


Threshold concepts of Computing 			
Coding	Connect	Communicate	Collect
This concept involves developing an understanding of instructions, logic and sequences.	This concept involves developing an understanding or how to safely connect with others (e-safety).	This concept involves using software to communicate one's ideas.	This concept involves developing an understanding of databases and their uses.

Map of topics

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
<b>Year 1</b>	Computing systems and networks - Technology around us (1.1)	Creating media – Digital painting (1.2)	Programming A – Moving a robot (1.3)	Data and information – Grouping data (1.4)	Creating media – digital writing (1.5)	Programming B - programming animation (1.6)
<b>Year 2</b>	Computing systems and networks – Information technology around us (2.1)	Creating media – Digital photography (2.2)	Programming A – Robot algorithms (2.3)	Data and information – Pictograms (2.4)	Creating media – Digital music (2.5)	Programming B – Programming quizzes (2.6)
<b>Year 3</b>	Computing systems and networks - Connecting Computers (3.1)	Creating media - Stop-frame animation (3.2)	Programming A – Sequencing sounds (3.3)	Data and information – Branching databases (3.4)	Creating media – Desktop publishing (3.5)	Programming B – Events and actions in programs (3.6)
<b>Year 4</b>	Computing systems and networks – The internet (4.1)	Creating media – Audio production (4.2)	Programming A – Repetition in shapes (4.3)	Data and information – Data logging (4.4)	Creating media – Photo editing (4.5)	Programming B – Repetition in games (4.6)
<b>Year 5</b>	Computing systems and networks – Systems and searching (5.1)	Creating media – Video production (5.2)	Programming A – Selection in physical computing (5.3)	Data and information – Flat-file databases (5.4)	Creating media – Introduction to vector graphics (5.5)	Programming B – Selection in quizzes (5.6)
<b>Year 6</b>	Computing systems and networks – Communication and collaboration (6.1)	Creating media – Webpage creation (6.2)	Programming A – Variables in games (6.3)	Data and information – Introduction to spreadsheets (6.4)	Creating media – 3D modelling (6.5)	Programming B – Sensing movement (6.6)

## Gilbert Colvin Primary School – Computing Curriculum Map



### Year 1

#### eSafety

use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.

Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
<b>Computing systems and networks - Technology around us (1.1)</b>	<b>Creating media – Digital painting (1.2)</b>	<b>Programming A – Moving a robot (1.3)</b>	<b>Data and information – Grouping data (1.4)</b>	<b>Creating media – digital writing (1.5)</b>	<b>Programming B - programming animation (1.6)</b>
<b>Pupils should be taught to:</b> Recognise technology in school and using it responsibly.	<b>Pupils should be taught to:</b> Choose appropriate tools in a program to create art and make comparisons with working non-digitally.	<b>Pupils should be taught to:</b> Write short algorithms and programs for floor robots and predicting program outcomes.	<b>Pupils should be taught to:</b> Explore object labels, then using them to sort and group objects by properties.	<b>Pupils should be taught to:</b> Use a computer to create and format text, before comparing to writing non – digitally.	<b>Pupils should be taught to:</b> Design and program the movement of a character on a screen to tell stories.

## Gilbert Colvin Primary School – Computing Curriculum Map



### Year 2

#### eSafety

use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.

Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
<b>Computing systems and networks – Information technology around us (2.1)</b>	<b>Creating media – Digital photography (2.2)</b>	<b>Programming A – Robot algorithms (2.3)</b>	<b>Data and information – Pictograms (2.4)</b>	<b>Creating media – Digital music (2.5)</b>	<b>Programming B – Programming quizzes (2.6)</b>
<b>Pupils should be taught to:</b> Identify IT and how its responsible use improves our world in school and beyond.	<b>Pupils should be taught to:</b> Capture and change digital photographs for different purposes.	<b>Pupils should be taught to:</b> Create and debug programs, and use logical reasoning to make predictions.	<b>Pupils should be taught to:</b> Collect data in tally charts and use attributes to organise and present data on a computer.	<b>Pupils should be taught to:</b> Use a computer as a tool to explore rhythms and melodies, before creating a musical composition.	<b>Pupils should be taught to:</b> Design algorithms and programs that use events to trigger sequences of code to make an interactive quiz.

Gilbert Colvin Primary School – Computing Curriculum Map					
Year 3					
eSafety					
use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.					
Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
<b>Computing systems and networks - Connecting Computers (3.1)</b>	<b>Creating media - Stop-frame animation (3.2)</b>	<b>Programming A – Sequencing sounds (3.3)</b>	<b>Data and information – Branching databases (3.4)</b>	<b>Creating media – Desktop publishing (3.5)</b>	<b>Programming B – Events and actions in programs (3.6)</b>
<b>Pupils should be taught to:</b> Identify that digital devices have inputs, processes and outputs, and how devices can be connected to make networks.	<b>Pupils should be taught to:</b> Capture and edit digital still images to produce a stop-frame animation that tells a story.	<b>Pupils should be taught to:</b> Create sequences in a block-buster programming language to make music.	<b>Pupils should be taught to:</b> Build and use branching databases to group objects using yes/no questions.	<b>Pupils should be taught to:</b> Create documents by modifying text, images and page layouts for a specified purpose.	<b>Pupils should be taught to:</b> Write algorithms and programs that use a range of events to trigger sequences of actions.

Gilbert Colvin Primary School – Computing Curriculum Map					
Year 4					
eSafety					
use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.					
Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
<b>Computing systems and networks – The internet (4.1)</b>	<b>Creating media – Audio production (4.2)</b>	<b>Programming A – Repetition in shapes (4.3)</b>	<b>Data and information – Data logging (4.4)</b>	<b>Creating media – Photo editing (4.5)</b>	<b>Programming B – Repetition in games (4.6)</b>
<b>Pupils should be taught to:</b> Recognise the internet as a network of networks including WWW, and why we should evaluate online content.	<b>Pupils should be taught to:</b> Capture and edit audio to produce a podcast, ensuring that copyright is considered.	<b>Pupils should be taught to:</b> Use a text-based programming language to explore count-controlled loops when drawing shapes.	<b>Pupils should be taught to:</b> Recognise how and why data is collected over time, using data loggers to carry out an investigation	<b>Pupils should be taught to:</b> Manipulate digital images, and reflect on the impact of changes and whether the required purpose is fulfilled.	<b>Pupils should be taught to:</b> Use a block-based programming language to explore count-controlled and infinite loops when creating a game.

**Gilbert Colvin Primary School – Computing Curriculum Map**  
**Year 5**



**eSafety**  
 use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.

Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
<b>Computing systems and networks – Systems and searching (5.1)</b>	<b>Creating media – Video production (5.2)</b>	<b>Programming A – Selection in physical computing (5.3)</b>	<b>Data and information – Flat-file databases (5.4)</b>	<b>Creating media – Introduction to vector graphics (5.5)</b>	<b>Programming B – Selection in quizzes (5.6)</b>
<b>Pupils should be taught to:</b> Recognise IT systems in the world and how some can enable searching on the internet.	<b>Pupils should be taught to:</b> Plan, capture and edit video to produce a short film,	<b>Pupils should be taught to:</b> Explore conditions and selection using a programmable microcontroller.	<b>Pupils should be taught to:</b> Use a database to order data and create charts to answer questions,	<b>Pupils should be taught to:</b> Create images in a drawing program by using layers and groups of objects.	<b>Pupils should be taught to:</b> Explore selection in programming to design and code an interactive quiz.

**Gilbert Colvin Primary School – Computing Curriculum Map**  
**Year 6**



**eSafety**  
 use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact on the internet or other online technologies..

Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
<b>Computing systems and networks – Communication and collaboration (6.1)</b>	<b>Creating media – Webpage creation (6.2)</b>	<b>Programming A – Variables in games (6.3)</b>	<b>Data and information – Introduction to spreadsheets (6.4)</b>	<b>Creating media – 3D modelling (6.5)</b>	<b>Programming B – Sensing movement (6.6)</b>
<b>Pupils should be taught to:</b> Explore how data is transferred by working collaboratively online.	<b>Pupils should be taught to:</b> Design and create webpages, giving consideration to copyright, aesthetics and navigation.	<b>Pupils should be taught to:</b> Explore variables when designing and coding a video game.	<b>Pupils should be taught to:</b> Answer questions by using spreadsheets to organise and calculate data.	<b>Pupils should be taught to:</b> Plan, develop and evaluate 3D computer models of physical objects.	<b>Pupils should be taught to:</b> Design and code a project that captures inputs from a physical device.

<b>National Curriculum Statements:</b>	
<b>Key Stage 1</b>	<ul style="list-style-type: none"> <li>• understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions (1.3, 1.6, 2.3, 2.6)</li>   <li>• create and debug simple programs (1.3, 1.6, 2.3, 2.6)</li>   <li>• use logical reasoning to predict the behaviour of simple programs (1.3, 1.6, 2.3, 2.6)</li>   <li>• use technology purposefully to create, organise, store, manipulate and retrieve digital content (1.1, 1.2, 1.4, 1.5, 2.1, 2.2, 2.4, 2.5, 2.6)</li>   <li>• recognise common uses of information technology beyond school (1.1, 1.3, 2.1, 2.2)</li>   <li>• use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies (1.1, 1.4, 1.5, 2.1, 2.2, 2.3., 2.4)</li> </ul>
<b>Key Stage 2</b>	<ul style="list-style-type: none"> <li>• design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts (3.3, 3.6, 4.3, 4.6, 5.3, 5.6, 6.1, 6.3, 6.6)</li>   <li>• use sequence, selection, and repetition in programs; work with variables and various forms of input and output (3.1, 3.3, 3.6, 4.3, 4.4, 4.6, 5.3, 5.6, 6.3, 6.6)</li>   <li>• use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs (3.3, 3.6, 4.3, 4.6, 5.3, 5.6, 6.3, 6.6)</li>   <li>• understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration (3.1, 4.1, 5.1, 6.1)</li>   <li>• use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content (3.5, 4.1, 4.2, 4.5, 5.2, 5.4, 6.2)</li> <li>• select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information (All units)</li>   <li>• use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact (3.2, 3.4, 4.1, 4.2, 4.5, 5.1, 5.2, 6.1, 6.2, 6.5)</li> </ul>