Yoxall St Peter's CofE Primary

Curriculum

How we teach: Computing

Basic Principles

1. Learn about current global issues within the computing society and how it affects us in everyday life. This includes, for example: Internet safety and Cybercrime and issues of bullying via social media. We aim to manage and learn about this in computing lessons by working SMART (stay Safe, don't Meet up, not Accepting files, Reliable and Tell someone) and a whole school participation in SID (Safer Internet Day) which take place yearly. We aim to enable pupils to use technology safely, respectfully and responsibly and be prepared to take ownership of the choices they make online through class discussion, role-play and circle time.

2. Provide the essential skill for modern life and enable learners to participate more readily in a rapidly changing world. Learning how the internet and online communication can open their minds to the future application of programming, technology and global communication across the world. We want our children to be future ready and to learn about the world beyond our doorstep. Children and staff will be taught how to navigate and use Microsoft Teams to support communication and learning – in particular during home-learning in lockdown due to Covid 19.

3. Link the computing knowledge and skills they are learning with their applications in daily life, such as using coding to debug programmes, for engineering and maths, using social media positively and responsibly.

4. Develop and foster an enthusiasm, curiosity and appreciation for the role of computing within daily lives and within society as a whole. Our aim is for children to experience creativity, experimenting, enquiry, learning by doing, research, deduction and a trial and error approach to learning. All children are encouraged to believe in their ability to master computing and are empowered to succeed through curiosity, tinkering and perseverance.

5. We have mapped a rich, broad and balanced curriculum whereby children are offered a computing education designed for mastery approach using all three strands of the curriculum: Computer Science, Information Technology and Digital literacy (including e-safety). A mastery approach for learning in computing will mean children acquire deep, long-term, secure and adaptable understanding which they can take forward with them across the school up to key stage 2 and beyond. We aim for children to be able to skilfully apply their learning in computing to new situations in unfamiliar contexts.

6. The Teach Computing Scheme of Work, which Yoxall has chosen to match our needs, is a powerful comprehensive resource aligned to the National Curriculum and EYFS Framework which supports Yoxall with achieving excellence in Teaching & Learning for Computing. The Scheme of Work is intended to facilitate our teachers in achieving the very best outcomes for our pupils, regardless of starting points. It exposes pupils to a wide variety of skills, experiences and poignant real-life scenarios which supports the notion of Cultural Capital; providing the foundations that lead to well-rounded global citizens. Teach Computing helps deliver inspiring and engaging lessons whilst allowing Yoxall the flexibility to meet individual school needs. The Teach Computing Scheme has also included additional units that go beyond the expectations of the National Curriculum, whilst also adding 'Catch up' units to close gaps in learning.

Curriculum intent model

1. To become responsible, competent, confident and creative users of information and communication technology. To be future-ready.

2. To develop an understanding of computer science including abstraction, logic, algorithms and data representation.

3. To analyse problems in computational terms and have repeated practical experience of writing computer programs in order to solve such problems.

4. To evaluate and apply information technology, including new or unfamiliar technologies and analytically solve problems.

5. To deliver a high-quality computing education to use computational thinking and creativity to understand and change the world.

Implementation

6. Through lessons, teach children to use technology safely, responsibly and respectfully. Through online safety lessons, teaching children to be SMART.

7. Recognise acceptable and unacceptable behaviour and understand the implications of irresponsible behaviour.

8. Know and understand ways to report concerns about content and contact.

9. Teachers will use Teach Computing mixed-age Computing Scheme of work to support the teaching of Computing across the whole school from Reception up to Year 6. Early Years will use Mini Mash (Teach Computing) computing scheme to support computing learning in early years setting.

10. Teachers will follow the Teach Computing lesson plans in sequence to teach small steps in computing learning. This will ensure progression in learning. Teachers will set 2dos for computing lessons and resources to support this are on Teach Computing. All children and staff have log-ins and passcodes to access Teach Computing. Children save their computing learning into their own folders on Teach Computing.

11. Children will use Teach Computing Coding throughout each academic year (starting with the Crash Course for children who have not used 2Code previously) and will build on their skills to code and de-bug. They will create their own games and be given opportunity to analyse each other's on Teach Computing. Bee-bots will also be used to support computing coding in early years in both C1 and C2.

12. Coding - Children will learn to create algorithms and de-bug programmes in Coding from Teach Computing. Children will be given opportunity to 'tinker' and access free code using Chimp level (Y1-2 Free Code Chimp), Gibbon level (Y3-4 Free Code Gibbon) and Gorilla Level (Y5-6 Free Code Gorilla).

13. Children will experience inputting data, organising data and analysing data using Teach Computing resource tools: data bases, spreadsheets, simulations, graphing.

14. Children will develop their computing vocabulary and begin to understand computing terminology such as algorithms, spreadsheets, de-bug, input, database. Computing vocabulary from the Teach Computing computing scheme of work will be used for each year group. These will be displayed in classrooms so children have access visually to the terminology used in lessons.

15. Children will evaluate their own learning at the end of most modules, particularly in KS2 when they have created their own games.

16. Success criteria is shared at the beginning of the lesson and checked at the end of the lesson – how have they succeeded?

17. Computing lead will communicate with other Computing leads in the JTMAT to make sure we are up to date with new technologies and schemes of work.

18. Children will be exposed to solving problems by using code in both key stages.

19. Where applicable, Cross-curricular links will be made between Maths, Science and D&T.

20. Skills progress throughout each year group, careful consideration has been given to making sure excellent progress is evident with all skills year on year. Progression of skills is evident for each year group in our mixed-age setting in the progression of skills document in the Teach Computing Mixed-Age Computing Scheme of Work.

Impact

21. Children are observed discussing how to stay safe on the internet, they create learning to teach others how to do so and children are encouraged to report others who they think are behaving in an unsafe manner.

22. Children are encouraged to report online issues through the online safety lessons taught in Teach Computing.

23. All classes are taught E-Safety every year, and this is re-enforced in computing lessons. Teachers will follow the lesson plans on Teach Computing, where each small step is taught. Children will learn how to be SMART (stay safe, don't meet up, Accepting Files, Reliable and Tell someone) to help them to use technology safely, respectfully, responsibly and be prepared to take ownership of the choices they make online.

24. Whole school participate in SID (Safer Internet Day) every year. Children attend mini workshops and use class discussion, role-play and circle time to promote working safely online.

25. Children will be able to generate their own code to create a set of instructions to solve a problem using Teach Computing Coding and Bee-bots. They will also be able to spot problems and de-bug.

26. Children are taught how to navigate and use Microsoft Teams, in particular for home-learning during lockdown due to Covid 19. Children and teachers have their own Teams logins and passwords and home-learning assignments for all subjects will be set up for children to support their learning in line with the DfE guidance on home-learning. Children will be shown how to download their assignments and upload the learning they have finished at home or in school (key-worker or vulnerable children). Children will be trained how use the chat and calendar function on Teams to access daily worship, circle-times and live lessons.

27. Children will be able to input and organise data using resources on Teach Computing and Microsoft.

28. Children leave the school being able to input code, having a broad knowledge of many instructions and systems to do so.

29. Children will have created their different computer games independently on Teach Computing, inputting the code and debugging them.

30. Children will leave having written evaluations, offered suggestions for improvements and debugged/improved their own and other's learning.

31. There are strong cross-curricular links within all subjects. Staff will be trained and given a wide range of suggestions of how to link and use ICT in lessons.

32. Children have expansive experiences of a wide range of ICT equipment and software resources.

33. Children are aware of how their experiences may help them with jobs in later life.

34. Children leave with a breadth of experiences and skills within ICT – fully prepared for KS3 onwards.