Hanley St Luke's Church of England Academy

Whole School Computing Overview 25-26						
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer2
EYFS	**Personal, Social and Emotional Development** • Remember rules without needing an adult to remind them. • Show resilience and perseverance in the face of a challenge. • Know and talk about the different factors that support their overall health and wellbeing: -sensible amounts of 'screen time'. **Physical Development** • Match their developing physical skills to tasks and activities in the setting. • Develop their small motor skills so that they can use a range of tools competently, safely and confidently. **Understanding the World** • Explore how things work. **Expressive Arts and Design** • Explore, use and refine a variety of artistic effects to express their ideas and feelings					

Year 1	Computing systems and networks- Technology around us Unplugged and Computing Suite To identify technology To identify a computer and its main parts To use a mouse in different ways To use a keyboard to type on a computer To use the keyboard to edit text To create rules for using technology responsibly	Programming A- Robot algorithms Beebots To explain what a given command will do To act out a given word To combine 'forwards' and 'backwards' commands to make a sequence To combine four direction commands to make sequences To plan a simple program To find more than one solution to a problem	Programming B- Programme animation Scratch To choose a command for a given purpose To show that a series of commands can be joined together To identify the effect of changing a value To explain that each sprite has its own instructions To design the parts of a project	Creating media- Digital painting Paintz.app Computing suite or ipads To describe what different freehand tools do To use the shape tool and the line tools To make careful choices when painting a digital picture To explain why I chose the tools I used To use a computer on my own to paint a picture To compare painting a picture on a computer and on paper	Creating media- Digital Writing Computer suite To use a computer to write To add and remove text on a computer To identify that the look of text can be changed on a computer To explain why I used the tools that I chose To compare typing on a computer to writing on paper	Data and Information-grouping data Unplugged and computing suite To label objects To identify that objects can be counted To describe objects in different ways To compare groups of objects To answer questions about groups of objects

Year 2	Computing systems and networks- Information Technology around us Unplugged and Computing Suite To recognise the uses and features of information technology To identify the uses of information technology in the school To identify information technology beyond school To explain how information technology helps us To explain how to use information technology safely To recognise that choices are made when using information technology	Programming A- Robot algorithms Beebots or Vex 123 (groups of 6) VEX website To describe a series of instructions as a sequence To explain what happens when we change the order of instructions To use logical reasoning to predict the outcome of a program To explain that programming projects can have code and artwork To design an algorithm To create and debug a program that I have written	Programming B- Quizzes Scratch Jnr Computing suite or ipads To explain that a sequence of commands has a start To explain that a sequence of commands has an outcome To create a program using a given design To change a given design To create a program using my own design To decide how my project can be improved	Creating media- Digital photography Ipads To use a digital device to take a photograph To make choices when taking a photograph To describe what makes a good photograph To decide how photographs can be improved To use tools to change an image To recognise that photos can be changed	Creating media- Digital Music Chrome Music Lab Computing suite or ipads To say how music can make us feel To identify that there are patterns in music To experiment with sound using a computer To use a computer to create a musical pattern To create music for a purpose	Data and Information- Pictograms to be completed part of Maths/Science Computing Suite – j2e To recognise that we can count and compare objects using tally charts To recognise that objects can be represented as pictures To create a pictogram To select objects by attribute and make comparisons To recognise that people can be described by attributes To explain that we can present information using a computer

Year 3	Computing systems and networks- Connecting Computers Unplugged and Computing Suite PaintZ To explain how digital devices function To identify input and output devices To recognise how digital devices can change the way that we work To explain how a computer network can be used to share information To explore how digital devices can be connected To recognise the physical components of a network	Creating media- Stop frame animation Ipads – Imotion To explain that animation is a sequence of drawings or photographs To relate animated movement with a sequence of images To plan an animation To identify the need to work consistently and carefully To review and improve an animation To evaluate the impact of adding other media to an animation	Programming A- Sequencing Sounds Scratch To explore a new programming environment To identify that commands have an outcome To explain that a program has a start To recognise that a sequence of commands can have an order To change the appearance of my project To create a project from a task description	Data and Information- Branching Databases Computing Suite – j2e To create questions with yes/no answers To identify the attributes needed to collect data about an object To create a branching database To explain why it is helpful for a database to be well structured To plan the structure of a branching database To independently create an identification tool	Creating media- Desktop Publishing Canva (Need email addresses) To recognise how text and images convey information To recognise that text and layout can be edited To choose appropriate page settings To add content to a desktop publishing publication To consider how different layouts can suit different purposes To consider the benefits of desktop publishing	Programming B- Events and Actions Scratch To explain how a sprite moves in an existing project To create a program to move a sprite in four directions To adapt a program to a new context To develop my program by adding features To identify and fix bugs in a program To design and create a maze-based challenge

Year 4	Computing systems and networks- The Internet Unplugged and Computing Suite – Various websites. To describe how networks physically connect to other networks To recognise how networked devices make up the internet To outline how websites can be shared via the World Wide Web (WWW) To describe how content can be added and accessed on the World Wide Web (WWW) To recognise how the content of the WWW is created by people	Creating media- Audio Production Computing Suite – Audacity To identify that sound can be recorded To explain that audio recordings can be edited To recognise the different parts of creating a podcast project To apply audio editing skills independently To combine audio to enhance my podcast project To evaluate the effective use of audio	Programming A- Repetition in Shapes Computing Suite – FMS logo To identify that accuracy in programming is important To create a program in a text-based language To explain what 'repeat' means To modify a count-controlled loop to produce a given outcome To decompose a task into small steps To create a program that uses count-controlled loops to produce a given outcome	Data and Information-Data Logging -Ipads To explain that data gathered over time can be used to answer questions To use a digital device to collect data automatically To explain that a data logger collects 'data points' from sensors over time To recognise how a computer can help us analyse data To identify the data needed to answer questions To use data from sensors to answer questions	Creating media- Photo Editing Computing Suite – paint.net To explain that the composition of digital images can be changed To explain that colours can be changed in digital images To explain how cloning can be used in photo editing To explain that images can be combined To combine images for a purpose To evaluate how changes can improve an image	Programming B- Repetition in Games Computing Suite – Scratch To develop the use of count-controlled loops in a different programming environment To explain that in programming there are infinite loops and count-controlled loops To develop a design that includes two or more loops which run at the same time To modify an infinite loop in a given program To design a project that includes repetition To create a project that includes repetition

	To evaluate the consequences of unreliable content					
Year 5	Computing systems and networks- Systems and Searching Unplugged and Computing Suite Google Slides To explain that computers can be connected together to form systems To recognise the role of computer systems in our lives To identify how to use a search engine To describe how search engines select results To explain how search results are ranked To recognise why the order of results is	Creating media- Video Production Imovie or Canva - iPad (need email addresses) To explain what makes a video effective To use a digital device to record video To capture video using a range of techniques To create a storyboard To identify that video can be improved through reshooting and editing To consider the impact of the choices made when	Programming A- Selection in Physical Computing Crumbles or Scratch (Sheffield) or micro:bits https://microbit.org/ To control a simple circuit connected to a computer To write a program that includes count-controlled loops To explain that a loop can stop when a condition is met To explain that a loop can be used to repeatedly check whether a condition has been met	Data and Information-Flat file Databases Computing Suite - j2data To use a form to record information To compare paper and computer-based databases To outline how you can answer questions by grouping and then sorting data To explain that tools can be used to select specific data To explain that computer programs can be used to compare data visually To use a real-world database to answer questions	Creating media- Introduction to vector Graphics Computing Suite - Microsoft PPT To identify that drawing tools can be used to produce different outcomes To create a vector drawing by combining shapes To use tools to achieve a desired effect To recognise that vector drawings consist of layers To group objects to make them easier to work with To apply what I have learned about vector drawings	Programming B- Selection in Quizzes Computing Suite - Scratch To explain how selection is used in computer programs To relate that a conditional statement connects a condition to an outcome To explain how selection directs the flow of a program To design a program that uses selection To create a program that uses selection To evaluate my program

	important, and to whom	making and sharing a video				
Year 6	Creating media- Webpage Creation Computing Suite – Google Site/ Microsoft Sway or **Microsoft PPT** To review an existing website and consider its structure To plan the features of a web page To consider the ownership and use of images (copyright) To recognise the need to preview pages To outline the need for a navigation path To recognise the implications of linking to content owned by other people	Programming A- Variables in Games Computing Suite – Scratch To define a 'variable' as something that is changeable To explain why a variable is used in a program To choose how to improve a game by using variables To design a project that builds on a given example To use my design to create a project To evaluate my project	Data and Information- Spreadsheets Computing Suite – Microsoft Excel To create a data set in a spreadsheet To build a data set in a spreadsheet To explain that formulas can be used to produce calculated data To apply formulas to data To create a spreadsheet to plan an event To choose suitable ways to present data	Computer systems- Communication and Collaboration Unplugged and Computing Suite Microsoft PPT or Padlet To explain the importance of internet addresses To recognise how data is transferred across the internet To explain how sharing information online can help people to work together To evaluate different ways of working together online To recognise how we communicate using technology	Programming B- Sensing Movement Computing Suite – micro:bits https://microbit.org/ To create a program to run on a controllable device To explain that selection can control the flow of a program To update a variable with a user input To use an conditional statement to compare a variable to a value To design a project that uses inputs and outputs on a controllable device To develop a program to use inputs and	**AI Digital Literacy** TST Next Gen Curriculum Skills taught Understanding AI Recognise AI in everyday life and understand its role in technology. AI as a Learning Tool Explore simple AI-powered tools (e.g., voice assistants, chatbots) and their uses. Ethics & Bias in AI Discuss fairness in AI and how technology can impact different groups. Online Safety & Data Protection Understand the importance of keeping personal information safe online. Critical Thinking & AI Awareness

				To evaluate different methods of online communication	outputs on a controllable device	Differentiate between real and AI-generated images or content in a simple way. **BirdNet Curriculum Skills taught** <u>Understanding AI</u> Analyze how AI systems work (e.g., algorithms, large language models) and assess their societal and technological impact. <u>AI as a Learning Tool</u> Design and evaluate AI prompts across contexts (e.g., essay writing, revision, presentations), reflecting on effectiveness and limitations. <u>Ethics & Bias in AI</u> Debate fairness, accountability, and bias in AI decision-making using real-world examples; propose policy or design solutions. <u>Online Safety & Data Protection</u>

ardware overview

r pupils - below

✓ Reflected in the unit screenshots

◆ Alternative software available

	Desktop or laptop	Chromebook	Tablet	Software or hardware
round us	✓	✓	◆	paintz.app
ng	✓	✓	◆	Microsoft Paint or similar
ot				Bee-bot or other floor robot
	✓	✓		Google Slides or Microsoft PowerPoint
g	✓	✓	◆	Google Docs or Microsoft Word
g animations	◆	◆	✓	ScratchJr

Develop and apply strategies for digital safety, recognizing AI-enabled threats such as deepfakes, phishing, and voice cloning.

Critical Thinking & AI Awareness Critically evaluate AI-generated content for accuracy, bias, and ethical risk; defend or critique the role of AI in future societal developments.

KEY STAGE 1

2.1 Information technology around us	✓	✓		Google Slides or Microsoft PowerPoint
2.2 Digital photography	✓		◆	Digital camera
2.3 Robot algorithms				Bee-bot or other floor robot
2.4 Pictograms	✓	✓	◆	j2data Pictogram
2.5 Digital music	✓	✓	◆	Chrome Music Lab
2.6 Programming quizzes	◆	◆	✓	ScratchJr

KEY STAGE 2 (YEAR 3 & 4)

Software and hardware overview

Requirements for pupils - below

✓ Reflected in the unit screenshots

◆ Alternative software available

	Desktop or laptop	Chromebook	Tablet	Software or hardware
3.1 Connecting computers	✓	◆	◆	Painting program (any)
3.2 Stop-frame animation	◆	◆	✓	iMotion
3.3 Sequencing sounds	✓	✓	◆	Scratch
3.4 Branching databases	✓	✓	◆	J2data Branch and Pictogram
3.5 Desktop publishing	✓	✓	✓	Canva
3.6 Events and actions in programs	✓	✓	◆	Scratch
4.1 The internet	✓	✓	✓	Various websites
4.2 Audio production	✓	◆	◆	Audacity
4.3 Repetition in shapes	✓	◆	◆	FMS Logo
4.4 Data logging	✓	✓	✓	Data logger and associated software
4.5 Photo editing	✓	◆	◆	Paint.NET
4.6 Repetition in games	✓	✓	◆	Scratch

KEY STAGE 2 (YEAR 5 & 6)

Software and hardware overview

Requirements for pupils - below

✓ Reflected in the unit screenshots

◆ Alternative software available

	Desktop or laptop	Chromebook	Tablet	Software or hardware
5.1 Systems and searching	✓	✓	◆	Google slides
5.2 Video production	✓	◆	◆	Any video editing software e.g iMovie or Canva
5.3 Selection in physical computing	✓	✓		Crumble controller starter kit + motors
5.4 Flat-file databases	✓	✓	◆	J2data Database
5.5 Introduction to vector graphics	✓	✓	◆	Google drawings or Microsoft PowerPoint
5.6 Selection in quizzes	✓	✓	◆	Scratch
6.1 Communication and collaboration	✓	✓	◆	Google Slides
6.2 Webpage creation	✓	✓	◆	Google Sites
6.3 Variables in games	✓	✓	◆	Scratch
6.4 Introduction to spreadsheets	✓	✓	◆	Google Sheets or Microsoft Excel
6.5 3D modelling	✓	✓	◆	TinkerCAD
6.6 Sensing movement	✓	✓	◆	Micro:bit and Microsoft MakeCode