














# Computing Curriculum Rationale



At Bradway, our approach to a high quality computing education helps our pupils become independent, confident and responsible users of technology. It enables them to create, refine and critically evaluate digital content as active participants in our digital world. Our intention is to engage pupils in an ambitious computing environment that will benefit them in terms of their personal safety, economic potential and ability to influence the world around them. All learners will study a computing curriculum that is rich in knowledge and skills and one that supports other areas of our curriculum.

INTENT	IMPLEMENTATION	IMPACT
 <p><b>Alignment to National Curriculum</b></p> <p>The computing curriculum at Bradway follows the National Curriculum through the Sheffield Primary Computing Scheme of Work. It has been designed to enable children to become computational thinkers when programming and creative users of information technology. This is taught through 6 key strands: key skills; communicating through text, images and multimedia; understanding and sharing data and programming and computational thinking. Online safety is embedded within the computing and RSHE curriculum.</p>	 <p><b>Pedagogical Approaches</b></p> <p>The knowledge and skills required in the computing curriculum are taught through a progressive and structured approach. The teacher introduces the learning, explains the purpose of it, models how to implement the knowledge acquired, provides shared experiences in order to scaffold the learning for individual needs and provides immediate feedback. This is followed by the children putting into practice what they have learned by independently or collaboratively completing tasks.</p>	 <p><b>Approach to Assessment</b></p> <p>The approach to assessment is less formal than in core subject disciplines. In computing, there is ongoing teacher assessment to ensure that the children are keeping up with the pace of the curriculum and achieving the school's ambitious outcomes. After a unit, children will carry out self and/or peer assessments on the work they have produced against the set criteria.</p>
 <p><b>End Points</b></p> <p>By Year 6 pupils will be more independent in their use of technology and will conduct themselves safely and responsibly. Children will be able to use the knowledge and skills acquired throughout their time at Bradway to independently produce digital content and create programs in the three areas of computer science, information and technology and digital literacy.</p>	 <p><b>Teachers' Expert Knowledge</b></p> <p>We ensure teachers have the required level of expert knowledge so that explanations are clear, accurate and responsive and children's misconceptions are anticipated and addressed as they arise. Teachers follow the Sheffield Primary Computing Scheme of Work which provides a large bank of resources to support units, links to the Sheffield Online Safety Curriculum, and the nationally recognised Progression Framework mapped to the Teach Computing Curriculum. Subject specific professional development is in place to ensure our teachers are secure in the skills and knowledge needed to deliver an effective curriculum.</p>	 <p><b>Performance Data</b></p> <p>Specific recall activities like quizzes are used to enable teachers to monitor the depth of understanding of core vocabulary. A portfolio of pupil's work is saved on the School SharePoint in class folders, which can be accessed by individuals and staff. Teachers can use this as a benchmark to assess pupil's progress towards National Curriculum standards.</p>
 <p><b>Sequencing</b></p> <p>As the National Curriculum for computing is not broken down further than just key stages, careful consideration has been given to how the different elements of the subject should be sequenced. These are based around the 6 strands of communicating through text, images and multimedia; understanding and sharing data; and programming and computational thinking. A unit of work will begin by exploring pupil's prior knowledge, either that learnt in previous year groups or that already acquired at home. In EYFS, children are introduced to and explore different technology.</p>	 <p><b>Promoting Discussion and Understanding</b></p> <p>To develop understanding in computing, many concepts are first taught through role play or unplugged activities away from computer. This leads to conversations and discussions about how computers actually work or what the code is actually doing in the program. Through these type of activities, key vocabulary, and core knowledge, is mastered. Assessment questions are used throughout units of work which aim to promote dialogue, reflection and refine pupils' understanding.</p>	 <p><b>Pupils' Work</b></p> <p>Pupils' work is saved in a variety of ways depending on the activity. Children have individual and shared areas on the school network. This not only provides the teacher with evidence for assessment, but also gives the teacher the opportunity to use children's work to demonstrate, model or modify and develop understanding. Children also save work on platforms like Scratch. Work is monitored by the subject leader to ensure there is sequence, progression and greater independence by higher year groups.</p>
 <p><b>Addressing Social Disadvantage</b></p> <p>We recognise the current and future demand for digital skills with over 1.5 million people working within the digital economy in the UK. Therefore, we ensure that all pupils have the opportunity to succeed by providing a computing curriculum that is designed to scaffold learning and bridge the digital divide. Where there is a need, we offer devices to individuals to support them with home learning, and provide increased opportunities to access devices in school in order to develop fluency in technology.</p>	 <p><b>Knowing More and Remembering More</b></p> <p>The first lesson for each unit of work is used to review the ideas mastered in previous units or to find out what the children already know about the area being taught. Opportunities for retrieval practice are included in computing lessons to ensure knowledge is transferred into long-term memory. Retrieval activities may require children to remember learning from the previous lesson, previous topic or even previous year.</p>	 <p><b>Talking to Pupils</b></p> <p>The computing subject leader has discussions with pupils about their learning as it progresses. This forms part of the monitoring process. Children's work and their self-evaluation and assessment sheets guide these discussions, to ensure the teacher knows to what depth the new knowledge and skills have been learnt. Talking to pupils is key to the continual refinement and development of the computing curriculum</p>
 <p><b>Local Context</b></p> <p>Bradway is a technology rich school. Classes have access to our computer suite housing 15 PCs as well as a class set of laptops to enable computing to be taught in classrooms. Throughout their journey at Bradway, children will be exposed to a range of current hardware and software such as chrome books, iPads and laptops, which are used for daily interventions. We also have bespoke devices for SEND pupils to support them in class with their learning. For a proportion of our lower attaining pupils and pupils with SEND, carefully structured support and purposeful guidance is provided, where necessary, to increase their confidence and independence.</p>	 <p><b>Teacher Assessment</b></p> <p>Formative assessment is used throughout the computing curriculum. This is achieved through observations, quizzes, self and peer assessments, using success criteria to assess a final project. The teacher plans opportunities in the lesson to check that pupils understand, can do the task, can problem solve, can predict and can explain using the key vocabulary.</p>	<p><b>Links /</b></p> <p><a href="http://sheffielddcl.net/primary-schools/">http://sheffielddcl.net/primary-schools/</a>  <a href="http://sheffielddcl.net/resources/">http://sheffielddcl.net/resources/</a>  <a href="http://sheffielddcl.net/computing-schemes-of-work/">http://sheffielddcl.net/computing-schemes-of-work/</a></p>