



Blackwater Computing Strategy **2021 - 2022**

Statement of Intent

In line with the 2014 National Curriculum for Computing, our aim is to provide high-quality computing education which equips children to use computational thinking and creativity to understand and change the world. We believe that computing is an essential part of the curriculum; a subject which not only stands alone but also forms an integral part of our curriculum.

Our curriculum will teach children key knowledge about how computers and computer systems work, and how they are designed and programmed. Learners will have the opportunity to gain an understanding of computational systems of all kinds, whether or not they include computers. By the time they leave Blackwater, children will have gained key knowledge and skills in four main areas of the computing curriculum: Computing Systems and Networks, Programming, Creating Media and Data and Information.

Each strand supports the development of learning across the key stages, enabling children to participate effectively and safely in the digital world outside Blackwater School.

Statement of Implementation

At Blackwater we use the Teach Computing Curriculum from the NCCE to deliver learning. The Teach Computing Curriculum uses the National Centre for Computing Education's computing taxonomy to ensure comprehensive coverage of the subject. This has been developed through a thorough review of the KS1–4 computing programme of study, and the GCSE and A level computer science specifications across all awarding bodies. The Teach Computing Curriculum is structured in units. For these units to be coherent, the lessons within a unit must be taught in order. However, across a year group, the units themselves do not need to be taught in order, with the exception of 'Programming' units, where concepts and skills rely on prior learning and experiences. The units for key stages 1 and 2 are based on a spiral curriculum.

This means that each of the themes is revisited regularly (at least once in each year group), and pupils revisit each theme through a new unit that consolidates and builds on prior learning within that theme. This style of curriculum design reduces the amount of knowledge lost through forgetting, as topics are revisited yearly. It also ensures that connections are made even if different teachers are teaching the units within a theme in consecutive years. Online safety The unit overviews for each unit show the links between the content of the lessons and the national curriculum and Education for a Connected World framework ([ncce.io/efacw](https://www.ncce.io/efacw)).

These references have been provided to show where aspects relating to online safety, or digital citizenship, are covered within the Teach Computing Curriculum.

Not all of the objectives in the Education for a Connected World framework are covered in the Teach Computing Curriculum, as some are better suited to personal, social, health, and economic (PSHE) education; spiritual, moral, social, and cultural (SMSC) development; and citizenship. However, the coverage required for the computing national curriculum is provided. activities are scaffolded so that all pupils can succeed and thrive.

Scaffolded activities provide pupils with extra resources, such as visual prompts, to reach the same learning goals as the rest of the class. Exploratory tasks foster a deeper understanding of a concept, encouraging pupils to apply their learning in different contexts and make connections with other learning experiences. The subject of computing is much younger than many other subjects, and as such, there is still a lot more to learn about how to teach it effectively. To ensure that teachers are as prepared as possible, the Teach Computing Curriculum builds on a set of pedagogical principles, which are underpinned by the latest computing research, to demonstrate effective pedagogical strategies throughout. To remain up-to-date as research continues to develop, every aspect of the Teach Computing Curriculum is reviewed each year and changes are made as necessary

Every lesson includes formative assessment opportunities for teachers to use. These opportunities are listed in the lesson plan and are included to ensure that misconceptions are recognised and addressed if they occur. They vary from teacher observation or questioning, to marked activities. Every unit includes an optional summative assessment framework in the form of either a multiple choice quiz (MCQ) or a rubric. All units are designed to cover both skills and concepts from across the computing national curriculum. Units that focus more on conceptual development include an MCQ. Units that focus more on skills development end with a project and include a rubric. However, within the 'Programming' units, the assessment framework (MCQ or rubric) has been selected on a best-fit basis.

Statement of Impact

Our curriculum enables teachers to deliver the curriculum in a fun, engaging and high-quality way which supports varied paces of learning and ensures all pupils make good progress. Employing cross-curricular links motivates pupils and supports them to make connections and remember the steps they have been taught. Teachers are able to assess children's knowledge, understanding and skills in Computing by making observations, through conversations with the children during lessons, the children's computing journal and the quality of the digital content they create. Built into the activities are several points where the teacher has the opportunity to assess and take stock of the children's progress, then provide feedback addressing misconceptions and gaps as each unit progresses.

Much of the subject-specific knowledge developed in our computing lessons equip pupils with experiences which will benefit them in secondary school, further education and future workplaces. From research methods, use of presentation/creative tools and critical thinking, computing at Blackwater gives children the building blocks that enable them to pursue a wide range of interests and vocations in the next stage of their lives.

