



Computing at Bedford

At Bedford Primary, we aim to deliver a relevant, engaging and high-quality computing curriculum. In order to be a successful and active participant in the workforce in the future all of our pupils need to be digitally literate and able to use a range of information and communication technology.



"People say 'Aren't you worried what students may do in the digital world?' My response, 'I'm more worried if we don't teach them how.'"

Scott Garofola



Our vision for computing:



We endeavour:

- To equip every pupil with the knowledge, skills and confidence to thrive in an increasingly digital world
- To ensure pupils become safe, creative and curious users to technology
- To teach pupils how to use technology safely, respectfully and responsibly
- To develop skills in coding, problem solving and logical thinking
- To encourage creativity through digital media, design and communication tools
- To support pupils in understanding the role of technology in their lives and the wider world
- To prepare pupils for the future by building digital literacy and critical thinking

Skills I need to be a digital leader

KS1



Use different devices safely



Use a range of different apps and programs



Ask questions linked to computing



Follow instructions to complete tasks



Use digital tools to create content



Try things out and keep going if it doesn't work



Know how to report if something online is upsetting



Keep personal information private



Use some computing vocabulary correctly



Be kind and respectful when online

Skills I need to be a digital leader

KS2



Use a range of devices confidently and safely



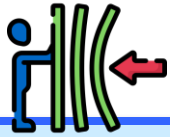
Navigate software and apps for different purposes



Save and organise work accurately



Ask computing focussed questions



Show resilience and try different solutions to try and fix tasks



Use the internet and search engines effectively and responsibly



Understand digital footprints and the importance of privacy



Use a range of digital tools to create a variety of different content



Be kind and respectful in digital spaces



Report any concerns or suspicious activity in the correct way



Be able to work collaboratively and independently



Use computing technical vocabulary accurately



National Curriculum



The 3 main strands to the computing National Curriculum:

Computer Science - in which children are given the opportunity to explore how applications and software are made through programming (coding) and how things actually work "under the bonnet" of our digital devices. They will develop their creativity, computational thinking and logic, to design digital solutions for the world around them.

Information Technology - in which children will use applications and develop their word processing skills to present their ideas. They will work creatively, linking with many of the other subjects in the wider curriculum, using a wide range of apps to create, save and retrieve data, music, art, photography, animations and their written work (plus more!).

Digital Literacy - in which children will become confident, creative, respectful, responsible online users. Children will develop online skills to safely explore, safely manage their own online image and their online relationships. They will also develop their understanding of the World Wide Web and the Internet it is built on. The children will also connect to many of the other curriculum subjects via their own research.



How do we teach computing at Bedford?

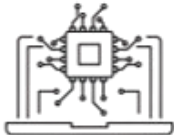


Our Computing curriculum has been developed using a range of sources including the Teach Computing lessons and BBC micro:bit. When designing our curriculum, we have ensured that all the National Curriculum objectives are covered.

At the start of each computing lesson, children will complete an online safety starter based/adapted from the Project Evolve resources. The different strands have been mapped out for each year group to ensure full coverage.



The three main strands of the Computing National Curriculum (computer science, digital literacy and information technology) are further split down into five areas which are used throughout the Teach Computing scheme of learning to ensure all 3 areas are covered in depth.

Computer Systems and Networks	Programming	Creating Media	Digital Design	Online Safety
				

The online safety curriculum is split into eight strands following the Project Evolve curriculum

Self image and identity	Online Relationships	Online Reputation	Online Bullying	Managing Online information	Health, wellbeing and lifestyle	Privacy and Security	Copyright and Ownership
							



National Curriculum end of KS1 expectations



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.



National Curriculum end of KS2 expectations

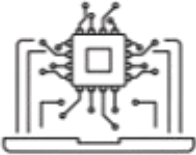


Pupils should be taught to:

- 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.

Computing Long Term Plan

	Autumn 1		Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
EYFS	Awesome Autumn		Boats Ahoy	Springtime		Summer fun	People who help
Year 1	Device and online safety		Formatting and Editing	Moving a Robot	Device and online safety	Digital painting	Programming Animations
Year 2	Device and online safety	Efficient Typing	Digital Music	Robot Algorithms	Programming Quizzes	Formatting and Editing	Presenting and Publishing
Year 3	Device and online safety	Efficient Typing	Formatting and Editing	Presenting and Publishing	Sequencing Sounds	Stop frame animation	Events and Actions in programmes
Year 4	Device and online safety	Efficient Typing	Formatting and Editing	Presenting and Publishing	Repetition in Shapes	Photo Editing	Repetition in games
Year 5	Device and online safety	Efficient Typing	Formatting and Editing	Presenting and Publishing	Making a Volcano	Vector Graphics	Selection in quizzes
Year 6	Device and online safety	Efficient Typing	Presenting and Publishing	Variables in Games		Web Page Creation	Sensing Movement
Project Evolve strands to be covered in each lesson							

Computer Systems and Networks	Programming	Creating Media	Editing Skills	Online Safety
				

Online Safety Long Term Plan

EYFS and KS1

Self image and identity	Online Relationships	Online Reputation	Online Bullying	Managing Online information	Health, wellbeing and lifestyle	Privacy and Security	Copyright and Ownership
Know what makes me feel comfortable online	Being kind and respectful online	What information should you put online?	Respectful online behaviour	Using the internet to find information	Rules to keep us safe and healthy online	What is personal information?	My own work
People looking different online	Using the internet for communication	Online information can be seen or copied by anyone	Ways people can be unkind online	Using voice activated search engines		Using passwords	Work created by others does not belong to me
Say no, please stop, I'll tell to someone making you feel uncomfortable	Giving consent online	Information posted online stays forever	How does being unkind online make people feel?	Real vs fake news		Asking permission for online activity	
Know when and how to ask an adult for help	Communicating with a stranger	Getting help if information was posted online without your consent	Getting help if I'm being bullied online	What might I not want to see online?		Sharing information online	
	Feeling under pressure or uncomfortable online			Getting help if I see something I don't like online		Getting help if someone has accessed my accounts or knows my passwords	
	Impact of a negative or mean online posts						

Online Safety Long Term Plan

KS2

Self image and identity	Online Relationships	Online Reputation	Online Bullying	Managing Online information	Health, wellbeing and lifestyle	Privacy and Security	Copyright and Ownership
People looking different online	Being kind and respectful to others online	Positive online reputation	Respectful online behaviour	Using search engines to gather accurate information	Healthy online habits	Passwords	Ownership of online content
Online and Offline identity	Online friends and trust	Protecting my online reputation	What does online bullying look like?	Online beliefs, opinions and facts	Online peer pressure	Keeping personal information private	Getting consent to reuse someone else's work
Copying, modifying or altering online identity	Giving consent for posting online	Searching for information about others online	Is it banter?	Real vs fake news	Age restrictions on online activities	Adult supervision online	Reusable content
Knowing who I'm interacting with online	Being safe in online social environments	Making judgements about information found online	Getting help and support if I'm being bullied online	Deciding the accuracy of information online	Online Game payments	App Permissions	
Inappropriate representations online	Online communities			Adverts and sponsored content		Digital age of consent	
				Social influencers		Online Scams	
	Sharing intended private messages/images with others			Identify, flag and report inappropriate content		Getting help if someone has accessed your private information	

Getting help and support from trusted adults and reporting online to be interweaved across all strands.