

Computing at SMAB



Intent

At St. Michael at Bowes, we aim to deliver a high-quality computing education equips pupils to use computational thinking and creativity to understand and change the world. Computing has deep links with mathematics, science, and design and technology, and provides insights into both natural and artificial systems. The core of computing is computer science, in which pupils are taught the principles of information and computation, how digital systems work, and how to put this knowledge to use through programming. Building on this knowledge and understanding, pupils are equipped to use information technology to create programs, systems and a range of content. Computing also ensures that pupils become digitally literate – able to use, and express themselves and develop their ideas through, information and communication technology – at a level suitable for the future workplace and as active participants in a digital world. By the end of the key stage, pupils are expected to know, apply and understand the matters, skills and processes specified in the relevant programme of study.

Curriculum

At SMAB we embed the use of computing skills into everyday lives of our pupils. We promote cross curricular learning and this is apparent in our school environment. Many of our displays exhibit the developing skills of our learners.

Our pupils have access to various mobile tools such as iPads, Mac Books and Chrome Books to support their learning and computer literacy. In the creative hub, pupils use the facilities which include, Green Screen available to record and edit videos and pictures. The teaching and learning of computing skills is vital to the holistic development of our pupils.

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

Resources:

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Teaching

- Computing lessons are delivered in hour-long Computing lessons every fortnight
- Each unit should be covered over a half term
- Flexible groupings are used during lessons e.g. mixed ability group work, paired work, guided and independent work and whole class work
- Lessons will provide opportunities to learn and develop new vocabulary and skills
- E-safety runs throughout the whole year as appropriate but there is a specific Online Safety unit which is delivered across the school in the Spring term. This coincides with Internet Safety Week which is celebrated nationally.
- Teaching will be in line with the school Teaching & Learning policy
- Some units, such as graphing, are covered in other subjects (Maths)

Marking and feedback

- Pupils are given immediate verbal feedback during lessons
- Feedback from the teacher should be manageable and move the children forward in their learning
- Self and peer assessment

Monitoring

Monitoring is carried out by subject leader and SLT during the school year. This will include:

- learning walks during lessons
- Pupil voice
- Staff/parent questionnaire
- Reviews of children's skills progress from assessment data and portfolios
- Audits of staff training needs to improve subject knowledge and confidence
- Reviews of the Computing Improvement Plan

Planning

- The Computing curriculum map shows the units to be covered each term, based on the Purple Mash Computing series but teachers are free adapt the planning to meet the needs of their class
- The **long-term** plans for Computing are outlined in the school curriculum map which indicates the topics and objectives that are covered throughout the year.
- It is the responsibility of the class teacher/ year group teachers to undertake the Computing planning for their class, or oversee it where a student may be taking the class.
- Lesson plans contain more detailed information about what will happen in the lesson.
- Skills will be explicitly taught, and units allow time for children to apply them independently

Assessment:

- AFL should be used within each lesson to establish next steps for pupils. This is done through observations of the children, looking at their work and questioning children to identify what they have understood.
- Children are encouraged, in line with the school's Fast Feedback policy, to assess their own and each other's' work and identify their own targets for improvement.
- Electronic portfolios of work are created and stored on the Purple Mash website and reviewed by the class teacher and computing lead
- Each unit is assessed as it is completed. This enables us to monitor progress across the subject
- Teacher assessment, informed by these tasks, outcomes of lessons and looking at work, is recorded using the school's Target Tracker program and used to identify if a child is working towards, at or above age- related expectations.