



Thorp Primary School Computing Scheme of Work Curriculum 2014

Computing at Thorp Primary School is taught in line with the National Curriculum 2014 and ensures that by the end of Key Stage 2 all pupils:

- can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation
- can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems
- can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems
- are responsible, competent, confident and creative users of information and communication technology.

In the Early Years pupils:

- are guided to make sense of their physical world and their community through opportunities to explore, observe and find out about technology.
- recognise that a range of technology is used in places such as homes and schools.
- select and use technology for particular purposes

At Key Stage 1 Pupils are 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.

At Key Stage 2 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.



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Curriculum Overview - Progression

Early Years – Nursery

- Know how to operate simple equipment eg turns on CD player and uses remote control
- Show an interest in technological toys with knobs or pulleys, or real objects such as cameras or mobile phones
- Show skill in making toys work by pressing parts or lifting flaps to achieve effects such as sound, movements or new images
- Know that information can be retrieved from computers

Early Years -Reception

- Complete a simple program on a computer
- Use ICT hardware to interact with age appropriate computer software

Key Stage 1 –Years 1 and 2

- 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 on the internet or other online technologies

Lower Key Stage 2– Years 3 and 4

- Design, write and debug programs that control or simulate virtual events; decompose programs into smaller parts
- Work with various forms of input and output
- Use logical reasoning to explain how simple algorithms work and to detect and correct errors in algorithms and programs
- Understand and differentiate computer networks including the internet; how they can provide multiple services, such as the World Wide Web; and identify computer network systems in use in the world around him/her.
- Use simple search technologies, appreciate how results are selected and ranked, and discern some issues of reliability when evaluating digital content
- Select, use and combine a variety of software (including internet services) with support on a range of digital devices to design and create programs, systems and content that accomplish given goals
- Use technology safely and responsibly; recognise acceptable/unacceptable behaviour; report concerns about content and contact using school policies and procedures

Upper Key Stage 2 –Years 5 and 6

- Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts
- Use variables, sequence, selection, and repetition in programs
- Use logical reasoning to explain how increasingly complex algorithms work and to detect and correct errors in algorithms and programs efficiently.
- Understand how computer networks, including the internet, can provide opportunities for communication and collaboration and begin to use these opportunities effectively
- Use filters in search technologies effectively, appreciate how results are selected and ranked, and be discerning when evaluating digital content
- Independently 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 for a given audience, including collecting, analysing, evaluating and presenting data and information
- Use technology respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact in and out of school