



Primary Phase Computing Curriculum Policy

Intent

"Our teaching should aim at enlivening in the children the understanding that there is something deep within the surface of everything. This will make them grow in inquisitiveness and awareness of the most basic values of life, eventually leading them to the laws of nature in all the different fields of knowledge. They grow in awareness that the deeper the level from which they function, the greater the field of influence they command through their action. We help them grow into catching the more fundamental values of life from where their whole life can be organised and made fulfilled."

At Maharishi School we strive for each child to reach the full potential of their creativity and their intelligence. We do this by practising Transcendental Meditation and Word of Wisdom and by following the steps of Consciousness-based Education, applying Maharishi's principles of teaching.

- **Intelligence** can be enlivened and applied through these principles: -
 - link inner values with outer values in the pursuit of knowledge for a purpose.
 - develop each student's ability to discern finer and finer parts in the context of bigger and bigger wholes.
 - help pupils to look for and recognise universal patterns.
 - adapt teaching to take account of the individual character of each pupil's own intelligence.
- **Knowledge** can be enlivened, structured and organised through these principles: -

- teach knowledge in the context of human purpose.
 - develop knowledge holistically by connecting everything that is taught to the Self of each pupil.
- **Experience** can be enlivened, extended and deepened through these principles: -
 - integrate knowledge with experience in the development of Complete Knowledge.
 - extend each pupil's own experience in relation to knowledge taught and in conformity with their own nature through appropriate applications and practical work.
 - involve all the senses and organs of action in constructing learning experiences – where it is safe and practical.
 - **Expression** can be enlivened and enhanced through these principles:-
 - encourage pupil expression at the start of each learning cycle to stimulate the desire for growth.
 - consolidate learning through the expression of knowledge and skill encourage the expression of fullness of life, through a wide range of expressive modes.

Aims

It is our intention at the Maharishi Free School to provide children with a rich, ambitious and relevant education in computing. We aim to give children the opportunity to develop their computational thinking skills, while also presenting opportunities to showcase their creativity in an ever-expanding digital world. Alongside this, we also want to model and educate our pupils on how to use technology positively, responsibly and safely. We want our pupils to be creators not consumers and our broad curriculum encompassing computer science, information technology and digital literacy reflects this.

We aim for our pupils to:

- Be able to comprehend, design, create, and evaluate **algorithms**.
- Understand how **networks** can be used to retrieve and share information, and how they come with associated risks.
- Understand what a computer **(system)** is, and how its constituent parts function together as a whole.
- Select and **create** a range of **media** including text, images, sounds, and video.
- Understand how **data (and information)** is stored, organised, and used to represent real-world artefacts and scenarios.
- Understand the activities involved in planning, creating, and evaluating computing artefacts **(design and development)**.

- Use **software tools** to support computing work.
- Understand how individuals, systems, and society as a whole interact with computer systems (**impact of technology**).
- Create software to allow computers to solve problems (**programming**).
- Understand risks when using technology, and how to protect individuals and systems (**safety and security**).

Implementation

"Problems are not solved on the level of problems. Analyzing a problem to find its solution is like trying to restore freshness to a leaf by treating the leaf itself, whereas the solution lies in watering the root" - Maharishi Mahesh Yogi

Using the Teach Computing scheme, we follow a comprehensive progression document to best embed and cover every element of the computing curriculum. The knowledge/skills statements build year on year to deepen and challenge our pupils.

Below is a table of the units of work under the three main branches of computing and ICT. These units are covered and revisited throughout the primary phase.

Computer Science	Information Technology	Digital Literacy
Computational Thinking	Word Processing/Typing	Self Image and Identity
Programming	Data Handling	Online Relationships
Computer Networks	Presentations, Web design and eBook	Online Reputation
	Animation	Online Bullying
	Video Creation	Managing Online Information
	Photography and Digital Art	Health, Wellbeing and Lifestyle
	Augmented Reality and Virtual Reality	Privacy and Security
	Sound	Copyright and Ownership

EYFS

"Happiness radiates like the fragrance from a flower and draws all good things towards you. Life finds its purpose and fulfilment in the expansion of happiness"
- Maharishi Mahesh Yogi

"Play is an intrinsic part of being human. Play is at the heart of creativity, music, dance, song, poetry and art – it is a form of experimentation that loosens the often rigid boundaries of our very structured world, allowing us to try, allowing us to fail, allowing us to see that success might come in an unexpected shape, colour, size or configuration" Michael Rosen's *Book of Play* Profile Books Ltd 2019

Our Computing scheme for the EYFS is centred around play-based, unplugged (no computer) activities that focus on building children's listening skills, curiosity and creativity and problem solving. Technology in the Early Years can mean:

- taking a photograph with a camera, tablet or chromebook
- searching for information on the internet
- playing games on a chromebook
- exploring an old typewriter or other mechanical toys
- use of Beebots
- watching a video clip
- listening to music

Allowing children the opportunity to explore technology in this carefree and often child-led way, means that not only will they develop a familiarity with equipment and vocabulary but they will have a strong start in Key Stage 1 computing and all that it demands.

Key Stages 1 and 2

By the end of key stage 1 pupils should be taught 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 and computing 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.

By the end of key stage 2 pupils should be taught 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, selection, 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 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;
- 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.

Teaching Approaches

Curriculum

At Maharishi School we have recently incorporated the Teach Computing curriculum, which encompasses all the statutory teaching and learning implemented in the curriculum. Computing as a stand-alone subject has a number of key components, each of which we aim to teach and fully instil the value of amongst our pupils. These are:

Computer Science – Pupils are taught the principles of information and computation, how digital systems work, and how to put this knowledge to use through programming.

Information Technology – Pupils are equipped to purposefully create programs, systems and a range of content in order to develop products and solutions. They will be able to collect, analyse, evaluate and present data and information.

Digital Literacy – Pupils are taught to use, access and express themselves through digital technology, including a critical understanding of technology's impact on the individual and society, at a level suitable for the future and as active participants in a digital world.

Computing is a significant part of everyone's lives and we believe that children should be at the forefront of new technology to complement and enhance their learning and experiences in a broad and balanced way.

Computing has strong links to a variety of other subjects such as mathematics, science, design and technology and therefore we believe that, as an essential part of the curriculum, it is also integrated into all areas of learning, using a range of hardware, software and opportunities.

We recognise the need to continually maintain, update and develop resources to ensure the effective delivery of the National Curriculum and support the use of technology throughout the school. This includes:

- Interactive boards in every classroom to enhance and promote effective use of technology for learning.
- 20 Chromebooks in every class for pupil use within lessons.
- Use of programmable devices such as BeeBots.
- Subscription to online content such as Discovery Education, TTRockstars, IDL and Charanga to promote learning in school and remotely through home access.
- The use of 'Google Suite' to promote and support communication and collaboration across the curriculum.

Equal Opportunities

Children, irrespective of ability, race or gender, are given full access to the Primary Computing/ICT Curriculum. The use of differentiation by outcome allows children to respond to the work presented to them at the appropriate level.

Impact

After each unit of work, teachers will make a judgement on whether pupils have met, exceeded or are working towards the objectives set.

Evidence of progression and achievement will be seen in examples of pupils' work stored digitally or via a 'floor book'.

As a result of effective implementation, pupils will be able to apply their skills and knowledge in other areas of learning.

Pupils will be able to share their knowledge of how to be a responsible user of technology through discussion when questioned. They will be prepared for the next stage in their lives, knowing how to be a responsible user of technology in the wider world and most importantly, knowing where to seek support.

Pupils will be familiar with and will discuss their understanding of the three main strands and will know key vocabulary associated with these.

Confidence in this subject will also mean that pupils are able to be more independent and competent in life skills such as problem solving and logical thinking.