

**Key Skills**

Computer Systems and Networks

Programming

Data and Information

Creating Media

Computing

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Key Skill | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| Computer Systems and Networks | * To choose a piece of technology to do a job
* To recognise that some technology can be used in different ways
* To identify the main parts of a computer
* To use a mouse in different ways
* To use a keyboard to type
* To use the keyboard to edit
* To recognise that choices are text
* To show how to use

technology safely | * To describe some uses of computers
* To identify information technology in school
* To identify information technology beyond school
* To show how to use

information technology safely | * To identify input and output devices
* To explain that a computer system accepts an input and processes it to produce an output
* To explain how a computer network can be used to share information
* To explain the roles of a switch, server and wireless access point in a network.
* To identify network devices around me.
* To explain how networks can be connected to other networks.
 | * To outline how information can be shared via the World Wide Web
* To describe how networks connect to other networks
* To explain that the global interconnection of networks is the internet
* To recognise the need for security on the internet
* To describe the types of content/media that can be added, created, and shared on the World Wide Web
* To explain how the content of the World Wide Web is created, owned, and shared by people
* To evaluate the reliability of content and the consequences of unreliable content
 | * To describe the input and
* output of a search engine
* To demonstrate that different search terms produce different results
* To explain why search engines create indices, and that they are different for each search engine
* To evaluate the results of search terms
 | * To outline methods of communicating and collaborating using the internet
* To choose methods of internet communication and collaboration for given purposes
* To evaluate different methods of online communication and collaboration
* To decide what you should and should not share online
 |
| Programming | * To choose a series of words that can be enacted as a program
* To choose a series of commands that can be run as a program
* To run a program on a device
* To predict the outcome of a command on a device
* To list which commands can be used on a given device
* To run a command on a floor robot
* To choose a command for a given purpose
* To build a sequence of commands in steps
* To combine commands in a program
 | * To choose a series of words that can be enacted as a sequence
* To choose a series of instructions that can be run as a program
* To create a program
* To trace a sequence to make a prediction
* To run a program on a device
* To debug a program that I have written
* To test a prediction by running the sequence
* To explain what happens when we change the order of instructions
 | * To build a sequence of commands
* To combine commands in a program
* To order commands in a program
* To create a sequence of commands to produce a given outcome
 | * To list an everyday task as a set of instructions including repetition
* To use an indefinite loop to produce a given outcome
* To use a count-controlled loop to produce a given outcome
* To plan a program that includes appropriate loops to produce a given outcome
* To recognise tools that enable more than one process to be run at the same time (concurrency)
* To create two or more sequences that run at the same time
 | * To create a condition-controlled loop
* To use a condition in an ‘if...then…’ statement to start an action
* To use selection to switch the program flow in one of two ways
* To use a condition in an ‘if...then...else…’ statement to produce given outcomes
* To choose a condition to use in a program
* To use selection to switch program flow
 | * To identify a variable in an existing program
* To experiment with the value of an existing variable
* To choose a name that identifies the role of a variable to make it more usable (to humans)
* To choose a name that identifies the role of a variable to make it easier for humans to understand it
* To decide where in a program to set a variable
* To use an event in a program to update a variable
* To update a variable with a user input
* To use a variable in a conditional statement to control the flow of a program
* To use the same variable in more than one location in a program
 |
| Data and Information | * To identify some attributes of an object
* To collect simple data
* To show that collected data can be counted
* To describe the properties of an object
* To choose an attribute to group objects by
* To group objects to answer questions
* To explain that objects can be grouped by similarities (attribute)
* To describe a group of objects (based on commonality)
 | * To show I can enter data onto a computer
* To recognise that people, animals and objects can be described by attributes
* To use a computer to view data in different formats
* To use pictograms to answer single-attribute questions
* To use a computer to answer comparison questions (graphs, tables)
 | * To create questions with yes/no answers
* To choose questions that will divide objects into evenly sized subgroups
* To repeatedly create subgroups of objects
* To identify an object using a branching database
* To retrieve information from different levels of the branching database
 | * To use a digital device to collect data automatically
* To choose how often to automatically collect data samples
* To use a set of logged data to find information
* To use a computer program to sort data by one attribute
* To export information in different formats
 | * To choose different ways to view data
* To choose which attribute and value to search by to answer a given question (operands)
* To ask questions that need more than one attribute to answer
* To choose which attribute to sort data by to answer a given question
* To choose multiple criteria to search data to answer a give question (AND and OR)
* To select an appropriate graph to visually compare data
* To choose suitable ways to present information to other people
 | * To choose suitable ways to present spreadsheet data
* To use existing cells within a formula
* To use functions to create new data
* To calculate data using a formula for each operation
 |
| Creating Media | * To create a picture using freehand tools
* To use shape and line tools when precision is needed
* To use a range of paint colours
* To use the fill tool to colour an enclosed area
* To use the undo button to correct a mistake
* To combine a range of tools to create a piece of artwork
* To use letter, number, and Space keys to enter text into a computer
* To use punctuation and special characters
* To select text
* To choose options to achieve a desired effect
* To change the appearance of text on a computer
* To use the Backspace key to remove text
* To position the text cursor in a chosen location
* To use Undo
 | * To capture a digital image
* To take photographs in both landscape and portrait format
* To view photographs on a digital device
* To decide which photographs to keep
* To use zoom to change the composition of a photograph
* To hold the camera still to take a clear photograph
* To consider lighting before taking a photograph
* To improve a photograph by retaking it
* To use filters to edit the appearance of a photograph
* To experiment with musical patterns on a computer
* To experiment with different sounds on a computer
* To use a computer to create a musical pattern
* To use a computer to compose a rhythm and a melody on a given theme
* To use a computer to play the same music in different ways (e.g. tempo)
* To evaluate a musical composition created on a computer
* To improve a musical composition created on a computer
 | * To show that page orientation can be changed
* To add text to a placeholder
* To organise text and image placeholders in a page layout
* To add and remove images to and from placeholders
* To move resize and rotate images
* To edit text in a placeholder
* To choose fonts and apply effects to text
* To review a document
* To plan an animation using a storyboard
* To set up the work area with awareness of what will be captured
* To capture an image
* To use the onion skinning tool to review subject position
* To move a subject between captures
* To review a captured sequence of frames as an animation
* To remove frames to improve animation
* To add media to enhance an animation
* To review a completed project.
 | * To recognise that digital images can be manipulated
* To recognise that digital images can be changed for different purposes
* To choose the most appropriate tool for a particular purpose
* To consider the impact of changes made on the quality of the image
* To record sound using a computer
* To import audio into a project
* To play recorded audio
* To change the volume of tracks in a project
* To delete a section of audio
 | * To add an object to a vector drawing
* To select one object or choices made multiple objects
* To delete objects
* To move objects between the layers of a drawing
* To group and ungroup selected objects
* To duplicate objects using copy and paste
* To modify objects
* To reposition objects
* To combine options to achieve a desired effect
* To create a vector drawing for a given purpose
* To use different camera angles
* To use pan, tilt and zoom
* To identify features of a video recording device or application
* To combine filming techniques for a given purpose
* To determine what scenes will convey your idea
* To decide what changes I will make when editing
* To choose to reshoot a scene or improve later through editing
* To use split, trim and crop to edit a video
 | * To position 3D shapes relative to one another
* To use digital tools to modify 3D objects
* To combine objects to create a 3D digital artefact
* To use digital tools to

 accurately size 3 objects* To construct a 3D model which reflects a real world object
* To review an existing website (navigation bars, header)
* To create a new blank web page
* To add text to a web page
* To set the style of text on a web page
* To change the appearance of text
* To embed media in a web page
* To add web pages to a website
* To insert hyperlink between pages
* To insert hyperlinks to another site
* To preview a web page (different screen sizes)
 |