EYFS, Years 1 & 2 Learning Journey

BRIDGE FARM PRIMARY SCHOOL

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

Media (Creating music):
- To say how music can make us feel
- To identify there are patterns in music
- To show how music is made from a series of notes
- To create music for a purpose
- To review and refine computing work

Data (pictograms):
- To know we can count and compare objects using tally charts
- To recognise objects can be shown as pictures
- To create a pictogram
- To select objects by attributes and make comparisons
- To recognise people can be described by attributes
- To explain we can present information using a computer

CASE STUDY:
Build on programming in year 1 (Scratch Jnr) to sequence questions using an algorithm, adding artwork and complimentary blocks.

Lower KS2

Programming: 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 to predict the outcome of a program
- To explain projects can have code and artwork
- To design an algorithm
- To create and debug a program I have written

IT Around Us:
- To recognise the uses and features of IT
- To identify the uses of IT within school
- To identify IT beyond school
- To explain how IT helps us
- To explain how to use IT safely
- To recognise choices are made when using IT

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

CASE STUDY:
Using software to create a rhythm based on an animal of their choice.

Year 2

Cross curricular links:
Music (programming and making music)

PSHE: being a good and safe online citizen (eSafety)

Programming: Introduction to Animation
- To choose a command for a given purpose
- To show 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

CASE STUDY:
Use a mouse to drag objects to group them and answer questions.

Digital writing:
- To use a computer to write
- To add and remove text on a computer
- To know the look of a text can be changed on a computer
- Make careful choices when changing text
- To explain why I use the tools I choose
- To compare typing on a computer to writing on paper

Grouping data:
- To label objects
- To identify 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

Technology Around Us:
- To identify technology, a computer and its main parts
- To use a mouse in different ways
- To use a keyboard to type
- To use a keyboard to edit text
- To create rules for using technology safely

Digital painting:
- To describe what different freehand tools do.
- To use shape and line tools
- To make careful choices when making a digital picture
- To explain why I use the tools I choose
- To use a computer on my own to paint a picture
- To compare painting a picture on computer to paper.

Programming: 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 a sequence
- To plan a simple program
- To find more than one solution to a problem

CASE STUDY:
Use dots of different size and colour to make a picture

CASE STUDY:
Writing short algorithms and programs for BeeBots using logical reasoning for prediction.

Year 1

The 'WOW' Factor!

ELG:
- Use lego bricks and trial and error to build specified structures.
- Play simple games on iPads to show cause and effect through input/output
- Use different colours and materials to solve problems and create effective, child-led solutions.

Key to Learning

Early Learning Goals: Creating new materials:
- Safely use and explore a variety of materials, tools and techniques
- Experiment with colour, design and function

Managing Self
- Be confident to try new activities and show resilience and perseverance
- Explain reasons for rules and know right from wrong, behaving accordingly.

EYFS

EYFS, Y1/ 2 Computing Learning Journey

Years 3 & 4 Learning Journey

BRIDGE FARM PRIMARY SCHOOL

The 'WOW' Factor!

Upper KS2

Data logging:
- To explain that data gathered over time can be used to answer questions
- To use a digital device to collect information automatically
- To explain that a data logger collect '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

Programming (Repetition in games):
- To develop the use of count-controlled loops in a different programming environment
- To explain 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

CASE STUDY:
Use data loggers to collect data over temperatures of solids, liquids and gases and analyse results.

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

CASE STUDY:
Taking photos, retouching and manipulating to make real images appear fake.

Networks:
- To describe how networks physically connect to other networks
- To recognised how networked devices make up the internet
- To outline how websites can be shared via the WWW
- To describe how content can be added and accessed on the WWW
- To describe how content on the WWW is created by people
- To evaluate the consequences of unreliable content

The 'WOW' Factor!

The 'WOW' Factor!

Programming (Repetition):
- To identify that accuracy in programming is important
- To create a program in 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 using count-controlled loops

Creating Media (audio editing):
- 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

CASE STUDY: Create a game and use a clear algorithm to make it work and collect points. Debug accurately.

Cross curricular links:
Music (programming and making music)

PSHE: being a good and safe online citizen (eSafety)

Science: Data (solids, liquids and gases)

Year 4

Creating media (animation):
- To explain that animation is a sequence of drawings or photos
- To relate animated movement with a sequence of images
- To plan an animation
- To identify the need to work carefully and consistently
- To review and improve an animation
- To evaluate the impact of adding other media to an animation

Networks (Connecting Computers)
- To explain how digital devices function
- To identify input and output devices
- To identify 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

Programming (Events and actions):
- To explain how a sprite moves in an existing object
- 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 program

CASE STUDY:
Make a stop-animation film adding music and text.

The 'WOW' Factor!

Data (branching databases):
- To create questions with yes/no answers
- To identify object attributes needed to collect relevant data
- To create a branching database
- To explain why it is useful for a database to be well structured
- To identify objects using a branching database
- To compare information in a pictogram with a branching database

Programming (sequencing sounds):
- To explore a new programming environment
- To identify that commands have an outcome
- To explain a program has a start
- To recognise a sequence of commands has an order
- To change appearance of a 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 suit different purposes
- To consider the benefits of desktop publishing

Year 3

CASE STUDY:
Design and create a wanted poster for the 'Iron Man' on Word/Publisher

Years 5 & 6 Learning Journey

BRIDGE FARM PRIMARY SCHOOL

Transition to Year 7: KS3

The 'WOW' Factor!

Programming (variables and Python):
- To create a program to run a controllable device
- To explain that selection can control the flow of a program
- To update a variable with 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 programme that uses inputs and outputs on a controllable device
- To understand html code and how it is constructed
- Write a set of instructions in html code.

Creating Media (3D Modelling):
- To use a computer to create and manipulate 3D 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 shapes
- To develop and improve a digital 3D model

CASE STUDY: Development of coding skills using Scratch and variables. Then using Python and HTML to create simple images.

CASE STUDY: Design and build a website on a topic of interest. Including links and appropriate navigation.

Programming (Variables):
- 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:
- To identify questions that 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

The 'WOW' Factor!

The 'WOW' Factor!

Creating media (Webpage creation):
- To review and 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 understand the implication of linking to content owned by other people

Networks:
- To identify how to use a search engine
- To describe how search engines select results
- To explain how search engines 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

CASE STUDY: Use search engines to look for topic-related information. Discuss why the ranking is like it is and which site in the ranking had the best/most reliable information. Why?

Cross curricular links:
Music (programming and making music)

PSHE: being a good and safe online citizen (eSafety)

Science: Data (solids, liquids and gases)

Year 6

Databases:
- 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 display data visually
- To apply my knowledge of a database to ask and answer real life problems.

Creating media:
- 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 (Selection):
- To explain how selection is used in computer programs
- To know a conditional statement connects a condition to an outcome (if I do that, then…)
- To explain how selection directs the flow of a program
- To design a program that uses selection
- To create a program that uses selection
- To evaluate my program

CASE STUDY: Use crumbles to create a program on Scratch and see it work physically using 'if/then' conditions.

The 'WOW' Factor!

Programming (Selection):
- 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 repeatedly to 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

Creating media (Video editing):
- 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

Networks:
- 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 online project
- To evaluate different ways of working together online

Year 5

CASE STUDY: Create a storyboard and film a short video related to the Vikings/Dragons. Children to storyboard, film and edit incorporating music and sound effects. They will then evaluate their finished piece.

Y5/6 Computing Learning Journey