Computing

INTENT, IMPLEMENTATION AND IMPACT STATEMENT

“We need technology in every classroom and in every student and teacher’s hand, because it is the pen and paper of our time, and it is the lens through which we experience much of our world.”

Intent

At the British Section, we believe that it is vital for all our pupils to learn from and about Computing and Technology, so that they can understand the world around them. Through teaching our computing curriculum, we aim to 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 as well as having the skills to manipulate, develop and interpret different forms of technology in an ever-changing world.

In such a fast-moving curriculum, we are constantly looking at new ways of delivering relevant and exciting activities, while still delivering the fundamental skills needed for computing. Using technology safely and responsibly is a main priority and ensuring all pupils are able to use the internet and equipment appropriately is of paramount importance. We encourage our pupils to make links across the curriculum, the world and our local community, to reflect on their own experiences, which are designed in our curriculum, allowing horizontal and vertical links with previous year groups. In particular, computing has strong links with the DT and the PSHE curriculum, especially in the area of e-safety.

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.

Our ambitious computing curriculum is now structured in four areas that allow all pupils from EY to year 6 to progress through different categories of knowledge. These are:

Computing systems and networks

Creating media

Programming

Data and information

Each area of the curriculum gives pupils time to practice and rehearse the knowledge needed to be proficient at computing and be ready for the next age of learning.

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.

Implementation

At SHAPE International School British Section, we ensure high standards of teaching and learning in computing through implementation of a progressive, spiral curriculum. Computing is taught discreetly, focusing on knowledge and skills stated in the National Curriculum which provides a broad framework and outlines the knowledge and skills taught in each Key Stage.

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.

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.

Teachers plan lessons for their class using the ***Teach Computing*** curriculum to ensure the teaching is progressive from year group to year group.

Our curriculum has wide breadth and clear progression of interconnected knowledge and skills. It is ambitious for all groups, including SEND. Greater depth opportunities are available for every learner to reflect our high expectations, and the importance of the subject content in the wider context. It is designed to increase each child's self-confidence and aspirations, recognising the way in which computing can play an important role in the personal development of each child. Learning at the British Section aims to inspire and motivate children to continue with a life-long delight and involvement in the confident and safe use of computing and technology.

As children progress, our intent is that the curriculum provides all children with opportunities to become digitally confident and resilient in ways which supports their healthy and expert engagement with the technological world. We provide an engaging, strenuous, challenging and diverse computer for all children. We want all children to experience a wide variety of computing purposes and devices which will enhance life-long learning and life choices.

All teaching of computing follows a progressive development of skill and knowledge within a unit and each unit is built on through the EYFS and primary stages. Each unit purposefully nurtures the development of technical knowledge and the progression of a culminative skills base.

Impact

The effective planning and teaching of computing by our staff, which develops the **culminative progression** of skills and knowledge from EYFS to Year 6, and which incorporates all of the strands of the **National Curriculum**, allows us to ensure that the pupils of the British Section are able to nurture a **profound understanding** of, **appreciation** for, and **expertise** in computing.

Our focus on **skills progression and enjoyment**, enables pupils to be inspired to develop increasing levels of expertise in computing. The **impact** of our computing curriculum is in the development of our pupils' ability to be confident users of technology; to have a secure and comprehensive knowledge of the implications of technology and digital systems; to be able to apply the British Section Character Virtues when using digital systems; to solve problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems; to evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems; and to be responsible, competent, confident and creative users of information and communication technology.

Our effective teaching of computing will impact on the students in the following ways:

- All children nurture a love of computing both in and out of school with this continuing into later life.
- All children will have worked on their own aspirations in relation to computing and this will be carried on after leaving KS2, with all children being motivated to use technology expertly and safely.
- All children are able to keep themselves safe online and now how technology may impact on their mental health.
- All children will develop the technological skills that underpin life in a modern society and will have high levels of digital literacy.