



Coberley C of E Primary School

Computing Rationale

Every Child, Every Chance, Every Day



Intent: Why do we teach this? Why do we teach it in the way we do?

When planning and teaching computing at Coberley, we believe that it is an essential part of the curriculum; a subject that not only stands alone but is woven and should be an integral part of all learning. Computing, in general, is a significant part of everyone's daily life and children should be at the forefront of new technology, with a thirst for learning what is out there. Computing within schools can therefore provide a wealth of learning opportunities and transferable skills explicitly within the Computing lesson and across other curriculum subjects.

We want to equip them with not only the minimum statutory requirements of the computing National Curriculum but to prepare them for the opportunities, responsibilities and experiences of later life.

Computing subject specific characteristics, which we expect the children to demonstrate, have been developed and shared with all stakeholders. These characteristics underpin all work in computing and form a focal point for display areas and provide a common subject specific vocabulary for staff and pupils. These characteristics are:

- The ability to **understand technology** to understand the role of technology and the Internet, now and in the future.
- The ability to forge digital **literacy**. To be able to use technology to present, store and print information, including the use of APPS including Google Docs, Slides and Sheets.
- Competence in **coding** including the ability to debug, create loops and solve simple tasks.
- The ability to connect with others **safely** and respectfully, understanding the need to act within the law and with moral and ethical integrity. An understanding of the connected nature of devices.

We introduced Google Classroom in January 2020, initially to save paper and subsequently as an online platform for online learning. Since lockdown, it has become embedded within our curriculum as a means of supplying work, posting links and videos and collating work.

Implementation: What do we teach? What does this look like?

The computing curriculum has been carefully built and the learning opportunities and assessment milestones for each class crafted to ensure progression and repetition in terms of embedding key learning, knowledge and skills. For example, we focus our teaching on four main themes of computing; understanding technology, digital literacy, coding and safety. These are revisited year on year where pupils progressively build their skills and knowledge. In addition to this we provide specialist computing teaching to pupils in upper KS2 and frequently revisit online safety through themed days, PSHE and celebrations like 'Safer Internet Day'.

Computing will be reviewed in Spring 2023, which included pupil questionnaire, analysis of results, resource audit and lesson observations. The following provision is currently in place.

Our 4 strands

Understanding Technology

Children's natural curiosity has always driven them to develop an understanding of the world around them and this is no different when it comes to understanding technology; both how it works and what it can do for us. From their first, early experiences with technology, pupils begin to make sense of how it works and the opportunities it can provide. Throughout their time in primary education, pupils now need to extend that understanding to include computer networks such as the Internet, and the services they can provide such as the World Wide Web. Teachers need to provide practical, fun experiences that allow pupils to make links with their existing understanding of the world around them. In doing so, pupils will ultimately become much more effective creators and users of digital content.

Digital Literacy

Digital Literacy is the ability to effectively and critically navigate, find, evaluate, summarise, use, create and communicate information using a range of digital technologies. It deals with the appropriate use of technology generated words, images, sounds and motion. Developing digital literacy is increasingly important because it supports learners to be confident and competent in their use of technology in a wide variety of contexts. The inter-related components of digital literacy can and should be developed alongside subject specific knowledge and understanding.

Programming

It's worth noting that computer science aims to cover two distinct, but related, aspects. There's a focus on computer science itself (the ideas and principles that underpin how digital technology works) but this sits alongside the practical experience of programming, almost certainly the best way for primary pupils to learn about computer science. Computer Science is more than programming, but programming is an absolutely central process for Computer Science. In an educational context, programming encourages creativity, logical thought, precision and problem-solving, and helps foster the personal, learning and thinking skills required in the modern school curriculum. Programming gives concrete, tangible form to the idea of "abstraction", and repeatedly shows how useful it is.

Online Safety

"New technologies are integral to the lives of all children, young people and their parents. They inspire children to be creative, communicate and learn. It is essential that children and young people tap into the potential of the digital world if they are to enjoy their childhood and succeed in life. In educating children and young people we should empower them to learn how to use digital technology responsibly, not simply block what they can access. We must give them the information and skills they need to be digitally literate and savvy users. This enables them to take advantage of the opportunities that new technologies can offer, as well as being able to deal with any risks that arise."

Teaching & Learning

- The school has a detailed computer **curriculum map** illustrating the key skills taught across our classes.
- The **computing milestones** map illustrates the computer skills the children learn in each class.
- Computing is taught discretely and as part of a wider learning experience.
- Work is differentiated to allow children to work at appropriate levels, to include SEN provision.
- Lessons are practical, whenever possible.

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- Google Classroom and bundled apps such as google docs and google forms are used extensively throughout the school.
- We use predominantly tablet devices, connecting to a filtered Internet (Gigaclear).

Computing EYFS links

The following table outlines some of the curriculum links that can be made between computing and areas of learning within the Early Years Foundation Stage.

Computing			
Reception	Personal, Social and Emotional Development		• Show resilience and perseverance in the face of a challenge.
	Physical Development		• Develop their small motor skills so that they can use a range of tools competently, safely and confidently. • Know and talk about the different factors that support their overall health and wellbeing: -sensible amounts of 'screen time'.
	Expressive Arts and Design		• Explore, use and refine a variety of artistic effects to express their ideas and feelings.
ELG	Personal, Social and Emotional Development	Managing Self	• Be confident to try new activities and show independence, resilience and perseverance in the face of challenge. • Explain the reasons for rules, know right from wrong and try to behave accordingly.
	Expressive Arts and Design	Creating with Materials	• Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.

Assessment

- We assess predominantly using formative assessments on INSIGHT.
- IT is often a medium subsequently assessments are carried out in other subjects e.g fact finding or slide presentation.

Monitoring & Training

- A [Padlet of work](#) provides evidence of attainment, progress and range of activities.
- There is also evidence on wall displays, e.g. Internet safety
- Staff are regularly trained to access Google Drives, use pictures and other key learning platforms

Examples of Practice

- Recently, the whole school were visited by parents, who work in IT, bringing in robots, VR and simulators for the whole school to use.
- Class 3 spent a day debating the best invention since 1944 only to determine that the best inventions were yet to be created – magic straws to purify water, AI to improve medical science and cures for diseases outbid arguments for the Internet and VR.
- Every year the whole-school had a focus on Safer Internet Day. The school regularly attends the lower KS2 drama production, "Into the Net" and the whole school were treated to a range of Safer Internet Day activities such as debating key online safety issues, online safety oracy

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tasks and designing their very own posters, using key web resources such as "Think U Know".

- In the Autumn term we celebrated National Coding Week with resources and coding simulators. The children enjoyed a fantastic day of robotics and coding led by specialists from GCHQ. All the children got the chance to work with a variety of equipment to tackle computing-based challenges. The children learnt about the principles of coding and how the equipment we have around us works before participating in some fabulous practical activities. The robots and VR equipment were a particular highlight, one child said: 'I loved being able to code and control my own robot and see what happens when I change things.' To further develop our pupils' coding skills, in Class 3 we have distinct coding sessions in the Summer term
- During their science topic on heart rates, pupils in Class 3 used iPads as stopwatches to measure their hearts, a camera to take evidence and as a spreadsheet to analyse results.
- During topic the children recently had to code their own horse race as a comparison to the Gold Cup
- As part of our topic lessons, the children create and edit ongoing slides with their current learning. They then use their computing skills to make smart and presentable presentations.

Lock down on-line learning examples

Class 1

- Class 1 used Google hangouts to have regular (twice daily) screen "show and tell" and have on-line lessons and individual reading.
- They used on-line resources from White Rode Maths and phonics to enhance learning in addition to school APPS.
- They used Google Classroom as an on-line notice board to access information, videos, links and instructions and to post images and comments.
- They also continued to use Tapestry to post work and be assessed using EYFS goals and NC Year 1.

Class 2

- Class 2 used regular Google hangouts session for catch up, show and tell and individual reading.
- They had a morning "lesson" on-line to explain work and ensure the children knew what they were doing.
- They used on-line resources including White Rode Maths, BBC Bitesize and DuoLingo to enhance learning in addition to school APPS.
- They used Google Classroom as an on-line notice board to access information, videos, links and instructions and to post images and comments.

Class 3

- Class 3 used regular Google hangouts session for catch up, show and tell and individual reading.
- They used Google Meet for morning on-line "lessons" to explain the day's work
- They used on-line resources including White Rose Maths, BBC Bitesize, CS First and DuoLingo to enhance learning in addition to school APPS.
- They used Google Classroom as an on-line notice board to access information, videos, links and instructions and to post images and comments.
- They use a different Google Classroom for each curriculum area.
- They are provided with assignments which they then do and turn in to be marked using Google Docs, Slides and Forms.

Coberley Domain

All children have a coberley.org domain account. This is a secure locked domain which ensures all children files and images are safe. This domain works with Google and the school uses the G-Suite for all its APPS. We also use Google Classroom extensively as a means of posting and sharing work

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and to enable the children to work collaboratively. This ensures that children are prepared for the future.

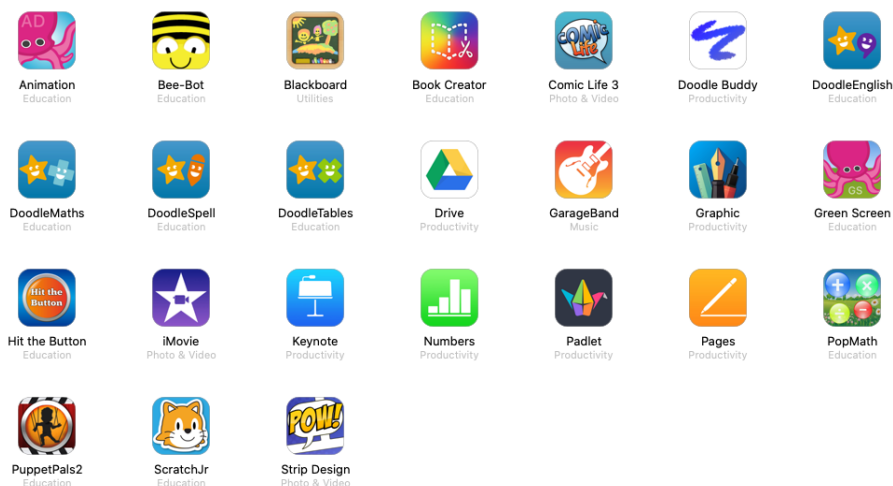
Impact: What will this look like? By the time children leave our school they will

After the implementation of this robust computing curriculum, children at Coberley will be digitally literate and able to join the rest of the world on its digital platform. We want them to use technology confidently, competently and in a safe way. They have wide-ranging knowledge from how to operate devices at a mechanical level, searching and selecting information and how to use digital devices safely and responsibly. 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.

Computer Resources

Coberley.org domain

iPad/Tablet Apps



Google Apps for Education



Other resources

- Web: Scratch

Hardware

- iPads/Lenovo Tablets
- Interactive TVs in every classroom

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- Visualiser
- 2 x colour printers / photocopiers
- Gigaclear Internet with DNS filter