

Callow End CE Primary Computing Progression

	Computer Science	Digital Literacy	Information Technology
EYFS	<ul style="list-style-type: none"> ▪ I can help adults operate equipment around the school, independently operating simple equipment ▪ I can use simple software to make things happen ▪ I can explore options and make choices with toys, software and websites ▪ I can press buttons on a floor robot and talk about the movement 	<ul style="list-style-type: none"> ▪ I can play appropriate games on the Internet. ▪ I can talk about good and bad choices in real life e.g. taking turns, saying kind things, helping others, telling an adult if something upsets you. 	<ul style="list-style-type: none"> ▪ I have developed an interest in ICT by using age appropriate websites or programs. ▪ I can use a mouse to rearrange objects and pictures on a screen. Begin to use a keyboard. ▪ I recognise text, images and sound when using ICT. ▪ I can use a camera or sound recorder to collect photos or sound ▪ I can use a simple pictogram or set of photos to count and organise information.
Year 1	<ul style="list-style-type: none"> ▪ Understand what algorithms are ▪ Understand that algorithms are implemented as programs on digital devices ▪ Understand that programs execute by following precise and unambiguous instructions ▪ Create simple program ▪ Debug simple programs ▪ I can physically follow instructions ▪ I can give others instructions to move around ▪ I can predict outcomes from sequences ▪ I can begin to identify an algorithm to achieve a specific purpose ▪ I can create an algorithm to execute a program on a digital device ▪ I am beginning to predict what will happen for a short sequence of instructions in a program ▪ I am beginning to use software to create movement and patterns on a screen ▪ I can use Computer Science vocabulary accurately ▪ I am able to sequence and programme a digital device specifying distance and turns, and drawing a trail 	<ul style="list-style-type: none"> ▪ I can access a website and navigate around it ▪ I can recognise how I use technology in my home and at school ▪ I am beginning to evaluate web sites by giving opinions ▪ I know strategies if I see something inappropriate on a website and/or digital device ▪ I understand that what is meant by personal information and explore ways to keep this private ▪ I know what it means to be a good digital citizen ▪ I know that online communication is not always true ▪ I own my work by adding my name and data ▪ I respect the work of others stored on a shared drive (online) ▪ I can publish my work online 	<ul style="list-style-type: none"> ▪ I can create audio using digital instruments and recordings ▪ I can create/edit an image using a range of 'tools' both on and offline ▪ I can use a keyboard effectively ▪ I can use a word bank for help and use online spelling tools ▪ I can add text to photographs and pictures ▪ I am beginning to explain reasons why I have made choices to a teacher or talk partner ▪ I can save my work to the appropriate location ▪ I am beginning to retrieve my work ▪ I can print work and pictures ▪ I can make a pictogram and understand what it shows ▪ I understand that technology can help to create and edit a range of document styles
Year 2	<ul style="list-style-type: none"> ▪ Understand what algorithms are ▪ Understand that algorithms are implemented as programs on digital devices ▪ Understand that programs execute by following precise and unambiguous instructions ▪ Create simple programs ▪ Debug simple programs 	<ul style="list-style-type: none"> ▪ I can use a search engine to find information using agreed key words ▪ I can navigate to a website by entering a simple web address ▪ I know about the risks of advertising or pop-up windows ▪ I understand that some information online may be untrue 	<ul style="list-style-type: none"> ▪ I can create audio using digital instruments and recordings ▪ I can create/edit an image using a range of 'tools' both on and offline including 'undo' and 'redo' ▪ I can word process short pieces of text including the use of formatting tools ▪ I am beginning to explain reasons why I have made choices to a teacher or talk partner

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	<ul style="list-style-type: none"> ▪ Use logical reasoning to predict the behaviour of own programs ▪ Work with various forms of input and output ▪ I can physically follow instructions including turns (right angle) ▪ I can create an algorithm for a specific purpose ▪ I can predict what will happen and test results ▪ I can use software to create movement and patterns on a screen ▪ I know that programs respond to different sorts of inputs ▪ I can use different sorts of input to control objects on screen ▪ I can use the word debug to correct any mistakes and explain what I have done ▪ I can experience a range of control devices such as a microscope, sound recorders, cameras and other devices 	<ul style="list-style-type: none"> ▪ I know how to generate a strong password and can keep my password secret ▪ I can contribute to online class blogs ▪ I understand the need to be respectful online ▪ I can begin to understand the concept of online bullying and the role of the bystander ▪ I am developing an understanding of the consequences of online bullying ▪ I can recall online safety rules for reporting concerns and inappropriate behaviour. ▪ I know that I need to check information before uploading ▪ I know that some video games and online services are not appropriate for my age 	<ul style="list-style-type: none"> ▪ I can save, print, retrieve and edit my work ▪ I can find my work to open or print it ▪ I can use and add to a branching database to find objects using
<p style="font-size: 1.2em; font-weight: bold;">Year 3</p>	<ul style="list-style-type: none"> ▪ Solve problems by decomposing them into smaller parts ▪ Use logical reasoning to explain how some simple algorithms work ▪ Detect and correct errors in algorithms and programs ▪ Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems Use sequence, selection and repetition in programs ▪ Work with various forms of input and output ▪ I can plan and enter a sequence of instructions on a robot/sprite to achieve specific outcomes ▪ I can test and improve/debug programmed sequences ▪ I can use computational thinking to solve open ended problems ▪ I can talk about algorithms planned by others and identify any problems and the expected outcome ▪ I can explain how algorithms work, predicting outcomes and debugging 	<ul style="list-style-type: none"> ▪ I can use an age appropriate search engine independently ▪ I can explore and discuss the benefits of a range of online communication tools ▪ I know how to respond to unpleasant communications ▪ I understand the need to keep personal information private and am responsible in my online presence ▪ I know the difference between personal, private and public online spaces and the risks associated with these ▪ I understand that there are rules about using public spaces online ▪ I understand that some information online may be untrue (revisit) 	<ul style="list-style-type: none"> ▪ I can create and insert music and sounds into presentations and documents ▪ I can create and manipulate digital artwork ▪ I use reasoning about the quality and composition of images ▪ I can perform basic editing on images/video – crop, recolour, resize ▪ I can use numerous design features such as text boxes, borders and WordArt in different layouts and styles ▪ I can use a variety of presentation software to make a sequence of slides ▪ I can add to, sort and search a database ▪ I can interrogate a simple database to answer questions and create charts from the data ▪ I can use a data logger to capture measurements over time ▪ I can create simple bar charts and use them to answer questions

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<p>Year 4</p>	<ul style="list-style-type: none"> ▪ Explore instructions to control software or hardware with an input using 'if then' commands ▪ Solve problems by decomposing them into smaller parts ▪ Use logical reasoning to explain how some simple algorithms work ▪ Detect and correct errors in algorithms and programs ▪ Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems ▪ Use sequence, selection and repetition in programs ▪ Work with variables ▪ Use repetition and loops ▪ Work with various forms of input and output ▪ I can plan and enter a sequence of instructions on a robot/sprite to achieve specific outcomes ▪ I can test and improve/debug programmed sequences ▪ I can use selection (if else) blocks to give different outcomes. ▪ I can use an algorithm to sequence and order more complex programming. ▪ I can explain how algorithms work, predicting outcomes and debugging ▪ I can use loops (repeat/forever) to achieve solutions to tasks ▪ I can explain how computers use variables to store information and include this in my projects 	<ul style="list-style-type: none"> ▪ I can use an internet search to answer questions on a topic and know there are different search engines available ▪ I can use different search engines and their features, e.g. Google Image Search, video, sound etc. ▪ I can understand copyright issues – what images / videos / sounds are legal and safe to use. ▪ I know that web sites are not always accurate, and that information should be checked before it is used ▪ I understand some of the risk and rewards involved in publishing online and know how to keep safe ▪ I can recognise the effect that my writing or images may have on others and to respect the ideas and communications of others they encounter online ▪ I know that need to have appropriate permission for use of images of friends or those they have found online ▪ I know why privacy matters, and how it relates to online security. ▪ I can review the tools and settings that protect against hackers and other threats. ▪ I can identify and ignore/cancel unwanted advertising and malicious downloads in the form of popups, video, banners, hyperlinked objects. ▪ Know that https is used for secure transaction such as on-line banking and identified with a padlock 	<ul style="list-style-type: none"> ▪ I can add information and use the 'field' function within a database ▪ I can sort record cards by using field names and use a database to find the answer to simple questions ▪ I can use the search tool find information and search for answers to simple questions ▪ I can use a branching database to identify objects and add additional objects to an existing branching database ▪ I can select colour, cell size and text appropriately ▪ I can save and retrieve documents from shared areas using sensible names ▪ I can use data loggers to capture information to use over time. ▪ I can use spreadsheet cell references ▪ I can format cells and text appropriately
<p>Year 5</p>	<ul style="list-style-type: none"> ▪ Solve problems by decomposing them into smaller parts ▪ Use logical reasoning to explain how some simple algorithms work ▪ Detect and correct errors in algorithms and programs 	<ul style="list-style-type: none"> ▪ I can use the internet as a tool for research ▪ I can choose the most appropriate search engine for the task, refining as necessary ▪ I can recognise reasons that people might publish inaccurate content and check validity. 	<ul style="list-style-type: none"> ▪ I can use 'AND', 'OR', '=<' and '=>' to search a database ▪ I can design questions to search a large database ▪ I can check for accuracy by checking data, using different views, search tools and graphing ▪ I can build and use databases to support my work

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	<ul style="list-style-type: none"> ▪ Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems ▪ Use sequence, selection and repetition in programs ▪ Work with variables ▪ Work with various forms of input and output ▪ Develop an understanding of how values used in code affect the action of the object they relate to. ▪ Explore/ refine procedures using repeat to achieve solutions to problems ▪ Identify problems and identify a solution for a program ▪ Write down the steps required to achieve the outcome that is wanted and refer to this when programming ▪ Predict the outputs for the steps in an algorithm ▪ Use the process: plan, program, test and review ▪ Write a program which follows an algorithm to solve a problem for a digital device ▪ Group commands as a procedure to achieve a specific outcome within a program ▪ Understand how computers can generate random numbers and how these can be used in simulations 	<ul style="list-style-type: none"> ▪ I can identify whether a file has copyright or can be legally downloaded and whether these can be used in their own work ▪ I can discuss the differences between an open blog and a forum for a closed community ▪ I understand that you should not publish other peoples' material without their permission ▪ I can explain in simple terms the differences between a network, the internet and the world wide web ▪ I can lead with positivity in online communications. 	<ul style="list-style-type: none"> ▪ I can enter formulae into a spreadsheet and modify the data, (simple calculations + -/ x total) ▪ I can make predictions and changes and check results. ▪ I can use 'SUM' to calculate the total of a set of numbers in a range of cells ▪ I can create graphs and charts from data in a spreadsheet ▪ I can change data in a spreadsheet to answer 'what if...?' questions and check predictions ▪ I can investigate changes in sound / light/temperature levels using data logging, using continuous logging, snapshot functions and logging over time.
<p style="font-size: 1.2em; font-weight: bold;">Year 6</p>	<ul style="list-style-type: none"> ▪ Solve problems by decomposing them into smaller parts ▪ Use logical reasoning to explain how some simple algorithms work ▪ Detect and correct errors in algorithms and programs ▪ Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems ▪ Use sequence, selection and repetition in programs ▪ Work with variables ▪ Work with various forms of input and output ▪ Use variables in more complex ways, and to manipulate inputs to create useful outputs. 	<ul style="list-style-type: none"> ▪ I can explain the differences between a network, the internet and the world wide web ▪ Decide which online communication tool to use to best suit the purpose ▪ I know that computers use IP addresses to identify each other ▪ I use specific vocabulary: server, digital data, binary code, URL ▪ I can explain how search engines work; finding and ranking pages in order ▪ I can use range of sources to check validity and recognise different viewpoints. ▪ Describe possible impact of published content to an audience e.g. the use of advertising Know the 	<ul style="list-style-type: none"> ▪ I can copy cells and formulae using copy & paste, and fill across and down ▪ I can display and interpret data selecting bar charts, pie charts, scatter graphs and line graphs appropriately ▪ I can match the information in a spreadsheet to the needs of the audience and present data, with appropriate ranges, labelling axes and title ▪ I can create and amend a spreadsheet to solve a problem through a review of the rules and variables ▪ I can use databases and branching databases to process, interpret, store, and present information for a specific audience, realising the need for accuracy and checking plausibility

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	<ul style="list-style-type: none"> ▪ Record in some detail the steps that are required to achieve an outcome ▪ Predict the outputs for the steps in an algorithm ▪ Use the process: plan, program, test and review a program ▪ Write a program which follows an algorithm to solve a problem and achieve a planned outcome ▪ Group commands as a procedure to achieve a specific outcome within a program ▪ I understand how sensors can be used to measure input in order to activate a procedure or sequence and talk about applications in society ▪ I can use variables to manipulate inputs to create useful outputs ▪ I can use property values and parameters to store information about objects 	<p>meaning of some common website extensions – such as .org, .net, ac, .gov, .co.uk, .fr, .com</p> <ul style="list-style-type: none"> ▪ Select copyright free images and sounds from sources such as LGFL audio network and google searches ▪ Consider what options there are for being brave and why bringing adults into the conversation is important. 	<ul style="list-style-type: none"> ▪ I can identify opportunities to use data logging to support my work ▪ I can use data logging devices to investigate changes in the environment over time ▪ I can use graphical information to answer questions and solve simple problems
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Intent Statement:

At Callow End C E Primary School, we want all children to be enthusiastic and able learners of computing and eager to achieve their very best. Our aim is to place emphasis on developing a range of skills and knowledge, allowing our children to become confident problem solvers which we believe is a key life skill. We place a high importance on e-Safety and equipping our children to be safe in an increasingly digital world. We will provide all children regardless of ethnic origin, gender, class, aptitude or disability, with a broad and balanced computing curriculum. Our overall aim is for our pupils to see computing as an on-going process and to prepare our pupils to be confident and caring digital citizens.

Computer Science	Digital Literacy	Information Technology		
Programming and Theory	E-Safety & Research	Communication	Data	Multimedia
Programming Simulations Computer Theory	Research E-safety	Word processing Presentations Online collaboration	Graphs Databases Spreadsheets	Creating images Photography Animation Video Audio

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