Revised February 2024

Waterloo Primary School

Computing Policy

Intent

We are committed to developing pupils' academic resilience, to enable them to access and fully engage with the progressive and connected curriculum we provide. With our pupils' wellbeing at the forefront, we deliver a curriculum which fulfils all statutory requirements. Teaching and learning opportunities are thoughtfully mapped to enable pupils to develop the necessary knowledge, and digital literacy skills to contribute successfully in the modern world. Pupils revisit, apply and deepen their knowledge within and across subject areas, whilst maintaining computing as an independent discipline, with its own unique set of skills.

We believe that British values are fundamental to cohesion and successful participation in society and we promote these values through our teaching of Computing and Online Safety.

We recognise that our children reflect our socially diverse community and consider it crucial for them to develop a strong vocabulary that enables them to articulate their opinions, academic understanding and emotions. Key vocabulary is mapped across the Computing curriculum; opportunities to revisit and embed learnt vocabulary are planned for. Key knowledge and vocabulary for units of work are shared with families in order to further consolidate learning. Opportunities to develop speaking and listening skills are planned to equip pupils to verbally reason, articulate predictions, explain outcomes and to confidently report concerns.

We regard reading as an essential building block for learning across all subject areas. Taught reading skills are embedded and applied throughout our computing curriculum. Questioning, tasks and resources are skilfully planned to scaffold and challenge, ensuring every child, whatever their starting point, can deepen their understanding. Through rigorous teaching and experiences on a range of technology and equipment, it is our intention to provide children with the skills and knowledge that will be still be relevant even when technology advances beyond what we currently teach.

Our aim is for each child to confidently enter the next stage of their education with the digital literacy skills, knowledge and mind-set to reach their academic potential and to thrive, knowing and understanding their place in the world and their importance and value to society as global citizens.

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.

Skills and Attitudes

EYFS:

Our Early Years curriculum has been carefully planned to ensure progression from the Early Years to Year 6. The curriculum is taught through a balance of teacher-led inputs, teacher-directed activities and free exploration. Activities are planned within continuous provision to allow children to develop the skills needed to support their wider curriculum learning throughout school. Our Computing Lead has the opportunity to spend time in the Early Years to ensure curriculum coverage and progression.

Key Stage 1:

Pupils are 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 technologies

Key Stage 2:

Pupils are 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.

Curriculum Design

Reception

In Reception the children are introduced to a range of technology, and how to use it. They will know how to program Bee-Bots and Code-a-pillars to follow simple directions. They will know that information can be found using the internet and understand the importance of only using the internet with an adult to stay safe online.

Year One

Mandatory Skills (MS)

Age-appropriate skills for the use of core devices and applications within the setting.

Computer Science (CS)

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.

Information Technology (IT)

Use technology purposefully to create, organise, store, manipulate and retrieve digital content.

Digital Literacy (DL)

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.

Year Two

Mandatory Skills (MS)

Age appropriate skills for the use of core devices and applications within their setting.

Computer Science (CS)

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.

Information Technology (IT)

Use technology purposefully to create, organise, store, manipulate and retrieve digital content.

Digital Literacy (DL)

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.

Year Three

Mandatory Skills (MS)

Age appropriate skills for the use of core devices and applications within their setting.

Computer Science (CS)

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.

Information Technology (IT)

Use technology purposefully to create, organise, store, manipulate and retrieve digital content.

Digital Literacy (DL)

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.

Year Four

Mandatory Skills (MS)

Age appropriate skills for the use of core devices and applications within their setting.

Computer Science (CS)

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.

Information Technology (IT)

Use technology purposefully to create, organise, store, manipulate and retrieve digital content.

Digital Literacy (DL)

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.

Year Five

Mandatory Skills (MS)

Age appropriate skills for the use of core devices and applications within their setting.

Computer Science (CS)

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.

Information Technology (IT)

Use technology purposefully to create, organise, store, manipulate and retrieve digital content.

Digital Literacy (DL)

Recognise common uses of information technology beyond school. Use technology safely andrespectfully, 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.

Year Six

Mandatory Skills (MS)

Age appropriate skills for the use of core devices and applications within their setting.

Computer Science (CS)

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.

Information Technology (IT)

Use technology purposefully to create, organise, store, manipulate and retrieve digital content.

Digital Literacy (DL)

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.

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General Teaching

In light of recent changes to social media, all children will undergo learning related to appropriate social media use. This will link to Internet Safety Day to ensure that teaching does not impede upon the rest of the timetable. Children will be made aware of their digital footprint, lasting impact and trail of messages.

Learning Environment

As part of a whole school focus, all year groups will have an Online Safety display made available to the children for their reference. This may be within classrooms or displayed within a year group corridor, highlighting an understanding of how to remain safe online. Within the computing classroom (ICT suite), appropriate vocabulary will be made available in terms of computing and algorithms, and helpful hints for accessing keyboard shortcuts will also be on display. It is the intention of the computing co-ordinator to encourage teachers to share examples of work through the use of QR (quick response) codes, that will allow examples of work to be scanned and viewed using a mobile/tablet device.

Adaptive Teaching

At Waterloo Primary School, we ensure that we maximise learning opportunities for all by using adaptive teaching.

At Waterloo Primary School, we ensure that we maximise learning opportunities for all. Adaptive teaching means lessons and tasks are appropriate for all pupils and they can access and be successful in their learning. All children receive high quality teaching and reasonable adjustments are made to resources and approaches.

In computing, this may take the form of:

- Breaking down content into smaller chunks/steps
- Scaffolding and modelling, using a 'thinking out loud' technique
- Pre-teaching and pre-reading about a subject
- Varying levels of support
- Removing unnecessary expositions (unnecessary language)
- Use of concrete resources
- Alternative methods of recording
- Adapted physical resources (alternative keyboards, the use of microphones for audio recording and the use of a help desk containing key Computing vocabulary)
- Reframing questions
- Intervening appropriately
- Flexible groupings
- Make connections to previous learning and supporting children to remember more through various strategies through quizzes, mind maps
- Adapting thinking time to process information
- Use of visuals such as task planners, pictures and diagrams
- Extending tasks with more choice, freedom to select resources and open ended challenges

Seeking to understand pupils' differences, including their differing prior knowledge and experience and potential barriers to learning, is an essential part of teaching. Adapting teaching in a responsive way is likely to increase pupil success.

Where, despite adaptive teaching approaches, a pupil is working significantly below age related expectations, they may require a more bespoke and personalised curriculum in order to achieve success.

Assessment

To ensure consistency, all year groups will be assessed based on the curriculum statements made available on Target Tracker. All teachers will ensure that their children are regularly updated on the system to ensure that children's progress is charted on a half termly basis. This will be monitored by the Computing Lead. Any work that the children complete that can be saved should be saved in the pupil shared area or using Book Creator (application used). If no work is being saved the teacher will produce one Target Tracker observation that briefly outlines the lesson and work produced. They will mention any children who perform above expectation. They will select which children are expected in the pupil selection area and attach the curriculum statements to this. This will allow for appropriate assessment and tracking of work completed.

Monitoring and Evaluating

Monitoring and evaluation will be completed by the computer lead when the time is made available as part of a subject leadership rota. The computing lead alongside SLT will ensure that Target Tracker is monitored and evaluated on a half termly basis to ensure that objectives are covered and that children are placed within the appropriate steps in terms of individual assessment. Monitoring and evaluation may include scrutiny of work, lesson observations, learning walks, pupil interviews and pupil/staff questionnaires.

Policy written by: Mr Otten (Teacher and Computing Lead) February 2024

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