Brookside Academy Skills, Knowledge and Vocabulary document

Computing

Aims

The national curriculum for computing aims to ensure that all pupils:

- can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation
- can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems
- can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems
- are responsible, competent, confident and creative users of information and communication technology.

KS1
Pupils should be taught to: • understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions • create and debug simple programs • use logical reasoning to predict the behaviour of simple programs • use technology purposefully to create, organise, store, manipulate and retrieve digital content • recognise common uses of information technology beyond school • 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
KS2
Pupils should be taught to: • design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts • use sequence, selection, and repetition in programs; work with variables and various forms of input and output • use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs • 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 • 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
- use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.

Computing Intention Statement

At Brookside we are aware the world of technology is ever changing and the importance of delivering a high-quality computing curriculum. By introducing the pupils to a wide range of technology during their time at the academy, we hope we are producing digitally literate learners and problem solvers. Our intention is that computing will not only be taught as a series of skills but will also engage and enrich our children's experiences by supporting their creativity and cross curricular learning.

We want our pupils to leave the academy confident in using different forms of technology and to ensure that they know how to stay safe online whilst achieving these goals. Online safety underpins all aspects of our computing curriculum. It is taught during computing lessons in an age and developmentally appropriate manner whilst also being celebrated across the academy annually on Safer Internet Day.

Within our school community, we place great importance in the use of technology as a device which supports and enriches links and communications within our locality as well as within the wider world.

Year 5		
	Skills and Knowledge	**Vocabulary**
E safety	Can protect their password and other personal information. Can explain why they need to protect themselves and their friends and the best ways to do this, including reporting concerns to an adult. Know that anything they post online can be seen, used and may affect others. Can talk about the dangers of spending too long online or playing a game. Can discuss the importance of choosing an age-appropriate website or game. Can explain why they need to protect their computer or device from harm.	Block / Filter, Unfollow / Unfriend, Report, Cyber bullying, Cyber-crime, Profile, Troll, Virus, Social networking, Hacking, Sharing / Oversharing, Private / Public, Parental Control, Password
Programming	Can deconstruct a problem into smaller parts to design an algorithm for a specific outcome and use this to write a program. Can repeat commands in a program. Can use a variable to increase programming possibilities. Can change an input to a program to achieve a different output. Can use 'if' and 'then' commands to select an action. Can use logical reasoning to detect and debug mistakes in a program. Can use logical thinking, imagination and creativity to extend a program.	Algorithm, Block, Broadcast, Collaboration, Command, Control, Debug, Design, Effect, Implement, Input / Output, Pattern, Repeat, Rotation, Sequence, Variable
Handling Data	Can use a spreadsheet and database to collect and record data. Can choose an appropriate tool to help collect data. Can present data in an appropriate way. Can search a database using different operators to refine their search. Can talk about mistakes in data and suggest how it could be checked.	Anomaly, Average, Chart, Data, Database, Formulae, Field, Graph, Model, Plausible, Predict, Questions, Record, Results, Tally, Sort, Venn diagram,
Multimedia	Can use text, photo, sound and video editing tools to refine their work. Can use the skills they have already developed to create content using unfamiliar technology.	Animate, Animation, Audience, Clipart, Comic strip, Document, Edit, Folder, Font, Green-screen, Hyperlink, Layout, Screen shot, Slides, Software, Sound

	Can select, use and combine the appropriate technology tools designed for different audiences. Can select an appropriate online or offline tool to create and share ideas. Can review and improve their own work and support others to improve their work	effect, Sound recording, Storyboard, Tab, Template
Technology in our lives	Can describe different parts of the Internet. Can use different online communication tools for different purposes. Can use a search engine to find appropriate information and check its reliability. Can recognise and evaluate different types of information they find on the World Wide Web. Can describe the different parts of a webpage. Can find out who the information on a webpage belongs to.	Blog, Computing devices, Copyright, Email, Digital content, Digital advertising, Internet, Internet Services, QR Code, Reliability, Search engine, Search result, Search query, Vlog, Webpage, Website, World Wide Web