



COMPUTING PROGRESSION GRID

Computing is an important life skill. Technology is part of everyday life and for most of us, is essential to our lives at home and at work. Technology is everywhere and will play a pivotal part in students' lives. Therefore, we want to model and educate our pupils on how to use technology positively, responsibly and safely. At Leadgate Primary School we want our pupils to be creators and our broad curriculum encompassing computer science, information technology and digital literacy reflects this. We recognise that technology can allow pupils to share their learning in creative ways. Our knowledge rich curriculum has to be balanced with the opportunity for pupils to apply their knowledge creatively which will in turn help our pupils become skilful computer scientists. We encourage staff to try and embed computing across the whole curriculum to make learning creative and accessible.

The national curriculum for computing aims to ensure that all pupils:

- can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation
- can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems
- can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems
- are responsible, competent, confident and creative users of information and communication technology.

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Online safety and digital literacy	Uses ICT hardware to interact with age appropriate computer software.	Know that the internet is accessed all over the World and know some devices are connected to the internet. Know that they should always ask a responsible adult if they want to use a device and ask for help if they see anything that worries them. With support from an adult be able to find information on the internet.	Know devices that enable direct communication between people through images and text. Know what personal information is and that they should never share this with anyone they don't know. Know that they should tell a trusted adult if they are upset or worried about anything on a device. With support be able to use a safe search engine e.g. swiggle	Know that some people are the internet should not be trusted. Know that concerns about what they see on-line should be reported to a trusted adult. Create and use a simple password. Use a Search engine to find information given key words. Know which websites are useful and begin to understand all might not be trustworthy. Be able to log in and out of websites used at school	Know that pictures and text share on-line can end up with strangers. Reliably know what to do if they are exposed to unpleasant materials on any device. Know that having a balance of online and offline activities is important. Reliably uses a more complex password to access resources. Know what the key words are to enter into a Search engine to find information they want. Can select useful websites from the results of a search.	Know the risks posed to them by using Social Media, including understanding that people may not be who they say they are. Know that it is irresponsible to share images of friends on-line without their permission. Know that a balance of online and offline activities is important to maintain good health. Know how to report concerns on-line. Effectively use a search engine to find multiple criteria using AND/OR to refine searches. Know how to compare information from different websites and know that some sites may show bias.	Know how to reduce the risks posed by using Social Media by managing their friends lists and privacy settings. Be able to maintain a healthy balance of online and offline activities and know that some activities may affect their emotional wellbeing. Know that it is illegal to post or view 'rude' images of children. Know that hacking or misusing someone else's account is illegal. Know that search results can be manipulated by sponsorship and adverts. Know how to validate information found in searches by checking more than one source. Know that some news is 'fake'.
Computer science	Completes a simple program on electronic devices.	Know which button on a device represents which action e.g. Bee Bot. Know how to program a robot to follow simple sequence of instructions (1- 2 turns). Make a simple sequence of instructions / algorithm. Be able to make simple predications about an algorithm and a program. The Bee Bot will go... Be able to change (debug) the program to improve the route	Know how to program a robot to achieve set goal (sequence of 6-7 instructions: maze, point collecting). Begin to use block programming e.g. Scratch Junior (Alex, Daisy Dino) to complete a simple program. Be able to debug more complex problems e.g. a route on a Bee Bot / Blue Bot / Alex / Logo etc... maze.	Be able to use a block program (Scratch Jun, Scratch, Microbit Blocks) to make a simple programme using sequencing and timing. Inputs sets of instructions according to programming language and environment (Logo, Scratch Jnr, Microbit etc..) Use repeat loops for instance to create a program to draw regular 2D shapes (Logo, Scratch). Independently be able to debug basic mistakes. Begin to use conditionals - If I click here then this happens...Scratch Junior, Scratch, Microbit	Be able to use a program to sequence, use conditionals and use a variety of inputs and outputs (Scratch- steer an object by using keys /Microbit - show an image when shaken). Be able to explain how their program works for instance by annotating a print out. Be able to modify their program and be able to predict the effects of any changes. Know how to break sets of instructions into short steps to achieve goal. For instance drawing repeated squares to make a pattern,	Use customisation to change a working program to change its effect for instance backgrounds and sprite in scratch). Uses loops to achieve goals (Scratch - shapes, letters). Uses variables, conditional sentences (when/then), external triggers and loops to achieve set goals (creating game in Scratch, an interactive slides in Powerpoint or Keynote for instance to create an interactive story, Creating a game in Kodu with a scoring system, Creating an electronic die with a Microbit)	Use conditional sentences (when/then) to program objects (Kodu, Scratch, Microbit). As above but use mathematical expressions when constructing conditionals e.g. trigger winning when (If loops >5 then...). Be able to explain what a program will do and accurately predict the effect of changes. Be able to reliably modify existing algorithms and code to change the effect of the program. Be able to make an efficient program by using an effective algorithm and techniques such as loops and procedures.

Information
technology

Can create content such as a video recording, stories, and/or draw a picture on screen.

Be able to log onto a computer Or use a QR code to evidence work on a tablet. Be able to navigate around the screen with a mouse or touchpad. Know how to type text using space bar for separate words to create something meaningful. Be able to independently find and use an app on a tablet for instance to take and view a video or photograph.

Be able to save, retrieve and print work PC or Tablet. Know how to type and format text including basic punctuation and capital letters Any suitable software. Be able to confidently use pointing device Mouse, Touchpad. Be able to add and create simple images. Be able to combine simple text and graphics, for instance create a poster for a purpose Any suitable software.

Be able to log in to computer system as themselves and can find their documents (personal drive). Know how to open shared documents and pictures. Know how to use software to create a simple brochure or poster. Publisher or Pages. Know how to sequence and add to slides to make a simple presentation Keynote, Powerpoint, iMovie. Create a meaningful document that contains both pictures and text

Be able to save a document in a shared folder and retrieve this to continue working on it. Computer. On an iPad work could be shared by Airdrop or equivalent. Be able to organise their personal folder effectively for instance by organising work into folders for each year at school Know how to change font size and style; include shapes and backgrounds and to use the Spellcheck function. To be able to use sequence to create an effective presentation or video Keynote, Powerpoint or iMovie. Be able to deliver a simple presentation to their peers.

To be able to share their work from their personal folder to work collaboratively with others. Know how to use software to create and effective poster or leaflet. Be able to select the best program for the task. Using software know how to add data into a prepared spreadsheet to answer simple questions. For instance using Excel Independently, prepare an effective presentation to show their learning to others which includes some elements of timing or sequence. For instance in Keynote, Powerpoint, iMovie.

Know how to use the main features of office software to produce suitable documents and presentations for an audience. Microsoft Office or Apple suite or equivalent. Know how to edit a picture. For instance in Paint.net Know how to create a simple formula in a spreadsheet to work out given mathematical tasks such as adding a set of numbers. To create and sequence a video, add sound effects, transitions and title/subtitles. iMovie - much harder in Windows software. To be able to use two or more programmes to create a final piece of work. (eg, edit a picture before inserting into a document).