To create a welcoming Christian community where every child is viewed as a special person created and loved by God. Every member of our school community is valued for who they are and empowered to be the best they can be. We support every child to develop into lifelong learners who are resilient, socially skilled, and successful in all aspects of their lives.

'Start children off on the way they should go, and even when they are old they will not turn from it.' (Proverbs 22:6)

At Emmanuel, we provide an ambitious curriculum, challenging all children to aspire to be the 'best they can be'. All children learn in a highly inclusive environment which engages them to achieve great outcomes and reach their potential. We provide the children with a broad and balanced curriculum where the substantive and disciplinary knowledge the children need to acquire is coherently planned and sequenced allowing knowledge to be built on and embedded. Due to the careful sequencing of the curriculum, the children use their prior knowledge to allow them to learn new concepts. This curriculum design, supports all children to be courageous when faced with new challenges.

As Paul said in his letter to the Philippians 'I can do all things through him who strengthens me.' (Philippians 4:13 ESV)

Emmanuel's curriculum intent for Computing

Our intent aims to ensure that all pupils:

1.an understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation

2. can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems

3. can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems

4. are responsible, competent, confident and creative users of information and communication technology.

This reflects the disciplinary knowledge set out in the national curriculum (2013) for computing.

For our intent to be reached all pupils will be able to:

1. design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts

2. use sequence, selection, and repetition in programs; work with variables and various forms of input and output

3. use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs

4. 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

5. use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content

6. 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

7. use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.

This reflects the substantive knowledge set out in the national curriculum (2013) for computing.

Our intent is to ensure that all pupils gain success against the composites (end points/final outcomes) set out in the national curriculum to enable them to be secondary ready and flourish in their next step of their computing education.

The implementation of our Computing Curriculum

Our Curriculum

Our curriculum has been designed to ensure that all pupils make progress towards achieving the desired end points set out in the national curriculum by the end of key stage 2. They will do this through acquiring the substantive and disciplinary knowledge which has been broken down into coherently sequenced component parts. When the pupils acquire the knowledge required to be successful against each component, this learning will then be built on sequentially to ensure that each small step leads to all pupils attaining the desired end point (composite). Our geography progression documents set out the sequence of learning.

The curriculum has been designed with the concept of memory in mind. Our curriculum is designed to ensure the children know and remember more by incorporating a 'spiralised' curriculum where concepts are revisited to facilitate learning being transferred into the long-term memory. Concepts are consistently revisited and regularly reviewed with retrieval practice (both daily and spaced) being central to our curriculum. Content and concepts are revisited and built upon throughout academic years and year groups.

To meet the aims of the national curriculum, the computing curriculum is separated into three termly projects, based around the three core skills of computing. Projects will introduce substantive and disciplinary knowledge that will build up each year in a spiralised manner and which will allow for deeper learning and understanding. The three termly projects include:

1) Computing Science: Theory. Pupils are taught the underlying knowledge of the technological world around them.

   -Topics include: how the internet works, what networks are, how to safely use the internet to research and how emails work.

   -Lessons are theoretical and can be practical in nature (but not necessarily with the use of technology itself).

   -These lessons are then applied to the wider curriculum where possible (for example, using the internet to locate sources in History and questioning their reliability and validity).

2) Computer science: Programming. Pupils apply their theoretical understanding of the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation. They do this by developing their computational thinking skills, analysing problems and creating computer programs and systems to solve these problems, evaluating and debugging their work as they progress.

   -Lessons within these topics are focused around a project. Pupils explore the fundamental skills needed to independently access the project.

   -Lessons are a blend between theory and practical: children will design and create code using various systems and programmes that are designed to accomplish certain goals (including using sequence, selection, and repetition in programs, working with variables and various forms of input and output).

   -Pupils learn how to evaluate their programming code, detect and debug problems and will be able to discuss their code with confidence.

   -Topics include: sequencing and animation; conditional events; using various variables; repetition and loops; manipulating object properties; adjusting speed, direction and coordinates; controlling devices.

3) Information technology: Pupils are taught the fundamental skills needed to become digitally literate and as such, become capable of expressing themselves and are able to develop their ideas through the use of technology.

-Lessons within this topic are focused on how pupils can use technology to aide their learning, and will develop the confidence and competence needed to use technology independently.

-Lessons tend to teach discrete skills that build up each lesson to create a finalised piece of independent work.

-Lessons covered allow for multi cross-curricular links. The skills taught within these lessons can be utilise across the entire curriculum.

-Topics include: Basic computing skills; word processing skills including adding hyperlinks; creating PowerPoints and animations; using Excel to create formula, manipulate data and create graphs.

Online safety

One aspect of the computing curriculum focuses on using the technology around ourselves *safely,* how we should take responsibility for our actions when using technology (including showing respect and building tolerance for each other), and how technology can be used to develop an understanding of the wider world around them (including themselves).

Curricular targets aimed at online safety and the safe use of technology is taught through our PSHE/RSHE curriculum. However, each of the three projects will be bookended by two online safety lessons in which a curriculum can be tailored to the needs of the children (e.g. gaming addiction, cyber bullying or keeping personal information safe online). Lessons are based upon the UK Council for Internet Safety's (UKCIS) framework "Education for a Connected World" using Project Evolve. Lessons within this topic tend to be enquiry based and allow for discussions and exploration into the impact (both negatively and positively) of technology on our daily lives. Topics covered include; online self-image and identity; online relationships; health, wellbeing and lifestyle; privacy and security.

Furthermore, links to online safety are also taught in each computing lesson (such as use of passwords, searching the internet safely or sharing information online), collective worship and other lessons in which technology is used to aide learning.

Substantive and disciplinary knowledge and vocabulary are introduced progressively and revisited regularly to help children know and remember more. The progression documents ensure the curriculum is fully covered and that children are appropriately challenged from year group to year group and purposeful links are made between areas of study to allow children to revisit and embed concepts.

Teaching

Our teachers focus on teaching simply, practicing thoroughly, feeding back constructively and embodying excellence. The teaching strategies employed across school are used to facilitate the pupils to know and remember more.

Computing Provision	
Individual lessons	Our computing lessons follow a structure of retrieval and review of prior knowledge leading to the teaching of new content through carefully sequenced precise small steps. Children are provided with the opportunity to practice what they have learnt and apply their knowledge to a different context. A key component of each part of every lesson is the teaching of accurate computing vocabulary to support the children to reason and explain their interpretations of what they have discovered.
Inclusive computing provision	We have an ambitious computing curriculum which is highly inclusive and supports all children to gain success and reach their potential. All new learning is based on the substantive and disciplinary knowledge stated in the computing progression document and due to the spiralised nature of the curriculum where component parts are revisited, all new knowledge builds on prior knowledge in a coherent fashion allowing all children to access the curriculum.

Assessment

The accurate assessment of children's computing knowledge is critical to ensure all children have the required factual background knowledge needed to access the next component identified in our progression documentation. We use assessment tools to accurately identify gaps in pupil knowledge to ensure that precise support is provided to enable all children to gain mastery over each concept.

Assessment for learning: assessing as we teach by observing and questioning to inform next steps needed for each pupil to make progress against the learning objective.

Assessment as learning: we use ongoing assessment strategies such as retrieval practice and generative learning activities to consolidate learning and help children deepen knowledge in the long term memory.

Assessment of learning: we carry out a pre-assessment of children's background knowledge to accurately plan a series of lessons taking into account the children's starting points. At the end of each topic, children will have the opportunity to apply their substantive and disciplinary knowledge by completing an identical project linked to the wider curriculum. This allows teachers to assess how children can remember and apply their knowledge confidently and how they best use the tier 3 vocabulary taught.

Desired Impact of our Computing curriculum

The desired impact of our computing curriculum is that all pupils acquire the substantive and disciplinary knowledge set out in our computing progression documents so children's learning is built on sequentially and coherently across the year groups. Through this careful scaffolding of learning, the children's knowledge will be built on to ensure they attain the end of Key Stage 2 composites set out in the national curriculum.