of the moule and is used to assess their understanding.
We plan computing in two halves. Firstly, discrete coding activities, so that children can understand and apply the fundamental principles and concepts of computer science. Secondly, activities that enable the use of technology to support learning across the entire curriculum. This is used as a mechanism to redefine topic lessons, so that children become competent, confident, collaborative and creative users of information and communication technology.

Chaddlewood Primary School's Computing Progression Grid

	Foundation	Year 1	Year 1	Year 1	Year 2	Year 2	Year 2
		Where I live in my local area	Great Outdoors	Walk the Plank	Our Local Area	Ghana	Wembury
Substantive themes	• Introduction to chromebooks • Use chromebooks to support learning in phonics and maths	• Recognise the different kinds of feelings they can have when using technology • Learn what an algorithm is and to write a	• Understand that being safe online is similar to staying safe in real life. • Understand what algorithms are, and how they are	• Know how to manage technology so that they are ready for face-to-face interactions	• Retrieve digital content from Google Classroom • Retrieve stored work from the Google Drive	• Understand and explore Scratch Jr • Program a car to move in ScratchJr • Use a repeat instruction to	• Predict what a program will do • Understand what is meant by logic • Debug an algorithm and program

	• Research internet linked to topic	simple algorithm • Debug an algorithm and program • Give logical instructions • Think of simple instructions to make things happen • Test a set of instructions • Login to a Chromebook and begin to access Google Docs • Develop chrome books typing skills • Via art - recognise common uses of technology at home and beyond (through photography, digital colouring, images on screen) • Know where to get help if they experience a problem whilst using a device	implemented as programs on digital devices • Debug an algorithm and program • Login to a Chromebook • Continue to access Google Docs • Continue developing chromebook typing skills • Login to the Google Classroom • Know how to use the internet safely .	• Fixing problematic algorithms - continuing to develop debugging skills. • Introduction to logical reasoning as a way of predicting what will happen. • Retrieve stored work from the Google Drive • Research and record information onto a Google Doc • Introduced to more features of the Google Classroom • Via history - recognise common uses of technology at home and beyond (Sir Francis Drake) • Understand how to use home devices appropriately	• Store digital content from Google Classroom • Learn how to create a Google Slide presentation • Use Google Slides to organise and manipulate the document • Understand that being a good digital citizen means being safe and responsible online. • Recognise the ways in which digital devices can be distracting.	make a sequence of instructions run more than once and predict the behaviour • Recognise the kind of information that is private. • Understand that they should never give out private information online. • Explore what information is OK to be shared online	• Understand what online meanness can look like and how it can make people feel • Identify ways to respond to mean words online, using S-T-O-P • Retrieve digital content from Google Classroom • Retrieve stored work from the Google Drive • Store digital content from Google Classroom • Learn how to create a Google Drawing. • Use Google Drawing to organise and manipulate the document
Cross curricular connections	English - finding information to create a class non fiction book Maths - directions	Art - Andy Warhol - self portraits	Topic - Use of Google Classroom to input topic info / Kahoot! Topic quizzing	History - Sir Francis Drake unit Use of Google Classroom to save/retrieve data / Kahoot! Topic quizzing	Science- Link to the science unit of Plants. Children use their knowledge of the plant's life cycle to create a slides presentation.	Science- Animals inc humans. Ghana topic- Links with african animals the children will be learning about in the topic.	Geography and topic link- Wembury beach. Children will make a labelled diagram of Wembury beach using google drawing.

						Children will make an animal fact file using google docs.	
Overlap of learning: which other areas in other year groups or topics does this relate to?	Internet Safety Literacy - non fiction topic work PE - moving in different directions Geography - getting from one place to another - using simple directions.		• Understanding of algorithms • Debugging • Logging into chromebooks • Google Docs • Typing skills • Internet safety activities	• Understanding of algorithms • Debugging • Google Docs • Internet safety activities	• Understanding of algorithms • Debugging • Google Docs • Google Drive • Google Classroom • Internet safety activities	• Understanding of algorithms • Debugging • Google Docs • Google Drive • Google Classroom • Internet safety activities	• Understanding of algorithms • Debugging • Google Docs • Google Drive • Google Classroom • Logical Reasoning • Internet safety activities
Algorithms understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions	• Children program a beebot to move in different directions	• Children direct the teacher (who has turned into a robot) to make a sandwich. • Children create their own simple algorithms, using Bee-bots	• Children use MakeyMakey to experiment with how to instruct a program in a simple way, for example; how to flap a bird on Flappy Bird	• Children given programs that do not do as expected and will be asked to fix them	• Children start a new project. They add and remove characters and backgrounds, matching appropriately • Children add a car and program it to travel along using repetition, either a given number of time or forever. • Children select a sequence of move blocks with an END block, and then replace it with REPEAT FOREVER.	• Children look at sequences of commands to predict what they do. They use logical reasoning to explain their predictions before programming and testing their commands to see if their predictions are correct	• Children start a new project that builds on from Autumn project • Children add a car and program it to travel along using repetition, either a given number of time or forever. • Children get the car to grow and shrink as it moves along the road • Children to add sound to the car as it moves
Debugging create and debug simple programs		• Children to create algorithms and debug these as	• Children look to change the instructions/algorithm because		• Children tinker with ScratchJr to find out what it does and how	• Children look to change the instructions/algorithm from	• Children to create algorithms on Scratch and

		a part of programming	they know that Debugging is an important step in programming.		to create programs in it.	beebots. They know that debugging is an important step in programming.	debug these as a part of programming
Logical Reasoning use logical reasoning to predict the behaviour of simple programs		• As above		• As above	• As above	• As above	• Children look at sequences of commands to predict what they do. They use logical reasoning to explain their predictions before programming and testing their commands to see if their predictions are correct
Technology use/GAfE use technology purposefully to create, organise, store, manipulate and retrieve digital content			• Focus on difficulties from the previous term. • Children learn to adding titles/bold/underline on Google Docs • Children learn how to login and access information form the Google classroom	• Children learn how to 'retrieve' what has been stored in the Google Drive • Children record what they have found out about Sir Francis Drake onto a Google Doc • Children introduced to the Google Classroom.	• Children recap how to use the Google Classroom. Focus on Stream, Classworks and People tabs . • Children learn to share something • Children recap the Google Drive as a place to store information • Children learn some of the features of Google Slides to create/ organise and manipulate a topic	• Children learn how to 'retrieve' what has been stored in the Google Drive • Children record what they have found out about Ghana onto a Google Doc • Progression from year 1 as children will use the internet to find their information and pictures. Then copy this information onto their document and check for errors. (Year 1 is	• Children learn how to 'retrieve' what has been stored in the Google Drive • Children record what they have found out about Wembury beach onto a Google Drawing • Children can find and research facts on the internet and use them on their labeled drawing..

					presentation	given the information so this will be a new skill) • Children can find and research facts on the internet and use them on their doc.	
Technology use - beyond school recognise common uses of information technology beyond school	• Children learn that they can use the internet to find information	• Via Art (through photography, digital colouring, images on screen)	• Via use of internet	• Via history - recognise common uses of technology at home and beyond (Sir Francis Drake) • Understand how to use home devices appropriately	• After looking at the google classroom in more detail. At the end of this module the children will explore how IT is used in various non-school settings, a supermarket, a bank and a library.	• Graph it- • Towards the end of this unit the children will look at the information they have gathered on African animals and how many there are currently in Ghana. • The children will then use this information to plot on a simple bar graph. (link to maths)	• Working with images- At the start of this unit children will use a paint package to paint a picture using ICT. They will use the computers to paint a picture of Wembury beach after visiting there on a school trip. They can also add a title and graphic/stamp to their picture
Internet Safety/Digital Citizenship Curriculum 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.	• Children watch a video animation film about how to keep safe online	• Children learn the "Pause & Think Online" song to remember basic digital citizenship concepts	• Children learn to pay attention to their feelings while using technology. They learn practical strategies for managing their feelings -- good, bad, and everything in between.	• Children learn that staying safe online is a lot like staying safe in the real world. Using a fun traffic light activity, they learn how to identify "just right" content, giving them the green light to learn, play, and	• Children explore the possibilities that come with using technology. They learn from the Digital Citizens, who take a pledge to be safe, responsible, and respectful when traveling through the	• Children learn about the kinds of information they should keep to themselves when they use the internet -- just as they would with a stranger in person. • Learn that the information they share online	• Children learn to understand why it is often easier to be mean online than in person, and how to deal with online meanness when they see it.

				explore the internet safely.	online world. • Children learn when it is appropriate to use technology and when it's not -- and practice making family rules for device-free time at home.	leaves a digital footprint or "trail" • Children learn that the information they share online leaves a digital footprint or "trail." Depending on how they manage it, this trail can be big or small, and harmful or helpful. Children compare different trails and think critically about what kinds of information they want to leave behind.	
Vocabulary	Program Code Instruction Chromebook Instruct up, down left, right forward, backwards Reverse Research Information Non fiction	Program Code Algorithm Instruction Chromebook Image	Program Code Algorithm Instruction Debug Login Chromebook	Program Code Algorithm Instruction Debug Login Chromebook Retrieve Research	Instructions Buttons Robots Patterns Program Explore Create Organise Retrieve Manipulate Appropriate/inappropriate sites Cyber-bullying Digital footprint Keyword searching	Forward Backward Right-angle turn Algorithm Sequence Debug Predict Explore Create Organise Retrieve Manipulate Appropriate/inappropriate sites Cyber-bullying Digital footprint Keyword searching	Sequence instructions Sequence debugging Test + improve Sequence programming Predict Explore Create Organise Retrieve Manipulate Appropriate/inappropriate sites Cyber-bullying Digital footprint Keyword searching