Houghton Primary School

Working hard to achieve our best

Curriculum Statement for COMPUTING

Details of the Computing Curriculum for each year group for each term can be found on the class webpages

Spiritual, Moral, Social and Cultural development through the teaching of Computing

Spiritual
Computing supports spiritual development by looking at how ICT can bring rapid benefits to discussions and tolerance to an individual's beliefs. However, children are also exposed to the limitations and abuse of the internet where they question and justify the aims, values and principles of their own and others' belief systems.

Moral
Computing supports moral development by looking at how ICT developments have had an impact on the environment as technology has meant that old ways of working have been changed to help the environment.

Social
Computing supports social development by completing of group work within lessons as well as practical tasks. Children are required to understand about social media and the advantages these sites have brought as well as the numerous problems such as cyber bullying.

Cultural
The development in technology has impacted different cultures and backgrounds in different ways. More developed countries are able to keep pace with the developments in technology whilst less developed ones can't.

Key characteristics for computing

We have identified the following key characteristics which we aim to develop to enable children to become independent and confident in computing:

- Competence in coding for a variety of practical and inventive purposes, including the application of ideas within other subjects.
- The ability to connect with others safely and respectfully, understanding the need to act within the law and with moral and ethical integrity.
- An understanding of the connected nature of devices.
- The ability to communicate ideas well by using applications and devices throughout the curriculum.
- The ability to collect, organise and manipulate data effectively.

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Our approach to teaching Computing at Houghton Primary School

At Houghton we recognise that our pupils are growing up in a world where technology and computer science is developing rapidly; we recognise that they need to be taught the skills to grow as responsible and discerning users of technology who treat others and their intellectual property with respect.

Within computing we provide opportunities for independent problem solving. Children are given opportunities to design their own algorithms and programs to create their own solutions to a variety of problems; through these activities we seek to develop our pupil's resilience, logical thinking and risk taking skills. We provide pupils with opportunities to use technology within the wider curriculum in order to present and display their understanding in a meaningful and creative manner. We also encourage pupils to be discerning users of technology, teaching them how the internet and search engines work and providing them with opportunities to evaluate different websites. Supported by our half termly E-Safety focus we encourage pupils to risk assess different situations they may encounter online and to be proactive in their online safety. Our approach seeks to develop confidence, resilience and to stimulate original ideas; it encourages and celebrates imaginative and innovative solutions. We seek to inspire and motivate our children to be proactive and responsible users of technology.

Investigating how the internet works

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Opportunities for computing

To ensure that our children are provided with a range of opportunities to enable them to become confident and independent in computing we provide:

Key Stage One	Key Stage Two
Opportunities to: • Understand what algorithms are, how they are implemented as programs on digital devices, and that programs execute by following a sequence of instructions. • Write and test simple programs. • Use logical reasoning to predict the behaviour of simple programs. • Organise, store, manipulate and retrieve data in a range of digital formats. • Communicate safely and respectfully online, keeping personal information private and recognise common uses of information technology beyond school.	Opportunities to: • Design and write programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. • Use sequence, selections and repetition in programs; work with variables and various forms of input and output; generate appropriate inputs and predicted outputs to test programs. • Use logical reasoning to explain how a simple algorithm works, 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. • Describe how internet search engines find and store data; use search engines effectively; be discerning in evaluating digital content; respect individuals and intellectual property; use technology responsibly, securely and safely. • Select, use and combine a variety of software (including internet services) on a range of digital devices to accomplish given goals, including collecting, analysing, evaluating and presenting data and information.

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Key learning objectives for computing

- To code
- To connect
- To communicate
- To collect

Please click here for National Curriculum Programme of Study for Computing