



Tower Hill Primary School Computing Rationale

Intent:

At Tower Hill Primary School our core vision is that ALL children will be equipped with the skills, knowledge, understanding and empathy that will lead to them being able to make their own choices in life, successfully. The intent of our Computing curriculum is to develop children's fundamental Computing and E-safety skills that lay the foundation for future technological understanding.

We believe that computing provides a valuable educational, technical, and progressive experience for all children. At Tower Hill, we strive to make cross-curricular links with our Computing Curriculum where possible, especially within mathematics, science and design technology. The core of our Computing Curriculum is computer science, in which children 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, children are equipped to use information technology to create programmes, systems and a range of content. Computing also ensures that children become digitally literate - able to use, 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. At Tower Hill we believe that children's learning should be tailored to their ability and with this in mind, we strive to challenge all.

We strive for all to be actively engaged in their own learning, to be motivated and eager, to achieve and attain to their own full potential in Computing.

Implementation:

Tower Hill's Computing Curriculum incorporates fundamental Computing knowledge and skills, allowing pupils to build on these from year to year from EYFS through KSI to KSII. Through the implementation of our Computing Curriculum, learning should be consolidated and built upon each year, ensuring that the children leave each phase of their learning with the relevant skills and knowledge.

Early Years Foundation Stage:

In the Early Years Foundation Stage Curriculum, 'Understanding the World' is currently made up of three strands, one of which is 'Technology'. The Early Learning Goal for 'Technology' states that children should: recognise that a range of technology is used in places such as homes and schools and that they should be able to select and use technology for different purposes. The Exceeding statement progresses on from this by requiring children to find out about and use a range of everyday technology and select appropriate applications that support an identified need.

At Tower Hill, we recognise that Technology is an ever-developing aspect of modern society and that the EYFS (2014) does not fully reflect the computing skills that our children need and possess. Therefore, we respond to our children's varying abilities and experiences and enhance our curriculum accordingly to include a range of additional skills and opportunities including early coding skills to suitably prepare them for the National Curriculum in Year One. Opportunities to access their objectives are facilitated through both continuous and enhanced provision throughout our child-initiated play environment as well as in adult-led group and whole class activities.

Key Stage I:

The National Curriculum states that in KSI, pupils should be taught to:

- Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions.
- Create and debug simple programs.
- Use logical reasoning to predict the behaviour of simple programs.
- Use technology purposefully to create, organise, store, manipulate and retrieve digital content.
- Recognise common uses of information technology beyond school.
- Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.

Coding and computer science in KSI is covered through Scratch Jr and Blue/Beebot coding. Year 1 learn about how library networks work and Year 2 look into supermarket networks.

Digital Literacy topics in KSI include, Year 1 paint, photography, Microsoft Office Word. Year 2 explore internet research, My Documents file manager, Microsoft Office PowerPoint and presentation skills.

E-safety at Tower Hill is embedded throughout our curriculum and is not limited to computing. However, each computing lesson has an E-safety think or discussion piece as is highlighted in our planning.

Key Stage II:

The National Curriculum states that in KSII, pupils should be 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.

Coding and computer science in KSII is covered through Scratch. Year 3 focus on conversation, Year 4 on quiz, Year 5 on coordinates and Year 6 on perimeter, therefore ensuring progression across the Key Stage.

Digital literacy topics in KSII include, Year 3 green screen pictures, research skills and publishing microbits. Year 4 explore green screen movies, animation and voice recording

microbits. Year 5 develop their excel skills, exploring school networks as well as photo and video microbits. Year 6 focus on iMovie video, research skills and data microbits.

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Impact:

In Computing, we assess the impact of the curriculum on our learners in a number of ways.

Firstly, we strive to ensure that our children's attainment in this subject is in line with or exceeding Age Related Expectations. Our children should be ready for the next phase of their learning, ready to build on their Computing Skills and Knowledge. We also assess the impact of our teaching through the children's ability to approach new learning and apply skills and knowledge to new situations. We encourage and promote independence and resilience in order that children can take control of their learning.