

St John the Baptist

Curriculum Vision

Subject: Computing



Vision

Our aim is that children leave our school...

- Ready to join the digital platform of the wider world
- Respectful of technology and understand how and why it is important to keep safe online
- Resilient workers; solving problems, thinking logically and self-evaluating

Context

Our children enter school with a good knowledge of devices as they have access to phones and tablets at home. We recognise the importance of being computer literate and the importance of technology in our children's futures. For us, teaching children about online safety is paramount as children do not always access these devices appropriately or with the necessary parental controls. This is linked closely to our PSHE curriculum, teaching children about safe online practice and cyber bullying.

Therefore, in EYFS...

During EYFS children will:

Explore how things work and show resilience and perseverance in the face of challenges. Children will work towards following instructions, following rules and understand why they are important. Across EYFS, children will develop their small motor skills so that they can use a range of tools competently, safely, and confidently.

By the end of EYFS children will:

Be confident to try new activities and show independence, resilience, and perseverance in the face of challenges. Children will also be able to safely use and explore a variety of materials. Children will also begin to follow our online safety policy.

In KS1...

During KS1 children will:

- Develop their understanding of technology and how it can help them in their everyday lives
- Start to become familiar with the different components of a computer, i.e. keyboard and mouse skills.
- Consider how to use technology responsibly
- Develop their understanding of a range of tools used for digital painting
- Be introduced to early programming concepts

By the end of KS1 children will:

- Understand what algorithms are, how to implement them and use the program to execute precise instructions
- Recognise commonly used of information technology beyond school and use technology safely and respectfully, keeping personal information private
- Be able to identify where to go for help and support when they have concerns
- Children will create and debug simple programs and use logical reasoning to predict the behaviour of their programs
- Use logical reasoning to predict the behaviour of simple programs
- Use technology safely and respectfully, keeping personal information private

In LKS2...

During LKS2 children will:

- Identify that digital devices have inputs, processes, and outputs, and how devices can be connected to make networks
- Capture and edit digital still images to produce a stop-frame animation that tells a story
- Create sequences in a block-based programming language to make music
- Use a text-based programming language to explore count-controlled loops when drawing shapes

- Build and use branching databases to group objects using yes/no questions
- Recognise how and why data is collected over time, before using data loggers to carry out an investigation
- Create documents by modifying text, images, and page layouts for a specified purpose
- Manipulate digital images, and reflecting on the impact of changes and whether the required purpose is fulfilled
- Write algorithms and programs that use a range of events to trigger sequences of actions
- Use a block-based programming language to explore count-controlled and infinite loops when creating a game

By the end of LKS2 children will

- Design and write programs that accomplish specific goals
- Use selection and repetition in programs
- Use logical reasoning to explain how some algorithms work
- Begin to understand computer networks including the internet
- Use search technologies and appreciate how results are selected and ranked
- Select, use and combine a variety of software on a range of digital devices to design and create a range of programs, systems and content
- Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour

In UKS2...

During UKS2 children will:

- Recognise IT systems around us and how they allow us to search the internet
- Identify and explore how data is transferred and information is shared online
- Plan, capture, and edit video to produce a short film
- Design and create webpages, giving consideration to copyright, aesthetics, and navigation
- Explore conditions and selection using a programmable microcontroller
- Explore variables when designing and coding a game
- Use a database to order data and create charts to answer questions
- Answer questions by using spreadsheets to organise and calculate data
- Create images in a drawing program by using layers and groups of objects
- Explore selection in programming to design and code an interactive quiz

By the end of UKS2 children will:

- Design, write and debug programs that accomplish specific goals
- Use sequence, selection, and repetition in programs; work with variables and various forms of input and output
- Use logical reasoning to explain how some algorithms work and to correct errors in algorithms and programs
- Understand computer networks including the internet and the opportunities they offer for communication and collaboration
- Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content
- Select, use and combine a variety of software on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.
- Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.

Developing spirituality and British Values

In Computing children will use democracy, i.e. making group decisions when coding and respecting the outcome. Children will have choice and individual liberty while designing and creating using apps and programs. In each class we are accountable for our devices, have rules that protect our devices and discuss rules that protect us online (online safety). There is a sense of wonder in the world of technology; as well as a sense of personal achievement in solving problems and debugging programs.