

## Subject Intent Statement

### **Computing**

Our intent for the teaching of computing is to prepare our learners for their future by giving them the opportunities to gain knowledge and develop skills that will equip them for an ever changing digital world. Knowledge and understanding of ICT is of increasing importance for children's future both at home and for employment. Our Computing curriculum focuses on a progression of skills in digital literacy, computer science and information technology. It includes a focus on online safety in all areas of study to ensure that children become competent in safely using, as well as understanding, technology. At Brockholes Wood School we believe that ICT should promote social interaction and collaborative working and be used throughout the whole curriculum.

---

## Subject implementation Content

### 3 and 4 Years Old + Reception

With the removal of assessment of technology from Development Matters 2021, our learners will be given opportunities to interact and learn about the world of technology layered within the wider development opportunities within this key stage. This will be done by;

- Using supporting software to give children access to technology via the key learning strands.
- Ensuring continuity in provision by utilising supporting software from the same scheme that the children will follow throughout their journey at Brockholes Wood.

These opportunities are organised into the whole-school plan under the headings;

- Online safety
- Communication and Language
- Expressive Arts
- Physical Development
- Understanding the World
- PSED

Through the use of these supporting materials, our aim is to give the children opportunities to begin their journey to building knowledge and skills in the area of technology

Through discussion and research, as a school we are aware of the many links that can be made between computational thinking and the activities that surround children in these age groups.

EYFS Computational Thinking Skills	Simple definitions
Tinkering	Playing and exploring
Making	Making things, checking and fixing things
Collaboration	Playing and working collaboratively
Persevering	Not giving up
Logic	Anticipating and explaining is logical reasoning
Pattern	Grouping things, comparing, spotting similarities and differences, working out rules
Abstraction	Naming and labelling, working out what is important, sticking to the main theme, ignoring what is not important, creating a summary
Algorithms and Decomposition	Responding to instructions, ordering things, sequencing things, introducing storylines, working out different ways to do things, breaking problems down into steps

	Digital Literacy Online Safety	Computer Science	Information Technology
Y1	<p>Recognise common uses for information technology beyond school and how it can be used to communicate. Use of child friendly message programs and email programs etc. to also consolidate word processing skills.</p> <p><b>Unit 1.9 Technology out of school- Autumn 2</b></p> <p>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.</p> <p><b>Unit 1.1 Online safety &amp; Explore Purple Mash- Autumn 2</b></p>	<p>Understand what algorithms are and how they are implemented on digital devices; and that programs execute by following precise and unambiguous instructions.</p> <p><b>Unit 1.5 Maze Explorers- Summer 1</b></p>	<p>Use technology purposefully to create, organise, store, manipulate and retrieve digital content.</p> <p><b>Unit 1.3 Pictograms- Spring 1</b></p>
	Digital Literacy Online Safety	Computer Science	Information Technology
Y2	<p>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.</p> <p><b>Unit 2.2 Online safety- Autumn 2</b></p>	<p>Understand what algorithms are and how they are implemented 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.</p> <p><b>Unit 2.1 Coding- Summer 1</b></p>	<p>Use technology purposefully to create, organise, store, manipulate and retrieve digital content.</p> <p><b>Unit 2.7 Making Music- Autumn 2</b> <b>Unit 2.8 Presenting ideas- Spring 2</b></p>
	Digital Literacy Online Safety	Computer Science	Information Technology
Y3	<p>Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concern about content and contact.</p> <p><b>Unit 3.5- Email Summer 2</b></p>	<p>Design and write debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.</p> <p>Use logical reasoning to explain how some programs work.</p> <p><b>Unit 3.1 Coding- Spring 2</b></p>	<p>Select, use and combine a variety of software 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.</p> <p><b>Unit 3.6 Branching databases &amp; Unit 3.8 Graphing- Autumn 2</b></p>

	Digital Literacy Online Safety	Computer Science	Information Technology
Y4	Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concern about content and contact. <b>Unit 4.2 Online safety- Autumn 2</b>	Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs. <b>Unit 4.5 Logo- Spring 1</b>	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 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. <b>Unit 4.6 Animation &amp; Unit 4.9 Making Music- Spring 2</b>
	Digital Literacy Online Safety	Computer Science	Information Technology
Y5	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 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. <b>Unit 5.8 Word processing- Summer 2</b>	Design and write 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. <b>Unit 5.5 Game Creator – Spring 1</b> <b>Unit 5.1 Coding- Summer 1</b>	
	Digital Literacy Online Safety	Computer Science	Information Technology
Y6	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. <b>Unit 6.6 Networks- Spring 2</b> Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concern about content and contact. <b>Unit 6.2 Online Safety- Spring 2</b>	Design and write 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. <b>Unit 6.1 Coding- Autumn 2</b>	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 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. <b>Unit 6.4 Blogging- Summer 2</b>

## Subject Implementation Key Concepts

**Online Safety is taught in Year 2, Year 4 and Year 6 explicitly, to ensure pupils have the knowledge, skills and understanding to work safely wherever they encounter technology, but forms the underpinning ethos of Computing and is met in other year groups through assemblies, Kidsafe and Safer Internet Day. A variety of software is used to support the Computing and wider curriculum, such as Purple Mash and the Microsoft suite.**

Year group	<p><b>Digital Literacy</b> Able to use and express themselves and develop their ideas through ICT</p> <p><b>Online Safety</b> Internet, acceptable use, social media, peer pressure, reporting content</p>	<p><b>Computer Science</b></p>	<p><b>Information technology</b></p>
1	<p>Understand the importance of keeping information, such as their usernames and passwords, private and actively demonstrate this in lessons.</p> <p>Take ownership of their work and save this in their own private space such as their My Work folder on Purple Mash.</p> <p>Identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.</p> <p><b>Online safety &amp; Explore Purplemash Unit 1.1 Autumn 2</b></p> <p>Understand what is meant by technology and can identify a variety of examples both in and out of school.</p> <p>Make a distinction between objects that use modern technology and those that do not.</p> <p><b>Technology outside of school Unit 1.9 Autumn 2</b></p>	<p>Understand that an algorithm is a set of instructions used to solve a problem or achieve an objective.</p> <p>Know that a computer program turns an algorithm into code that the computer can understand.</p> <p><b>Maze Explorers Unit 1.5 Summer 1</b></p>	<p>Sort, collate, edit and store simple digital content e.g. children can name, save and retrieve their work and follow simple instructions to access online resources.</p> <p>Use Purple Mash 2Quiz example (sorting shapes), 2Code design mode (manipulating backgrounds) or using pictogram software such as 2Count.</p> <p><b>Pictograms Unit 1.3 Spring 1</b></p>

	Digital Literacy Online Safety	Computer Science	Information technology
2	<p>Know the implications of inappropriate online searches.</p> <p>Begin to understand how things are shared electronically such as posting work to the Purple Mash display board.</p> <p>Develop an understanding of using email safely by using 2Respond activities on Purple Mash and know ways of reporting inappropriate behaviours and content to a trusted adult.</p> <p><b>Online safety Unit 2.2</b> <b>Autumn 2</b></p>	<p>Children can explain that an algorithm is a set of instructions to complete a task.</p> <p>When designing simple programs, children show an awareness of the need to be precise with their algorithms so that they can be successfully converted into code.</p> <p>Children can create a simple program that achieves a specific purpose. They can also identify and correct some errors, e.g. Debug Challenges: Chimp. Children's program designs display a growing awareness of the need for logical, programmable steps.</p> <p>Children can identify the parts of a program that respond to specific events and initiate specific actions. For example, they can write a cause and effect sentence of what will happen in a program.</p> <p><b>Coding Unit 2.1</b> <b>Summer 1</b></p>	<p>Demonstrate an ability to organise data using, for example, a database such as 2Investigate and can retrieve specific data for conducting simple searches.</p> <p>Edit more complex digital data such as music compositions within 2Sequence.</p> <p>Children are confident when creating, naming, saving and retrieving content.</p> <p>Use a range of media in their digital content including photos, text and sound.</p> <p><b>Making Music Unit 2.7</b> <b>Autumn 2</b></p> <p><b>Presenting ideas Unit 2.8</b> <b>Spring 2</b></p>
	Digital Literacy Online Safety	Computer Science	Information technology
3	<p>Demonstrate the importance of having a secure password and not sharing this with anyone else.</p> <p>Explain the negative implications of failure to keep passwords safe and secure.</p> <p>Understand the importance of staying safe and the importance of their conduct when using familiar communication tools such as 2Email in Purple Mash.</p> <p>Know more than one way to report unacceptable content and contact.</p> <p><b>Email (inc email safety) Unit 3.5</b> <b>Summer 2</b></p>	<p>Turn a simple real-life situation into an algorithm for a program by deconstructing it into manageable parts.</p> <p>Their design shows that they are thinking of the desired task and how this translates into code.</p> <p>Identify an error within their program that prevents it following the desired algorithm and then fix it.</p> <p><b>Coding Unit 3.1</b> <b>Spring 2</b></p>	<p>Collect, analyse, evaluate and present data and information using a selection of software, e.g. using a branching database (2Question), using software such as 2Graph.</p> <p>Consider what software is most appropriate for a given task.</p> <p><b>Branching databases Unit 3.6 (4 lessons)</b> <b>Autumn 2</b></p> <p><b>Graphing Unit 3.8 (2 lessons)</b> <b>Autumn 2</b></p>

	Digital Literacy Online Safety	Computer Science	Information technology
4	<p>Explore key concepts relating to online safety using concept mapping such as 2Connect.</p> <p>Help others to understand the importance of online safety.</p> <p>Know a range of ways of reporting inappropriate content and contact.</p> <p><b>Online Safety Unit 4.2 Autumn 2</b></p>	<p>Children's designs for their programs show that they are thinking of the structure of a program in logical, achievable steps and absorbing some new knowledge of coding structures. For example, 'IF' statements, repetition and variables.</p> <p>Trace code and use step-through methods to identify errors in code and make logical attempts to correct this.</p> <p>In programs such as Logo, 'read' programs with several steps and predict the outcome accurately.</p> <p><b>Logo Unit 4.5 Spring 1</b></p>	<p>Understand the function, features and layout of a search engine. They can appraise selected webpages for credibility and information at a basic level.</p> <p>Make improvements to digital solutions based on feedback. C</p> <p>Make informed software choices when presenting information and data.</p> <p>Create linked content using a range of software such as 2Animate and Busy Beats.</p> <p><b>Animation Unit 4.6 (3 lessons) Making Music Unit 4.9 (4 lessons) Spring 2</b></p>
5	<p>Have a secure knowledge of common online safety rules and can apply this by demonstrating the safe and respectful use of a few different technologies and online services.</p> <p>Implicitly relate appropriate online behaviour to their right to personal privacy and mental wellbeing of themselves and others.</p> <p><b>Internet Safety day, Kidsafe, Assemblies etc.</b></p>	<p>Attempt to turn more complex real-life situations into algorithms for a program by deconstructing it into manageable parts.</p> <p>Test and debug their programs as they go and can use logical methods to identify the approximate cause of any bug but may need some support identifying the specific line of code. Program- 2DIY 3D, 2Code.</p> <p>Translate algorithms that include sequence, selection and repetition into code with increasing ease and their own designs show that they are thinking of how to accomplish the set task in code utilising such structures.</p> <p>They are combining sequence, selection and repetition with other coding structures to achieve their algorithm design.</p> <p><b>Game Creator Unit 5.5 Spring 1</b></p> <p><b>Coding Unit 5.1 Summer 1</b></p>	<p>Search with greater complexity for digital content when using a search engine.</p> <p>Explain in some detail how credible a webpage is and the information it contains.</p> <p>Make appropriate improvements to digital solutions based on feedback received and can confidently comment on the success of the solution. E.g. creating their own program to meet a design brief using 2Code.</p> <p>Objectively review solutions from others.</p> <p>Collaboratively create content and solutions using digital features within software such as collaborative mode.</p> <p><b>Word processing Unit 5.8 Microsoft word Summer 2</b></p>

	Digital Literacy Online Safety	Computer Science	Information technology
6	<p>Demonstrate the safe and respectful use of a range of different technologies and online services.</p> <p>Identify more discreet inappropriate behaviours through developing critical thinking, e.g. 2Respond activities.</p> <p>Recognise the value in preserving their privacy when online for their own and other people's safety.</p> <p style="text-align: center;"><b>Online Safety Unit 6.2</b> <b>Spring 2</b></p>	<p>Understand and can explain in some depth the difference between the internet and the World Wide Web.</p> <p>Know what a WAN and LAN are and can describe how they access the Internet in school.</p> <p style="text-align: center;"><b>Networks Unit 6.6</b> <b>Spring 2</b></p> <p>Turn a more complex programming task into an algorithm by identifying the important aspects of the task (abstraction) and then decomposing them in a logical way using their knowledge of possible coding structures and applying skills from previous programs.</p> <p>Test and debug their program as they go and use logical methods to identify the cause of bugs, demonstrating a systematic approach to try to identify a particular line of code causing a problem.</p> <p>Translate algorithms that include sequence, selection and repetition into code and their own designs show that they are thinking of how to accomplish the set task in code utilising such structures, including nesting structures within each other.</p> <p>Coding displays an improving understanding of variables in coding, outputs such as sound and movement, inputs from the user of the program such as button clicks and the value of functions.</p> <p>Interpret a program in parts and can make logical attempts to put the separate parts of a complex algorithm together to explain the program as a whole.</p> <p style="text-align: center;"><b>Coding Unit 6.1</b> <b>Autumn 2</b></p>	<p>Readily apply filters when searching for digital content.</p> <p>Explain in detail how credible a webpage is and the information it contains.</p> <p>Compare a range of digital content sources and are able to rate them in terms of content quality and accuracy.</p> <p>Use critical thinking skills in everyday use of online communication.</p> <p>Make clear connections to the audience when designing and creating digital content.</p> <p>Design and create their own blogs to become a content creator on the Internet, e.g. 2Blog.</p> <p>Use criteria to evaluate the quality of digital solutions and are able to identify improvements, making some refinements.</p> <p style="text-align: center;"><b>Blogging Unit 6.4</b> <b>Summer 2</b></p>





# Brockholes Wood Community Primary School

*'Shaping little lives into bright futures.'*

