



	Digital Literacy <i>Exploring the use of digital devices</i>	Computer Science <i>An introduction to coding</i> Algorithms & programs	Information Technology <i>Using technology to find out & present information & experiences.</i>
EYFS	<ul style="list-style-type: none"> • I show an interest in technological toys with knobs or pulleys, or real objects such as cameras or mobile phones. • I recognise that a range of technology is used in places such as homes and schools. <p>-To provide a wide range of technological equipment to explore e.g. mobile phones in role play, access to digital cameras in areas for children to photograph their models etc</p> <p>-To extend experience of computer programs in class & via weekly visits to the computer suite.</p> <p>-Children to practise logging on and using mouse skills via a range of games which support their learning across the Early Years curriculum: e.g. Dress Lecky @ www.crickweb.co.uk Teddy Numbers @ www.topmarks.co.uk</p> <p>-Children to have regular opportunities to use the IPads to explore a range of Apps to support their learning in all areas of the EYFS curriculum.</p>	<ul style="list-style-type: none"> • I show skill in making toys work by pressing parts or lifting flaps to achieve effects such as sound, movements or new images. • I can use ICT hardware to interact with age appropriate software. • I can complete a simple program on a computer. <p>-Children to experiment with Floor Robots e.g. Beebots & Bluebots to learn how to write simple programs.</p> <p>-Children to access the IPads & explore Daisy the Dinosaur app as introduction to simple coding and algorithms..</p> <p>-Children to access the IPads & complete simple tasks on Kodable e.g. Maze Maker Challenge to write their own code.</p>	<ul style="list-style-type: none"> • I know how to operate simple equipment, e.g. turns on CD player and uses remote controls etc • I know that information can be retrieved from computers. • I can complete a simple program on a computer. • I select and use technology for a particular purpose. • I can find out about and use a range of everyday technology. • I select appropriate applications that support an identified need, for example in deciding how best to make a record of a special event in their lives, such as a journey on a steam train. <p>-Children to use programs such as 2Simple to present experiences e.g. using 2Paint to make Firework pictures</p> <p>-Children to experiment with Prisma photo-editing App on the IPads to make a Pic Collage linked to the Seasons.</p> <p>-Children to use Book Creator to recall activities e.g. We're going on a hole hunt!</p> <p>-Children to explore the Keezy App on IPads to create & perform their own musical compositions</p> <p>-Children to create & present their own stories using simple animations via e.g. Storymaker 2 and Puppet Pals on the IPads.</p> <p>-Children to use Do Ink green screen App on IPads to make videos & images that tell stories and recount events e.g. News Reports linked to the topic Once upon a crime!</p>

Foundation Stage Vocabulary

Control, Information, Internet, Program, Code, Language, Commands, Order, Sequence, Animate, Technology, Log in/out, App, Icons, Folder, Save, Record, Play, Loop

Fine motor skills: move, point, click, double click, drag, drop, press, hold, tap



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KS1	<ul style="list-style-type: none"> I understand how to use technology safely. I understand how to keep personal information private. I know how to stay safe on the Internet. I know what to do if I am worried about content or being contacted on the Internet. I can recognise common uses of information technology beyond school. I know that digital content can be represented in different forms. 	<ul style="list-style-type: none"> I know that programs work by following clear instructions. I know what an algorithm is. I can express simple algorithms using symbols. I can design simple algorithms using sequencing and loops.. I can find and correct errors - Debugging algorithms. I can use logical reasoning to predict outcomes. 	<ul style="list-style-type: none"> I can use technology to create, organise and store digital content and information. I can present and save ideas in a variety of ways. I know that digital content can be represented in many forms. I can recognise common uses of information technology beyond school. I can find content from the World Wide Web using a web browser.. I can use software under the control of the teacher, to create, store and edit digital content. I understand how to use technology safely.
Cycle 1	<p>'Safe' computing, Knowledge and Understanding <i>Surf safe—The Adventures of Smartie the penguin.</i> http://www.kidsmart.org.uk/teachers/ks1/sources/index.htm</p> <p>Digital Literacy Skills—Using passwords and school agreed search engines to locate information.</p> <ul style="list-style-type: none"> I understand how to use technology safely. I understand how to keep personal information private. I know how to stay safe on the Internet. I know what to do if I am worried about content or being contacted on the internet. 	<p>Programming Direction <i>North Tyneside Unit Plan – Computing KS1</i></p> <ul style="list-style-type: none"> I know what an algorithm is. I can express simple algorithms using symbols. I can find and correct errors - Debugging algorithms. I can use logical reasoning to predict outcomes. <p>Action Algorithms <i>North Tyneside Unit Plan – Computing KS1</i></p> <ul style="list-style-type: none"> I know that programs work by following clear instructions. I know what and algorithm is. I can design simple algorithms using sequencing and loops. I can find and correct errors—debugging algorithms. 	<p>An Introduction to Digital Art <i>North Tyneside Unit Plan—Computing KS1</i></p> <ul style="list-style-type: none"> I can use technology to create, organise and store digital content and information. I can present and save ideas in a variety of ways. I can recognise common uses of information technology beyond school. <p>Computing KS1 : Beginning to Present <i>North Tyneside Unit Plan—Computing KS1</i></p> <ul style="list-style-type: none"> I can recognise common uses of information technology beyond school. I can use technology to create, organise and store digital content and information. I know that digital content can be represented in many forms. <p>Making Multimedia Stories <i>North Tyneside Unit Plan—Computing KS1</i></p> <ul style="list-style-type: none"> I know that digital content can be represented in different forms. I can recognise common uses of information technology beyond school. I can use technology to create, organise and store digital content and information. <p>An introduction to Animation <i>North Tyneside's Unit Plan—Computing KS1—2Animate / Stop Motion Animation</i></p> <ul style="list-style-type: none"> I know that digital content can be represented in different forms.
Cycle 2	<p>'Safe' computing, Knowledge and Understanding <i>Surf safe—The Adventures of Smartie the penguin.</i> http://www.kidsmart.org.uk/teachers/ks1/sources/index.htm</p> <p>Digital Literacy Skills— Using passwords and school agreed search engines to locate information.</p> <ul style="list-style-type: none"> I understand how to use technology safely. I understand how to keep personal information private. I know how to stay safe on the Internet. I know what to do if I am worried about content or being contacted on the internet. <p>An introduction to Animation <i>North Tyneside's Unit Plan– Computing KS1— 2Animate / Stop Motion Animation.</i></p> <ul style="list-style-type: none"> I know that digital content can be represented in different forms. 	<p>Programming with Logo <i>North Tyneside Unit Plan - Computing KS1</i></p> <ul style="list-style-type: none"> I know that programs work by following clear instructions. I know what and algorithm is. I can design simple algorithms using loops and selection. I can find and correct errors—debugging algorithms. <p>Programming with Scratch Jr <i>North Tyneside Unit Plan—Computing KS1</i></p> <ul style="list-style-type: none"> I know that programs work by following clear instructions. I know what and algorithm is. I can design simple algorithms using loops and selection. I can find and correct errors—debugging algorithms. <p>OR</p> <p>Algorithms and Programming—Barefoot Computing http://barefootcas.org.uk</p> <ul style="list-style-type: none"> Crazy Characters (Unplugged) Exploring Scratch Jr to create a range of simple animations using a range of different tools. http://www.scratchjr.org/teach.html 	<p>Exploring Digital Sound <i>North Tyneside Unit Plan—Computing KS1</i></p> <ul style="list-style-type: none"> I can use technology to create, organise and store digital content and information. I can recognise common uses of information technology beyond school. <p>Finding and Presenting Information <i>North Tyneside Unit Plan—Computing KS1</i></p> <ul style="list-style-type: none"> I can recognise common uses of information technology beyond school. I can use technology to create, organise and store digital content and information. I can find content from the World Wide Web using a web browser. <p>Writing in Different Styles <i>North Tyneside Unit Plan—Computing KS1</i></p> <ul style="list-style-type: none"> I can recognise common uses of information technology beyond school. I understand how to use technology safely.

Year 1 Vocabulary

Control , Information , Internet , Program , Algorithm , Data , Debug , Online Repeat, Search , Selection Sequence

Year 2 Vocabulary

Control , Information , Internet , Program , Algorithm , Data , Debug , Online Repeat, Search , Selection Sequence
 Browser, Computer networks , Execute, Input , Loop, Output , Software , World Wide Web, Web browser



Whitley Lodge First School—Progression Skills in Computing

	Digital Literacy <i>Exploring the use of digital devices</i>	Computer Science <i>An introduction to coding</i> Algorithms & programs	Information Technology <i>Using technology to find out & present information & experiences.</i>
KS2	<ul style="list-style-type: none"> I understand how to use technology safely. I understand how to keep personal information private. I know how to stay safe on the Internet. I understand where to go for help and support when I have concerns about content or contact when using technology. I know how search results are selected and ranked. I understand that the internet is a large network of computers and that information can be shared between them. I know the difference between the internet and internet service e.g. World Wide Web. I know the potential of information technology for collaboration and communication. 	<ul style="list-style-type: none"> I can create programs that implement algorithms to achieve given goals. I can design algorithms that use repetition and two-way selection i.e. if, then and else. I can design programs with specific goals. I can use a sequence in programs. I can decompose programs to reveal how it works. I can use logical reasoning to predict outcomes. I can use logical reasoning to detect and correct errors in algorithms ad programs—debugging. 	<ul style="list-style-type: none"> I can collect, organise and present data and information in digital content. I can create digital content to achieve a given goal through combining software packages to communicate to a wider audience. I can analyse and evaluate information. I can explore, edit and use a range of web tools to create audio presentations. I can select, use and combine a variety of software on a range of digital devices to accomplish given goals. I can create digital content to achieve a given goal through combining software packages to communicate to a wider audience.
Cycle 1	<p><u>Understanding the Web and E safety</u></p> <ul style="list-style-type: none"> I understand how to use technology safely. I understand how to keep personal information private. I know how to stay safe on the Internet. I understand where to go for help and support when I have concerns about content or contact when using technology. I know how search results are selected and ranked. <p><u>E mail/Google Docs</u></p> <ul style="list-style-type: none"> I understand that the internet is a large network of computers and that information can be shared between them. I know the difference between the internet and internet service e.g. World Wide Web. I know the potential of information technology for collaboration and communication. 	<p><u>Scratch—Programming Maze Games</u> <i>North Tyneside Unit Plan—Computing KS2</i></p> <ul style="list-style-type: none"> I can create programs that implement algorithms to achieve given goals. I can design algorithms that use repetition and two-way selection i.e. if, then and else. I can use a sequence in programs. I can decompose programs to reveal how it works. I can use logical reasoning to predict outcomes. I can use logical reasoning to detect and correct errors in algorithms ad programs—debugging. <p><u>Machines and Mechanisms</u> <i>North Tyneside Unit Plan—Computing KS2— Investigating building mechanisms with Lego WeDo.</i></p> <p><u>When NOT doing Lego WeDo</u></p> <p><u>Computational Thinking—Alien Attack!</u> <i>North Tyneside Unit Plan— Computing KS2</i></p> <ul style="list-style-type: none"> I can design programs with specific goals. I can use a sequence in programs. I can decompose programs to reveal how it works. I can use logical reasoning to predict outcomes. I can use logical reasoning to detect and correct errors in algorithms ad programs—debugging. 	<p><u>3D Design</u> <i>North Tyneside Unit Plan—KS2—Sketchup</i></p> <ul style="list-style-type: none"> I can collect, organise and present data and information in digital content. I can analyse and evaluate information. <p><u>Movie Maker</u> <i>Use I pads to create videos, trailers etc based around the Topic/P.E. Skills using Imovie App.</i></p> <ul style="list-style-type: none"> I can create digital content to achieve a given goal through combining software packages to communicate to a wider audience. I can analyse and evaluate information. <p><u>Manipulating Sound (Science week)</u></p> <ul style="list-style-type: none"> I can explore, edit and use a range of web tools to create audio presentations I can create digital content to achieve a given goal through combining software packages to communicate to a wider audience.
Cycle 2	<p><u>Searching the Web</u> <i>North Tyneside Unit Plan—Computing KS2</i></p> <ul style="list-style-type: none"> I understand how to use technology safely. I understand how to keep personal information private. I know how to stay safe on the Internet. I understand where to go for help and support when I have concerns about content or contact when using technology. I know how search results are selected and ranked. I understand that the internet is a large network of computers and that information can be shared between them. I know the difference between the internet and internet service e.g. World Wide Web. I know the potential of information technology for collaboration and communication. <p><u>Building Collaborative Websites</u> **Year 4 instead of repeating Emails** <i>North Tyneside Unit Plan—Computing KS2</i></p> <ul style="list-style-type: none"> I understand how to use technology safely. I know the difference between the internet and internet service e.g. World Wide Web. 	<p><u>Programming : Kudo</u></p> <ul style="list-style-type: none"> I can create programs that implement algorithms to achieve given goals. I can decompose programs to reveal how it works. <p><u>Scratch—Programming Animations</u> <i>North Tyneside Unit Plan—Computing—KS2</i></p> <ul style="list-style-type: none"> I can create programs that implement algorithms to achieve given goals. I can decompose programs to reveal how it works. I can use a sequence in programs. I can use logical reasoning to predict outcomes. I can use logical reasoning to detect and correct errors in algorithms ad programs—debugging. 	<p><u>Databases</u> <i>North Tyneside Unit Plan—Computing KS2</i></p> <ul style="list-style-type: none"> I can collect, organise and present data and information in digital content. I can create digital content to achieve a given goal through combining software packages. I can analyse and evaluate information. <p><u>Digital Imagery—Patterns in Nature</u> <i>North Tyneside Computing Plan—Computing KS2</i></p> <ul style="list-style-type: none"> I can collect, organise and present data and information in digital content. I can create digital content to achieve a given goal through combining software packages. I can analyse and evaluate information.
<p>KS2 Vocabulary</p> <p>Control , Information , Internet , Program</p> <p>Algorithm , Data , Debug , Online Repeat, Search , Selection Sequence</p> <p>Browser, Computer networks , Execute, Input , Loop, Output , Software , World Wide Web, Web browser</p> <p>Abstraction, Block, Blocks Palette, Browser, Command, Condition, Control Block, Costume, Decomposition, Digital content</p>			



Glossary of Computing Vocabulary

Abstraction - Removing unnecessary detail to help you solve a problem.

Algorithm – A set of instructions for achieving a goal or solving a problem.

Block – (in scratch) - A ‘chunk’ of programming. Blocks linked together are called a script in Scratch.

Blocks Palette – (in Scratch) – the holding area in Scratch where control blocks can be dragged from to the scripts area.

Browser - An application used to access and view websites.

Command – A step or line of programming.

Computer networks – the computers and the connecting hardware (wifi access points, cables, fibres, switches and routers) that make it possible to transfer data using an agreed method ('protocol').

Control – using computers to move or otherwise change ‘physical’ systems.

Control Block – (in Scratch) see **Block**

Costume – (in Scratch) – the costume is what a sprite can look like on screen.

Data – a structured set of numbers, representing digitised text, images, sound or video, which can be processed or transmitted by a computer.

Debug – to detect and correct the errors in a computer program.

Decomposition - Breaking a problem down into smaller parts

Digital content – any media created, edited or viewed on a computer, such as text, images, sound, video (including animation) and multimedia.

Evaluation - Making judgements.

Execute – to follow a series of instructions. The computer or robot follows the instructions in order to complete the program.

Information – the meaning or interpretation given to a set of data by its users, or which results from data being processed.

Input – Information which is received by the computer from a keyboard, mouse or sensor e.g. pressing the left mouse button or space bar creates an input.

Internet – the global collection of computer networks and their connections to communicate.

Logic - Predicting and analysing

Logical reasoning – a systematic approach to solving problems or deducing information using a set of universally applicable and totally reliable rules.

Loop - See '**Repetition**' below

PageRank – A way of ordering the results of a search on the internet.

Patterns - Spotting and using similarities to solve problems (a computational thinking concept)

Procedure - A procedure is a set of coded instructions that tell a computer how to run a program or calculation.

Processor - The computers brain.

Program – A sequence of instructions written to perform a specified task on the computer

Repetition (sometimes referred to as a '**Loop**')– The repeating of a sequence of instructions a certain number of times, or until some specific result is achieved.

Script – (In Scratch) blocks are snapped together into stacks, called scripts.

Scripts area - (In Scratch) – Blocks are dragged from the block palette onto the script area in order to programme a sprite or stage.

Search – To identify data that satisfies one or more conditions, such as web pages containing supplied keywords, or files on a computer with certain properties.

Selection – Instructions that are carried out to determine if a particular condition is met. A question is asked, and depending on the answer, the program chooses between two or more possible courses of action. At KS2, **selection** should include the if..then..else statement. (e.g. If the sprite is touching a wall then bounce back, else move forward)

Sequence – To place programming instructions in order, with each executed one after the other.

Server - A server is a computer that serves up information to other computers on a network. It stores and share files.

Services – Programs running on computers, typically those connected to the internet, to provide information.

Simulation – Using a computer to model the state and behaviour of real-world (or imaginary) systems, including physical and social systems; part of most computer games.

Software – Computer programs, including both application software (such as office programs, web browsers, media editors and games) and the computer operating system. The term also applies to ‘apps’ running on mobile devices and to web-based services.

Sprite – (in Scratch) An object that can be controlled by programming. Scratch projects are made up of objects called sprites. You can change how a sprite looks by giving it a different costume. You can give instructions to a sprite, telling it to move or play music or react to other sprites. To tell a sprite what to do, you snap together graphic blocks into stacks, called scripts. When you click on a script, Scratch runs the blocks from the top of the script to the bottom.

Stage – (in Scratch) - The Stage is where you see your stories, games, and animations come to life. Sprites move and interact with one another on the Stage.

Variables – A way in which computer programs can store, retrieve or change simple data, such as a score, the time left, or the user’s name.

Web browser - An application used to access and view websites. Common web browsers include Microsoft Internet Explorer, Google Chrome, Mozilla Firefox, and Apple Safari.

World Wide Web – A service provided by computers connected to the internet (web servers), in which pages of hypertext (web pages) are transmitted to users; the pages typically include links to other web pages and may be generated by programs automatically.