The Federation of
St Mary's Catholic Schools

"I can do all things through Christ who strengthens me" Philippians 4:13

Computing Curriculum Document

INTENT	The National Curriculum for computing aims to ensure that all pupils: • can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation • can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems • can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems • are responsible, competent, confident and creative users of information and communication technology

	Computer Science	Information Technology	Digital Literacy
Year 1	**Hardware** • Learning how to explore and tinker • with hardware to find out how it works • Understanding that computers and devices around us use inputs and • outputs, identifying some of these • Learning where keys are located on the keyboard • Learning how to operate a camera **Networks and data representation** • Understanding what the internet is **Computational thinking** • Learning that decomposition means breaking a problem down into smaller parts • Using decomposition to solve unplugged challenges • Using logical reasoning to predict the behaviour of simple programs Developing the skills associated	**Using software** • Using a basic range of tools within • graphic editing software • Taking and editing photographs • Understanding how to create digital art using an online paint tool • Developing control of the mouse • through dragging, clicking and resizing of images to create different effects • Developing understanding of different software tools **Using email and the internet** • Searching and downloading images from the internet safely • Understanding that we are connected to others when using the internet **Using data** • Introduction to spreadsheets	• Logging in and out and saving work on their own account • Understand the importance of a password • When using the internet to search for images, learning what to do if they come across something online that worries them or makes them feel uncomfortable • Recognising when someone has been unkind online • Learning some top tips for staying safe online • Understanding how we 'share' information on the internet

	- with sequencing in unplugged activities - Learning that an algorithm is a set - of step by step instructions used to - carry out a task, in a specific order - Follow a basic set of instructions - Assembling instructions into a simple algorithm **Programming** - Programming a Bee-bot/Virtual Bee-bot to follow a planned route - Learning to debug instructions when things go wrong - Developing a howto video to explain how the Bee-bot works. - Learning to debug an algorithm in an unplugged scenario	- Representing data in tables, charts and pictograms - Sorting data and creating ranching - Databases - Identifying where digital content can have advantages over paper when storing and manipulating data **Wider use of technology** - Recognising common uses of information technology, including beyond school - Understanding some of the ways we can use the internet	
Year 2	**Hardware** - Understanding what a computer is - and that it's made up of different - components - Recognising that buttons cause effects and that technology follows instructions - Learning how we know that technology is doing what we want it to do via its output. - Using greater control when taking photos with tablets or computers - Developing confidence with the keyboard and the basics of touch typing **Computational thinking** - Articulating what decomposition is - Decomposing a game to predict the algorithms used to	**Using software** - Developing word processing skills, including altering text, copying and - pasting and using keyboard shortcuts - Using word processing software to type and reformat text - Using software to create story animations - Creating and labelling images **Using email and the internet** - Understanding that personal information should not be shared on the internet. - Learning how to be respectful to others when sharing content online.	- Understanding that personal information should not be shared on the internet - Learning how to be respectful to others when sharing content online.

- create it
- Using decomposition to decompose a story into smaller parts
- Learning what abstraction is
- Learning that there are different levels of abstraction
- Explaining what an algorithm is
- Following an algorithm
- Creating a clear and precise algorithm
- Learning that computers use
- algorithms to make predictions
- Learning that programs execute by following precise instructions
- Incorporating loops within algorithms

Programming
- Using logical thinking to explore software, predicting, testing and explaining what it does
- Using an algorithm to write a basic computer program
- Learning what loops are
- Incorporating loops to make code more efficient

Using data
- Collecting and inputting data into a spreadsheet
- Interpreting data

Wider use of technology
- Learning how computers are used in the wider world