



Kingsway Primary School

Computing Progression Framework

January 2022

Digital literacy

N.C. Outcome		Year	Knowledge and skills
Upper KS2	use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. 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	6	<ul style="list-style-type: none"> to show that they can think through the consequences of their actions when using digital technology. can identify principles underpinning acceptable use of digital technologies. to know a range of ways to report concerns and inappropriate behaviour in a variety of contexts. can form an opinion about the effectiveness of digital content. can use online tools to plan and carry out a collaborative project.
		5	<ul style="list-style-type: none"> can demonstrate that they can act responsibly when using the internet. can discuss the consequences of particular behaviours when using digital technology. knows how to report concerns and inappropriate behaviour in a range of contexts. can decide whether digital content is reliable and unbiased. <p>can work collaboratively with classmates on a class website or blog.</p>
Lower KS2		4	<ul style="list-style-type: none"> can demonstrate that they can act responsibly when using computers. can understand the difference between acceptable and unacceptable behaviours when using digital technology. Know who to talk to about concerns and inappropriate behaviour at home or in school. can decide whether digital content is relevant for a given purpose or question. <p>can work collaboratively with classmates on a shared project.</p>
		3	<ul style="list-style-type: none"> can use digital technology safely and show respect for others when working online. can recognise unacceptable behaviour when using digital technology. To know who to talk to about concerns and inappropriate behaviour in school. can decide whether a web page is relevant for a given purpose or question. <p>can use email and videoconferencing in class.</p>
KS1	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. Recognise common uses of information technology beyond school.	2	<ul style="list-style-type: none"> can keep safe and show respect to others while using digital technology. can understand that they should not share personal information online. can understand what to do if they have concerns about content or contact online. <p>can show an awareness of how IT is used for a range of purposes beyond school.</p>
		1	<ul style="list-style-type: none"> can keep themselves safe while using digital technology. can understand that information on the internet can be seen by others. can understand what to do if they see disturbing content online at home or at school. <p>can show an awareness of how IT is used for communication beyond school.</p>

Information Technology

N.C. Outcome		Year	Knowledge and skills
Upper KS2	use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information	6	<ul style="list-style-type: none"> • can select, use and combine a range of programs on multiple devices. • can design and create systems in response to a given goal. • can analyse and evaluate data. • can make use of a range of search engines appropriate to finding information that is required. • can appreciate that search engines rank pages based on the number and quality of in-bound links.
		5	<ul style="list-style-type: none"> • can use and combine a range of programs on multiple devices. • can design and create programs on a computer in response to a given goal. • can analyse and evaluate information. • can use filters to make more effective use of a standard search engine. • can understand that search engines use a cached copy of the crawled web to select and rank results.
Lower KS2		4	<ul style="list-style-type: none"> • can use and combine a range of programs on a computer. • can design and create content on a computer in response to a given goal. • can collect and present data. • can use a standard search engine to find information. • can understand that search engines rank pages according to relevance.
		3	<ul style="list-style-type: none"> • can use a range of programs on a computer. • can design and create content on a computer. • can collect and present information. • can search for information within a single site. • can understand that search engines select pages according to keywords found in the content.
KS1	use technology purposefully to create, organise, store, manipulate and retrieve digital content	2	<ul style="list-style-type: none"> • can store, organise and retrieve content on digital devices for a given purpose. • With a given purpose, they can use a range of digital technologies to retrieve, organise and store digital content. • can create and edit original content for a given purpose using digital technology. • can create and edit their own original digital content using a range of technologies.
		1	<ul style="list-style-type: none"> • can use digital technology to store and retrieve content. • can use a range of digital technologies to store and access digital content. • can create original content using digital technology. • can create their own original digital content using a range of technologies.
	Understanding the world – Technology	EYFS 40-60 Months	<ul style="list-style-type: none"> • can complete a simple program on a computer. • can use ICT hardware to interact with age-appropriate computer software.

	ELG = To recognise that a range of technology is used in places such as homes and schools. To select and use technology for particular purposes.	EYFS 30-50 Months	<ul style="list-style-type: none"> • knows how to operate simple equipment. E.g. turns on CD player and uses remote control. • can show an interest in technological toys with knobs or pulleys, or real objects such as cameras or mobile phones • can show skill in making toys work by pressing parts or lifting flaps to achieve effects such as sound, movements or new images. • knows that information can be retrieved from computers.
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Computer Science

N.C. Outcome		Year	Knowledge and skills
Upper KS2	<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> <p>use sequence, selection, and repetition in programs; work with variables and various forms of input and output</p> <p>use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs</p>	6	<ul style="list-style-type: none"> • can design, write and debug a program using a second programming language based on their own ideas. • can design, write and debug their own computer control application. • can solve problems using decomposition, tackling each part separately. • can use sequence, selection, repetition and variables in programs. • can write a program that accepts inputs other than keyboard and mouse and produces outputs other than screen or speakers. • can give clear and precise logical explanations of a number of algorithms. • can use logical reasoning to detect and correct errors in algorithms (and programs). • can understand how mobile phone or other networks operate. • can understand how domain names are converted into IP addresses on the internet.
		5	<ul style="list-style-type: none"> • can design, write and debug a program using a block language based on their own ideas • can plan a solution to a problem using decomposition. • can use sequence, selection and repetition in programs. • can write a program that accepts keyboard and mouse input and produces output on screen and through speakers. • can explain a rule-based algorithm in their own words. • can use logical reasoning to detect errors in algorithms. • can understand how data routing works on the internet. • can understand how web pages are created and transmitted.
Lower KS2		4	<ul style="list-style-type: none"> • can design and write a program using a block language to a given brief, including simple interaction. • can develop their own simulation of a simple physical system on screen. • can work with others to plan a project. • can use sequence and repetition in programs. • can write a program that accepts keyboard input and produces on-screen output. • can explain an algorithm using sequence and repetition in their own words.

			<ul style="list-style-type: none"> • can use logical reasoning to detect and correct errors in programs. • can understand that the internet transmits information as packets of data. • can understand how the internet makes the web possible.
		3	<ul style="list-style-type: none"> • can design and write a program using a block language, without user interaction. • can explore simulations of physical systems on screen. • can plan a project. • can use sequence in programs. • can write a program to produce output on screen. • can explain a simple, sequence-based algorithm in their own words. • can use logical reasoning to detect errors in programs. • can understand that computer networks transmit information in a digital (binary) format. • can understand that email and video conferencing are made possible through the internet.
KS1	create and debug simple programs	2	<ul style="list-style-type: none"> • can understand algorithms as sequences of instructions or sets of rules in everyday contexts. • can recognise that common sequences of instructions or sets of rules can be thought of as algorithms. • can program on screen using sequences of instructions to implement an algorithm. • can create programs as sequences of instructions when programming on screen. • can create a simple program on screen, correcting any errors. • can debug any errors in their own code. • can give logical explanations for what they think a program will do.
	use logical reasoning to predict the behaviour of simple programs	1	<ul style="list-style-type: none"> • can understand algorithms as sequences of instructions in everyday contexts. • can take real-world problems and then plan a sequence of steps to solve these. • can program floor turtles using sequences of instructions to implement an algorithm. • can create a Bee Bot (or similar) program using a number of steps in order before pressing the Go button. • can give explanations for what they think a program will do. • can explain to the teacher, and to peers, what they think a program will do.