HARDWICK PRIMARY SCHOOL
Structure and progression of the Computing units of work

Curriculum Strand	COMPUTING SYSTEMS AND NETWORKS	CREATING MEDIA	CREATING MEDIA	DATA AND INFORMATION	PROGRAMMING A	PROGRAMMING B
YEAR 1: Unit	**Technology around us**	**Digital painting**	**Digital writing**	**Grouping data**	**Moving a robot**	**Programming animations**
Unit summary	Recognising technology in school and using it responsibly.	Choosing appropriate tools in a program to create art, and making comparisons with working non-digitally.	Using a computer to create and format text, before comparing to writing non-digitally.	Exploring object labels, then using them to sort and group objects by properties.	Writing short algorithms and programs for floor robots, and predicting program outcomes.	Designing and programming the movement of a character on screen to tell stories.
YEAR 2: Unit	**Information technology around us**	**Digital photography**	**Making music**	**Pictograms**	**Robot algorithms**	**Programming quizzes**
Unit summary	Identifying IT and how its responsible use improves our world in school and beyond.	Capturing and changing digital photographs for different purposes.	Using a computer as a tool to explore rhythms and melodies, before creating a musical composition.	Collecting data in tally charts and using attributes to organise and present data on a computer.	Creating and debugging programs, and using logical reasoning to make predictions.	Designing algorithms and programs that use events to trigger sequences of code to make an interactive quiz.
YEAR 3: Unit	**Connecting computers**	**Stop-frame animation**	**Desktop publishing**	**Branching databases**	**Sequencing sounds**	**Events and actions in programs**
Unit summary	Identifying that digital devices have inputs, processes, and outputs, and how devices can be connected to make networks.	Capturing and editing digital still images to produce a stop-frame animation that tells a story.	Creating documents by modifying text, images, and page layouts for a specified purpose.	Building and using branching databases to group objects using yes/no questions.	Creating sequences in a block-based programming language to make music.	Writing algorithms and programs that use a range of events to trigger sequences of actions.

YEAR 4: Unit	The Internet	Audio editing	Photo editing	Data logging	Repetition in shapes	Repetition in games
Unit summary	Recognising the internet as a network of networks including the WWW, and why we should evaluate online content	Capturing and editing audio to produce a podcast, ensuring that copyright is considered.	Manipulating digital images, and reflecting on the impact of changes and whether the required purpose is fulfilled.	Recognising how and why data is collected over time, before using data loggers to carry out an investigation.	Using a text-based programming language to explore count-controlled loops when drawing shapes.	Using a block-based programming language to explore count-controlled and infinite loops when creating a game.
YEAR 5: Unit	**Sharing information**	**Video editing**	**Vector drawing**	**Flat-file databases**	**Selection in physical computing**	**Selection in quizzes**
Unit summary	Identifying and exploring how information is shared between digital systems.	Creating images in a drawing program by using layers and groups of objects.	Capturing and editing digital still images to produce a stop-frame animation that tells a story.	Using a database to order data and create charts to answer questions.	Exploring conditions and selection using a programmable microcontroller.	Exploring selection in programming to design and code an interactive quiz.
YEAR 6: Unit	**Internet communication**	**Webpage creation**	**3D modelling**	**Introduction to spreadsheets**	**Variables in games**	**Sensing**
Unit summary	Recognising how the WWW can be used to communicate and be searched to find information.	Designing and creating webpages, giving consideration to copyright, aesthetics, and navigation.	Planning, developing, and evaluating 3D computer models of physical objects.	Answering questions by using spreadsheets to organise and calculate data.	Designing and creating webpages, giving consideration to copyright, aesthetics, and navigation.	Designing and coding a project that captures inputs from a physical device.

Key Stage 1 Computing Curriculum – National Curriculum Coverage

National Curriculum Coverage — Key Stage 1 Computing Curriculum	1.1 Technology around us	1.2 Digital painting	1.3 Moving a robot	1.4 Grouping data	1.5 Digital writing	1.6 Programming animations	2.1 Information technology around us	2.2 Digital photography	2.3 Robot algorithims	2.4 Pictograms	2.5 Making music	2.6 Programming quizzes
Understand what algorithms are, how they are implemented as programs on digital devices, and that programs execute by following precise and unambiguous instructions			✓			✓			✓			✓
Create and debug simple programs			✓			✓			✓			✓
Use logical reasoning to predict the behaviour of simple programs			✓			✓			✓			✓
Use technology purposefully to create, organise, store, manipulate and retrieve digital content	✓	✓		✓	✓	✓	✓	✓		✓	✓	✓
Recognise common uses of information technology beyond school	✓		✓	✓			✓	✓				
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	✓				✓	✓	✓			✓		

Lower Key Stage 2 Computing Curriculum – National Curriculum Coverage

National Curriculum Coverage — Years 3 and 4	3.1 Connecting computers	3.2 Stop-frame animation	3.3 Sequencing sounds	3.4 Branching databases	3.5 Desktop publishing	3.6 Events and actions in programs	4.1 The Internet	4.2 Audio editing	4.3 Repetition in shapes	4.4 Data logging	4.5 Photo editing	4.6 Repetition in games
Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts			✓			✓			✓			✓
Use sequence, selection, and repetition in programs; work with variables and various forms of input and output	✓		✓			✓			✓	✓		✓
Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs			✓			✓			✓			✓
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	✓						✓					
Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content					✓		✓	✓			✓	
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	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact							✓	✓			✓	

Upper Key Stage 2 Computing Curriculum – National Curriculum Coverage

National Curriculum Coverage — Years 5 and 6	5.1 Sharing information	5.2 Video editimg	5.3 Selection in physical computing	5.4 Flat-file databases	5.5 Vector drawing	5.6 Selection in quizzes	6.1 Internet communication	6.2 Webpage creation	6.3 Variables in games	6.4 Introduction to spreadsheets	6.5 3D modelling	6.6 Sensing
Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts	✓		✓			✓	✓		✓			✓
Use sequence, selection, and repetition in programs; work with variables and various forms of input and output	✓		✓			✓			✓			✓
Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs			✓			✓			✓			✓
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	✓						✓					
Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content		✓		✓			✓	✓				
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	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact	✓	✓						✓	✓		✓	