Lowerhouse Junior School
Computing

Our Values and Pupils' Personal Development

Our curriculum is an important means by which we develop the values of our school in our pupils during their time at Lowerhouse Junior School. When planning and delivering lessons, teachers give attention to our values of **Aspiration, Integrity, Resilience** and **Respect** which are relevant to the unit of work. Our aim is to encourage positive attitudes to learning, to ourselves as individuals and to other members of our community.

Cultural Capital

Through our curriculum we aim to provide our children with the skills and knowledge they require to be educated citizens with an appreciation of human creativity and achievement throughout human history. With these insights our pupils will have the capacity to be happy, independent, confident individuals able to benefit from and contribute to their local communities and wider society.

Reading

The effective teaching of reading is of paramount importance. Becoming efficient readers enables our children to achieve our other curricular aims much more easily. It is a skill for life. We give the highest priority to the improvement of children's reading

Purpose of Study

A high-quality computing education equips 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 provides insights into both natural and artificial systems. The core of computing is computer science, in which 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, systems and a range of content. Computing also ensures that pupils become digitally literate – able to use, and 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.

Aims

The national curriculum for computing aims to ensure that 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

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 content and contact.

Computing Intent

At Lowerhouse Junior School, it is our intent to prepare our pupils for the digital world and unlock their true potential. Technology is changing the lives of everyone. Through teaching computing we equip our children to participate in a rapidly changing world where work and leisure activities are increasingly transformed by technology.

It is our intention to enable children to find, explore, analyse, exchange and present information. We also focus on developing the skills necessary for children to be able to use information in an effective way.

Computing skills are a major factor in enabling children to be confident, creative and independent learners and it is our intention that children have every opportunity available to allow them to achieve this.

Aims of Computing

The National curriculum for computing and our progress of skills within each milestone aims to ensure that all pupils :

- Are confident in using code and can understand and apply the fundamental principles and concepts of computer science, including logic, algorithms and data representation.
- When coding, pupils can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems.
- Can effectively communicate and can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems
- Are able to connect with others responsibly and are competent, confident and creative users of information and communication technology

Computing Implementation

At Lowerhouse Junior School, there a clear and effective scheme of work that provides coverage in line with the National Curriculum. Teaching and learning facilitates progression across the key stage within the strands of digital literacy, information technology and computer science.

Computing is taught both discreetly and is used within a range of lessons to help children to become creative thinkers and access learning in a variety of ways. Lessons are planned to maximise learning potential and a variety of digital devices are used to support this when appropriate. The range of programs and apps children access throughout their time in the school allows them to build a bank of resources to support them in developing their learning. Children become digitally literate.

Throughout all year groups children are taught to use technology safely and respectfully, keeping personal information private; identifying where to go for help and support when they have concerns about content

or contact on the internet or other online technologies. These skills are taught through specific units at the beginning of the year and then reinforced throughout the year to children.

Computing Impact

At Lowerhouse Junior School, we encourage children to enjoy and value the curriculum we deliver. This is supported by the skills of the IB learner profile and want children to discuss, reflect and appreciate the impact computing has on their learning, development and well being. Finding the right balance with technology is key to an effective education and healthy lifestyle. Children will be equipped, not only with the skills and knowledge to use technology effectively and for their own benefit, but more importantly safely. Children will become confident users of technology and have the skills needed to accomplish a wide variety of goals both in school and in the wider world.