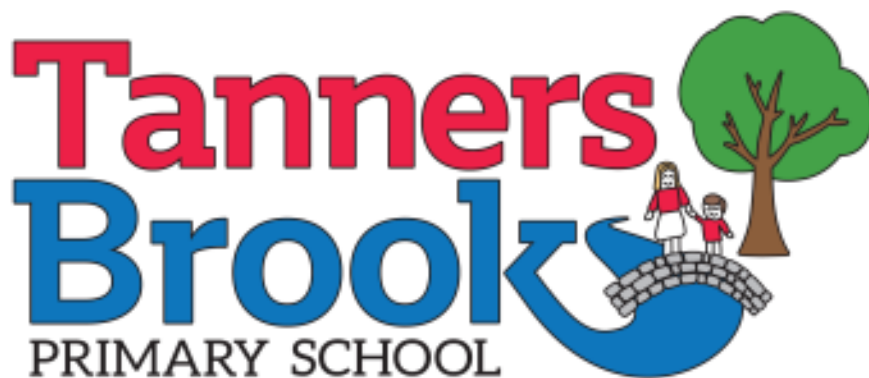


Computing



Curriculum Booklet

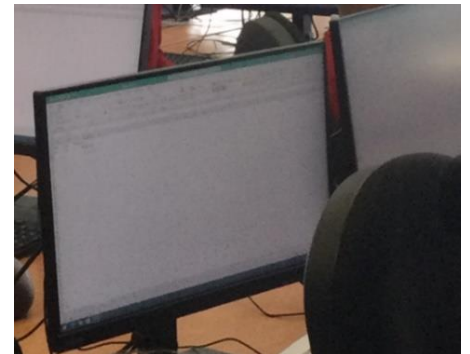
Computing Intent

At Tanners Brook Primary School, we strive to support our children in developing the life skills to utilise current and new technology in a **socially responsible way** to achieve their personal best. Computer technology will play a pivotal role in our student's lives as our society becomes increasingly digital, and we want them to be able to access and use it **positively and safely**.



We aim to model how to use different **programmes** and **concepts**, as well as our use of **social media** (through our school social media account), so our children understand the choices which are needed to ensure they are responsible users. We want our children to become **digitally literate**, using technology to express themselves and develop their ideas and programme at an age-appropriate level.

We intend to build a computing curriculum that prepares pupils to live safely in an increasingly digital British society where pupils can **evaluate and apply** information technology, including new or unfamiliar technologies, analytically to solve problems. As a school, we recognise that our children often struggle with language and so we aim to build in the appropriate vocabulary to all computing sessions to ensure the children use and understand the correct terminology. We aim to ensure that by the end of Key Stage 2, children have a secure understanding of a **range of digital tools** and can programme effectively, developing their independence to choose the best tool to fulfil the tasks they are set.



Computing Implementation

The computing curriculum at Tanners Brook is designed to reflect the aims of the National Curriculum, but also to address the skills our children need to achieve their personal best in the modern and fast-changing technical world.

We utilise the Teach Computing scheme of work, adapted to suit our context and children. This scheme was chosen as it has been created by subject experts and based on the latest pedagogical research. It provides an innovative progression framework where computing content (concepts, knowledge, skills and objectives) has been organised into interconnected networks called learning graphs. The curriculum aims to equip young people with the knowledge, skills and understanding they need to thrive in the digital world of today and the future. It is aspirational for our children and helps them to be ready for transition to KS3 when they leave our school.

Teaching units are planned in half termly blocks and these are often taught as individual lessons, however sometimes they are blocked into longer sessions to enable the children to focus on the learning and complete the planned projects.

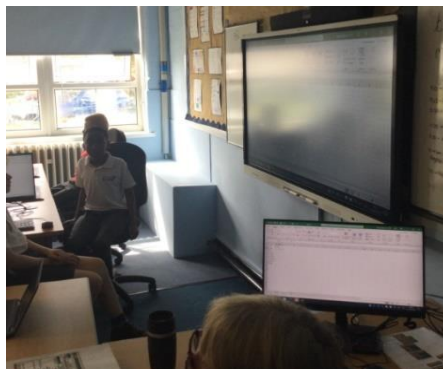
Our teaching begins in the Early Years with the introduction of digital resources that promote the development of listening skills, curiosity, creativity and problem-solving abilities, as well as supporting other areas of learning. Despite technology not being represented through an area of learning, we ensure our children experience computing and essential e-safety skills as it is deeply integrated into the wider lives of young children. The exploration of computing can be seen in many learning opportunities in the Early Years and it is likely to see:

- Children planning routes for a friend or robot
- Children making resources work using buttons or switches
- Exploration of digital devices to take photos, videos or play music
- Exploration of resources to develop digital literacy, such as interactive whiteboards and tablets
- Discussions about ways to stay safe when using a digital device
- Playing and listening to digital stories or extracts
- The use of a search engine to help find information
- Explanations from children demonstrating their knowledge of telling a trusted adult if something on a digital device upsets them

This approach ensures that children transition to Year One with a solid foundation of knowledge and are ready for the National Curriculum.

We use a range of resources and where possible, the children work on individual devices, but they are also able to work in pairs/groups to support each other. We are

fortunate enough to have an excellent computing suite as well as having a large bank of small laptops, which are the perfect size for the smaller hands and enable each child to access their own device in Key Stage One.



Our computing curriculum is organised so that our pupils have the opportunity to develop their skills using a wide range of software and hardware. Our provision map outlines the units taught in each half term for each year group. This is supported by a detail progression map, planning overviews for each unit and knowledge organisers.

Our long-term planning considers four main themes for computing and ensures these are taught across the phases. The four themes are:

- Computing systems and networks
- Creating media
- Programming
- Data and information

All computing lessons across the school follow our lesson structure:

1. Rapid Recall - children are asked to recall relevant information from previous lessons.
2. Today's Learning is - the learning for that lesson is shared
3. Key Vocabulary - shared so everyone understands key words
4. Teacher Input
5. Independent Practice – children work independently, and teachers can support/assess/adapt as needed
6. Rapid Review – what have we discovered in this lesson? This is an opportunity for further assessment of understanding to enable subsequent lessons to be adapted.

Whole School Provision Map

| | Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
|-----------|---|---------------------------------------|--|---|--------------------------------------|---|
| EY | <p>Despite technology not being represented through an area of learning, we ensure our children experience computing and essential e-safety skills as it is deeply integrated into the wider lives of young children. The exploration of computing can be seen in many learning opportunities in the Early Years, and it is likely to see:</p> <ul style="list-style-type: none"> • Children planning routes for a friend or robot • Children making resources work by using buttons or switches • Exploration of digital devices to take photos, videos or play music • Exploration of resources to develop digital literacy, such as interactive whiteboards and tablets • Playing and listening to digital stories or extracts • The use of a search engine to help find information • Discussions about ways to stay safe when using a device & explanations demonstrating knowledge of telling a trusted adult if something on a digital device upsets them | | | | | |
| 1 | Computing systems and networks – technology around us | Creating media – digital painting | Programming A – moving a robot | | Programming animations | Creating media – digital writing inc dance mat typing |
| 2 | Computing systems and networks – IT around us | Creating media – digital photography | Programming A – robot algorithms | | Creating media – digital music | Programming B – programming quizzes |
| 3 | Computing systems and networks – connecting computers | Creating media – stop frame animation | Programming A – sequencing sounds | | Creating media – desktop publishing | Programming B – events and actions in programs |
| 4 | Computing systems and networks – the internet | Programming A – repetition in shapes | Creating media – photo editing | Programming B – repetition in games | Introduction to Microbits | |
| 5 | Computing systems and networks – systems and searching | Creating media – video production | Data and information – flat file databases | Creating media -introduction to vector graphics | Programming B – selection in quizzes | Year 6 unit Programming A – Variables in games |
| 6 | Computing systems and networks – communication and collaboration | Creating media – web page creation | Data and information – introduction to spread sheets | Creating media – 3D modelling | | Programming B – sensing movement <u>Unit 7 – using the microbit for transition</u> |

At Tanners Brook, our online safety focuses on teaching the children to be safe and respectful online and this underpins the rest of our teaching. E safety runs throughout our computing curriculum and is explicitly taught using resources from Project Evolve. It is also taught in PSHE.



In EY and Year 1, children learn about Smartie the penguin and his rules. In Year 2-6 we use the Childnet rules based around being safe online. These are displayed in all classrooms and referred to in lessons to keep this at the forefront of our children's minds.

Specific days, for example Safer Internet Day, are used as opportunities to refresh the key e-safety messages. As part of our development of e-safety across our school community, we share National Online Safety's #wakeupwednesday online guides for parents on our Facebook page each week.

Our safeguarding and online safety progression map, details how e safety is mapped from Early years to year 6. The most up to date version of this can be viewed on our school website.

Our aim is for all children to be included in our Computing lessons and our staff work hard to ensure any barriers to learning are supported and key knowledge and skills are made accessible. Some children with SEND might find accessing the Computing curriculum difficult. Their barriers may include:

- Difficulties with attention/concentration
- Understanding of language, in particular subject specific vocabulary
- Difficulties with retaining new information
- Difficulties with literacy and/or Maths

At Tanners Brook we will support all our children to reduce these barriers through:

- Pre-teaching
- Clear vocabulary teaching, using dual coding to support learning
- Clear modelling of tasks with examples
- Minimising distractions in the classroom
- Designing tasks into manageable chunks that are repeated
- Finding other ways for the children to record their learning beyond writing, for example through drawing
- Incorporate practical resources to support understanding that are revisited
- Following a clear lesson structure in all lessons

Computing Impact

The impact of our Computing curriculum design will lead to pupils striving for their personal best from their individual starting points, using the planned progression of skills to support their understanding. Children will therefore be expected to leave Tanners Brook reaching at least age-related expectations for Computing. The computing curriculum will also lead to the children being positive about computing and understanding how they can use it in their lives.

Computing is important to learn because you may need to know how to use a computer in a future job. (Y6)

I liked making our comic strips using the ipads and Comic Life. (Y2)

The quality and impact of our Computing curriculum is measured across school through subject learning walks and monitoring of both saved and printed work. Discussions about the work completed with both teachers and children also offer a valuable insight into the quality and impact of the teaching of Computing.

Upon leaving Tanners Brook Primary School to embark on their journey to Key Stage 3 learning, children will be equipped with the skills, knowledge and understanding to confidently continue their Computing learning journey.

I call people and send messages - only to friends though. I send videos to friends and family. My parents know what I am doing.(Y5)

Pupils at Tanners Brook have positive attitudes towards Computing and are able to articulate what they have learned. Our pupils:

- Tell us that they enjoy computing at Tanners Brook.
- Can say how they stay safe online and why this is important. They can give examples. Eg: "Once, a person I didn't know tried to chat. I blocked them and told my dad."
- Explain how they use computing at home.
- Can say why learning about computing is important.

Computing is important because when you get older you will go on computers at work. (Y2)