ST CECILIA'S CATHOLIC INFANT & NURSERY SCHOOL

INTENT:

Our computing education equips pupils to use computational thinking and creativity to understand and change the world. Computing has deep links with mathematics, science and design and technology, and provides insights into both natural and artificial systems. The core of computing is computer science, in which pupils are taught the principles of information and computation, how digital systems work and how to put this knowledge to use through programming. Building on this knowledge and understanding pupils are equipped to use information technology to create programs, systems and a range of content. Computing also ensures that pupils become digitally literate – able to use, and express themselves and develop their ideas through, information and communication technology – at a level suitable for the future workplace and as active participants in a digital world.

Progression - Computing

Early Learning Goal

Children recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes.

	Year 1	Year 2
ALGORITHMS	• Begin to understand what an algorithm is. • Begin to write a simple set of instructions for a purpose using symbols.	• Understands what an algorithm is and is able to express simple linear (non-branching) algorithms as symbols. • Understands that computers need precise instructions. • Demonstrates care and precision to avoid errors. • Understand that algorithms are used on digital devices as programs. • Simple algorithms using loops and selection (as statements). • Uses logical reasoning to predict outcomes. • Detects and corrects errors (debugging) in algorithms.
PROGRAMMING	• Knows that users can develop their own programs. • Demonstrates this by creating simple programs e.g. on programmable robots. • Executes, checks and changes programs. • Understands that programs execute by following precise instructions.	• Develops their own programs e.g. robots. • Uses arithmetic operators and what if statements and loops within programs. • Uses logical reasoning to predict the behaviour of programs and detects and corrects simple semantic errors i.e. debugging.

DATA	• Recognises that digital content can be represented in many forms. • Begins to distinguish between some of these forms and can explain the different ways that they communicate information. • Organises, stores, edits and manipulates data in different digital formats.	• Recognises the different types of data e.g. text and number. • Appreciates that programs can work with different types of data. • Recognises that data can be structured in tables to make it useful. • Confidently organises, stores, edits and manipulates data in a range of digital formats. • Begins to recognise the difference between data and information .
HARDWARE AND PROCESSING	• Understands that computers have no intelligence and can do nothing unless a program is used. • Recognises that all software executed (used) on digital devices is programmed (look at examples)	• Recognises that a range of digital devices can be considered a computer (look at examples). • Recognises and uses a range of input and output devices (e.g. robotics) • Understands how programs specify the function of a general purpose computer.
COMMUNICATION AND NETWORKS	• Obtains content from the world wide web using a web browser. • Understand the importance of communicating safely and respectfully on line and the need for keeping personal information private. • Knows what to do when concerned about content or being contacted.	• Navigates the web and can carry out simple web searches to collect digital content. • Demonstrates use of computers safely and responsibly, knowing a range of ways to report unacceptable content and contact when online.
INFORMATION TECHNOLOGY	• Uses software under supervision to create, store and edit digital content using appropriate files and folder names. • Understands that people interact with computers. • Shares their use of technology in school. • Knows common use of information technology outside school. • Talks about their work and makes changes to improve it.	• Uses technology with increasing independence to purposely organise digital content. • Shows awareness of the quality of digital content collected. • Uses software to manipulate and present digital content: data and information. • Shares their experiences of technology in school and outside school. • Talks about their work and makes some improvements to solutions based on feedback received.