



Townlands C of E Primary Academy

A journey of learning in the light of God's love.

Computing

"I do not fear computers. I fear a lack of them."

Isaac Asimov

Our Vision for Computing

At Townlands, we believe that our school continues to evolve and keep up to date with changes in technology. Our computing curriculum is sequenced in a way that builds upon prior knowledge and acknowledges that children are exposed to modern computing.

Why do we teach computing?

At Townlands, we value computing as being an important part of the children's entitlement to a broad and balanced curriculum. We teach computing fortnightly, as a stand-alone lesson and as cross curricular learning, so that the children can fully immerse themselves and have opportunities to reflect and build on prior learning.

The objectives of teaching computing in our school are:

- To design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts,
- To use sequence, selection, and repetition in programs; work with variables and various forms of input and output
- To use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs
- To 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
- To use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content
- To 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

- To use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.

As a school, we want to:

- To develop a computing curriculum which promotes progress and understanding for each child.
- To develop computing knowledge and conceptual understanding through the specific disciplines of computer science, digital literacy and online safety.
- To provide children with every opportunity to develop their computing skills to enable them to be confident, creative and independent learners.
- To build a computing curriculum that prepares pupils to live safely in an increasingly digital society where they can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems.

Rationale – Why we do what we do...

After completing a computing audit with pupils and staff, we know that children really enjoy their computing lessons. However, some children expressed a desire to further apply their understanding of new technologies into other areas of school life. For example, some of our KS2 children skilfully incorporated sound and visual technology effects into their class assemblies. This enhanced their learning and enabled them to see how technology can be applied.

Enrichment

Children will learn about key areas of information technology and online safety that are current and relevant. In addition, they will learn how to stay safe online in a world of ever changing technology where privacy is key.

In addition to our computing lessons, we also draw upon local resources and opportunities that occur in the community (e.g. visit to the Apple Store, links with The University of Leicester Widening Participation Programme)

KS2 children have the opportunity on an annual basis to participate in Prime VRI. The sessions are designed to support the teaching of History/Geography curriculum.

Townlands also offers after school clubs in various aspects of computing and coding. Parents are informed regarding issues relating to online safety and advice/support is provided if required.

How do we deliver the computing curriculum?

The teaching and implementation of computing at Townlands is based on the National Curriculum. As children progress through school, the study of specific computing skills will be at a greater level, allowing them to further develop previous knowledge and skills. Throughout all projects digital literacy and keyboard and mouse skills are revisited heavily.

Computing in the curriculum

- We plan using the National Curriculum.
- We enhance the curriculum using progression grids.
- Subject progression grids are used to develop long term planning.
- Teachers use the long term planning to plan units of work and deliver individual lessons.

Skills and Techniques

- Programming and debugging
- Physical computing
- Keyboard and mouse skills
- Creating databases
- Keyword searching
- Staying safe online.
- Using a range of software to showcase work.
- Navigate and save work in a file

EYFS children have regular access to digital technology to support learning to develop their awareness of technology generally. They will also begin to develop increased confidence in using a keyboard and mouse.

Throughout KS1 and KS2 children will have the opportunity to make links with other topics like using algorithms within a design and technology projects and science. In some studies, children will be asked to research using technology or even showcase their work in the form of digital literacy.

All children will have access to:

- The hardware (computers, tablets, programmable equipment) and software that they need to develop knowledge and skills of digital systems and their applications, which aid in the acquisition of skills and knowledge.
- The opportunity to explore and respond to key issues such as digital communication, cyber-bullying, online safety, security and social media.
- A dedicated computer suite.
- An environment rooted in developing the importance of online safety as shown through displays within the learning environment and computer suite.

This is how we support and ensure access for all children:

- Ensure that a range of equipment and resources are available to enable success for all pupils (e.g. laptops, iPads, Kindles, BeeBots, micro:bits, crumbles etc).
- We use teacher and self-assessment to quickly identify any child who requires additional support in specific skills

This is how we challenge:

- An additional challenge planned for, from the very start of the lesson

How does the computing curriculum embed knowledge?

The successful approach at Townlands results in an engaging computing curriculum, whereby children build their semantic and procedural knowledge. Children will have a sound understanding of how technology works in the world around them. They will be confident users of technology, able to use it to accomplish a wide variety of goals, both at home and in school. Children will have a secure and comprehensive knowledge of the implications of technology and digital systems. This is important in a society where technologies and trends are rapidly evolving. Children will understand the importance of staying safe in a virtual world.





Useful Websites

Online Safety

<https://projectevolve.co.uk/>

https://beinternetawesome.withgoogle.com/en_uk/

<https://parentzone.org.uk/home>