



**KINDNESS - RESPECT -
AMBITION**

COMPUTING LEARNING OBJECTIVES

Year 1	
Unit	Learning Objectives
Computing systems and networks – Technology around us	-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
Creating media – Digital painting	-To create rules for using technology responsibly
	-To describe what different freehand tools do
	-To use the shape tool and the line tools
	-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
Programming A – Moving a robot	-To compare painting 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 a simple program
Data and information – Grouping data	-To find more than one solution to a problem
	-To label objects
	-To identify that objects can be counted
	-To describe objects in different ways
	-To count objects with the same properties
Creating media – Digital writing	-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
Programming B - Programming animations	-To explain why I used the tools that 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	



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Year 2	
Unit	Learning Objectives
Computing systems and networks – IT around us	-To recognise the uses and features of information technology
	-To identify the uses of information technology in the school
	-To identify information 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
Creating media – Digital photography	-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 can be improved
	-To use tools to change an image
	-To recognise that photos can be changed
Programming A – Robot algorithms	-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 outcome of a program
	-To explain that programming projects can have code and artwork
	-To design an algorithm
	-To create and debug a program that I have written
Data and information – Pictograms	-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 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
Creating media - Digital music	-To say how music can make us feel
	-To identify that there are patterns in music
	-To experiment with sound using a computer
	-To use a computer to create a musical pattern
	-To create music for a purpose
	-To review and refine our computer work
Programming B - Programming quizzes	-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
	-To create a program using my own design
	-To decide how my project can be improved



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Year 3	
Unit	Learning Objectives
Computing systems and networks – Connecting computers	-To explain how digital devices function
	-To identify input and output devices
	-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 network
Creating media - Stop-frame animation	-To explain that animation is a sequence of drawings or photographs
	-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
Programming A - Sequencing sounds	-To explore a new programming environment
	-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
Data and information – Branching databases	-To create questions with yes/no answers
	-To identify the attributes needed to 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
Creating media – Desktop publishing	-To recognise how text and images convey information
	-To recognise that text and layout can be edited
	-To choose appropriate page settings
	-To add content to a desktop publishing publication
	-To consider how different layouts can suit different purposes
	-To consider the benefits of desktop publishing
Programming B - Events and actions in programs	-To explain how a sprite moves in an existing project
	-To create a program to 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



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Year 4	
Unit	Learning Objectives
Computing systems and networks – The Internet	-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 (WWW)
	-To describe how content can be added and accessed on the World Wide Web (WWW)
	-To recognise how the content of the WWW is created by people
	-To evaluate the consequences of unreliable content
Creating media - Audio production	-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 combine audio to enhance my podcast project
	-To evaluate the effective use of audio
Programming A – Repetition in shapes	-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 decompose a task into small steps
	-To create a program that uses count-controlled loops to produce a given outcome
Data and information – Data logging	-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 sensors over time
	-To recognise how a computer can help us analyse data
	-To identify the data needed to answer questions
	-To use data from sensors to answer questions
Creating media – Photo editing	-To explain that the 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 explain that images can be combined
	-To combine images for a purpose
	-To evaluate how changes can improve an image
Programming B – Repetition in games	-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 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



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Year 5	
Unit	Learning Objectives
Computing systems and networks - Systems and searching	-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 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
Creating media - Video production	-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 identify that video can be improved through reshooting and editing
	-To consider the impact of the choices made when making and sharing a video
Programming A – Selection in physical computing	-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 explain that a loop can be used to repeatedly check whether a condition has been met
	-To design a physical project that includes selection
	-To create a program that controls a physical computing project
Data and information – Flat-file databases	-To use a form to record information
	-To compare paper and computer-based databases
	-To outline how you can answer questions by grouping and 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
Creating media – Introduction to vector graphics	-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 recognise that vector drawings consist of layers
	-To group objects to make them easier to work with
	-To apply what I have learned about vector drawings
Programming B – Selection in quizzes	-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 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 6	
Unit	Learning Objectives
Computing systems and networks - Communication and collaboration	-To explain the importance of internet addresses
	-To recognise how data is transferred across the internet
	-To explain how sharing information online can help people to work together
	-To evaluate different ways of working together online
	-To recognise how we communicate using technology
	-To evaluate different methods of online communication
Creating media – Web page creation	-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 outline the need for a navigation path
	-To recognise the implications of linking to content owned by other people
Programming A – Variables in games	-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 use my design to create a project
	-To evaluate my project
Data and information – Spreadsheets	-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 choose suitable ways to present data
Creating media – 3D Modelling	-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 plan my own 3D model
	-To create my own digital 3D model
Programming B - Sensing movement	-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 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