

North Durham Academy – Computing Curriculum 2022-23

SUBJECT INTENT STATEMENT

Almost everything we do day-to-day, now involves the use of Computing. This is the sole reason students need to be digitally literate, so that they are able to keep up with fast paced technology use in all aspects of life, but also be able to think computationally in order to solve and produce solutions to problems they are presented with, with confidence.

The Computing department follows the National Curriculum in Computing by preparing students for further education, work and life in a world forever evolving around the use of technology. Technology is a massive part of our day to day life both personally and fundamentally within business and careers. We ensure students can identify where technology is used in society, we make students aware of the benefits and implications of technology and we also make sure students can see where they may need to use technology in their futures.

The Computing syllabus has been designed to cover the three main areas of Digital Literacy, Computer Science and Information Technology. The students will be introduced to the IT skills they will need to support other subjects across the curriculum and will be introduced to programming, algorithms, some more complex elements of software packages and an understanding of computer hardware and how it works.

At Key stage 3, students will study the **Computing curriculum** learning **computational thinking** skills which can be applied to simple and more fundamental problems they will face throughout their lives. Students learn that they will **decompose** information, **abstract** what is relevant and then create a solution, which they will usually plan out in a logical order first. They will learn **2 programming languages**: Python and Scratch. Students will understand how computers work by looking at the **hardware** that make up computer systems. They will begin to understand how various types of instructions are stored and executed in computer systems, and how they can be used to represent images, music and text. Students will undertake **creative projects** that involve selecting, using, and combining multiple applications to achieve challenging goals. This includes **collecting and analysing data** and meeting the needs of known users. They will understand a range of ways to **use technology safely**, respectfully, responsibly and securely: including protecting their online identity and privacy; recognising inappropriate content; contact and conduct; and knowing how to report concerns. We refer to cross curricular subjects and how this thought process is applied all of the time, without them necessarily being aware of it. While doing this, lesson tasks will revolve mainly around Computer Science content, but will ensure students use and are able to explore a variety of **software** packages to create specified **digital artefacts**. Students portfolios will embed **Computational thinking** and encourage good practice around **formatting** when using IT.