



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

EYFS

COMPUTER SCIENCE	<ul style="list-style-type: none"> ● Know how to help adults operate equipment around the school, independently operating simple equipment ● Know how to use simple software to make things happen ● Know how to explore options and make choices with toys, software and websites ● Know how to press buttons on a floor robot and talk about the movement
DIGITAL LITERACY	<ul style="list-style-type: none"> ● Know how to play appropriate games on the Internet. ● Know how to 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.
INFORMATION TECHNOLOGY	<ul style="list-style-type: none"> ● I have developed an interest in ICT by using age appropriate websites or programs. ● Know how to 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. ● Know how to use a camera or sound recorder to collect photos or sound ● Know how to use a simple pictogram or set of photos to count and organise information.



	Year 1 – To know	Year 2	Year 3	Year 4	Year 5	Year 6
CO MP UT ER SC IE NC E	<p>Unplugged: To know:</p> <ul style="list-style-type: none"> ● What algorithms are ● Algorithms are implemented as programs on digital devices 	<p>Unplugged: To know:</p> <ul style="list-style-type: none"> ● What algorithms are ● That algorithms are implemented as programs on digital devices 	<p>Unplugged: To Know:</p> <ul style="list-style-type: none"> ● How to solve problems by decomposing them into smaller parts ● How to use logical reasoning to explain how some simple algorithms work 	<p>Unplugged: To Know:</p> <ul style="list-style-type: none"> ● How to Solve problems by decomposing them into smaller parts ● How to use logical reasoning to explain how some simple algorithms work 	<p>Unplugged: To know</p> <ul style="list-style-type: none"> ● How to solve problems by decomposing them into smaller parts ● How to use logical reasoning to explain how some simple algorithms work ● How to detect and correct errors in algorithms and programs ● How to design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems 	<p>Unplugged: To know:</p> <ul style="list-style-type: none"> ● How to solve problems by decomposing them into smaller parts ● How to use logical reasoning to explain how some simple algorithms work ● How to detect and correct errors in algorithms and programs ● How to design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems
	<p>Coding/Programming:</p> <ul style="list-style-type: none"> ● Know that programs execute by following precise and unambiguous instructions ● Know how to create simple programs ● Know how to debug simple programs 	<p>Coding/Programming:</p> <ul style="list-style-type: none"> ● Know that programs execute by following precise and unambiguous instructions ● Know how to Create simple programs ● Know how to debug simple programs ● Know to use logical reasoning to predict the behaviour of own programs ● Work with various forms of input and output 	<p>Coding/Programming:</p> <ul style="list-style-type: none"> ● Know how to detect and correct errors in algorithms and programs ● Know how to design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems ● Know how to work with various forms of input and output 	<p>Coding/Programming:</p> <ul style="list-style-type: none"> ● Know how to detect and correct errors in algorithms and programs ● Know how to design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems ● Know how to use sequence, selection and repetition in programs ● Know how to work with variables ● Know how to use repetition and loops 	<p>Coding/Programming:</p> <ul style="list-style-type: none"> ● Know how to use sequence, selection and repetition in programs ● Know how to work with variables ● Know how to work with various forms of input and output ● Know how to develop an understanding of how values used in code affect the action of the object they relate to. 	<p>Coding/Programming:</p> <ul style="list-style-type: none"> ● Know how to use sequence, selection and repetition in programs ● Know how to work with variables ● Know how to work with various forms of input and output ● Know how to use variables in more complex ways, and to manipulate inputs to create useful outputs.



	<ul style="list-style-type: none"> ● Know how to physically follow instructions ● Know how to give others instructions to move around ● Know how to predict outcomes from sequences ● Know how to begin to identify an algorithm to achieve a specific purpose ● Know how to create an algorithm to execute a program on a digital device ● Begin to know how to predict what will happen for a short sequence of instructions in a program ● Begin to know how to use software to create movement and patterns on a screen ● Know how to use Computer Science vocabulary accurately ● Know how to sequence and programme a digital device specifying distance and turns, and drawing a trail 	<ul style="list-style-type: none"> ● Know how to physically follow instructions including turns (right angle) ● Know how to create an algorithm for a specific purpose ● Know how to predict what will happen and test results ● Know how to use software to create movement and patterns on a screen ● I know that programs respond to different sorts of inputs ● Know how to use different sorts of input to control objects on screen ● Know how to use the word debug to correct any mistakes and explain what I have done ● Know how to experience a range of control devices such as a microscope, sound recorders, cameras and other devices 	<ul style="list-style-type: none"> ● Know how to plan and enter a sequence of instructions on a robot/sprite to achieve specific outcomes ● Know how to test and improve/debug programmed sequences ● Know how to use computational thinking to solve open ended problems ● Know how to talk about algorithms planned by others and identify any problems and the expected outcome ● Know how to explain how algorithms work, predicting outcomes and debugging ● Explore instructions to control software or hardware with an input using 'if then' commands 	<ul style="list-style-type: none"> ● Know how to work with various forms of input and output ● Know how to plan and enter a sequence of instructions on a robot/sprite to achieve specific outcomes ● Know how to test and improve/debug programmed sequences ● Know how to use selection (if else) blocks to give different outcomes. ● Know how to use an algorithm to sequence and order more complex programming. ● Know how to explain how algorithms work, predicting outcomes and debugging ● Know how to use loops (repeat/forever) to achieve solutions to tasks ● Know how to explain how computers use variables to store information and include this in my projects 	<ul style="list-style-type: none"> ● Know how to explore/ refine procedures using repeat to achieve solutions to problems ● Know how to identify problems and identify a solution for a program ● Know how to write down the steps required to achieve the outcome that is wanted and refer to this when programming ● Know how to predict the outputs for the steps in an algorithm ● Know how to use the process: plan, program, test and review ● Know how to write a program which follows an algorithm to solve a problem for a digital device ● Know how to group commands as a procedure to achieve a specific outcome within a program ● Know how computers can generate random numbers and how these can be used in simulations 	<ul style="list-style-type: none"> ● Know how to record in some detail the steps that are required to achieve an outcome ● Know how to predict the outputs for the steps in an algorithm ● Know how to use the process: plan, program, test and review a program ● Know how to write a program which follows an algorithm to solve a problem and achieve a planned outcome ● Know how to group commands as a procedure to achieve a specific outcome within a program ● Know how sensors can be used to measure input in order to activate a procedure or sequence and talk about applications in society ● Know how to use variables to manipulate inputs to create useful outputs ● Know how to use property values and parameters to store information about objects
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	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
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<p>Digital Literacy</p>	<p>Objectives:</p> <ul style="list-style-type: none"> ● Know how to access a website and navigate around it ● Know how to 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) ● Know how to publish my work online 	<p>Objectives:</p> <ul style="list-style-type: none"> ● Know how to use a search engine to find information using agreed key words ● Know how to navigate to a website by entering a simple web address ● I know about the risks of advertising or pop-up windows ● Know that some information online may be untrue ● I know how to generate a strong password and can keep my password secret ● Know how to contribute to online class blogs ● I understand the need to be respectful online ● Know how to 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 ● Know how to recall online safety rules for reporting ● Know how to raise concerns and identify inappropriate behaviour. ● I know that I need to check information before uploading 	<p>Objectives:</p> <ul style="list-style-type: none"> ● Know how to use an age appropriate search engine independently ● Know how to 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) 	<p>Objectives:</p> <ul style="list-style-type: none"> ● Know how to use an internet search to answer questions on a topic and know there are different search engines available. ● Know how to use different search engines and their features, e.g. Google Image Search, video, sound etc. ● Know how to 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 ● Know how to 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. ● Know how to review the tools and settings that protect against hackers and other threats. ● Know how to 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 online banking and identified with a padlock. 	<p>Objectives:</p> <ul style="list-style-type: none"> ● Know how to use the internet as a tool for research ● Know how to choose the most appropriate search engine for the task, refining as necessary ● Know how to recognise reasons that people might publish inaccurate content and check validity. ● Know how to identify whether a file has copyright or can be legally downloaded and whether these can be used in their own work ● Know how to discuss the differences between an open blog and a forum for a closed community ● Know how that you should not publish other peoples' material without their permission ● Know how to explain in simple terms the differences between a network, the internet and the world wide web ● Know how to lead with positivity in online communications. 	<p>Objectives:</p> <ul style="list-style-type: none"> ● Know how to explain the differences between a network, the internet and the world wide web ● Know which online communication tool to use to best suit the purpose ● Know that computers use IP addresses to identify each other ● How how to use specific vocabulary: server, digital data, binary code, URL ● Know how to explain how search engines work; finding and ranking pages in order ● Know how to use range of sources to check validity and recognise different viewpoints. ● Know and describe the possible impact of published content to an audience e.g. the use of advertising Know the meaning of some common website extensions –such as .org, .net, ac, gov, .co.uk, .fr, .com ● Know how to select copyright free images and sounds from sources such as LGFL audio network and google searches ● Know what options there are for being brave and why bringing adults into the conversation is important.
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		<ul style="list-style-type: none"> ● I know that some video games and online services are not appropriate for my age 				
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	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
IT	<p>Objectives</p> <ul style="list-style-type: none"> ● Know how to create audio using digital instruments and recordings ● Know how to create/edit an image using a range of 'tools' both on and offline ● Know how to use a keyboard effectively ● Know how to use a word bank for help and use online spelling tools ● Know how to add text to photographs and pictures ● I am beginning to explain reasons why I have made choices to a teacher or talk partner ● Know how to save my work to the appropriate location ● Begin to know how to retrieve my work ● Know how to print work and pictures ● Know how to make a pictogram and understand what it shows ● I understand that technology can help to create and edit a range of document styles 	<p>Objectives</p> <ul style="list-style-type: none"> ● Know how to create audio using digital instruments and recordings ● Know how to create/edit an image using a range of 'tools' both on and offline including 'undo' and 'redo' ● Know how to 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 ● Know how to save, print, retrieve and edit my work ● Know how to find my work to open or print it ● Know how to use and add to a branching database to find objects using 	<p>Objectives</p> <ul style="list-style-type: none"> ● Know how to create and insert music and sounds into presentations and documents ● Know how to create and manipulate digital artwork ● Know how to explain the reasoning of the quality and composition of images ● Know how to perform basic editing on images/video – crop, recolour, resize ● Know how to use numerous design features such as text boxes, borders and WordArt in different layouts and styles ● Know how to use a variety of presentation software to make a sequence of slides ● Know how to add to, sort and search a database ● Know how to interrogate a simple database to answer questions and create charts from the data ● Know how to use a data logger to capture measurements over time ● Know how to create simple bar charts and use them to answer questions 	<p>Objectives</p> <ul style="list-style-type: none"> ● Know how to add information and use the 'field' function within a database. ● Know how to sort record cards by using field names and use a database to find the answer to simple questions. ● Know how to use the search tool to find information and search for answers to simple questions. Know how to use a branching database to identify objects and add additional objects to an existing database. ● Know how to select colour, cell size and text appropriately. ● Know how to save retrieve documents from shared areas using sensible names. ● Know how to use data loggers to capture information to use over time. ● Know how to use spreadsheet cell references. 	<p>Objectives</p> <ul style="list-style-type: none"> ● Know how to use 'AND', 'OR', '<' and '>' to search a database ● Know how to design questions to search a large database ● Know how to check for accuracy by checking data, using different views, search tools and graphing ● Know how to build and use databases to support my work ● Know how to enter formulae into a spreadsheet and modify the data. (simple calculations + -/ x total) ● Know how to make predictions and changes and check results. ● Know how to use 'SUM' to calculate the total of a set of numbers in a range of cells ● Know how to create graphs and charts from data in a spreadsheet ● Know how to change data in a spreadsheet to answer 'what if...?' ● Know how to investigate changes in sound / light/temperature levels using 	<p>Objectives</p> <ul style="list-style-type: none"> ● Know how to copy cells and formulae using copy & paste, and fill across and down ● Know how to display and interpret data selecting bar charts, pie charts, scatter graphs and line graphs appropriately ● Know how to match the information in a spreadsheet to the needs of the audience and present data, with appropriate ranges, labelling axes and title ● Know how to create and amend a spreadsheet to solve a problem through a review of the rules and variables ● Know how to use databases and branching databases to process, interpret, store, and present information for a specific audience, realising the need for accuracy and checking plausibility ● Know how to identify opportunities to use data logging to support my work ● Know how to use data logging devices to investigate changes in the environment over time



				<ul style="list-style-type: none">• Know how to format cells and txt appropriately. <p>I can use data loggers to capture information to use over time.</p>	data logging, using continuous logging, snapshot functions and logging over time.	<ul style="list-style-type: none">• Know how to use graphical information to answer questions and solve simple problems
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