



Computing - Progression of Skills and Knowledge

<u>Year</u>	<u>Information Technology</u>	<u>Computer Science</u>	<u>Digital Literacy</u>
N	<ul style="list-style-type: none"> Know how to operate simple equipment, e.g. turns on CD player and uses remote control. Show an interest in technological toys with knobs or pulleys, or real objects such as cameras or mobile phones e.g. use of Beebots in <i>Transport</i> topic Know that information can be retrieved from computers and iPads 		
R	<ul style="list-style-type: none"> Recognise that a range of technology is used in places such as homes and schools. Select and use technology for particular purposes e.g. QR codes, iPads for educational games 		
1	<ul style="list-style-type: none"> Can use a mouse, finger etc. to select & move items on the screen, assembling or matching objects. Can take a digital picture or video clip, or record a sound, as part of a task. Can use some software to create / assemble digital content for clear purpose, (could be text, images, animation, graph, sound, etc.) Can make straight-forward edits of their digital work (text, image, sound etc.,) using simple editing tools, to both correct or improve it. Can access a resource and then find answers to straight-forward questions. Can recognise and talk about some common uses of IT in the world around them. Can save and retrieve some work (and print if appropriate to task). 	<ul style="list-style-type: none"> Can give simple instructions to control a device, like a 'floor' robot, or on-screen object. Can use trial and error to produce an accurate set of simple instructions, to control a floor 'robot' or on-screen object. Can name some digital devices that need precise instructions (algorithms) to work / be controlled. Understands that software may represent a fantasy situation and can make sensible (logical) decisions/choices when 'playing' a straight-forward 'game'. Understands some basic computing terms and concepts, such as ... algorithm, program, sequence, etc. 	<ul style="list-style-type: none"> Knows about the Internet and beginning to understand some key, age appropriate, safety 'rules'. Can share some information with others, (such as via school network, in school MLE, via a 'closed' blog). Can find some straight-forward information from a 'safe', selected online resource.
2	<ul style="list-style-type: none"> Can use some software to create / assemble digital content for clear purpose, (could be text, images, animation, graph, sound, etc.) Can make straight-forward edits of their digital work (text, image, sound etc.,) using simple editing tools, to both correct or improve it. Can navigate their way within some straight-forward digital content, such as selected history content, to find some specific information. Can create and amend a (multi-media) resource for a clear purpose, starting to show a sense of the 'audience'. Can create & store some data, (simple data file), and then find answers to straight-forward questions. Can recognise and talk about some common uses of IT in the world around them. Can save and retrieve work (and print if appropriate to task). 	<ul style="list-style-type: none"> Can give a set of simple instructions to program (control) a device, like a 'floor' robot, or on-screen object. Can use trial and error to produce an accurate set of 'instructions' to control a floor 'robot' or on-screen object; refine (de-bug) and improve / make changes. Can talk about some electronic devices and understands that they need precise instructions (algorithms) to work / be programmed (controlled). Demonstrates logical 'trial and error' when using a computer simulation or game, and predicts the consequences of decisions/choices made. Understands some basic computing terms and concepts, such as: (school) network, algorithm, program, debug, editing, website, etc. 	<ul style="list-style-type: none"> Can talk about key online safety 'rules' and knows where to go / report if a problem. Can create and share some information online, (such as in school MLE, 'closed' email system or blog), understanding need to be respectful and safe. Can find some straight-forward information from (selected) website resource(s) and knows not all websites 'good to use'.
	Information Technology	Computer Science	Digital Literacy
3	<ul style="list-style-type: none"> Can use some software to create / assemble digital content for clear purpose, (could be text, images, animation, graph, sound, etc.) Can make straight-forward edits of their digital work (text, image, sound etc.,) using simple editing tools, to both correct and improve it. Can create and amend a (multi-media) resource that shows a sense of 'audience'. Can navigate their way within some straight-forward digital content, such as selected history content, to find some specific information. Can create & store some data, (simple data file), and then find answers to straight-forward questions. Can recognise and talk about some common uses of ICT in the world around them. Can save and retrieve work from electronic folders (and print if appropriate to task). 	<ul style="list-style-type: none"> Demonstrates logical 'trial and error' when using a computer simulation, 'model' or game, and predicts some consequences of decisions/choices made. Can produce an accurate set of simple instructions (code), to program (control) an on-screen object (or floor 'robot'), using trial and error to debug. Can also talk about how the sequence of events in some simple instructions (algorithms) or code are 'working'. Can talk about some digital devices beyond school, that need precise instructions (algorithms) to work / be programmed (controlled). Knows some relevant computing terms such as computer network, Internet, algorithm, program, World Wide Web, website, etc. 	<ul style="list-style-type: none"> Can talk about key online safety 'rules' and knows where to go / report if a problem. Can create and share some information online (such as in school MLE, email/blog), understanding need to be respectful and safe. Can find some straight-forward information from (selected) website resource(s) and knows not all websites 'good to use'.



4	<ul style="list-style-type: none"> Can use software to create and combine content (be it text, pictures / images, graphs, animation, podcast etc.,) for meaningful purpose(s). Can also edit and amend their digital work (text, image, sound etc.,) using simple editing tools, to both correct and improve it. Can create and amend a multi-media resource that shows a sense of 'audience'. Can navigate their way within range of (selected) online content, to find specific information. Can include some information / content from an online resource within a 'presentation'. Can use a data file to find answers to straight-forward questions, (such as through data logging or a survey or a prepared database or a simple spreadsheet, etc). Can save and retrieve work from electronic folders (and print if appropriate to task). 	<ul style="list-style-type: none"> Demonstrates logical choices and prediction when using a computer simulation, 'model' or game and can make simple edits to solve a problem. Can produce, debug and edit an accurate sequence of instructions, include use of repeat, to control on-screen objects. Can plan and create a program using decomposition; includes the use of selection (IF/ELSE) and/or variables. Can talk about different types of input options e.g. motion /touch, microphone, data logging sensor; and output options e.g. switch, speakers, screen, etc. Developing and using a wider computing 'vocabulary' relevant to work, such as de-bug, Apps, data logging, search engine, spam, Wiki, etc. 	<ul style="list-style-type: none"> Can talk about key online safety 'rules', knows what may be unacceptable behaviour, and knows where to go / report if a problem. Can create and share some information online (such as school MLE, email / blog), demonstrating need to be respectful and safe. Can find straight-forward information from (selected) website resource(s) and knows sites can contain, true or false facts, or opinion.
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5	<ul style="list-style-type: none"> Can use software effectively to create, design and manipulate for purposeful outcomes, such as DT, art or music projects. Can combine resources from different sources into a digital presentation, showing clear sense of intended purpose and 'audience'. Can find specific and valid information (i.e. be discerning) using sensible key words / search terms, from (selected) online web content, as fits the task. Can (collect), analyse and draw conclusions from data, (such as through data logging or a survey or a prepared database or through manipulating a spreadsheet, etc). Can save and retrieve work from various electronic folders on network (and controlled online environments where relevant). 	<ul style="list-style-type: none"> Can test, debug and edit a program that accomplishes a given goal, (simple computer 'game' or model or simulation), to solve a problem. Can create an accurate program to accomplish a given goal, including the use of repetition (loops), selection (IF/ELSE) and variables. Can use logical reasoning to deconstruct programs, evaluate their effectiveness and make them more challenging and / or 'elegant' / efficient. Can use different types of input options and output options such as through sensing and control 'kits' and/or software, to solve a problem. Has an understanding of computer networks (local, internet services and WWW). Developing and using a wider computing 'vocabulary' in context of task, such as search engine, URL, variable, validate, digital footprint, spam, Wiki, etc. 	<ul style="list-style-type: none"> Can talk about key online safety 'rules', knows what may be unacceptable behaviour, and knows where to go / report if a problem. Can demonstrate 'web-savvy' awareness, from a range of given scenarios, including conduct, contact and content 'risks' and issues. Can communicate and collaborate online (such as in MLE blog/Wiki /forum), demonstrating respectful and safe behaviours. Understands some simple steps to 'validate' information found on the Web, and appreciates how search results are selected and ranked.
6	<ul style="list-style-type: none"> Can use software effectively to create, design and manipulate for purposeful outcomes, such as DT, art or music projects. Can combine resources from different sources into a digital presentation, evaluate it, and show clearly intended purpose and 'audience'. Can be discerning and find valid information using sensible key words / search terms, from a range of online web content, as fits the task. Can (collect), analyse, evaluate and draw conclusions from data, such as through survey, database or spreadsheet, etc. Can save and retrieve work from various electronic folders on network (and controlled online environments where relevant). 	<ul style="list-style-type: none"> Can test, debug and edit a program that accomplishes a given goal, (simple computer 'game' or model or simulation), to solve a problem. Can create & develop programs, by planning, debugging and applying programming skills of repetition (loops), selection (IF/ELSE) and variables, to accomplish specific goals. Can use logical reasoning to deconstruct programs, evaluate their effectiveness and make them more challenging and / or 'elegant' / efficient. Can use different types of input options and output options such as through sensing and control 'kits' and/or software to solve a problem. Has an understanding of computer networks (local, internet services and WWW). Developing and using a wider computing 'vocabulary' in context of task, such as search engine, URL, HTML, https, variable, validate, digital footprint, etc. 	<ul style="list-style-type: none"> Can demonstrate 'web-savvy' awareness, from a range of given scenarios, including conduct, contact and content 'risks' and issues. Can discuss range of eSafety and eSecurity (privacy) issues and knows range of ways to report concerns or inappropriate behaviour. Can communicate and collaborate online (such as in MLE blog/Wiki /forum), demonstrating respectful and safe behaviours. Can check the results of web searches i.e. how useful, relevant, reasonable, valid, accurate, and appreciates how search results are selected & ranked.