Progression in Computing and Information Technology

National Curriculum Expectations

KS1

Computing and Coding
- 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

Information Technology (Spreadsheets, Internet and Email, Art and Design, Music, Database and Graphing, Writing and Presenting, Communication and Networks)
- use technology purposefully to create, organise, store, manipulate and retrieve digital content
- recognise common uses of information technology beyond school

E-Safety
- 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.

KS2

Computing and Coding
- 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

Information Technology (Spreadsheets, Internet and Email, Art and Design, Music, Database and Graphing, Writing and Presenting, Communication and Networks)
- 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

E-Safety
- use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.

Reception Expectations	Keyboard/ Mouse Skills	Presenting and Creating	Communicating and Collaborating	Data	Knowledge of Technology	Computing and Coding	Online Safety
	Use a mouse / ipad to rearrange objects and pictures on a screen. Begin using keyboard to type own name and copy a simple sentence, using space bar and full stop appropriately. Navigate through a preloaded website.	Using drawing tools: Using 2Paint a Picture to paint themed/topic pictures – mouse control Sound: Using 2Simple Music tool kit to develop a simple sound sequence	Use different forms of electronic communication in free play, e.g., email, mobile phones, hand-held devices, walkie-talkies, sound recording devices. Class email to another school. Adult read and talk about contents of email. Participate in simple video conferencing and webcam activities with adult help.	Use a simple pictogram or set of photos to count and organise information. Children should be made aware of everyday devices that sense data, e.g., bar codes, metal detectors, simple sound recorders, automatic doors, light sensors, stick-on thermometer strips.	Able to identify a different digital devices in school and at home. Know that laptops, PC and ipads are all types of 'computer' and all require care to be taken with them as they are expensive items.	Able to control floor turtles using simple instructions, such as forwards, backwards, right and left. Able to navigate a floor turtle (beebot) around a simple track, 'debugging' until success is gained.	Know the the internet allows us to access a digital world outside of school and home Know that we must not talk to people online that we do not know. Know that we must tell a grown up if something is wrong or upsets.

Barefoot Units	Autumn Term 'Awesome Autumn'	Spring Term 'Winter Warmers'	Summer Term 'Summer Fun'

Year Group Coverage

Year Group	Term 1 Computing Systems and Networks	Term 2 Creating Media	Term 3 Programming A	Term 4 Data and Information	Term 5 Creating Media	Term 6 Programming B
1	Technology around Us	Digital Painting	Moving a robot	Grouping Data	Digital Writing	Programming Animations
2	Information Technology Around Us	Digital Photography	Robot Algorithms	Pictograms	Digital Music	Programming Quizzes
3	Connecting Computers	Stop-Frame Animation	Sequencing Sounds	Branching Databases	Desktop Publishing	Events and Actions in Programmes
4	The Internet	Audio Production	Repetition in Shapes	Data Logging	Photo Editing	Repetition in Games
5	Systems and Searching	Video Production	Selection in Physical Computing	Flat-File Databases	Introduction to Vector Graphs	Selection in Quizzes
6	Communication and Collaboration	Webpage Creation	Variables in Games	Introduction to Spreadsheets	3D Modeling	Sensing Movement
Year Group	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6

Online Safety Overview: Progression of the 8 strands

Strand	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Privacy and Security AUT1	To identify some simple examples of my personal information.	To recognise more detailed examples of information that is personal to me.	To describe how online information about me could be seen by others.	To give reasons why I should only share information with people I choose to and can trust.	To explain that others online can pretend to be me or other people, including my friends.	To create and use strong and secure passwords.	To use different passwords for a range of online services. To know what to do if my password is lost or stolen.
Online Relationships AUT2	To recognise some ways in which the internet can be used to communicate.	To use the internet with adult support to communicate with people I know.	To use the internet to communicate with people I don't know well (e.g. email a penpal in another school/ country).	To give examples of technology-specific forms of communication (e.g. emojis, acronyms, text speak).	To describe strategies for safe and fun experiences in a range of online social environments.	To explain that there are some people I communicate with online who may want to do me or my friends harm. I can recognise that this is not my/our fault.	To show I understand my responsibilities for the well-being of others in my online social group.
Health, Well-being and Lifestyle SPR1	To identify rules that help keep us safe and healthy in and beyond the home when using technology.	To explain rules to keep us safe when we are using technology both in and beyond the home.	To explain simple guidance for using technology in different environments and settings.	To explain why spending too much time using technology can sometimes have a negative impact on me; I can give some examples of activities where it is easy to spend a lot of time engaged.	To explain how using technology can distract me from other things I might do or should be doing.	To describe ways technology can affect healthy sleep and can describe some of the issues.	To describe common systems that regulate age-related content (e.g. PEGI, BBFC and parental warnings) and describe their purpose.
Online Bullying SPR1	To describe ways that some people can be unkind online.	To describe how to behave online in ways that do not upset others and can give examples.	To explain what bullying is, how people may bully others and how bullying can make someone feel.	To describe appropriate ways to behave towards other people online and why this is important.	To recognise when someone is upset, hurt or angry online.	To recognise online bullying can be different to bullying in the physical world and can describe some of those differences.	To describe how to capture bullying content as evidence (e.g. screen-grab, URL, profile) to share with others who can help me.
Online Reputation SPR2	To identify ways that I can put information on the internet.	To recognise that information can stay online and could be copied.	To explain how information put online about someone can last for a long time.	To explain how to search for information about others online.	To describe how to find out information about others by searching online.	To search for information about an individual online and summarise the information found.	To explain the ways in which anyone can develop a positive online reputation.
Managing Online Information SUM1	To talk about how to use the internet as a way of finding information online.	To give simple examples of how to find information using digital technologies.	To use simple keywords in search engines.	To demonstrate how to use key phrases in search engines to gather accurate information online.	To analyse information to make a judgement about probable accuracy and I understand why it is important to make my own decisions regarding content.	To evaluate digital content and can explain how to make choices about what is trustworthy e.g. differentiating between adverts and search results.	To define the terms 'influence', 'manipulation' and 'persuasion' and explain how someone might encounter these online.
Self-image & Identify SUM1	To recognise that I can say 'no' 'please stop' 'I'll tell' 'I'll ask' to somebody who asks me to do something that makes me feel sad, embarrassed or upset.	To recognise that there may be people online who could make me feel sad, embarrassed or upset.	To explain how other people's identity online can be different to their identity in real life.	To explain how I can represent myself in different ways online.	To explain how my online identity can be different to the identity I present in 'real life'.	To explain how identity online can be copied, modified or altered.	To describe ways in which media can shape ideas about gender.
Copyright and Ownership SUM2	To know that work I create belongs to me.	To explain why work I create using technology belongs to me and say why it belongs to me.	To recognise that content on the internet may belong to other people.	To explain why copying someone else's work from the internet without permission isn't fair and can explain what problems this might cause.	When searching on the internet for content to use, I can explain why I need to consider who owns it and whether I have the right to reuse it.	To assess and justify when it is acceptable to use the work of others.	To demonstrate the use of search tools to find and access online content which can be reused by others.