Computing Long term plans (Sept 2022):

These long term plans outline the content from the National Curriculum for each Key Stage. Plans are based on a two year rolling plan with one unit of work per term, with flexibility around which term each unit is implemented.

		Autumn 1		Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Computing Key Stage 1 **A** **Even years**	Source/Unit	**Purple Mash Unit 1.1 On-line Safety**	**Purple Mash Unit 1.3 Pictograms**	**Switched on Computing Unit 1.6 We are celebrating**	**Purple Mash Unit 2.5 Effective Searching**	**Purple Mash Unit 1.7 Coding**	**Purple Mash Unit 1.5 Maze Explorers**	**Purple Mash Unit 2.6 Creating Pictures**
	Context	Exploring Purple Mash: Safe log ins, avatars, creating a picture in Purple Mash, saving their work, opening saved work, Purple Mash Topics, Purple Mash Tools	Investigate how to display information in a pictogram.	Creating a greetings card digitally – choose a festival, e.g. Harvest, Christmas.	Reinforce good searching online.	For children with no prior coding knowledge. Children use the Chimp level activities in 2Code.	Direction, instructions, debug in the context of algorithms using 2Logo. Create a set of instructions to direct a Beebop	Explore the templates and functions used to paint a digital picture.
	Programme of Study Focus	Digital Literacy	Information Technology	Information Technology	Internet and email	Computer Science	Computer Science	Information Technology
	Suggested software	Purple Mash, Google Classroom	2Connect 2Count	2Publish	Google Chrome	Purple Mash 2Code	Purple Mash 2Logo	Purple Mash 2PaintAPicture
	Key learning	To log in safely How to find saved work in the Online Work area and find teacher comments How to search Purple Mash to find resources To become familiar with the icons and types of resources available in the Topics section Add pictures and text to work Explore the Tools and Games section of Purple Mash How to open, save and print The importance of logging out.	Data can be represented in picture format How to contribute to a class pictogram Use a pictogram to record the results of an experiment	Develop basic keyboard/ mouse skills Find and select images on the web How to store and retrieve files How to combine text and images	Understand the terminology associated with searching Gain a better understanding of searching on the Internet Create a leaflet to help someone search for information on the Internet	Understand what instructions are and predict what might happen Use code to make a computer program Understand what object, actions and events are Use an event to control an object Understand how code executes when a program is run Understand what backgrounds and objects are. Plan and make a computer program	The functionality of the direction keys How to programme an electronic device to follow simple instructions How to create and debug a set of instructions (algorithm) Use the additional direction keys as part of an algorithm How to change and extend the algorithm list Create a longer algorithm for an activity	The functions of the 2Paint a Picture tool Learn about and recreate a range of artistic styles using the line, pattern, fill and ecollage toolbars
	Key vocabulary	Alert; avatar; button; device; file name; icon; log in/out; menu; private; password	Collect data; compare; data; pictogram; results; title	Text; typist; typing; keyboard; open; template; font; Save; image; search; website; paste; copy; undo; button; folder; edit; store	Digital footprint; domain; internet; search engine; web address; web page; world wide web; web address; web site	Action; code; event; algorithm; command; execute; background; debug/ debugging; input	Algorithm; challenge; command; direction; instruction; left; right; route; undo; control	Art; palette; style; fill; erase; do/ undo; outline; eraser; colour; tool kit; thickness
	Milestones (progression mapping) End of Y2 expectations	Use technology safely – understanding the age appropriate rules for safe internet use. *Understand why it is important to keep personal information private.* Know where to go for help if concerned	Organise, retrieve and manipulate digital content.	Organise, retrieve and manipulate digital content.	Use a chosen website and move between pages under instruction.	Create a series of instructions and plan a journey for a programmable toy. *Understand that algorithms are used on digital devices.* Predict what the outcome of a simple program will be (logical reasoning).	Create a series of instructions and plan a journey for a programmable toy. *Understand that algorithms are used on digital devices.*	Create, store and retrieve digital content. *Organise, retrieve and manipulate digital content.*

		Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Computing Key Stage 1 **B** **Odd years**	**Source/Unit**	**Exploring the Chromebook** **Alternative: Repeat Unit 1.1 On-line Safety (see Year A above)**	**Purple Mash Unit 2.2 On-line Safety**	**Purple Mash Unit 1.6 Animated Story Books**	**Purple Mash Unit 2.1 Coding /Crash course**	**Purple Mash Unit 2.4 Questioning**	**Switched on Computing Unit 2.3 We are photographers**
	Context	Passwords, logging on and keyboard skills; opening, saving and printing documents; navigating to Purple Mash, Google Classroom and Bidford Primary's portal	Effective searching and sharing, Email, digital footprint.	Develop the skills to create, organise, store, manipulate and retrieve digital content through the creation of their own animated story book.	Explore program design and put computational thinking into practice For children who haven't used 2Code in year 1, teach the Coding Catch-up unit instead.	Create simple binary trees and search databases to find information and answer questions.	Photographs
	Programme of Study Focus	Digital Literacy	Digital Literacy	Information Technology	Computer Science	Computer Science	Information Technology
	Suggested software	Bidford Primary's Portal Purple Mash: 2Type Google classroom	2Respond	Purple Mash: 2CreateAStory	Purple Mash: 2Code	Purple Mash: 2Question, 2Investigate	Picasa, Pixir, iPhoto, Snapseed
	Key learning	How to switch and log on to a chrome book *How to* enter passwords and keep them safe How to save, open and find work areas *How to open applications and programs on the chrome book*	To refine searches *Use digital technology to share work* *Issues of sharing on the Internet* Email as a communication tool *How to talk to others online* Open/send simple communications on email *Online information leaves a digital footprint* How to keep personal data and hardware secure	E-books and the 2Create a Story tool *Add animation/ sound to a story* Develop a complex story, adding backgrounds and copied/ pasted pages.	What is an algorithm *Create a computer program using an algorithm* Create a program using a given design *Understand the collision detection event* Understand that algorithms follow a sequence *Design an algorithm that follows a timed sequence* That different objects have different properties *What different events do in code* The function of buttons in a program *Debug simple programs*	Learn about data handling tools that can give more information than pictograms. *Use yes/no questions to separate information* Construct a binary tree to identify items *Use a binary tree database to answer questions* Use a database to answer more complex search questions *Use the Search tool to find information*	Use a digital camera or camera app *Take digital photos* Edit and enhance photos Create a shared portfolio
	Key vocabulary		Attachment; digital footprint; email; filter; internet; personal information; private information; search; secure; share	Animation; background; clip art; e-book; edit; font; sound; effect; text	Action; button; design mode; algorithm; collision detection; event; background; debug; key; nesting	Pictogram; collate; avatar; question; binary tree; database; data	Digital; camera; software; enhance; pictures; screen; frame; button; focus; image; clear; sharp; edit;
	Milestones (progression mapping) End of Y2 expectations	Understand why it is important to keep personal information private. *Use a range of software for similar purposes*	Use technology safely – understanding the age appropriate rules for safe internet use. *Understand why it is important to keep personal information private.* Know where to go for help if concerned.	Record sound and play back. Create, store and retrieve digital content. *Organise, retrieve and manipulate digital content.*	Create a series of instructions and plan a journey for a programmable toy. *Understand that algorithms are used on digital devices.* *Write a simple program and test it.*	Create, store and retrieve digital content. *Understand that programs require precise instructions.*	Use a camera to take a framed picture. *Organise, retrieve and manipulate digital content.*

		Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1		Summer 2
Computing Lower Key Stage 2 A **Even years**	**Source/Unit**	**Purple Mash Unit 3.9 Presenting with MS Powerpoint or Google Slides**	**Purple Mash Unit 3.2 On-line safety**	**Purple Mash Unit 4.6 Animation**	**Purple Mash Unit 3.1 Coding**	**Purple Mash Unit 4.7 Effective searching**	**Purple Mash Unit 3.8 Graphing**	**Purple Mash Unit 3.3 Spreadsheets** ***NB: Alternative unit: Purple Mash 'Crash Course'***
	Context	Producing a presentation (Cross Curricular topic)	safe passwords, fact or fiction (spoof websites), appropriate content and ratings	Create a stop motion animation	Creating a simple educational game	Effective internet searching.	Solve an investigation and present the results in graphic form	Collecting, recording and analysing data
	Programme of Study Focus	Information Technology	Digital Literacy	Information Technology	Computer Science	Information Technology	Information Technology	Information Technology
	Suggested software	Google Slides or Microsoft PowerPoint	2Connect 2Blog	Purple Mash 2Animate	Purple Mash 2Code	Google chrome	Purple Mash 2Graph	Purple Mash 2Calculate
	Key learning	Understand the purpose of the Slides tool. *Add slides to presentations.* Add media to presentations. *Format text appropriately.* Add shapes and lines to enhance a presentation *Use the skills learnt to design and create an engaging presentation.*	Know what makes a safe password *Learn methods for keeping passwords safe* Understand how the Internet can be used in effective communication *Understand how a blog can be used to communicate with a wider audience* Consider the truth of the content of websites *Learn about the meaning of age restrictions symbols on digital media and devices.*	What makes a good animated film or cartoon *Learn how animations are created by hand* Find out how animation can be created in a similar way using the computer *Learn about onion skinning in animation* Add backgrounds and sounds to animations *Be introduced to 'stop motion' animation* Share animation on the class display board and by blogging.	Understand what a flowchart is and how flowcharts are used in computer programming *Understand that there are different types of timers and select the right type for purpose* Understand how to use the repeat command *Understand the importance of nesting* *Design and create an interactive scene.*	Locate information on the search results page *Use search effectively to find out information* Assess whether an information source is true and reliable.	Enter data into a graph and answer questions *Solve an investigation and present the results in graphic form.*	Use the symbols more than, less than and equal to, to compare values *Use 2Calculate to collect data and produce a variety of graphs* Use the advanced mode of 2Calculate to learn about cell references.
	Key vocabulary	animation; Border properties; font formatting; layer; Media; presentation; slide; slideshow; text box; transition; word art	appropriate; blog; inappropriate; password; personal information; internet; spoof; reputable source; permission; vlog; verify; website	Animation; onion skinning; FPS (frames per second); frame; pause; stop motion	Action; alert; algorithm; background; bug; button; click event; code; collision detection event; command; debug/ debugging	Balanced view; Easter eggs; internet; key words; reliability; results page; search engine	Axis; chart; column; data; graph; investigation; row; sorting; tally chart	Advance mode; bar graph; equals; data; cell address; rows; less than; more than; equal; pie chart; quiz tool; spin tool; spreadsheet; table
	Milestones (progression mapping) End Y4 expectations	Collect and present information *Select and use software to accomplish given goals*	Use technology respectfully and responsibly *Know different ways they can get help if concerned* Recognise acceptable and unacceptable behaviour using technology	Experiment with variables to control models *Collect and present information* Select and use software to accomplish given goals	Design a sequence of instructions, including directional instructions *Experiment with variables to control models* Design a sequence of instructions, including directional instructions *Experiment with variables to control models*	Navigate the web to complete more detailed searches *Know how to search for specific information and know which information is useful and which is not* Use technology respectfully and responsibly	Use a range of software for similar purposes *Collect and present information* Select and use software to accomplish given goals	Use a range of software for similar purposes *Collect and present information* Select and use software to accomplish given goals

		Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Computing Lower Key Stage 2 B **Odd years**	**Source/Unit**	**Purple Mash Unit 4.2 On-line safety**	**Purple Mash Unit 4.1 Coding**	**Purple Mash Unit 4.4 Writing for different audiences**	**Purple Mash Spreadsheet 4.3**	**Purple Mash Unit 4.5 Logo**	**Purple Mash Unit 3.6 Branching database**
	Context	phishing, malware software, plagiarism, healthy screen-time	Write and debug programs, use sequence and logical reasoning.	Using font size and style to produce a newspaper report/community campaign	Using a spreadsheet to model a real-life situation.	Create simple letter shapes, use repeat functions to make 2D shapes and create procedures.	Creating a branching database using yes/no questions.
	Programme of Study Focus	Digital literacy	Computer Science	Information Technology	Information Technology	Computer Science	Information Technology
	Suggested software	2Investigate	Purple Mash 2Code	Purple Mash 2Email, 2Connect and 2DIY	Purple Mash 2Calculate	Purple Mash 2Logo	Purple Mash 2Question
	Key learning	Children can protect themselves from online identity theft *Information put online leaves a digital footprint which can aid identity theft* The risks and benefits of installing software including apps *Copying the work of others and presenting it as their own is called 'plagiarism'* Appropriate behaviour when collaborating online *The positive and negative influences of technology on health and the environment* The importance of balancing game and screen time with other parts of their lives.	Begin to understand selection in computer programming *How an IF statement works* How to use co-ordinates in computer programming *Understand the 'repeat until' command* How an IF/ELSE statement works *What a variable is in programming* Use a number variable Create a playable game	Explore how font size and style can affect the impact of a text *Use a simulated scenario to produce a news report* Use a simulated scenario to write for a community campaign	Format cells as currency, percentage, decimal to different decimal places or fraction *Use the formula wizard to calculate averages* Combine tools to make spreadsheet activities such as timed times tables tests *Use a spreadsheet to model a real life situation* Add a formula to a cell to automatically make a calculation in that cell.	Learn the structure of the coding language of Logo *Input simple instructions in Logo* Use 2Logo to create letter shapes *Use the Repeat function in Logo to create shapes* Use and build procedures in Logo.	Sort objects using just 'yes' or 'no' questions *Complete a branching database using 2Question* Create a branching database of the children's choice
	Key vocabulary	Adfly; attachment; citation; collaboration; cookies; copyright; digital footprint; malware; phishing; plagiarism; ransomware; spam; SMART rules; virus; watermark	Action; alert; algorithm; background; button; cod3e blocks; command; debug/ debugging; execute; design	Campaign; format; font; genre; opinion; reporter; viewpoint	Row; spreadsheet; formula; column; average; budget;	Debugging; grid; LOGO; commands; multi line mode; pen down/ up; prediction; procedure	Binary tree; database; branching database; data; debugging
	Milestones (progression mapping) End Y4 expectations	Use technology respectfully and responsibly *Know different ways they can get help if concerned* Recognise acceptable and unacceptable behaviour using technology	Design a sequence of instructions, including directional instructions *Experiment with variables to control models* Design a sequence of instructions, including directional instructions *Experiment with variables to control models*	Use a range of software for similar purposes *Collect and present information* Select and use software to accomplish given goals	Use a range of software for similar purposes *Collect and present information* Select and use software to accomplish given goals	Develop a sequenced program that has repetition and variables identified *Give an 'on-screen' robot specific instructions that takes them from A to B* Design a sequence of instructions, including directional instructions *Experiment with variables to control models*	Use a range of software for similar purposes *Collect and present information* Select and use software to accomplish given goals

		Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Computing Upper Key Stage 2 A Even years	**Source/ unit:**	**Purple Mash Unit 5.5 Game creator**	**Purple Mash Unit 5.2 On-line Safety**	**Purple Mash Unit 5.4 Databases**	**Purple Mash Unit 5.1 Coding**	**Purple Mash Unit 6.4 Blogging**	**Purple Mash 6.1 Coding**
	Context:	Evaluate, design and create a 'maze' type game. Possible link: Young Enterprise - play at Christmas fayre.	Responsibilities and support when on-line, protecting privacy, citing sources, reliability,	Search and contribute to a database; create a database around a chosen topic.	Creating a game which has a timer and score pad.	Plan the theme and content for a blog and write the content.	Adapt an existing 'text adventure.' Alternative 'Crash Course' for students with less experience.
	Predominant area of computing	Information Technology	Computer Science Digital Literacy	Information Technology	Computer Science	Information Technology	Computer Science
	Suggested software:	Purple Mash 2DIY3D	2Paint-a-picture 2Write	Purple Mash tools 2Question and 2Investigate	Purple Mash 2Code	Purple Mash 2Blog	Purple Mash 2Code
	Key learning	Plan a game. Design and create a game environment. Design and create a game quest. Finish and share a game. To self and peer evaluate.	Gain an understanding of sharing digital content. Review sources of support and responsible online behaviour How to maintain secure passwords. Understand the advantages, disadvantages, permissions and purposes of altering an image digitally and the reasons for this. To be aware of inappropriate media and the impact of sharing these online. How to reference sources in their work. To checking the reliability of sources and their validity and understand the impact of incorrect information. To ensure reliability through using different methods of communication.	To learn how to search for information in a database To contribute to a class database To create a database around a chosen topic	To simplify code. Create a playable game. Understand what a simulation is Program a simulation using 2Code Know what decomposition and abstraction are in computer science Take a real-life situation, decompose it and think about the level of abstraction Understand how to use friction in code Understand what a function is and how functions work in code Understand what different variables types are and how they are used differently How to create a string. Understand what concatenation is and how it works.	Identify the purpose of writing a blog Identify the features of a successful blog Plan the theme and content for a blog. How to write a blog and a blog post The effect upon the audience of changing the visual properties of the blog How to contribute to an existing blog How and why blog posts are approved by the teacher The importance of commenting on blogs.	Design a playable game with a timer and a score Plan and use selection and variables How the launch command works. Use functions and understand why they are useful How functions are created and called Use flowcharts to create and debug code Create a simulation of a room in which devices can be controlled How user input can be used in a program How 2Code can be used to make a text-adventure game
	Key vocabulary	Animation/ Image/ Texture/ Computer game/ Instructions/ Perspective/ Customise/ Interactive/ Evaluation/ Screenshot/Playability	Citation/ Collaboration/ Communication/ Copyright/ Creative Commons Licence/ Encrypt/ Identity theft/ Ownership/ PEGI rating/ Malware/ Phishin/ Password/ Personal Information/ Spoof/ Reliable source/ SMART rules/ validity	Arrange/ Avatar/ Chart/ Collaborative/ Data/ Database/ Field/ Group/ Record/ Search/ Sort/ Statistics	Abstraction/ Action/ Algorithm/ Concatenation/ Debug/ Debugging/ Decomposition/ Efficient/ Flowchart	Approval/ Archive/ Blog/ Blog post/ Collaborate/ Commenting/ Vlog	Action/ Algorithm/ Command/ Co-ordinates/ Event/ Decomposition/ Execute/ Run/ Debug/ Debugging/Flowchart
	Milestones (progress mapping) Expectations For end of Y6	Write a program that combines more than one attribute *Develop a sequenced program that has repetition and variables identified* Combine sequences of instructions and procedures to turn devices on and off	Understand that they have to make choices when using technology and that not everything is true and/or safe *Be increasingly aware of the potential dangers in using aspects of IT and know when to alert someone if feeling uncomfortable*	Analyse and evaluate information reaching a conclusion that helps with future developments *Present the data collected in a way that makes it easy for others to understand*	Write a program that combines more than one attribute *Develop a sequenced program that has repetition and variables identified* Design algorithms that use repetition and 2-way selection	Present the data collected in a way that makes it easy for others to understand	Write a program that combines more than one attribute *Develop a sequenced program that has repetition and variables identified* Design algorithms that use repetition and 2-way selection

		Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Computing Upper Key Stage 2 B Odd years	**Source/Unit:**	**Purple Mash Unit 6.2 On-line Safety**	**Purple Mash 6.7 Quizzing**	**Purple Mash Unit 5.3 Spreadsheets**	**Switched on Computing Unit 5.2 We are cryptographers**	**Purple Mash Unit 6.5 Text Adventurers**	**Purple Mash Unit 6.3 Spreadsheets**
	Context:	Message in a game, online behaviour, screen time,	Create a picture based quiz for younger children	Model a real-life situation and provide solutions that can be applied to real-life	Codes and code breaking, encrypt own codes and crack each other's.	Code a story based adventure or a map based adventure	Use spreadsheets to investigate probability and create graphs
	Predominant area of computing	Digital literacy	Information Technology	Information Technology	Computer Science	Computer Science	Information Technology
	Suggested software:	2Investigate	Purple Mash 2Quiz, 2DIY, TextToolkit, 2Investigate Google Forms	Purple Mash 2Calculate	Scratch scripts The Black Chamber https://www.simonsingh.net/The_Black_Chamber/index.html	Purple Mash 2Code and 2Connect	Purple Mash 2Calculate
	Key learning	Identify benefits and risks of mobile devices broadcasting the location of the user/device Identify secure sites by looking for privacy seals of approval Identify the benefits and risks of giving personal information Review the meaning of a digital footprint To have a clear idea of appropriate online behaviour Understand how information online can persist Understand the importance of balancing game and screen time with other parts of their lives Identify the positive and negative influences of technology on health and the environment.	Create a picture-based quiz for young children. Learn how to use the question types within 2Quiz Explore the grammar quizzes Make a quiz that requires the player to search a database Make a quiz to test your teachers or parents.	Use formulae within a spreadsheet to convert measurements of length and distance Use the count tool to answer hypotheses about common letters in use Use a spreadsheet to model a real life problem Use formulae to calculate area and perimeter of shapes Create formulae that use text variables Use a spreadsheet to help plan a school cake sale.	Be familiar with semaphore and morse code Understand the need for private information to be encrypted Encrypt and decrypt messages in simple ciphers Understand the need for complex passwords and keeping them secure Begin to understand how encryption works on the web	Find out what a text adventure is Use 2Connect to plan a story adventure Make a story-based adventure using 2Create a Story Introduce an alternative model for a text adventure which has a less sequential narrative Use written plans to code a map based adventure in 2Code	Use a spreadsheet to investigate the probability of the results of throwing many dice Use a spreadsheet to calculate the discount and final prices in a sale Use a spreadsheet to plan how to spend pocket money and the effect of saving money Use a spreadsheet to plan a school charity day to maximise the money donated to charity
	Key vocabulary	Data analysis/ Digital footprint/ Inappropriate/ Location sharing/ Password/ PEGI rating/ Phishing/ Print screen/ screen time/ Spoof/ Secure website	Audience; Audio; case-sensitive; clone; cloze; preview; quiz	Rows; spreadsheet; columns; data; format; formula; format; advance mode; formula bar; formula wizard; 'How many' tool; totalling tool; variable	Encrypt/ decrypt; complex; secure; encryption	Text based adventure; debug/ debugging; sprite; selection; function	Rows; columns; spreadsheet; data; formula
	Milestones (progress mapping) Expectations for end of Y6	Understand that they have to make choices when using technology and that not everything is true and/or safe *Be increasingly aware of the potential dangers in using aspects of IT and know when to alert someone if feeling uncomfortable*	Analyse and evaluate information reaching a conclusion that helps with future developments *Present data collected in a way that makes it easy for others to understand*	Analyse and evaluate information reaching a conclusion that helps with future developments *Present data collected in a way that makes it easy for others to understand*	Understand that they have to make choices when using technology and that not everything is true and/or safe *Analyse and evaluate information reaching a conclusion that helps with future developments*	Use technology to control an external device *Write a program that combines more than one attribute* Develop a sequenced program that has repetition and variables identified *Design algorithms that use repetition and 2-way selection*	Analyse and evaluate information reaching a conclusion that helps with future developments *Present the data collected in a way that makes it easy for others to understand*

Computing

Purpose of study

A high-quality computing education equips pupils to use computational thinking and creativity to understand and change the world. Computing has deep links with mathematics, science, and design and technology, and provides insights into both natural and artificial systems. The core of computing is computer science, in which pupils are taught the principles of information and computation, how digital systems work, and how to put this knowledge to use through programming. Building on this knowledge and understanding, pupils are equipped to use information technology to create programs, systems and a range of content. Computing also ensures that pupils become digitally literate – able to use, and express themselves and develop their ideas through, information and communication technology – at a level suitable for the future workplace and as active participants in a digital world.

Aims

The national curriculum for computing aims to ensure that all pupils:

- can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation
- can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems
- can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems
- are responsible, competent, confident and creative users of information and communication technology.

Attainment targets

By the end of each key stage, pupils are expected to know, apply and understand the matters, skills and processes specified in the relevant programme of study.
Schools are not required by law to teach the example content in [square brackets].

Subject content

Key stage 1

Pupils should be taught to:

- 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.

Key stage 2

Pupils should be taught to:

- 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