

Progression in Computing Skills (linked to assessments)

	Online Safety and Digital Literacy <i>see</i> ProjectEVOLVE	Digital Agency	Coding
Y1	<ul style="list-style-type: none"> Know that the internet is accessed all over the World and know some devices are connected to the internet. Know that they should always ask a responsible adult if they want to use a device and ask for help if they see anything that worries them. With support from an adult be able to find information on the internet. 	<ul style="list-style-type: none"> Be able to log onto a computer Or use a QR code to evidence work on a tablet Be able to navigate around the screen with a mouse or touchpad Know how to type text using space bar for separate words to create something meaningful Be able to independently find and use an app on a tablet for instance to take and view a video or photograph 	<ul style="list-style-type: none"> Know which button on a device represents which action <i>e.g. Bee Bot</i> Know how to program a robot to follow simple sequence of instructions (1 – 2 turns) Make a simple sequence of instructions / algorithm Be able to make simple predications about an algorithm and a program. <i>The Bee Bot will go....</i> Be able to change (debug) the program to improve the route
Y2 <small>Builds on last years skills</small>	<ul style="list-style-type: none"> Know devices that enable direct communication between people through images and text. Know what personal information is and that they should never share this with anyone they don't know. Know that they should tell a trusted adult if they are upset or worried about anything on a device. With support be able to use a safe search engine <i>e.g. swiggle</i> 	<ul style="list-style-type: none"> Be able to save, retrieve and print work <i>PC or Tablet</i> Know how to type and format text including basic punctuation and capital letters <i>Any suitable software</i> Be able to confidently use pointing device <i>Mouse, Touchpad</i> Be able to add and create simple images Be able to combine simple text and graphics, for instance create a poster for a purpose <i>Any suitable software</i> 	<ul style="list-style-type: none"> Know how to program a robot to achieve set goal (sequence of 6–7 instructions: maze, point collecting) Begin to use block programming <i>e.g. Scratch Junior (Alex, Daisy Dino)</i> to complete a simple program. Be able to debug more complex problems <i>e.g. a route on a Bee Bot / Blue Bot / Alex / Logo etc... maze.</i>
Y3 <small>Builds on last years skills</small>	<ul style="list-style-type: none"> Know that some people are the internet should not be trusted Know that concerns about what they see on-line should be reported to a trusted adult Create and use a simple password Use a Search engine to find information given key words Know which websites are useful and begin to understand all might not be trustworthy. Be able to log in and out of websites used at school 	<ul style="list-style-type: none"> Be able to log in to computer system as themselves and can find their documents (personal drive) Know how to open shared documents and pictures. Know how to use software to create a simple brochure or poster. <i>Publisher or Pages</i> Know how to sequence and add to slides to make a simple presentation <i>Keynote, Powerpoint, iMovie</i> Create a meaningful document that contains both pictures and text 	<ul style="list-style-type: none"> Be able to use a block program (<i>Scratch Jun, Scratch, Microbit Blocks</i>) to make a simple programme using sequencing and timing. Inputs sets of instructions according to programming language and environment (<i>Logo, Scratch Jnr, Microbit etc..</i>) Use repeat loops for instance to create a program to draw regular 2D shapes (<i>Logo, Scratch</i>) Independently be able to debug basic mistakes Begin to use conditionals – If I click here then this happens...<i>Scratch Junior, Scratch, Microbit</i>
Y4 <small>Builds on last years skills</small>	<ul style="list-style-type: none"> Know that pictures and text share on-line can end up with strangers Reliably know what to do if they are exposed to unpleasant materials on any device Know that having a balance of online and offline activities is important. Reliably uses a more complex password to access resources. Know what the key words are to enter into a Search engine to find information they want. Can select useful websites from the results of a search. 	<ul style="list-style-type: none"> Be able to save a document in a shared folder and retrieve this to continue working on it. <i>Computer. On an iPad work could be shared by Airdrop or equivalent.</i> Be able to organise their personal folder effectively <i>for instance by organising work into folders for each year at school</i> Know how to change font size and style; include shapes and backgrounds and to use the Spellcheck function To be able to use sequence to create an effective presentation or video <i>Keynote, Powerpoint or iMovie.</i> Be able to deliver a simple presentation to their peers 	<ul style="list-style-type: none"> Be able to use a program to sequence, use conditionals and use a variety of inputs and outputs (<i>Scratch- steer an object by using keys /Microbit – show an image when shaken</i>) Be able to explain how their program works <i>for instance by annotating a print out</i> Be able to modify their program and be able to predict the effects of any changes Know how to break sets of instructions into short steps to achieve goal. <i>For instance drawing repeated squares to make a pattern,</i>
Y5 <small>Builds on last years skills</small>	<ul style="list-style-type: none"> Know the risks posed to them by using Social Media, including understanding that people may not be who they say they are. Know that it is irresponsible to share images of friends on-line without their permission. Know that a balance of online and offline activities is important to maintain good health. Know how to report concerns on-line. Effectively use a search engine to find multiple criteria using AND/OR to refine searches Know how to compare information from different websites and know that some sites may show bias 	<ul style="list-style-type: none"> To be able to share their work from their personal folder to work collaboratively with others. Know how to use software to create and effective poster or leaflet. Be able to select the best program for the task. Using software know how to add data into a prepared spreadsheet to answer simple questions. <i>For instance using Excel</i> Independently, prepare an effective presentation to show their learning to others which includes some elements of timing or sequence. <i>For instance in Keynote, Powerpoint, iMovie</i> 	<ul style="list-style-type: none"> Use customisation to change a working program to change its effect for instance <i>backgrounds and sprite in scratch</i>) Uses loops to achieve goals (<i>Scratch – shapes, letters</i>) Uses variables, conditional sentences (when/then), external triggers and loops to achieve set goals (<i>creating game in Scratch, an interactive slides in Powerpoint or Keynote for instance to create an interactive story, Creating a game in Kodu with a scoring system, Creating an electronic die with a Microbit</i>)
Y6 <small>Builds on last years skills</small>	<ul style="list-style-type: none"> Know how to reduce the risks posed by using Social Media by managing their friends lists and privacy settings. Be able to maintain a healthy balance of online and offline activities and know that some activities may affect their emotional wellbeing. Know that it is illegal to post or view 'rude' images of children. Know that hacking or misusing someone else's account is illegal. Know that search results can be manipulated by sponsorship and advertising. Know how to validate information found through searches by checking more than one source. Know that some news is 'fake.' 	<ul style="list-style-type: none"> Know how to use the main features of office software to produce suitable documents and presentations for an audience. <i>Microsoft Office or Apple suite or equivalent.</i> Know how to edit a picture. <i>For instance in Paint.net</i> Know how to create a simple formula in a spreadsheet to work out given mathematical tasks such as adding a set of numbers. to create and sequence a video, add sound effects, transitions and title/subtitles. <i>iMovie – much harder in Windows software.</i> To be able to use two or more programmes to create a final piece of work. (eg, edit a picture before inserting into a document). 	<ul style="list-style-type: none"> Use conditional sentences (when/then) to program objects (<i>Kodu, Scratch, Microbit</i>) As above but use mathematical expressions when constructing conditionals <i>e.g. trigger winning when (If loops >5 then...)</i> Be able to explain what a program will do and accurately predict the effect of changes. Be able to reliably modify existing algorithms and code to change the effect of the program. Be able to make an efficient program by using an effective algorithm and techniques such as loops and procedures

Year 1 LTP Computing 2020

Online Safety and Digital Literacy also see Education for a Connected World	Information Technology	Computer Science
<ul style="list-style-type: none"> Know that they should always ask an adult before using the Internet Know what to do if they are unsure of something they see whilst using the Internet <p>Smartie the penguin http://www.childnet.com/resources/smartie-the-penguin</p> <p>Jessie and Friends Think U Know – https://www.thinkuknow.co.uk/professionals/resources/jessie-and-friends/</p> <p>Episode 1 Watching videos (YR) Episode2 - Sharing pictures (Y1) – video / animation / story book and song</p> <p>Lee and Kim – CEOP https://www.thinkuknow.co.uk/professionals/resources/lee-and-kim/</p> <ul style="list-style-type: none"> With support from an adult be able to find information on the internet <p>SWGfL- Swiggle</p>	<ul style="list-style-type: none"> Be able to log onto a computer or use a QR code to evidence work <p>Learn to log in to a computer – practice writing names in a basic word processor eg Textease Studio, Word, Powerpoint (used as a word processor), Pages, Using J2E Write – https://www.j2e.com/jit5#</p> <ul style="list-style-type: none"> Be able to navigate around the screen with a mouse <p>https://www.topmarks.co.uk/Christmas/ChristmasGames.aspx – mouse skills</p> <p>Millies Mouse Skills / Early keyboard skills – free software</p> <ul style="list-style-type: none"> Know how to type text using space bar for separate words to create something meaningful <p>Create a simple slide in PowerPoint – add text and a picture (Keynote iPad)</p> <p>Keyboard Skills http://primarygamesarena.com/Play/Keyboard-2030</p> <ul style="list-style-type: none"> Be able to independently find and use an app on a tablet for instance to take a and view a photograph <p>Video a message for Santa , tell everyone about yourself, your favourite story</p> <p>Take photos of the local area – go on a photo walk of the area</p>	<ul style="list-style-type: none"> Know which button on a device represents which action e.g. Bee Bot <p>Be able Using Remote Control cars and Beebots – make them move place to place around the school – link to topic , which buttons move forward , backwards, right ,left</p> <ul style="list-style-type: none"> Know how to program a robot to follow simple sequence of instructions (1- 2 turns) Make simple sets of instructions <p>Plan a journey around a simple route – eg Make routes around local landmarks – a map of our locality . Travel from country to country on a map of the UK</p> <p>Use simple algorithms eg sequence a nursery rhyme (pictures) Put the seasons in the correct order.</p> <ul style="list-style-type: none"> Be able to make simple predications about an algorithm and a program. ...The Bee Bot will go.... Be able to change (debug) the program to improve the route <p>Bee Bot – Correct the program so the Bee Bot goes to the right place</p> <ul style="list-style-type: none"> Beebot app / Bluebot app – level 1change (debug) the program to improve the route

Year 2 LTP Computing 2020

Online Safety and Digital Literacy also see Education for a Connected World	Information Technology	Computer Science
<ul style="list-style-type: none"> Know devices that enable direct communication between people through images and text. <p>Going Places Safely – Common Sense Media https://www.commonsensemedia.org/educators/lesson/going-places-safely-k-2</p> <p>Chicken Clicking (Book) – not available in electronic format Could be downloaded in 1 books and projected onto whiteboard</p> <p>Jessie and Friends Think U Know – Episode 3 Playing Games https://www.thinkuknow.co.uk/professionals/resources/jessie-and-friends/</p> <ul style="list-style-type: none"> Know what personal information is and that they should never share this with anyone they don't know. <p>CEOP – Hector's World https://www.thinkuknow.co.uk/Teachers/Resources/</p> <p>Common Sense Media https://www.commonsense.org/education/lesson/keep-it-private-k-2</p> <ul style="list-style-type: none"> Know that they should tell a trusted adult if they are upset or worried about anything on a device. <p>Digi Duck – http://www.kidsmart.org.uk/teachers/ks1/sourcesduck/projet/digiduck-ebook.pdf</p> <ul style="list-style-type: none"> With support be able to use a safe search engine e.g. Swiggle https://swiggle.org.uk/ 	<ul style="list-style-type: none"> Be able to confidently use pointing device Know how to type and format text including basic punctuation and capital letters <p>(Keyboard Activity) http://primarygamesarena.com/Play/Keyboard-2030</p> <p>Use for writing – https://www.j2e.com/jit5# – basic word processor</p> <p>Other software Publisher / Word / Powerpoint / Keynote / Book Creator</p> <ul style="list-style-type: none"> Be able to combine simple text and graphics <p>For instance create a poster for a purpose / leaflet / invitation / electronic book Publisher / Word / Powerpoint / Keynote / Book Creator</p> <ul style="list-style-type: none"> Be able to add and create simple images <p>Draw or modify a picture https://www.j2e.com/jit, Textease Paint, Pic Collage or equivalent related to other work in the curriculum.</p> <p>Add a suitable picture into a piece of work.</p> <ul style="list-style-type: none"> Be able to save, retrieve and print work <p>For instance create a poster in Publisher, save it, amend it and print it.</p>	<ul style="list-style-type: none"> Know how to program a robot to achieve set goal (sequence of 6–7 instructions: maze, point collecting) <p>Beebots – more complex routes. Make routes using precise instructions To develop further use a more complex robot eg Probot</p> <p>Probot used to develop mathematical language of ¼ turn / clockwise /anti clockwise</p> <ul style="list-style-type: none"> Begin to use block programming e.g. Scratch Junior (Alex, Daisy Dino) to complete a simple program. <p>Scratch Junior Travel Planning Creating an algorithm and changing it into code http://code-it.co.uk/scratchjrtravelling</p> <p>Alex Sequencing instructions and debugging to solve simple problems</p> <ul style="list-style-type: none"> Be able to debug more complex problems e.g. a route on a Bee Bot / Blue Bot / Probot /Alex / Logo etc... maze. <p>Bee Bot / Blue Bot AppUse more complex routes eg map of UK / Europe / World on the floor . Can you drive from London to Newcastle.....</p> <p>Use more complex robots</p> <p>Alex Sequencing and debugging harder problems (L10 plus)</p>

Common Sense Media – ABC Searching

<https://www.commonsense.org/education/lesson/abc-searching-k-2>

Scratch Junior Dance Planning

<http://code-it.co.uk/scratchjrdance>

Computing Assessment KS1

National Curriculum Statements	Descriptor	Emerging	Developing	Secure	Working at Greater Depth
<ul style="list-style-type: none"> •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 	he/she can understand what algorithms are and how they are implemented as programs on digital devices and that they understand that programmes execute by following precise and unambiguous instructions	Can follow simple instructions (algorithm)	Knows what an algorithm is and can write one e.g. sequence the seasons / how to make a sandwich. Can implement a program in an app – eg Bluebot app .	Can implement an algorithm on a digital device e.g. independently be able to write a simple animation in Scratch Jun. Can explain their program.	Can implement a more complex algorithm across a range of devices and apps e.g. Hour of Code website and Bee Bot app / Bluebot app. Can explain how their programs work.
	he/she can create simple programs	With support...	Can sometimes write a simple program e.g. program a Bee Bot to follow a simple route with some turns (2-3 instructions)	Can accurately write a simple program e.g. program a Bee Bot to follow a simple route with some turns (5-6 instructions)	Can write a more complex program e.g. program a Probot to follow a route with a variety of turns and distances.
	he/she can debug simple programs	With support	Can sometimes correct errors in their programs e.g. can improve their Bee Bot route.	Can reliably correct errors in their programs e.g. can improve their Bee Bot route.	Can reliably correct mistakes on a variety of software and hardware e.g. Pro Bot, Scratch Jnr, Daisy the Dino etc.... and can modify code to change the outcome.
<ul style="list-style-type: none"> •use logical reasoning to predict the behaviour of simple programs 	he/she can use logical reasoning to predict the behaviour of simple programs	With support	Can sometimes predict the behaviour of a simple program on a Bee Bot	Can reliably predict the behaviour of programs e.g. predict the position of Bee Bot / Probot using a given route.	Can reliably predict the behaviour of a range of programs and devices e.g. effect of given instructions on Scratch Jr and the expected position of a Probot
<ul style="list-style-type: none"> •use technology purposefully to create, organise, store, manipulate and retrieve digital content 	he/she can use technology purposefully to create, organise and store digital content	With support	Can create content on a simple app or program such as Puppet Pals or a drawing program	Can create and save digital content such as meaningful work in Word Processing e.g. Word/Publisher	Can create and store and develop digital content such as effectively adding pictures and other media to their writing in for instance Word or Pages
	he/she can use technology purposefully to retrieve and manipulate digital content	With support	Can open work started in an earlier lesson and improve it.	Can reopen and develop their work (e.g. word processing) and manipulate e.g. changing font, underlining etc.	Can open, manipulate and improve their work across a range of devices and programs e.g. PowerPoint, iMovie, Book Creator app etc....
	Begin to use a keyboard / mouse		Be able to type basic text using letters, the space bar and return keys.	Be able to type and format text including basic punctuation and capital letters. Use a pointing device.	Accurately be able to type and format text including basic punctuation and capital letters Use a pointing device.
<ul style="list-style-type: none"> •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 	he/she can use technology safely and respectfully	-	Know that they should always ask a responsible adult if they want to use a device and ask for help if they see anything that worries them	With support be able to use a safe search engine e.g. swiggle	Be able to use a safe search engine e.g. swiggle and then identify a suitable website
	he/she keeps personal information private when using technology	-	Knows that not everyone is who they say they are on the Internet.	Know what personal information is and that they should never share this with anyone they don't know	Knows that apps and programs can share personal data, and that settings can be used to control it
	he/she knows they should ask for help if they feel unsure about any online content or contact and who to ask	With support	Knows to ask a trusted adult if they are worried or upset about anything they see on devices	Knows that pictures posted can be seen by anyone else in the world	Knows how to ask for help online. Can screenshot any worrying content.
<ul style="list-style-type: none"> • recognise common uses of information technology beyond school 	recognise common uses of information technology beyond school	Knows some items that use technology	Know that the internet is accessed all over the World and know some devices are connected to the internet.	Know devices that enable direct communication between people through images and text.	Can identify a variety of benefits and risks of using technology

Year 3 LTP Computing 2020

Online Safety and Digital Literacy also see Education for a Connected World	Information Technology	Computer Science
<ul style="list-style-type: none"> • Know that some people on the internet should not be trusted See <i>Smart Crew</i> resources. • Know that concerns about what they see on-line should be reported to a trusted adult See <i>Smart Crew</i> resources • Use a simple password <p>Smart Crew Videos and lesson resources. Covering a range of areas)</p> <p>Video :- http://www.childnet.com/resources/the-adventures-of-kara-winston-and-the-smart-crew</p> <ul style="list-style-type: none"> • Use a Search engine to find information given key words • Know which websites are useful and begin to understand that all might not be trustworthy <i>Smart Crew</i> and <p>Is seeing believing? Common Sense Media Unit https://www.commonsense.org/education/digital-citizenship/lesson/is-seeing-believing</p> <ul style="list-style-type: none"> • Be able to log in and out of websites used at school e.g. Lexia Time Tables rockstars etc. <p>Password Power Up Common Sense Media https://www.commonsense.org/education/digital-citizenship/lesson/password-power-up</p> <p>Online Password Checker How secure is my password?</p> <p>This is Me Common Sense Media_ My online presence https://www.commonsense.org/education/digital-citizenship/lesson/this-is-me</p> <p>The Power of Words Common Sense Media <i>Bullying Online</i> https://www.commonsense.org/education/digital-citizenship/lesson/the-power-of-words</p>	<ul style="list-style-type: none"> • Be able to log in to computer system as themselves and can find their documents (personal drive) <i>This would relate to any computer based activity</i> • Know how to open shared documents and pictures. <i>On a computer using the shared drive. On an iPad being able to use Air Drop or equivalent to share work.</i> • Know how to use software to create a simple brochure or poster. Publisher or Pages using a variety of content including headlines, text, pictures and graphics. • Know how to sequence and add to slides to make a simple presentation Keynote, Powerpoint, iMovie. <i>The simple presentation should allow pupil to sequence relatively straight forward ideas</i> • Be able to create a meaningful document that contains both pictures and text. <i>This could be completed in any appropriate software.</i> 	<ul style="list-style-type: none"> • Be able to use a block program (Scratch Jun, Scratch, Microbit Blocks)) to make a simple programme using sequencing and timing. Scratch Junior Pathway http://code-it.co.uk/pathway , Microbit – Create a program that displays a welcome message on the Microbit. Extend this so the message changes. • Inputs sets of instructions according to programming language and environment (Logo, Scratch Jnr, Microbit etc..) <p>SCRATCH – Simple animation or Dressing up game http://code-it.co.uk/scratch/dressingup/dressingupoverview</p> <ul style="list-style-type: none"> • Use a program Logo or Scratch to draw regular 2D shapes Scratch – Drawing shapes http://code-it.co.uk/goldshape/ up to basic procedures Lego Fix the Factory – App teaching sequencing Logo Hour of Code Frozen, Star Wars activities https://code.org/learn • Independently be able to debug basic mistakes. <i>This skill will be gained from repeated programming tasks.</i> • Begin to use conditionals – If I click here then this happens...Scratch Junior, Scratch, Microbit <i>See Microbit activities and Scratch Junior activities)</i> Scratch Junior My Story http://code-it.co.uk/mystory Microbit Display different messages when buttons are pressed or when device is shaken or changes temperature. Scratch Magic Carpet http://code-it.co.uk/carpet or Travel Europe

Year 4 LTP Computing 2020

Online Safety and Digital Literacy also see Education for a Connected World	Information Technology	Computer Science
<ul style="list-style-type: none"> Know that pictures and text share on-line can end up with strangers <p>Google – Be an Internet Legends Series of lessons about many aspects of being safe online. https://beinternetlegends.withgoogle.com/en_uk/toolkit</p> <p>Cyber-Detectives – Teacher led lesson where children solve a mystery. https://esafety.gov.au/education-resources/classroom-resources/cybersmart-detectives</p> <ul style="list-style-type: none"> Reliably know what to do if they are exposed to unpleasant materials on any device Covered by Internet Legends – above <p>Rings of Responsibility Common Sense Media https://www.commonsense.org/education/digital-citizenship/lesson/rings-of-responsibility</p> <p>Keeping Games fun and friendly Common Sense Media https://www.commonsense.org/education/digital-citizenship/lesson/keeping-games-fun-and-friendly</p> <ul style="list-style-type: none"> Know that having a balance of online and offline activities is important. <p>My Media Choices – Common Sense Media https://www.commonsense.org/education/digital-citizenship/lesson/my-media-choices</p> <ul style="list-style-type: none"> Reliably uses a more complex password to access resources. <p><i>Resources within internet legends.</i></p> <ul style="list-style-type: none"> Know what the key words are to enter into a Search engine to find information they want. <p>Consider using first few lessons from Google https://www.google.com/insidesearch/searcheducation/lessons.html</p> <ul style="list-style-type: none"> Can select useful websites from the results of a search. 	<ul style="list-style-type: none"> Be able to save a document in a shared folder and retrieve this to continue working on it. Computer. On an iPad work could be shared by Airdrop or equivalent. <p>For instance open a presentation template or document started by the teacher – for instance in the Incas and add additional content and material. Publisher, Powerpoint, Word, Documents, Pages, Keynote (Apple devices using air drop)</p> <ul style="list-style-type: none"> Be able to organise their personal folder effectively for instance by organising work into folders for each year at school <p>By teacher demonstration and organising work into folders on the school network. Difficult to implement on tablets unless using a cloud system.</p> <ul style="list-style-type: none"> Know how to change font size and style; include shapes and backgrounds and to use the Spellcheck function <p>To produce a piece of work related to other learning for instance in English or the Humanities.</p> <ul style="list-style-type: none"> To be able to use sequence to create an effective presentation or video Keynote, Powerpoint or iMovie. <p>Pupils to sequence key ideas before delivering presentation Keynote, Powerpoint Slides</p> <ul style="list-style-type: none"> Be able to deliver a simple presentation to their peers As above 	<ul style="list-style-type: none"> Be able to use a program to sequence, use conditionals and use a variety of inputs and outputs (Logo/Scratch). <p>Rapid Router levels 1–12</p> <p>Scratch Smoking Car http://code-it.co.uk/scratch/smoking_car/smokingcaroverview extension Music Maker</p> <p>Kodu Build a simple world and program Kodu so that it can be controlled with keys</p> <p>Hour of Code https://studio.code.org/flappy/1</p> <ul style="list-style-type: none"> Be able to explain how their program works This could be done by annotating screen shots of any of the activities Be able to modify their program and be able to predict the effects of any changes. Gold shape has example code that children can modify and change. Know how to break sets of instructions into short steps to achieve goal. For instance drawing repeated squares to make a pattern, <p>Scratch – Shapes Continuing basic work started in Y3 but to include work on procedures and nested loops. http://code-it.co.uk/goldshape/</p> <p>Logo – Using nested loops to create repeating patterns</p> <p>Pro Bot – Using loops and nested loops to create geometric patterns</p>

Computing Assessment Grid LKS2

National Curriculum Statements (Sections that have been struck through have been assumed to be taught in Y5/6)	Descriptor	Emerging	Developing	Secure (ARE Y4)	Working at Greater Depth
<ul style="list-style-type: none"> design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts 	he/she can solve problems in writing programs by decomposing them into smaller parts	Can program for instance a vehicle e.g. BeeBot or Probot to follow a route	Can create a simple program using sequence e.g. a simple animation in Scratch, or a moving pattern on a Microbit	Can accurately sequence instructions, for instance to create more complex programs e.g. an animation with sounds, speech and movement in Scratch or a hyperlinked Powerpoint with multiple pages.	Can accurately use conditionals (IF THEN) to create a simple interactive activity e.g. Scratch Slug Trail or moving object, or program a Microbit to count when shaken.
	he/she can debug programs	With support can ...	Can debug sequential apps and programs such as Alex or Scratch Jnr	Can debug more complex sequential programs, such as ordering and debugging an animation in Scratch	Can independently debug more complex programs, such as repeating 2D shapes in Scratch
<ul style="list-style-type: none"> use sequence, selection, and repetition in programs; work with variables and various forms of input and output 	he/she can use sequence	Can sequence physical instructions, e.g. complex route with BeeBot or ProBot	Can sequence simple directions e.g. Alex	Can sequence activities such as a PowerPoint slide with animations	Can sequence more complex activities e.g. a PowerPoint slide with multiple pages and animations
<ul style="list-style-type: none"> use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs 	he/she can use selection and repetition in programs	Can create simple 2D shapes with a floor turtle.	Can use simple repetition e.g. Create 2D shapes in Logo, Turtle or Scratch using loops	Can use selection and repetition, e.g. create a moving animation in Scratch (Flying butterfly , Walking boy, Crab) which is controlled by keys	Can use complex selection and repetition, e.g. to make an interactive game in Scratch with a moving character
	he/she can use logical reasoning to explain how some simple algorithms work and detect and correct errors in them.	Can predict the path a turtle will take when given a simple program (BeeBot / Probot)	Be able to explain how a simple program works e.g. a Scratch Jnr Animation or instructions to draw an on screen shape	Be able to annotate a simple screenshot (Scratch) to explain how it works.	Be able to annotate and explain a longer program, e.g. an interactive game in Scratch
<ul style="list-style-type: none"> 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 	he/she understands the basic workings of of computer networks including the internet		Can understand that some connections are wired and some are wireless and the internet connects devices	Can explain how data is broken into packets	Can explain how packets are routed around the internet
	he/she is able to communicate and collaborate using technology	With support	Be able to open shared documents and pictures or use QR codes	Be able to create a piece of work e.g. a poster using shared pictures or resources	Be able to create and share work with peers in school
		With support...	Can reliably log in, save, retrieve and print work	Can independently organise their work for instance using their work area or online storage	Is able to use the most effective methods of saving and sharing work
<ul style="list-style-type: none"> 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 	he/she can select and combine a variety of use software to accomplish given goals on a range of digital devices	With support...	Can begin to use a software package e.g. Word or Publisher to create a simple brochure or flier	Can effectively use a variety of appropriate tools in a software package e.g. use of different fonts, backgrounds, shapes, spellcheck for example in Word or Publisher	Can choose and use appropriate software or devices to solve a problem, e.g. choose and use Keynote for an effective presentation
	he/she can create content that accomplishes given goals	With support...	Can create simple content such as a poster or picture	Can create simple interactive content e.g. make a simple animation in Puppet Pals or create a video using iMovie from stills	Could create effective interactive content e.g. make a simple video in iMovie by sequencing stills and adding narration or create a video using iMovie
	he/she can present information	With support...	Can sequence and add to slides to make a simple presentation e.g. PowerPoint	Can create and deliver a simple presentation e.g. PowerPoint with a variety of pictures and appropriate text	Can independently create and show an effective presentation e.g. PowerPoint
<ul style="list-style-type: none"> use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact 	he/she can understand the importance of using technology respectfully and responsibly	With support	Understands that some people on the internet cannot be trusted	Knows that pictures and text shared on an app can end up with strangers	Is aware of their digital footprint and knows what has been posted and typed cannot be undone
	he/she can understand the importance of using technology safely	With support	Can create and use a simple password	Is able to reliably use a password to access resources	Understands the difference between real friends and virtual ones. Begins to understand how people can be tricked on the internet. (Cybercrime)
	he/she can identify a range of ways to report concerns about content and contact	Will sometimes...	Knows that concerns should be passed to a trusted adult	Reliably knows what to do if unpleasant material appears on a device and that concerns can be passed to a trusted adult. Is able to screenshot.	Knows how to report online
<ul style="list-style-type: none"> use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content 	he/she can appreciate how search results are ranked	With support...	Use a search engine with given words	Can use a search engine choosing appropriate key words and select the most relevant responses.	Effectively use a search engine with multiple criteria e.g. AND , OR to refine their search
	he/she evaluates digital content	With support	Can identify websites which are useful	Can select useful websites following a simple web search	Be able to compare websites when finding information

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Online Safety and Digital Literacy also see Education for a Connected World	Information Technology	Computer Science
<ul style="list-style-type: none"> Know the risks posed to them by using Social Media, including understanding that people may not be who they say they are. Know that it is irresponsible to share images of friends on-line without their permission. Know how to report concerns on-line. <p>Play Like Share – CEOP https://www.thinkuknow.co.uk/professionals/resources/play-like-share/</p> <p>What is Cyberbullying? Common Sense Media https://www.commonsense.org/education/digital-citizenship/lesson/whats-cyberbullying</p> <p>Livestreaming – good and bad attention https://www.thinkuknow.co.uk/professionals/resources/live-streaming/</p> <ul style="list-style-type: none"> Know that a balance of online and offline activities is important to maintain good health. <p>Common sense media – my media choices https://www.commonsense.org/education/digital-citizenship/lesson/my-media-choices</p> <ul style="list-style-type: none"> Effectively use a search engine to find multiple criteria using AND/OR to refine searches <p>Google Search Lessons https://sites.google.com/site/gwebsearcheducation/lessonplans</p> <ul style="list-style-type: none"> Know how to compare information from different websites and know that some sites may show bias <p>Trust Me https://www.lgfl.net/online-safety/trust-me</p> <p>Reliability of Websites www.allaboutexplores.com</p> <p>Other A Creators Rights and Responsibilities Common Sense Media https://www.commonsense.org/education/digital-citizenship/lesson/a-creators-rights-and-responsibilities</p>	<ul style="list-style-type: none"> To be able to share their work from their personal folder to work collaboratively with others. <p>For instance to collectively generate a presentation with each pupil, or groups of pupils creating slides which are then sequenced together. This could be done by using a shared folder on a network or sharing Keynote slides through Air Drop. This should be linked to work in other curriculum areas e.g. The Romans, or a guided reading text.(Previous topic or known text would enable a greater IT focus)</p> <ul style="list-style-type: none"> Know how to use software to create and effective poster or leaflet. <p>For instance using Publisher or Pages to create a key facts poste about a topic, for instance The River Tyne. This would incorporate text</p> <ul style="list-style-type: none"> Be able to select the best program for the task. Using software know how to add data into a prepared spreadsheet to answer simple questions. For instance using Excel Independently, prepare an effective presentation to show their learning to others which includes some elements of timing or sequence. For instance in Keynote, Powerpoint, iMovie 	<ul style="list-style-type: none"> Use customisation to change a working program to change its effect for instance backgrounds and sprite in scratch <p>Scratch – For Instance Build a Scene http://code-it.co.uk/goldscene where code is modified to have different effects. Or Helicopter Game http://code-it.co.uk/goldgame/</p> <p>Powerpoint- For instance to take a simple working hyperlinked presentation and to customise it by adding additional content and navigation.</p> <p>Kodu – For instance using the “Shooting Fish” activity, which required additional code to turn it into a working game.</p> <p>Microbit – For instance Snowflake Fall</p> <p>Rapid Router- Levels 13-18</p> <ul style="list-style-type: none"> Uses loops to achieve goals <p>Scratch – For instance Slug Trail http://code-it.co.uk/scratch/slugtrail/slugtrailoverview</p> <p>Microbit- For Instance Rock Paper Scissors lesson</p> <p>Rapid Router- Levels 19 to 32</p> <p>Lightbot – Completing Procedures and Loops sections</p> <ul style="list-style-type: none"> Uses variables, conditional sentences (when/then), external triggers and loops to achieve set goals (creating game in Scratch, an interactive slides in Powerpoint or Keynote for instance to create an interactive story) <p>Microbit – For Instance temperature activity lesson</p> <p>Powerpoint – Create an interactive story (without using a template) which has different endings depending on the choices made.</p> <p>Scratch – Crab Maze http://code-it.co.uk/scratch/crabmaze</p> <p>Kodu – Create a game where the character gets points for instance by collecting coins.</p>

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Online Safety and Digital Literacy also see Education for a Connected World	Information Technology	Computer Science
<ul style="list-style-type: none"> Know how to reduce the risks posed by using Social Media by managing their friends lists and privacy settings. <i>Game On</i> https://esafety.gov.au/education-resources/classroom-resources/gameon <i>Digital Friendships – Common sense media (Online friendships)</i> https://www.commonsense.org/education/digital-citizenship/lesson/digital-friendships Know that having a healthy balance of online and offline activities is important for health. <i>Finding my media balance Common sense media</i> https://www.commonsense.org/education/digital-citizenship/lesson/finding-my-media-balance Know that it is illegal to post or view ‘rude’ images of children. This may be covered as part of PSHCE. Related work <i>You won’t believe this! Common Sense Media</i> https://www.commonsense.org/education/digital-citizenship/lesson/you-wont-believe-this Know that hacking or misusing someone else’s account is illegal. This is covered in some of the Google Internet Legends and Play Like Share materials. Know that search results can be manipulated by sponsorship and advertising. <i>Common Sense Media You won’t believe this!</i> https://www.commonsense.org/education/digital-citizenship/lesson/you-wont-believe-this Know how to validate information found through searches by checking more than one source. <i>London Grid for learning – what can we “Trust”</i> https://www.lgfl.net/online-safety/trust-me <i>Google Search – Range of lessons and materials – Follows on from lessons in Y5. Google Landing, Mixed Media and Quick Finds.</i> 	<ul style="list-style-type: none"> Know how to use the main features of office software to produce suitable documents and presentations for an audience. Microsoft Office or Apple suite or equivalent. For instance create an presentation and a key facts handout for a topic e.g. WW2 Know how to edit a picture. For instance in Paint.net Be able to use layers, add filters, select areas to modify, add text or other appropriate content. Know how to create a simple formula in a spreadsheet to work out given mathematical tasks such as adding a set of numbers. For instance use Excel, Sheets or Numbers to create a spreadsheet that would work out the value of stock in a school tuckshop. (Multiplication and addition of columns) To create and sequence a video, add sound effects, transitions and title/subtitles. iMovie – much harder in Windows software. Use all the main features in iMovie to make an effective short film with incorporates stills with movement, text, sounds and narration or create a simple video in Windows. To be able to use two or more programmes to create a final piece of work. (e.g., edit a picture before inserting into a document). Create a video that then is incorporated into a presentation or edit a picture which might then be used as a background in a presentation etc. 	<ul style="list-style-type: none"> Use conditional sentences (when/then) to program objects (Kodu, Scratch) <i>Scratch</i> For instance fortune telling using PRIMM <i>Rapid Router</i> level 51+ <i>Microbit</i> For Instance – Magic Button Activity <i>Light Bot</i> Additional levels not completed in Y5 which will reinforce learning <i>Cargo Bot</i> – Easy levels As above but use mathematical expressions when constructing conditionals eg trigger winning when (If loops >5 then...) <i>Kodu</i> For instance a racing game with a timer <i>Scratch</i> For instance Coins (change machine) <i>Microbit</i> – For instance Die Roll and Compass activity Be able to explain what a program might do and accurately predict the effect of changes <i>Print and annotate the code for a programming project and explain any changes made that make the program better</i>

<https://sites.google.com/site/gwebsearcheducation/lessonplans>

- Know that some news is 'fake.'

<http://fakenews.lgfl.net>

Computing Assessment Grid UKS2

National Curriculum Statements	Descriptor	Emerging	Developing	Secure (Computing ARE at end of Y6)	Working at Greater Depth	
<p>•design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.</p>	he/she can solve problems in writing programs by decomposing them into smaller parts	Can write a very simple program, for instance a dance animation in Scratch Junior	Can write a simple program (e.g. slug trail in scratch) which breaks a problem down into smaller pieces	Can accurately use procedures to create efficient code e.g. Lightbot or use of the broadcast command in scratch to run additional code or procedures within Microbit	Can create efficient code using procedures and loops to confidently solve complex problems e.g. Cargobot or modelling fitbit with alarm using a Microbit	
	he/she can simulate physical systems	With some support can control a simple device (e.g. can connect a Microbit and display a simple message)	Can write a simple program to control an object (e.g. a Microbit displaying messages when button is pressed)	Use a loop and an IF statement (e.g. Microbit counting when shaken or WeDo turning motor on using a sensor)	Can confidently use more than one loop (e.g. use Microbit to make a Fitbit with a steps alarm WeDo Barrier, Microbit using multiple inputs e.g. switches and temperature sensor)	
	•use sequence, selection, and repetition in programs; work with variables and various forms of input and output.	he/she can work with variables	With support can	Use a variable (e.g. to keep a score in a game written in Scratch or Kodu or make a simple counter with a Microbit)	Use a scoring system which uses a variable (e.g. a scratch game) which uses a variable to define winning conditions, or programme a Microbit as a reaction timer.	Can apply with range of software and challenges. e.g. use of java to program Microbit or Visual Basic in Powerpoint or a java programming challenge in hour of code.
	he/she can work with different forms of input and output	Can use simple input and output e.g. scratch animation	Can use a variety of outputs, e.g. changing a score in a game and playing a sound	Can create a single player game which uses a variety of inputs to control a player	Can create a multi-player game with several inputs and outputs	
<p>•use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.</p>	he/she can use selection and repetition in programs	Can use simple repetition e.g. Create 2D shapes in Scratch or Logo using loops	Can use multiple loops e.g. Create more complex 2D shapes in Scratch using loops (Spirograph patterns)	For Instance can use selection to create a scoring system (e.g. when an object is bumped in Kodu) or to program the Microbit to do a task when 2 events occur (e.g. reset count when shaken with button pressed.)	Can use selection with variables e.g. create a more complex game with multiple scoring or timing systems in Kodu or a reaction timer with a Microbit	
	he/she can use logical reasoning to explain how some simple algorithms work and detect and correct errors in them.	With support...	Be able to explain how a simple program works	Be able to annotate a simple flowchart or screenshot (Scratch or Microbit Block editor) to explain how it works.	Be able to use the annotated screenshot to further develop the challenge.	
	•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.	he/she understands the basic workings of computer networks including the internet	Know the internet connects devices	Can explain how data is broken into packets	Can explain how packets are routed around the internet	Be able to use network commands such as ipconfig and tracert to find basic network information e.g. address of the computer and the gateway.
<p>•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.</p>	he/she is able to communicate and collaborate using technology	Can use basic word processing tools and type simple sentences	Be able to work on a document adding text and graphics.	Be able to independently tools in a word processor (either online or installed) to produce a document suitable for the audience	Use multiple tools and collaboration to create a shared piece of work	
	he/she can combine a variety of software to accomplish given goals on a range of digital devices	With support...	Can independently use a software package e.g. Word or Publisher to create a simple brochure or flier	Can use another program to create content for presentation or document (e.g. edit a picture for use in PowerPoint or Word)	Can use multiple programmes to create content e.g. develop and embed a video in a presentation	
	he/she can analyse and evaluate information and data	With support...	Is able to enter data into a pre-prepared spreadsheet to answer simple questions	Can use a spreadsheet to automate calculations to solve simple problems (e.g. calculating averages)	Can confidently spreadsheet and calculations to produce a graphs and solve problems	
	he/she can present data and information	Can create a sequence of slides for a presentation	Can independently create and show a simple presentation e.g. Powerpoint	Can confidently develop and present ideas to a group and match the work to the needs of the audience	Can confidently develop and present ideas to a group and match the work to the needs of the audience using a range of material e.g. video, presentation handouts etc.	
<p>•use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</p>	he/she can understand the importance of using technology respectfully and responsibly	With support	Be aware of the risks posed by the misuse of technology e.g. some people are not who they say they are	Knows how to reduce the risks posed by the misuse of technology for instance by managing their friends lists on apps	Be able to explain the personal and legal consequences of misuse of technology, e.g. cyberbullying and grooming, know how to reduce the risks of the misuse of technology	
			Is aware of the risks of sharing personal information e.g. location on Snapmaps	Be able to understand the impact of their digital footprint on their future, for instance comments made on social media	Take active steps to manage their digital footprint by rigorously managing settings and posts.	
	he/she can understand the importance of using technology safely	Is aware that pictures shared on apps and websites may be viewed widely and cannot be deleted	Knows that some people on the internet may not be the people they claim to be.	Is aware that apps share information and that settings need to be changed to limit visibility of personal information	Can confidently explain the importance of privacy settings when using websites and apps	
		Knows they should ask an adult if unsure about safety	Knows that it is irresponsible to share photos of friends without permission.	Knows that it is illegal to post or view “rude” images of children. Knows that “hacking” or misusing someone else’s account is illegal.	Can explain to others the benefits and risks of social media.	
			Know that a balance of online and offline activities is important for health	Be able to take steps to maintain a healthy balance of online and offline activities and know that some activities may affect their emotional wellbeing.	Is able to maintain a healthy balance of online and offline activities and support their peers when needed.	

	can identify a range of ways to report concerns about content and contact	Knows that concerns can be passed to a trusted adult	With support...	Knows how to screenshot and report bullying and block users	Is aware of reporting tools on apps and websites
•use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.	he/she can appreciate how search results are ranked	With Support	Can use a search engine using appropriate key words to find information	Effectively use a search engine with multiple criteria e.g. AND , OR to refine their search	Understand how results can be manipulated by adverts, recognise adverts in searches
	he/she is discerning in evaluating digital content	Is aware that some information on the internet may not be accurate	Be able to compare websites when finding information. Knows some that sites may be biased.	Explain how they validated their information (e.g. checking on more than one site) and compares information with other sites. Knows that some news is "fake"	Know how to find out who owns a website using Whois. Knows how to validate information shared by some vloggers.