



Subject Information:

Computing Education at Oxenhope C of E
Primary School

How we teach Computing at Oxenhope C of E Primary School

Subject Intent

What do we want to achieve with our computing curriculum?

At Oxenhope CE Primary we are committed to ensuring that every learner is able to meet their full potential in a world which is becoming increasingly transformed by technology. Through engaging and creative lessons, learners are equipped with the skills, knowledge and understanding necessary to allow them to use technology effectively and confidently. We use cross-curricular links between Computing and Mathematics, Science and Design Technology and we strive to provide a broad and balanced curriculum, whilst ensuring that learners become digitally literate and digitally resilient. Technology is ever-evolving and we aim to develop learners who can use technology to express themselves, develop their ideas, share information and thereby use communication technology at a suitable level for the future workplace and become active participants in a digital world.

Online safety underpins everything that we do within the use of technology at Oxenhope. We encourage children not to fear technology but not to become complacent. We balance a full curriculum with safety strategies and support advice which can help children remove themselves from dangerous situations whilst helping them explore the technological world.

Subject Implementation

Through our use of the Purple Mash Scheme of Work, which is aligned to the National Curriculum, learners are equipped with the skills, knowledge and understanding necessary to allow them to use technology effectively and confidently. Use of this high quality scheme enables us to ensure consistency and continuity in teaching and learning in Computing as this subject is predominantly taught by non-specialist teachers and HLTAs.

Learning is aligned to the three main strands of the National Curriculum: i) Computer Science, ii) Information Technology and iii) Digital Literacy. E-safety (Digital Literacy) is explicitly taught within Computing lessons, but is also embedded within all use of technology, both within and – wherever possible - outside of school.

Learning in the Computer Science strand equips our learners with knowledge and experience of algorithms (programming), computational thinking and problem solving. Through learning in the Communication Technology strand, our learners understand the technology and systems around them, and are able to find, create, organise, exchange, present and store content. Digital Literacy is a central focus for us, where learners develop their ability to use information in a discriminating, effective and safe way. The development of skills in these three areas enables our learners to become independent,

confident creative and safe users of technology. Cross-curricular use of technology and computing skills enables us to provide a broad and balanced curriculum which is enhanced by the effective use of technology.

In Key Stage 1, learners are taught the principles of information technology and computation, they participate in weekly computing lessons which enable them, initially, to gain confidence in using devices within the classroom and logging in, learning the importance of using passwords to keep their work and information secure. Learners are taught to understand basic programming, through the use of algorithms and precise instructions, moving on to creating and debugging simple programs. Learners use technology purposefully, to create, organise, store and manipulate information. Learners use classroom discussion to make links between information technology experiences in school, and that used in the wider world. Cross Curricular links are made wherever possible to enhance learning in other curriculum areas.

In Key Stage 2, learners build on their understanding of computer science and computational thinking. They develop control systems using their programming skills to accomplish a specific goal. Learners use input and output systems, as well as sequence, selection and repetition in programmes. Building on their understanding of algorithms, children learn to describe how they work and further develop their ability to detect and correct errors in a program. Learners develop their understanding of larger networks such as the Internet and are able to explain how they work. Through their use of search technologies, children in Key Stage 2 develop their Digital Literacy skills, learning about how search results are selected and ranked, as well as developing their skills to challenge and check information presented for reliability. The collection, analysis, evaluation and presenting of data is further developed through application to other curriculum areas wherever possible.

Ensuring that learners are safe, healthy and considerate users of technology is central to learning and any use of technology in school. Through our comprehensive online-safety coverage both within computing lessons and through PSHE lessons, learners in KS1 understand how to use technology safely and respectfully, know what information should not be shared and know where to go for help in the event that it is needed. In Key Stage 2, learners are provided with opportunities to explore how to be safe and effective users of technology, to consider what behaviour is acceptable online and to learn different ways to report concerns or difficulties.

A whole school focus on online-safety takes place annually on Safer Internet Day, ensuring that key messages are consistently embedded and that the high profile of online-safety is maintained. In addition to this, a local Community Police Officer visits annually to deliver online-safety sessions with years 4- 6, in addition to this, year 5 and 6 have a yearly 'Cyberbullying' session also. Staff training takes place to ensure that our understanding and key themes covered in lessons are up to date. Opportunities to share information with parents are used to keep them up to date with current 'trends', associated risks, helpful information and signpost support.

All learners take part in all aspects of our curriculum; where required, lessons and resources are adapted to ensure that all learners are included and can access the whole Computing curriculum.

Progress and attainment in Computing are assessed against National Curriculum objectives for each year group. We believe that age-appropriate demonstration of the knowledge, skills and understanding within these objectives ensures that our learners become successful, effective and safe users of technology.

Subject Impact

Learners will:

- know more, remember more and understand more about computing
- have the key skills, knowledge and understanding necessary to allow them to use technology effectively and confidently and use it effectively to express themselves, develop their ideas and share information, both at home and in school
- use technology and the internet safely; knowing and understanding how to keep themselves safe
- be digitally literate and digitally resilient: knowing how to use and evaluate the trustworthiness of information found online, as well as deal with negative experiences online appropriately
- achieve age related expectations in computing

Purple Mash Overview Y1-6

Units by Year Group – Single Age Classes

Theme Key:

| | | | | | | | | | | | | | | | |
|---|-----------------------------------|---|--------------|---|--------------------|---|----------------|--|-------|---|------------------------|---|------------------------|---|----------------------------|
|  | Coding and Computational thinking |  | Spreadsheets |  | Internet and Email |  | Art and Design |  | Music |  | Databases and graphing |  | Writing and Presenting |  | Communication and networks |
|---|-----------------------------------|---|--------------|---|--------------------|---|----------------|--|-------|---|------------------------|---|------------------------|---|----------------------------|

| Week | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
|--------|--|---|---|---|--------------------------------|---|------------------------|---|---------------------------|----|----|----------------------------|----|----|----------------------------------|----|----|--------------------|----|----|--------------------------|----|---------------------------------------|----|----|----|----|----|----|----|----|
| YEAR 1 | Unit 1.1 Online Safety & Exploring Purple Mash | | | | Unit 1.2 Grouping & Sorting | | Unit 1.3 Pictograms | | Unit 1.4 Lego Builders | | | Unit 1.5 Maze Explorers | | | Unit 1.6 Animated Story Books | | | Unit 1.7 Coding | | | Unit 1.8 Spreadsheets | | Unit 1.9 Technology outside school | | | | | | | | |
| | Weeks – 4 | | | | Weeks – 2 | | Weeks – 3 | | Weeks – 3 | | | Weeks – 3 | | | Weeks – 5 | | | Weeks – 6 | | | Weeks – 3 | | Weeks – 2 | | | | | | | | |
| | Programs – Various | | | | Programs – 2DIY | | Programs – 2Count | | Programs – 2DIY | | | Programs – 2Go | | | Programs – 2Create A Story | | | Programs – 2Code | | | Programs – 2Calculate | | Programs – Various | | | | | | | | |

| Week | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 |
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| YEAR 2 | Unit 2.1 Coding | | | | | Unit 2.2 Online Safety | | | Unit 2.3 Spreadsheets | | | | Unit 2.4 Questioning | | | | Unit 2.5 Effective Searching | | Unit 2.6 Creating Pictures | | | Unit 2.7 Making Music | | Unit 2.8 Presenting Ideas | | | | | | | | |
| | Weeks – 5 | | | | | Weeks – 3 | | | Weeks – 4 | | | | Weeks – 5 | | | | Weeks – 3 | | Weeks – 5 | | | Weeks – 3 | | Weeks – 4 | | | | | | | | |
| | Programs – 2Code | | | | | Programs – Various | | | Programs – 2Calculate | | | | Programs – 2Question, 2Investigate | | | | Programs – Browser | | Programs – 2PaintAPicture | | | Programs – 2Sequene | | Programs – Various | | | | | | | | |

| Week | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | |
|--------|-----------------------|---|---|---|---|---|---------------------------|---|---|--------------------------|--------------------------|----|--------------------------|----|----|------------------------------------|---|----|--------------------------|----|------------------------------------|-----------------------------|----|--------------------------------|--------------------------|------------------------------|----|------------------------------------|----|----|----|----|----|
| YEAR 3 | Unit 3.1 Coding | | | | | | Unit 3.2 Online safety | | | Unit 3.3 Spreadsheets | | | Unit 3.4 Touch Typing | | | | Unit 3.5 Email (Including email safety) | | | | Unit 3.6 Branching Databases | | | Unit 3.7 Simulations | | Unit 3.8 Graphing | | | | | | | |
| | Number of Weeks – 6 | | | | | | Weeks – 3 | | | Weeks – 3 | | | Weeks – 4 | | | | Weeks – 6 | | | | Weeks – 4 | | | Weeks – 3 | | Weeks – 3 | | | | | | | |
| | Main Programs – 2Code | | | | | | Programs – Various | | | Programs – 2Calculate | | | Programs – 2Type | | | | Programs – 2Email, 2Connect, 2DIY | | | | Programs – 2Question | | | Programs – 2Simulate, 2Publish | | Programs – 2Graph | | | | | | | |
| Week | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 |
| YEAR 4 | Unit 4.1 Coding | | | | | | Unit 4.2 Online safety | | | | Unit 4.3 Spreadsheets | | | | | | Unit 4.4 Writing for different audiences | | | | Unit 4.5 Logo | | | Unit 4.6 Animation | | Unit 4.7 Effective Search | | Unit 4.8 Hardware Investigators | | | | | |
| | Number of Weeks – 6 | | | | | | Weeks – 4 | | | | Weeks – 6 | | | | | | Weeks – 5 | | | | Weeks – 4 | | | Weeks – 3 | | Weeks – 3 | | Weeks – 2 | | | | | |
| | Main Programs – 2Code | | | | | | Programs – Various | | | | Programs – 2Calculate | | | | | | Programs – 2Email, 2Connect, 2DIY | | | | Programs – Logo | | | Programs – 2Animate | | Programs – Browser | | | | | | | |
| Week | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | |
| YEAR 5 | Unit 5.1 Coding | | | | | | Unit 5.2 Online safety | | | Unit 5.3 Spreadsheets | | | | | | Unit 5.4 Databases | | | Unit 5.5 Game Creator | | | Unit 5.6 3D Modelling | | | Unit 5.7 Concept Maps | | | | | | | | |
| | Number of Weeks – 6 | | | | | | Weeks – 3 | | | Weeks – 6 | | | | | | Weeks – 4 | | | Weeks – 5 | | | Weeks – 4 | | | Weeks – 4 | | | | | | | | |
| | Main Programs – 2Code | | | | | | Programs – Various | | | Programs – 2Calculate | | | | | | Programs – 2Question, 2Investigate | | | Programs – 2DIY 3D | | | Programs – 2Design and Make | | | Programs – 2Connect | | | | | | | | |

| Week | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 |
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| YEAR 6* | Unit 6.1 Coding | | | | | | Unit 6.2 Online safety | | Unit 6.3 Spreadsheets | | | | | Unit 6.4 Blogging | | | | Unit 6.5 Text Adventures | | | Unit 6.6 Networks | | Unit 6.7 Quizzing | | | | | | | | | |
| | Number of Weeks – 6 | | | | | | Weeks – 2 | | Weeks – 5 | | | | | Weeks – 5 | | | | Weeks – 5 | | | Weeks – 3 | | Weeks – 6 | | | | | | | | | |
| | Main Programs – 2Code | | | | | | Programs - Various | | Programs – 2Calculate | | | | | Programs – 2Blog | | | | Programs – 2Code, 2Connect | | | | | Programs – 2Quiz, 2DIY, Text Toolkit, 2Investigate | | | | | | | | | |

* There is an optional unit 6.8 – Understanding Binary that can be used in addition to the above units. It is a four week unit.