

AFET 'Teach Computing' Scheme of work

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 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
To compare painting a picture on a computer and on paper

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

Data and information – Grouping data

To label objects
To identify that objects 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

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 typing on a computer to writing on paper

Programming B - Programming 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 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 create and debug a program that I have written
To explain that programming projects can have code and artwork
To design an algorithm

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

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
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

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 (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

Year 5

Computing systems and networks - Systems and searching

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| 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

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| 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

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| 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

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| 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 |

Creating media – Introduction to vector graphics

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| 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 |

Programming B – Selection in quizzes

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| 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 |

Year 6

Computing systems and networks - Communication and collaboration

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| 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

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| 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

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| 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

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| 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

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| 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

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| 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 |



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