

# Progression of Skills in Computing (Years 1 to 6 following Teach Computing Curriculum)

## Year 1

### **(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
- To create rules for using technology responsibly

### **(Creating media-digital painting)**

- To describe what different freehand tools do
- To use the shape tool and line tool
- To make careful choices when painting a digital picture
- To explain why I used the tools I did
- To use a computer on my own to paint a picture

### **(Programming A-moving a robot)**

- 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
- To find more than one solution to a problem

### **(Creating media-digital writing)**

- 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 that I chose
- To compare writing on a computer with writing on paper

### **(Programming B-animations)**

- 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

## Year 2

### **(Computing systems and networks-IT around us)**

- To recognise the uses and features of information technology
- To identify information technology in the home
- To identify information technology beyond school
- To explain how information technology benefits us
- To show how to use information technology safely
- To recognise that choices are made when using information technology

### **(Creating media-digital photography)**

- To know what devices can be used to take photographs
- To use a digital device to take 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 images 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 (series of commands)
- To explain that programming projects can have code and artwork
- To design an algorithm
- To create and debug a program that I have written

### **(Creating media-digital music)**

- To say how music can make us feel (not a computing related progression step)
- To identify that there are patterns in music
- To describe how music can be used in different ways
- To show how music is made from a series of notes
- 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

## Year 3

### **(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
- I can identify that each sprite is controlled by the commands I choose
- 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

### **(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 (given) challenge

## Year 4

### **(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

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

### **(Creating media-Audio production)**

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

### **(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 program into parts

To create a program that uses count-controlled loops to produce a given outcome

### **(Creating media-photo editing)**

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

### **(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 which 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

## Year 5

### **(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 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

### **(Creating media-video production)**

To recognise video as moving pictures, which can include audio

To identify digital devices that can record video

To capture video using a digital device

To recognise the features of an effective video

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, e.g. number of times

To conclude that a loop can be used to repeatedly check whether a condition has been met

To design a physical project which includes selection

To create a controllable system which includes selection

### **(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 evaluate my vector drawing

### **(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

## Year 6

### **(Computing systems and networks-communication and collaboration)**

To explain the importance of internet addresses

To explain how data is transferred across the internet

To explain how sharing information online can help people 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-webpage 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

### **(Creating media 3D modelling)**

To recognise that you can work in 3D 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

### **(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 the 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