Computing

What We Teach in Computing:

- Computing systems and Networks: Understanding how computers 'talk' to each other and the infrastructure of the internet.
- Creating Media: Using technology as a tool for design, including digital art, writing, 3D modelling and filming.
- Data and Information: Learning how to collect, organise and interpret data to make sense of the world.
- Programming: The craft of writing code, using logic to create algorithms and 'debugging' when things go wrong.
- Children will learn to think as computer scientists which involves troubleshooting, refining and perseverance.
- Technical vocabulary so children can be articulate in the language of the future such as selection, variables, encryption and packets.
- Using technology to make links across the curriculum such as 3D modelling Roman architecture, writing Victorian stories and digitally creating cave paintings from the Stone Age.

How We Teach Computing:

- Through the NCCE'S 12 principles of computing pedagogy, which focuses on modelling and scaffolding. The Predict-Run-Investigate-Modify-Make (PRIMM) approach allows the children to understand code before attempting it.
- Lessons are carefully sequenced to build mental models, ensuring children master the foundational skills such as basic mouse control and keyboard usage, before moving on to more complex designing and creating.
- Using 'unplugged' activities so children can access the full curriculum.
- Scaffolds are built into the lessons, with all children having access to 'starter tasks', modelled examples and step-by-step instruction.
- By using formative assessment in each lesson (live debugging), we can identify and fix common errors as a class. This build resilience and reminds children that mistakes are a natural part of the process.
- Assessment opportunities are built in to the end of each unit through hands-on projects where teachers can check for security of knowledge.
- Bringing Computing to life through physical technology such as Micro:bits and BeeBots.
- Computing vocabulary is highlighted in each lesson and introduced progressively throughout the unit.
- By linking our units to real-world outcomes such as 3D modelling architecture, creating websites and programming a step counter, ensures learning is meaningful and memorable to every day life. This also allows children to make links across the curriculum in Topic, English, Music and Art.

What Our Children Have Learnt in Computing:

- By the end of primary school, our children would have developed a secure knowledge of how computer systems work.
- They will be fluent in technical vocabulary and can explain complex concepts like 'algorithm' in programming and 'input' and 'output' in networking.
- Our children will be logical problem-solvers and analytical thinkers by fixing 'bugs' in a game they have coded or organise complex data into a spreadsheet.

- Through manageable, visual steps, children can shift from basic technology users into creative, confident computer scientists who handle increasingly complex projects.
- A confident learner in Computing is also someone who can navigate the online world and be articulate about how to stay safe, identify misinformation and protect their digital footprint. This will ensure they are prepared for the reality of digital life outside of school.
- Our curriculum is broken down into small, manageable steps with visual support embedded into each lesson. We push for computational thinking and exploration of technology, regardless of ability and this is evident in the variety of units we cover.