Oakgrove School - Curriculum Matrix

Year 3

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

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

To explore a new programming environment
To identify that commands have outcomes
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

To create questions with yes/no answers
To identify the object attributes needed to collect relevant data
To create a branching database
To explain why it is helpful for a database to be well structured
To identify objects using a branching database
To compare the information shown in a pictogram with a branching database

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

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

Year 4

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

To identify that sound can be digitally recorded
To use a digital device to record sound
To explain that a digital recording is stored as a file
To explain that audio can be changed through editing
To show that different types of audio can be combined and played together
To evaluate editing choices made

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

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 use data collected over a long duration to find information
To identify the data needed to answer questions
To use collected data to answer questions

To explain that digital images can be changed
To change the composition of an image
To describe how images can be changed for different uses
To make good choices when selecting different tools
To recognise that not all images are real
To evaluate how changes can improve an image

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

Year 5

To explain that computers can be connected together to form systems
To recognise the role of computer systems in our lives
To recognise how information is transferred over the internet
To explain how sharing information online lets people in different places work together
To contribute to a shared project online
To evaluate different ways of working together online

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

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 use a form to record information
To compare paper and computer-based databases
To outline how grouping and then sorting data allows us to answer questions
To explain that tools can be used to select specific data
To explain that computer programs can be used to compare data visually
To apply my knowledge of a database to ask and answer real-world questions

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 evaluate my vector drawing

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

Year 6

To identify how to use a search engine
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 recognise how we communicate using technology
To evaluate different methods of online communication

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

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
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To identify questions which can be answered using data
To explain that objects can be described using data
To explain that formulas can be used to produce calculated data
To apply formulas to data, including duplicating
To create a spreadsheet to plan an event
To choose suitable ways to present data

To use a computer to create and manipulate three-dimensional (3D) digital objects
To compare working digitally with 2D and 3D graphics
To construct a digital 3D model of a physical object
To identify that physical objects can be broken down into a collection of 3D shapes
To design a digital model by combining 3D objects
To develop and improve a digital 3D model

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