ICT - Year 1

National Curriculum Objectives

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.
Pupils should be taught to create and debug simple programs.
Pupils should be taught to use logical reasoning to predict the behaviour of simple programs.

Pupils should be taught to use technology purposefully to create, organise, store, manipulate and retrieve digital content.

Pupils should be taught to recognise common uses of information technology beyond school.

Pupils should be taught to 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.

I can …

I can describe the actions I need to do to make something happen and begin to use the word algorithm.
I can give instructions to my friend and follow their instructions to move around as if we are robots.
I can begin to predict what will happen for a short sequence of instructions.
I can press the buttons in the correct order to make my Bee-Bot do what I want.

I can create digital artwork (art set / pic collage).
I can save and retrieve my digital work.
I can begin to use the keyboard on my device to enter text.

I know what a digital device is.
I can identify some examples of information technology / digital devices which can be found at home and in the classroom.
I can use links to websites to find information (QR codes).

I can identify some pieces of personal information.
I can tell an adult when I see something unexpected or worrying online (e.g. pop ups, purchasing options etc).
I can talk about why it's important to be kind and polite.
I can agree and follow sensible e-Safety and iPad rules
Suggested programs art set, pic collage, Bee Bot

ICT - Year 2

National Curriculum Objectives

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.
Pupils should be taught to create and debug simple programs.
Pupils should be taught to use logical reasoning to predict the behaviour of simple programs.

Pupils should be taught to use technology purposefully to create, organise, store, manipulate and retrieve digital content.

Pupils should be taught to recognise common uses of information technology beyond school.

Pupils should be taught to 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.

I can …

I can tell you the order I need to do things to make something happen and talk about this as an algorithm.
I can program a robot and software (Bee-Bot app) to do a particular task by using precise instructions.
I can use my knowledge of programming to look at my friend's program and tell you what will happen.
I can use the word debug when I correct mistakes when I program or watch a program execute.

I can create digital content which includes sound (garageband).
I can organise and manipulate sounds to create a final piece.
I can save and open files on the device I use.
I can use the keyboard on my device to add, delete and space text for others to read.

I can identify examples of information technology and digital devices in the school and community.
I can tell you why we use technology in the classroom, at home or in the community.
I can identify benefits of using technology.
I can make basic searches on the internet (kiddle).

I can explain why I need to keep my password and personal information private.
I can identify what to do when I'm concerned/worried about something I have seen on the internet or on a digital device.
I can talk about why it is important to be kind and polite online.
I am starting to understand that other people have created the information I use on the internet and digital devices.
Suggested programs - Garageband, Bee Bot

ICT - Year 3

National Curriculum Objectives

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.
Pupils should be taught to use sequence, selection, and repetition in programs; work with variables and various forms of input and output.
Pupils should be taught to use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.

Pupils should be taught to 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.

Pupils should be taught to 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.

Pupils should be taught to use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.

Pupils should be taught to use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.

I can …

I can describe the algorithm I will need for a simple task.
I can use the Scratch Jnr programming environment.
I can put programming commands into a sequence to achieve a specific outcome (such as making a character move across the screen).
I can keep testing my program and can recognise when I need to debug it.
I can detect a problem in an algorithm which could result in unsuccessful programming.

I can save images from the internet or take photos for a purpose.
I can use the print screen function to capture an image.
I can edit pictures using various tools (pic edu / photos / camera)
I can evaluate my work and improve its effectiveness.

I can tell you some ways to communicate with others online.
I can describe the World Wide Web as the part of the Internet that contains websites.
I can use search tools to find and use an appropriate website.
I can type in a URL to find a website.

I can talk about what makes a secure password and why they are important.
I can explain examples of 'good' and 'bad' behaviour online.
I understand how 'bad' behaviours can make people feel.
I can protect my personal information when I do different things online.
I can recognise the safety features of websites as well as reporting concerns to an adult.
I ask an adult before downloading files and games from the Internet.
I understand that some people online are not who they say they are.
Suggested programs - Scratch Jnr, pic edu,

ICT - Year 4

National Curriculum Objectives

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.
Pupils should be taught to use sequence, selection, and repetition in programs; work with variables and various forms of input and output.
Pupils should be taught to use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs

Pupils should be taught to 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.

Pupils should be taught to 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.
Pupils should be taught to use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.

Pupils should be taught to use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.

I can …

I can create a background and sprite for a program.
I can use the 'repeat' (loop) command within a series of instructions.
I can use logical thinking to solve an open-ended problem by breaking it up into smaller parts.
I know that I need to keep testing my program while I am putting it together.
I can recognise an error in a program and debug it.

I can plan what I would like to happen in my animation.
I can take a series of pictures to form an animation.
I can move items within my animation to create movement on playback.
I can edit/improve my animation.

I can tell you whether a resource I am using is on the internet or my own device.
I can identify key words to use when searching safely on the World Wide Web.
I think about the reliability of information I read on the World Wide Web.
I can tell you how to check who owns photos, text and clipart.

I can recognise social networking sites and social networking features built into other things (such as online games and handheld games consoles).
I can identify dangers when presented with scenarios, social networking profiles, etc.
I can explain examples of 'good' and 'bad' behaviour online.
I know that anything I post online can be seen by others.
I know which websites and games are appropriate for my age and those which are not.
I can talk about why I need to ask a trusted adult before downloading files and games from the Internet.
I understand the need to comment positively and respectfully online.
I understand the risks of talking to people online who I have never met.
Suggested computer programs - Scratch Junior, Stop Motion Animation, iMovie

ICT - Year 5

National Curriculum Objectives

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.
Pupils should be taught to use sequence, selection, and repetition in programs; work with variables and various forms of input and output.
Pupils should be taught to use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs

Pupils should be taught to 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.

Pupils should be taught to 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.
Pupils should be taught to use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.

Pupils should be taught to use technology safely, respectfully and responsibly; recognise acceptable/ unacceptable behaviour; identify a range of ways to report concerns about content and contact.

I can …

I can design a simple game.
I can use sound and movement to achieve an output.
I can use conditional statements by using 'when' commands.
I can decompose a problem into smaller parts to design an algorithm for a specific outcome and use this to write a program.
I can use logical reasoning to detect and debug mistakes in a program.
I use logical thinking, imagination and creativity to extend and improve my program.
I can make a physical system move.

I can plan and capture videos for a purpose.
I can use text, photo, sound and video to create a video project (iMovie / Apple Clips / Shadow Puppets).
I can trim and arrange clips and images.
I can add titles, transitions and special effects.
I can export my video project.
I can review and improve my own work and support others to improve their work.

I can use an online communication/collaboration tool for a purpose (e.g. Padlet).
I can use a search engine to find appropriate information and check its reliability.
I can describe the different parts of a webpage.

I can judge what sort of privacy settings might be relevant to reducing different risks.
I can explain why and how to be a good online citizen and friend.
I can explain why I need to protect myself and my friends and the best ways to do this, including reporting concerns to an adult.
I know that anything I post online can be seen, used and may affect others.
I can discuss the importance of choosing an age-appropriate website or game.
Suggested programs - Hopscotch, Padlet

ICT - Year 6

National Curriculum Objectives

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.
Pupils should be taught to use sequence, selection, and repetition in programs; work with variables and various forms of input and output.
Pupils should be taught to use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs

Pupils should be taught to 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.

Pupils should be taught to 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.
Pupils should be taught to use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.

Pupils should be taught to use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.

I can …

I can design my own game including sprites and backgrounds
I can deconstruct a problem into smaller steps, recognising similarities to solutions used before.
I can explain and program each of the steps in my algorithm.
I can use a variable to create a score for my game.
I can evaluate the effectiveness and efficiency of my algorithm while I continually test and debug the programs and algorithms.
I can plan how I want a physical system to move and program it to move.

I can talk about audience, atmosphere and structure when planning a particular outcome.
I can confidently identify the potential of unfamiliar technology to increase my creativity.
I can combine a range of media, recognising the contribution of each to achieve a particular outcome.
I can explain why I select a particular online tools.
I can evaluate the effectiveness of my own work and the work of others.

I can tell you the Internet services I need to use for different purposes.
I can describe how information is transported on the Internet.
I can select an appropriate tool to communicate and collaborate online.
I can talk about the way search results are selected and ranked.
I can tell you about copyright and acknowledge the sources of information that I find online.

I can find report and flag buttons in commonly used sites and name sources of help (Childline, Cybermentors, etc).
I can discuss scenarios involving online risk.
I can act as a role model for younger pupils.
I can explain the consequences of sharing too much about myself online.
I can explain the consequences of spending too much time online or on a game.
I can explain the consequences to myself and others of not communicating kindly and respectfully.
I understand how some people negatively behave online (e.g. bullying, trolling).
Suggested programs - Hopscotch

Computing Glossary of Terms

Terminology	Definition	Key Stage
Algorithm	steps to follow to achieve a task	1 / 2
Browser	A computer program/application used to access the World Wide Web (e.g. safari, google chrome etc)	2
Computer	An electronic device for storing and processing data (laptop, macbook, ipad, phone etc).	1 / 2
Data	Numbers	2
Debug	finding and correcting errors	1 / 2
Digital Device	A physical unit of equipment that contains a computer (e.g. iPad, microwave etc).	1
Discerning	having or showing a good judgement	2
Information	text, images, audio etc	2
Input	A method of computers receiving data (e.g. keyboard, mouse, touch screen, microphone etc).	2
Internet	A network of connected computers	1 / 2
Logical reasoning / thinking	using rules to solve problems	1 / 2
Loop	Repetition of an instuction	2
Network	A group of computers that are connected	2
Output	A response made by computers (e.g. sound, visual images on the screen, motion of a robot etc)	2
Physical System	Interactive systems which can respond and react to the world around them (e.g. robots, traffic lights, burglar alarms etc)	2
Program	instructions written in a language (code) computers can understand	1 / 2
Repetition	Instructions that can be repeated	2
Selection	A way in computer programs to make a choice (e.g. IF… WHEN…)	2
Sequence	A set of instructions followed in order	2
Software	Computer programs and applications	2
Sprite	Images and characters that you give instructions to	2
Variables	Names given to things we want the computer to store (remember)	2
Web site	A collection of web pages	2
World Wide Web (WWW)	All the web pages on the internet accessed using a web browser	2