| **Curriculum Quality 2019-2020**<br>Computing | **Date published:**<br>September 2019 | **Plan number:**<br>1 | **Subject Leader:**<br>Sophie Woolley and Shane Hayes |
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**Intent**

At the Marchant-Holliday School, we aim to provide a well-balanced computing curriculum, which provides a wealth of learning opportunities explicitly, within discrete computing lessons, and embedded within other subjects. We aim to develop a wide range of fundamental skills, knowledge and understanding that will allow pupils to carry knowledge through to everyday life. We aim to develop 'Computational Thinking' to provide a set of transferrable skills, enabling children to participate in an ever-growing digital world.

**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, to solve problems analytically
- are responsible, competent, confident and creative users of information and communication technology

**The overarching concepts for Computing at The Marchant-Holliday School are:**

Throughout their time at MHS, pupils will learn to analyse and address problems through programming, sequencing and scripting. This will help develop their understanding and application of fundamental computing concepts. Pupils will become responsible, creative and competent users of information and communication technology. At the school, we aim to provide a variety of opportunities, which include both practical exploration of hardware and detailed investigation of systems.

**Implementation**

During their time at MHS, pupils will partake in a progressive curriculum taught through a range of software and hardware. The aim for the computing curriculum is to develop a larger pool of resources to enable children to explore the world of technology. The curriculum will be taught in two ways; directly through specifically planned and delivered computing sessions, and through embedding computing skills in Learning Experiences and across the wider curriculum in classes. The computing lessons, which are taught in blocks, ensure that children are able to develop depth in their knowledge and skills over the duration of each of their computing topics. As well has having a computing suite, the school has invested in assisted technology to support some of our dyslexic students and ipads for use within the classroom setting. Each classroom has interactive technology, which the staff and students access, and this helps the children understand the role of technology for a range of purposes. At the core of computing is computer science, in which children are taught the principles of information and computation, how digital systems work and how to put this knowledge to use through programming.

We will provide opportunities for the children to become more confident in their abilities in Computing, which will help them become more independent with key life skills such as problem-solving, logical thinking and self-evaluation.

**Curriculum Overview (Knowledge and Skills)**

| **Term** | **Term 1** | **Term 2** | **Term 3** | **Term 4** | **Term 5** | **Term 6** |
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| **Year 1** | **E-safety:** Using the internet safely | **Digital Literacy & E-safety:** using a computer/device | **Coding with Beebots** | **Digital Literacy:** bug hunters | **Digital Literacy:** potty painters | **Coding:** Scratch Jnr - introduction and fundamentals |
| **Year 2** | **E-safety:** Staying safe on the internet | **Digital Literacy & E-safety:** using a computer/device | **Coding:** Scratch Jnr - introduction and fundamentals | **Digital Literacy -** using a computer | **Digital Literacy:** taking and using photos | **Coding:** Scratch Jnr - fundamentals |

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| **Year 3** | **E-safety:** Google Share with care | **Digital Literacy & E-safety:** using a computer/device | **Digital Literacy:**Explore a Topic with Research and Collaboration | **Coding:** Animations - Space | **Coding:** Sound and music - Rock band | **Coding:** project |
| **Year 4** | **E-safety:** Google Don't fall for fake | **Digital Literacy:** Research and develop a topic | **Coding:** Interactive - Chatbot | **Coding:** Game - Boat race | **Digital Literacy:** Childnet video competition | **Coding:** project |
| **Year 5** | **E-safety:** Google Secure your secrets | **Digital Literacy:** Plan an event | **Coding:** Scratch - Space Junk Game | **Coding:** Catch the Dots Game | **Digital Literacy:** Childnet video competition | **Coding:** project |
| **Year 6** | **E-safety:** Google It's cool to be kind | **Digital Literacy:** Explore a Topic with Research and Collaboration | **Coding:** scratch maths Building with Numbers | **Coding:** Scratch Memory game | **Digital Literacy:** Childnet video competition | **Coding:** project |
| **Year 7** | **Web Awarenes:** E-saftey, how the Web works | **What's inside a computer:** Study of computer components; inputs, outputs, data and binary, processing, bytes and megabytes | **Digital Literacy:** Microsoft Office Tools | **Drawing and Manipulating Shapes:** Representing images | **Creating an animation:** Algorithms, Scratch | **Game Creation:** Kodu Game Lab |

**Impact**

We use on-going assessments during the course of lessons and monitor the pupils' progress towards their attainment targets by keeping a running record of when the pupils achieve the target. We then ensure that further opportunity is presented to embed these skills, consolidate learning and ensure that knowledge has been acquired before moving on to further study. We aim for all pupils to have a degree of digital literacy to equip them with the skills necessary to join the rest of the world on its digital platform. They will be equippe not only with the skills and knowledge to use technology effectively and for their own benefit, but more importantly – safely. The biggest impact we want on our children is that they understand the consequences of using the internet and that they are also aware of how to keep themselves safe online.

**By the end of Key Stage 1,** pupils will have gained an understanding of keeping safe online; how to use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. Pupils will have begun to develop an understanding of algorithms and spotting 'bugs' in programs. They will also have begun to learn the fundamentals of programming and using a range of technology for a range of purposes.
**By the end of Key Stage 2,** pupils will be able to select and use a range of software designed for varied purposes. Pupils will have built upon their understanding of E-Safety - keeping themselves safe as well as reporting any concerns regarding content. Pupils will have developed an understanding of the use of multi-media and the role technology plays in modern life. They will have had the opportunity to use a range of equipment and programmes and the software which runs them.
**By the end of year 7**, students will have begun to develop their knowledge of computing skills and processes, be able to understand some of the features of programming language, be able to compare algorithms and undertake creative projects using computer technology