

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 2

	Skills and Knowledge	Vocabulary
E safety	<p>I can explain why I need to keep passwords and personal information private.</p> <p>I can describe the things that happen online that I must tell an adult about.</p> <p>I can talk about why I should only go online for a short amount of time.</p> <p>I can talk about why it is important to be kind and polite online and in real life.</p> <p>I know that not everyone is who they say they are on the Internet.</p>	<p>Information/password/safe/adults/protect/pop – up/kindness/strangers/private/online/ safety/ polite/log on/ log off/ log in/ username/gaming/technology/ devices/ multimedia/websites/ internet</p>
Programming	<p>I can give instructions to a friend (using forward, backward and turn) and physically follow their instructions.</p> <p>I can tell you the order I need to do things to make something happen and talk about this as an algorithm.</p> <p>I can program a robot or software to do a particular task.</p> <p>I can look at a friend’s program and explain what will happen.</p> <p>I can use programming software to make objects move.</p> <p>I can watch a program execute and spot where it goes wrong so that I can debug it.</p>	<p>Algorithm / Backward Button / Clear Code / Command / Debug / Distance / Execute / Floor robot / Forward / Go / Half turn Instructions / Mistake / Error Move Pause / Wait / Predict / Program / Quarter turn / rightangle / Turn left / Turn right / Sequence Stop Symbol</p>
Handling Data	<p>I can talk about the different ways they use technology to collect information, including a camera, microscope or sound recorder.</p> <p>I can make and save a chart or graph using the data I collect.</p> <p>I can talk about the data that is shown in my chart or graph.</p> <p>I am starting to understand a branching database.</p> <p>I can explain what kind of information I could use to help investigate a question.</p>	<p>Branching database /Collect Data/ Decision tree /Found out/ Graph /Investigate/ Pictograph / Questions /Record /Sort /Venn diagram</p>

<p>Multimedia</p>	<p>I can use technology to organise and present ideas in different ways.</p> <p>I can use the keyboard on a device to add, delete and space text for others to read.</p> <p>I can explain about an online tool that will help to share their ideas with other people.</p> <p>I can save and open files on the device I use.</p>	<p>Animate / Animation / App / Backspace Clipart / Copy / Delete / Enter / Folder Image / Insert / Keyboard / Open Photo(graph) / Print / Right click / Save Select / Shift / Software / Sound / Space bar Video / Film</p>
<p>Technology in our lives</p>	<p>I can explain why they use technology in the classroom.</p> <p>I can explain why they use technology in my home and community.</p> <p>I am starting to understand that other people have created the information I use.</p> <p>I can identify benefits of using technology including finding information, creating and communicating.</p> <p>I can talk about the differences between the Internet and things in the physical world.</p>	<p>Communicate /QR Code/ Search engine Technology / Computing devices/ Website World Wide Web / Internet</p>