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 4		
	Skills and Knowledge	**Vocabulary**
E safety	I can choose a secure password when using a website. I can talk about ways I can protect myself and friends from harm online. I can use the safety features of websites as well as reporting concerns to an adult. I know that anything I post online can be seen by others and I can comment positively and respectfully online. I can choose websites and games that are appropriate for my age and make a good choice about how long I spend on them. I can talk about why I need to ask a trusted adult before downloading files and games from the Internet.	Anti spam, Anti Virus Acceptable use, Cookie, Cloud, Computing, File sharing, Filtering, Firewall, Instant Message, MMS, Netiquette, Parental Control, Password, Privacy, SMS, Manners, Social Network, Safety, Spam, Troll, Footprint, Sharing, Trust, Cyberbullying, Risk, Username, Block, Profile, Friend Request
Programming	I can use logical thinking to solve an open-ended problem by breaking it up into smaller parts. I can use a sensor to detect a change which can select an action within a program. I know that they need to keep testing a program while they are putting it together. I can use a variety of tools to create a program. I can recognise an error in a program and debug it and can use an efficient procedure to simplify a program. I can recognise that an algorithm will help them to sequence more complex programs.	Algorithm, Background, Block, Collaboration, Command, Computational thinking, Control, Costume, Debug Design, Effect, Event, Forever Imagine, Implement, Input Make mistakes, Movement Pattern, Output, Persevere

Handling Data	I can organise data in different ways.	Branching database, Chart
	I can collect data and identify where it could be inaccurate.	Collect, Data, Database, Decision tree,
	I can plan, create and search a database to answer questions.	Field, Graph, Hypothesis,
	I can choose the best way to present data.	Information, Interpret,
		Investigate, Predict,
		Questions, Record, Results,
Multimedia	I can use photos, video and sound to create an atmosphere when presenting to different audiences.	Animate, Animation, App, Audience, Backspace, Clipart, Comic strip,
	I am confident to explore new media.	Document, Edit, Enter, Folder, Font,
	I can create, modify and present documents for a particular purpose, changing the appearance of text.	Greenscreen, Image, Insert, Heading, Hyperlink, Layout, Narration, Persuasive,
	I can use a keyboard confidently and make use of a spellchecker to write and review work.	Presentation, Right click, Select, Screen shot, Shift, Slides, Software, Sound effect,
	I can use an appropriate tool to share work and collaborate online and give constructive feedback to peers to help them improve their work and refine their own work.	Space bar, Storyboard, Style, Template, Text
Technology in our lives	I can tell you whether a resource they are using is on the Internet, the school network or their own device.	Blog, Citation, Communicate, Computing devices, Copyright email, Filter,
	I can identify key words to use when searching safely on the World Wide Web.	Hyperlink, Internet, QR Code, Reliability,
	I am able to think about the reliability of information they read on the World Wide Web.	Search engine, Search result, Search
	I can create a hyperlink to a resource on the World Wide Web.	query, Vlog, Webpage, Website, World Wide Web,