Trinity St Mary's Church of England Primary School Subject Progression:
Key Stage 1 and 2
Subject Area: Computing

Pupils will learn about computer science, being 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. Pupils need to be digitally literate – able to use and express themselves and develop ideas through, information and communication technology, at a level suitable for the future workplace and as active participants in a digital world.

National Curriculum Objectives

KEY STAGE 1:

Pupils should be taught to:

- Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions.
- Create and debug simple programs
- Use logical reasoning to predict the behaviour of simple programs
- Use technology purposefully to create, organise, store, manipulate and retrieve digital content,
- Recognise common uses of IT beyond school.
- Use technology safely and respectfully; keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.

KEY STAGE 2

Pupils should be taught to:

- design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts
- use sequence, selection and repetition in programs; work with variables and various forms of input and output
- use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.
- Understand computer networks including the internet; how they can provide multiple services, such as the world wide web; 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 (including internet services) 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.

Year 1 – I Can…	Year 2 – I Can …	Year 3 – I Can …	Year 4 – I Can ….	Year 5 – I Can ….	Year 6 – I Can …
• Login and logout safely • Create an avatar • Save work into a folder • Search for resources • Open work • Use icons to add pictures • Explore tools • Sort items • Group items together • Understand how data can be represented • Use a pictogram • Know that an algorithm is a set of instructions • Create and follow an algorithm • Understand the order of instructions • Know that correcting is debugging • Know how to use	• Explain that at algorithm is a set of instructions • Explain that for a computer to work it must have instructions • Understand how to use a an object button, repeat command and timer command • Know that debugging is to fix something • Understand the need to test something • Create a program using objects, actions, events and outputs • Know how to share work electronically • Use a search engine • Open and send an email to a character • Give examples of what wouldn't want to be on a digital footprint • Open, save and edit a	• Review coding vocabulary • Use a design to write code • Use the if command in one piece of program • Create a time in a program • To understand the importance of saving • To test a program • To create a safe password • To identify what is and isn't true online • To understand PEGI ratings • To create graphs and charts • To use coordinates • To open and respond to email • To use email safely • To add attachments to emails • To use Yes/No questions in databases • To complete and create a branching database	• Review coding vocabulary • Use a design to create a program • Introduce if/else to a program • Explore a flowchart design • Use functions • Create a simulation • Understand that information put online leaves a digital footprint • Identify the risks and benefits of installing apps • Understand appropriate behaviour when working collaboratively • Identify positive and negative impacts of technology on health and the environment • Add a formula to a cell • Combine tools • Allocate values to images • Use a spreadsheet • Explore font size and type	• Review coding vocabulary • Use a storyboard to represent an algorithm • Design and write a program • Explore test variables • Combine variables if/else and repeats • Read code and adapt and personalise it • Explore launch commands • Review online behaviour towards other people • Know how to secure passwords • Identify appropriate and inappropriate use of text, videos and photographs • Understand permission and advantages and disadvantages of altering images • Create a formula to convert measurements • Use the 'how many' tool in	• Use variables within a game • Attribute specific actions to an object • Use functions and organise code • Debug a program • Include interactivity in a program • Use flowcharts to test and debug a program • Identify the benefits and risks of mobile devices and broadcasting location • Review my digital footprint and have a clear idea of appropriate behaviour online • Understand the benefits and drawbacks of technology • Understand the importance of balancing screen time • Explore probability • Create a computational model • Use a spreadsheet to plan income and outcome

direction keys • Change background images • Use drawing tools to create a picture • Add a sound and voice to a recording • Explain what coding is • Program a character to move • Explain what rows and columns are • Find and add an image • Understand what technology is	spreadsheet • Copy and paste in a spreadsheet • Create a table in a spreadsheet • Understand what a binary tree is • Design a binary tree • Use a database to answer simple questions • Read a web search page • Search for answers to a quiz • Create art based on a style • Use repeating patterns • Use eCollage • Create sounds • Change speed, volume of sounds • Add photos, clipart • Use software to manipulate and present information • Collect, organise and present data	• To use simulations • To analyse and evaluate a simulation	• Create a report • Mind-map ideas for a collaborative project • Use simple instructions on Logo • Create Logo instructions • Use a repeat function • Use a build function • Create a simple animation • Use 'Onion Skin' in an animation • Use backgrounds and sounds in an animation • Structure search queries • Analyse the contents of a web page • Name the different parts of a computer • Know what the function of those parts are	a spreadsheet • Create simple formulae using different variables • Search a database in different ways • Contribute to a class database • Create a database • Design and create a game including a setting, characters, pictures • Explore and adapt 2D and 3D models • Record and make connections between concept maps • Create an informative text • Work collaboratively on a text	• Understand how to write a blog • Understand how to contribute to an existing blog • Consider the effect of a blog on the audience • Code a map-based text adventure • Identify what a LAN and WAN are • Consider what the future might hold for technology • Use a database to create a quiz