

# Computing

## Curriculum Intent

*'A high-quality computing education equips all 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 provide insights into both natural and artificial systems.'*

*(National Curriculum, 2014)*

Computers are an integral part of everyday life. For most of us technology is now essential in both the workplace and at home. Teaching our children to be creative with technology supports the skills needed for lifelong learning and prepares them for a world that is changing at a rapid pace.

At the core of the computing curriculum is computer science, whereby 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 and a range of content.

Computing also ensures that pupils become digitally literate – able to use technology to 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.

We believe that a computing curriculum should be one where the children are taught the essential skills they need to progress after their time within school. Our computing curriculum focuses on seven key areas:

- Programming
- Computational thinking
- Creativity
- Computer networks
- Communication and collaboration
- Productivity
- Online safety

Pupils will be taught these skills across the computing curriculum, with core areas being repeated and built upon during the children's time within Green Ridge Academy.

Computing also offers pupils a range of other learning skills, far beyond the Computing curriculum, which are broad and support many other areas of learning, such as:

Computing is a **science**

Computing teaches the children to learn through clear structures. Lessons within debugging will require the children to make careful and considered observations, something that they will also develop within their Science lessons.

Computing is **mathematical**

Lessons include pattern seeking and problem solving, something that is a key part of thinking mathematically. When children are creating algorithms, they will need to ensure that their sequences have a logic to them and are able to identify problems when they arise.

Computing is a **foreign language**

The language of computing is a vast one, be it through coding or binary. Understanding the language of computing allows the children to reveal the structures that are behind many of the tools they use on a day to day basis.

Computing is a **physical education**

Lessons will not always be limited to behind a computer. To help support children in their understanding of new vocabulary or concepts, lessons may often start in the real world before they enter the digital.

In addition to this, computing supports many wider educational skills and dispositions which we wish to teach and instil within the children at Green Ridge:

- Using computers will help the children develop an understanding of a world they will be entering as they grow. E-safety lessons will help prepare children for a range of issues including online bullying and being responsible when being online.
- Computing lessons also help develop vocabulary, providing children with a good level of digital literacy. Computing lessons often include key words that will not be frequently used within other subjects, ensuring that children vocabulary is being extended.
- Computing also allows the children to develop their patience and collaboration skills. Lessons are often about following a sequence but also solving problems when they occur. This requires good levels of team work, communication and patience.

**In summary...**

Computing is a subject that the children will use as they grow and develop. It supports children not only with their own career prospects but also in life as the digital world is one that has become embedded within society. Taking time to learn the importance and responsible use of computers and technology will allow the children to leave school feeling confident and empowered.