



Darley Churchtown CofE Primary School – Curriculum for Computing

Long term plan showing coverage of National Curriculum objectives (two-year curriculum cycle due to mixed age classes)

Year A	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Class 1	Computing systems and networks – Technology all around us	Creating media – Digital painting	Programming A – moving a robot	Data and information – Grouping data	Creating media – Digital writing	Programming B – Programming animations
Class 2	Computing systems and networks – Connecting computers	Creating media – Stop frame animation	Programming A – Sequencing sounds	Data and information – Branching databases	Creating media – Desktop publishing	Programming B – Events and actions in programs
Class 3	Computing systems and networks – Systems and searching	Creating media – Video production	Programming A – Selection in physical computing	Data and information – Flat-file databases	Creating media – Introduction to vector graphics	Programming B – Selection in quizzes

Year B	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Class 1	Computing systems and networks – IT all around us	Creating media – Digital photography	Programming A – Robot algorithms	Data and information - Pictograms	Creating media – Digital music	Programming B – Programming quizzes
Class 2	Computing systems and networks – The Internet	Creating media – Audio production	Programming A – Repetition in shapes	Data and information – Data logging	Creating media – Photo editing	Programming B – Repetition in games
Class 3	Computing systems and networks – Communication and collaboration	Creating media – Web page creation	Programming A – Variables in games	Data and information – Introduction to spreadsheets	Creating media – 3D modelling	Programming B – Sensing movement



Progression map showing key skills to be taught over the curriculum cycle

Area of learning	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Computing systems and networks	I know what a computer is and can complete basic operations	I know how computers and information technology can be used	I know how computer networks work and can identify the main components	I know what the internet and World Wide Web are and how they are created	I know what search engines do and how they operate	I know how to compare and evaluate methods of online communication
Creating media	I know how to use tools on a computer to create an image I know how to use tools on a computer to edit text	I know how to take and make changes to a digital image I know how to use ICT to create a musical pattern	I know how to create a simple animation using stop motion technology I know how to use a desktop publishing tool to create content	I know how to create and edit audio I know how to manipulate digital images for a purpose	I know how to create, edit and evaluate video content I know how to create digital images using vector graphics	I know how to create and edit and web page I know how to create and analyse 3D models on a computer or tablet
Programming	I know how to program a simple robot to move in a desired manner I know how to use commands to create a simple program on a computer or tablet	I know how to construct and debug a sequence of commands I know how to create a program for a specific purpose	I know how to use common programming tools to create animation I know how to create and debug programs with multiple commands	I know how to use the repeat command effectively in programs I know how to create and use count controlled and infinite loops in programs	I know how to create a computer program using loops that controls a physical object I know how create a computer program using selection based on conditions	I know how to use variables in computer programs I know how to create a program using inputs and outputs on a controllable device
Data and information	I know how to group data based on properties	I know how to present data effectively using a computer	I know how to use branching databases to organise data	I know how to use information technology to collect and analyse data	I know how to sort data and present findings from a database	I know how to use formulas to perform calculations



Medium term plan showing objectives taught in each year group

Year A	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Class 1	- To identify technology - To identify a computer and its main parts - To use a mouse in different ways - To use a keyboard to type on a computer - To use the keyboard to edit text - To create rules for using technology responsibly	- To describe what different freehand tools do - To use the shape and line tool - To make careful choices when painting a digital picture - To explain why I chose the tools I used - To use a computer on my own to paint a picture - To compare a picture on a computer and on paper	- To explain what a given command will do - To act out a given word - To combine forwards and backwards commands to make a sequence - To combine four direction commands to make sequences - To plan simple program - To find more than one solution to a problem	- To label objects - To identify objects that can be counted - To describe objects in different ways - To count objects with the same properties - To compare groups of objects - To answer questions about groups of objects	- To use a computer to write - To add and remove text on a computer - To identify that the look of text can be changed on a computer - To make careful choices when changing text - To explain why I used the tools I chose - To compare typing on a computer to writing on paper	- To choose a command for a given purpose - To show that a series of commands can be joined together - To identify the effect of changing a value - To explain that each sprite has its own instructions - To design the parts of a project - To use my algorithm to create a program
Class 2	- To explain how digital devices function - To identify input and output devices	To explain that animation is a sequence of drawings or photographs	To explore a new programming environment	- To create questions with yes/no answers - To identify the attributes needed to	- To recognise how text and images convey information - To recognise that text and	- To explain how a sprite moves in an existing project - To create a program to



	- To recognise how digital devices can change the way we work - To explain how a computer network can be used to share information - To explore how digital devices can be connected - To recognise the physical components of a system	- To relate animated movement with a sequence of images - To plan an animation - To identify the need to work consistently and carefully - To review and improve an animation - To evaluate the impact of adding other media to an animation	- To identify that commands have an outcome - To explain that a program has a start - To recognise that a sequence of commands can have an order - To change the appearance of my project - To create a project from a task description	collect data about an object - To create a branching database - To explain why it is helpful for a database to be well structured - To plan the structure of a branching database - To independently create an identification tool	layout can be edited - To choose appropriate page settings - To add content to a desktop publishing publication - To consider how different layouts are suited for different purposes - To consider the benefits of desktop publishing	move a sprite in four directions - To adapt a program to a new context - To develop my program by adding features - To identify and fix bugs in a program - To design and create a maze-based challenge
Class 3	- To explain that computers can be connected together to form systems - To recognise the role of computer systems in our lives - To experiment with search engines	- To explain what makes a video effective - To identify digital devices that can record video - To capture video using a range of techniques - To create a storyboard	- To control a simple circuit connected to a computer - To write a program that includes count-controlled loops - To explain that a loop can stop when a condition is met	- To use a form to record information - To compare paper and computer-based databases - To outline how you can answer questions by grouping and	- To identify that drawing tools can be used to produce different outcomes - To create a vector drawing by combining shapes - To use tools to achieve a desired effect	- To explain how selection is used in computer programs - To relate that a conditional statement connects a condition to an outcome - To explain how selection directs



	- To describe how search engines select results - To explain how search results are ranked - To recognise why the order of results is important, and to whom	- To identify that video can be improved through reshooting and editing - To consider the impact of the choices made when making and sharing a video	- To explain that a loop can be used to repeatedly check whether a condition has been met - To design a physical project the includes selection - To create a program that controls a physical computing project	then sorting data - To explain that tools can be used to select specific data - To explain that computer programs can be used to compare data visually - To use a real-world database to answer questions	- To recognise that vector drawings consist of layers - To groups objects to make them easier to work with - To apply what I've learned about vector drawings	the flow of a program - To design a program which uses selection - To create a program which uses selection - To evaluate my program
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Year B	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Class 1	- To recognise the uses and features of information technology - To identify the uses of information technology in the school - To identify information	- To use a digital device to take a photograph - To make choices when taking a photograph - To describe what makes a good photograph - To decide how photographs	- To describe a series of instructions as a sequence - To explain what happens when we change the order of instructions - To use logical reasoning to predict the	- To recognise that we can count and compare objects using tally charts - To recognise that objects can be represented as pictures - To create a pictogram	- To say how music can make us feel - To identify there are patterns in music - To experiment with sounds using computer - To use a computer to	- To explain that a sequence of commands has a start - To explain that a sequence of commands has an outcome - To create a program using a given design - To change a given design



	technology beyond school - To explain how information technology helps us - To explain how to use information technology safely - To recognise that choices are made when using information technology	can be improved - To use tools to change an image - To recognise that photos can be changed	outcome of a program - To explain the programming projects can have code and artwork - To design an algorithm - To create and debug a program I have written	- To select objects by attribute and make comparisons - To recognise that people can be described by attributes - To explain that we can present information using a computer	create a musical pattern - To create music for a purpose - To review and refine out computer work	- To create a program using my own design - To decide how my project can be improved
Class 2	- To describe how networks physically connect to other networks - To recognise how networked devices make up the internet - To outline how websites can be shared via the World Wide Web	- To identify that sound can be recorded - To explain that audio recordings can be edited - To recognise the different parts of creating a podcast project - To apply audio editing skills independently	- To identify that accuracy in programming is important - To create a program in a text-based language - To explain what 'repeat' means - To modify a count-controlled loop to produce a given outcome	- To explain that data gathered over time can be used to answer questions - To use a digital device to collect data automatically - To explain that a data logger collects 'data points' from	- To explain that that composition of digital images can be changed - To explain that colours can be changed in digital images - To explain how cloning can be used in photo editing	- To develop the use of count-controlled loops in a different programming environment - To explain that in programming there are infinite loops and count controlled loops - To develop a design that includes two or



	- To describe how content can be added and accessed on the World Wide Web - To recognise how the content of the WWW is created by people - To evaluate the consequences of unreliable content	- To combine audio to enhance my podcast project - To evaluate the effective use of audio	- To decompose a task into small steps - To create a program that uses count-controlled loops to produce a given outcome	sensors over time - To recognise how a computer can help use analyse data - To identify the data need to answer questions - To use data from sensors to answer questions	- To explain that images can be combined - To combine images for a purpose - To evaluate how changes can improve an image	more loops which run at the same time - To modify an infinite loop in a given program - To design a project that includes repetition - To create a project that includes repetition
Class 3	- To explain the importance on internet addresses - To recognise how data is transferred across the internet - To explain how sharing information online can help people to work together	- To review an existing website and consider its structure - To plan the features of a web page - To consider the ownership and use of images (copyright) - To recognise the need to preview pages	- To define a 'variable' as something that is changeable - To explain why a variable is used in a program - To choose how to improve a game by using variables - To design a project that builds on a given example	- To create a data set in a spreadsheet - To build a data set in a spreadsheet - To explain that formulas can be used to produce calculated data - To apply formulas to data - To create a spreadsheet to plan an event	- To recognise that you can work in three dimensions on a computer - To identify that digital 3D objects can be modified - To recognise that objects can be combined in a 3D model - To create a 3D model for a given purpose	- To create a program to run on a controllable device - To explain that selection can control the flow of a program - To update a variable with a user input - To use a conditional statement to compare a



	• To evaluate different ways of working together online • To recognise how we communicate using technology • To evaluate different methods of online communication	• To outline the need for a navigation path • To recognise the implications of linking to content owned by other people	• To use my design to create a project • To evaluate my project	• To choose suitable ways to present data	• To plan my own 3D model • To create my own digital 3D model	variable to a value • To design a project that uses inputs and outputs on a controllable device • To develop a program to use inputs and outputs on a controllable device
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