'Love the Adventure of Learning'
The Batt C.E. School

Computing Curriculum

Computing Knowledge Coverage					
Year	**Autumn**		**Spring**		**Summer**
R	Children have the opportunity to explore a range of mechanical and technological equipment e.g.wind-up toys, pulleys, sets of cogs with pegs and boards, audio-visual and recording equipment, cameras, computers, ipads.				
1	Technology around us.	Digital Painting	Moving a Robot	Grouping Data	Digital Writing	Programming and Animations
2	Information Technology around us	Digital Photography	Robot Algorithms	Pictograms	Making Music	Programming Quizzes
3	Connecting Computers	Stop Frame Animation	Sequencing Sounds	Branching Databases	Desktop Publishing	Events and Action in Programmes
4	The Internet	Audio Editing	Repetition in Shapes	Data Logging	Photo Editing	Repetition in Games
5	Sharing Information	Video Editing	Selection in Physical Computing	Flat-File Database	Vector Drawing	Selection in Quizzes
6	Internet communication	Webpage Creation	Variables in Games	Introduction of Spreadsheets	3D Modelling	Sensing

- Online Safety is taught at the beginning of each term using Project Evolve,

- KS2 have the flexibility to use BBC Dance Mat Typing to develop accurate writing whilst increasing their speed.

Computing Skills Progression

Aspect	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Computing networks and systems	Knows how to operate simple equipment, e.g. turns on CD player, uses a remote control, can navigate touch-capable technology with support Develops digital literacy skills by being able to access, understand and interact with a range of technologies Uses ICT hardware to interact with age appropriate computer software	**Technology around us.** To identify technology To recognise the uses and features of information technology To identify information technology To explain how information technology benefits us To show how to use technology safely To create rules for using technology responsibly To recognise the way digital devices change the way we work	**IT Around us** To identify technology To recognise the uses and features of information technology To identify information technology To recognise choices are made when using technology To explain how information technology benefits us To show how to use technology safely To create rules for using technology responsibly To recognise digital devices can change the way we work	**Connecting Computers** Know how digital devices function Explain how a computer network can be used to share information	**The Internet** To know how how networks connect to other networks To know how information can be shared via the www To know how to be safe using the internet To understand the benefits of the www To understand the limitations of the www	**Sharing Information** To know that computers can be connected with other devices and share information To recognise that information can be shared across the internet using agreed protocols To understand that connections between computers mean we can share stored files To understand that computers allow working together in different places To recognise that computer collaborations can be public or private	To know how to use and compare search engines To understand the importance on outcome of the search terms To evaluate the results from searches and realise that advertising can influence To be able to choose the right internet communication for the purpose To evaluate different types of online communication
Programming A	Shows an interest in technological toys with knobs or pulleys, real	**Moving a Robot** To choose a series of words that can be enacted as a	**Algorithms** To know that a series of instructions is s	**Sequence in Music/Sounds** To be able to retrieve	**Repetition in Shapes** To understand that we can use a loop	**Selection in Physical Computing** Know how to use a	**Communication** To understand and identify the variable in an existing

	objects such as cameras, and touchscreen devices such as mobile phones and tablets

Shows skill in making toys work by pressing parts or lifting flaps to achieve effects such as sound, movements or new images | programme
To choose a series of commands that can run as a programme
To run a programme on a device | sequence
To recall that as series of instructions can be issued before they are enacted
Use logical reasoning to predict the outcome of a programme | information from different levels of a branching database
To know how to answer yes or no questions | command in a programme to repeat instructions
To know that in programming indefinite loops and count controlled loops
To now that you can programme a loop to stop after a specific number of times | condition in, on if then statement to produce a given outcome
To show that a condition can switch program flow in one of two ways
To understand to effect of loops and sequences | programme
Know how to experiment with the existing variables
To know how to decide where to put a variable in a game
To know how to update a variable as a user input
To use an event in a programme to update a variable
Know how to use a variable in a conditional statement to control the flow of a programme |
| **Programming B** | Plays with a range of materials to learn cause and effect, for example, makes a string puppet using dowels and string to suspend the puppet

Completes a simple program on electronic devices | **Introduction to animation**
To choose a series of words that can be enacted as a programme
To choose a series of commands that can run as a programme
To run a programme on a device | **Introduction to Quizzes**
To know that a series of instructions is s sequence
To recall that as series of instructions can be issued before they are enacted
Use logical reasoning to predict the outcome of a programme | **Events and actions in programs**
To build a sequence of commands.
To combine commands in a programme.
To order commands in a programme.
To create a sequence of commands to produce a given outcome. | **Repetition in Games**
To understand that we can use a loop command in a programme to repeat instructions
To know that in programming indefinite loops and count controlled loops
To now that you can programme a loop to stop after a specific number of times | **Selection in Quizzes**
Know how to use a condition in, on if then statement to produce a given outcome
To show that a condition can switch program flow in one of two ways
To understand to effect of loops and sequences | **Variables in Games**
To understand and identify the variable in an existing programme
Know how to experiment with the existing variables
To know how to decide where to put a variable in a game
To know how to update a variable as a user input
To use an event in a programme to update a variable
Know how to use a variable in a conditional statement |

							to control the flow of a programme
Creating Media	Can create content such as a video recording, stories, and/or draw a picture on screen	**Digital Writing** To use a computer to write To enter text into a computer To change the appearance of text in a computer To recognise and explain that in formation on a computer can be stored, retrieved and shared	**Digital Photography** To capture a digital image To improve the quality of photos taken To apply processing to improve images To recognise and explain that in formation on a computer can be stored, retrieved and shared	**Animations** To know that an animation is a sequence of images To know the relationship between frames and motion Know how to decompose a story into characters, stages events To know the effect of adding other media	**Audio Media** To recognise sound can be digitally recorded To know some digital devices have microphones To know that recorded audios are stored as a file To know that audio can be edited and altered To know that sound can be layered To know the results that editing choices make	**Vector Media** To recognise that tools can be changed to produce different outcomes To recognise that an image comprises of separate objects To understand that images are layered To combine options to achieve a desired effect To recognise that vector images can be scaled without impact on quality	**3D Modelling** To create 3d graphical objects on a computer screen in a 3d space To reposition, rotate, resize and recolour an object in 3d To understand blank objects must be used as place holders to create holes To understand role scale has in design
Creating Media		**Digital Painting** To use a computer to paint a picture To digitally make marks on a computer screen To use basic tools to create an image To use wider tools to create an image To recognise and explain that in formation on a computer can be stored, retrieved and shareduter can be stored, retrieved		**Desktop Media** To understand how text and images can be used together to convey information To recognise that a document is structured with placeholders To know that text can be edited To know that different layouts suit different purposes	**Photo Editing** To know that digital images can be manipulated To know that images can be changed for different purposes To which tool to use for a particular purpose To know that not all images are real To consider the impact of change on the quality of the image	**Video Editing** To know how to use a computer to make a video To save and export a video file	**Webpage Creation** To know how to create a web page adding and changing position and appearance of text To know how to add images and other content to a web page including hyperlinks

		and shared					
Data and Information	Knows that information can be retrieved from digital devices and the internet Can use the internet with adult supervision to find and retrieve information or activities of interest to them	**Grouping Data** To identify that objects can be counted To recognise that information can be presented To recognise that information could be presented in different ways	**Pictograms** Know how to use a tally chart to collect data Compare objects that have been grouped by attribute Suggest appropriate headings for tally charts and pictograms Know a computer can be used to present information KNow why information should not be shared	**Branching Databases** To be able to retrieve information from different levels of a branching database To know how to answer yes or no questions	**Data Logging** To suggest questions that can be answered using a data set To identify the data we need to answer questions To recognise that a sensor can be used as an input device for data collection To know that a data logger captures 'data points' from sensors over time To know how to export data in different formats	**Flat-File Databases** To design an approach to answer a question using a database To explain that computer programs can be used to organise data Be able to design a structure for a flat-file database To understand how to set and sort attributes To select a graph to visually compare data	**Spreadsheets** To identify and propose questions that be answered using data To understand that computers deal with different data types in different ways To understand that formulas can be used to produce calculated data Be able to evaluate the results in relation to the question posed
Making Music			To use a computer to create a piece of music To say how music can make us think and feel To recognise music is made by humans To identify that there are patterns in music To recognise music is made by a series of notes To know that				

			music can be created for a purpose Know how to review and refine computer work To recognise and explain that in formation on a computer can be stored, retrieved and shared				