Through living our Christian values, everyone at WCEJS has the opportunity to flourish.
We nurture the curiosity to learn, the courage to lead and the compassion to care.
Building solid foundations (Matthew 7: 24-27)

Whole School Curriculum Progression: Computing

Y3 Autumn	Y3 Spring	Y3 Summer
Connecting systems & networks - Connecting Computers • Explain how digital devices function • Identify input and output devices • Recognise how digital devices can change the way we work • Explain how a computer network can be used to share information • Explore how digital devices can be connected • Recognise the physical components of a network **Creating Media - Stop Frame Animation** • Explain that animation is a sequence of drawings or photographs • Relate animated movement with a sequence of images • Plan an animation • Identify the need to work consistently and carefully • Review and improve an animation • Evaluate the impact of adding other media to an animation	**Programming - Sequencing Sounds** • Explore a new programming environment (Scratch) • Identify that commands have an outcome • Explain that a program has a start • Recognise that a sequence of commands can have an order • Change the appearance of my project • Create a project from a task description **Data & Information - Branching Databases** • Create questions with yes/no answers • Identify the attributes needed to collect data about an object • Create a branching database • Explain why it is helpful for a database to be well structured • Plan the structure of a branching database • Independently create an identification tool	**Creating Media - Desktop Publishing** • Recognise how text and images convey information • Recognise that text and layout can be edited • Choose appropriate page settings • Add content to a desktop publishing publication • Consider how different layouts can suit different purposes • Consider the benefits of desktop publishing **Programming - Events & Actions** • Explain how a sprite moves in an existing project • Create a program to move a sprite in four directions • Adapt a program to a new context • Develop my program by adding features • Identify and fix bugs in a program • Design and create a maze-based challenge
Online Safety • Self-image and identity • Online reputation • Online relationships	**Online safety** • Online bullying • Managing online information	**Online Safety** • Health, well-being & lifestyle • Privacy & security • Copyright & Ownership

Respect   **Responsibility**   **Reflection**   **Resilience**

Y4 Autumn	Y4 Spring	Y4 Summer
Connecting systems & networks – The Internet • Describe how networks physically connect to other networks • Recognise how networked devices make up the internet • Outline how websites can be shared via the World Wide Web (WWW) • Describe how content can be added and accessed on the World Wide Web (WWW) • Recognise how the content of the WWW is created by people • Evaluate the consequences of unreliable content	**Programming – Repetition in shapes** • Identify that accuracy in programming is important • Create a program in a text-based language • Explain what 'repeat' means • Modify a count-controlled loop to produce a given outcome • Decompose a task into small steps • Create a program that uses count-controlled loops to produce a given outcome	**Creating Media – Photo Editing** • Explain that the composition of digital images can be changed • Explain that colours can be changed in digital images • Explain how cloning can be used in photo editing • Explain that images can be combined • Combine images for a purpose • Evaluate how changes can improve an image
Creating Media – Audio Production • Identify that sound can be recorded • Explain that audio recordings can be edited • Recognise the different parts of creating a podcast project • Apply audio editing skills independently • Combine audio to enhance my podcast project • Evaluate the effective use of audio	**Data & Information – Data Logging** • Explain that data gathered over time can be used to answer questions • Use a digital device to collect data automatically • Explain that a data logger collects 'data points' from sensors over time • Recognise how a computer can help us analyse data • Identify the data needed to answer questions • Use data from sensors to answer questions	**Programming – Repetition in games** • Develop the use of count-controlled loops in a different programming environment • Explain that in programming there are infinite loops and count controlled loops • Develop a design that includes two or more loops which run at the same time • Modify an infinite loop in a given program • Design a project that includes repetition • Create a project that includes repetition
Online Safety • Self-image and identity • Online reputation • Online relationships	**Online safety** • Online bullying • Managing online information	**Online Safety** • Health, well-being & lifestyle • Privacy & security • Copyright & Ownership

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Y5 Autumn	Y5 Spring	Y5 Summer
Connecting systems & networks – Systems & Searching • Explain that computers can be connected together to form systems • Recognise the role of computer systems in our lives • Experiment with search engines • Describe how search engines select results • Explain how search results are ranked • Recognise why the order of results is important, and to whom **Creating Media – Video Production** • Explain what makes a video effective • Identify digital devices that can record video • Capture video using a range of techniques • Create a storyboard • Identify that video can be improved through reshooting and editing • Consider the impact of the choices made when making and sharing a video	**Programming – Selection in physical computing** • Control a simple circuit connected to a computer • Write a program that includes count-controlled loops • Explain that a loop can stop when a condition is met • Explain that a loop can be used to repeatedly check whether a condition has been met • Design a physical project that includes selection • Create a program that controls a physical computing project **Data & Information – Flat file databases** • Use a form to record information • Compare paper and computer-based databases • Outline how you can answer questions by grouping and then sorting data • Explain that tools can be used to select specific data • Explain that computer programs can be used to compare data visually • Use a real-world database to answer questions	**Creating Media – Vector graphics** • Identify that drawing tools can be used to produce different outcomes • Create a vector drawing by combining shapes • Use tools to achieve a desired effect • Recognise that vector drawings consist of layers • Group objects to make them easier to work with • Apply what I have learned about vector drawings **Programming – Selection in quizzes** • Explain how selection is used in computer programs • Relate that a conditional statement connects a condition to an outcome • Explain how selection directs the flow of a program • Design a program which uses selection • Create a program which uses selection • Evaluate my program
Online Safety • Self-image and identity • Online reputation • Online relationships	**Online safety** • Online bullying • Managing online information	**Online Safety** • Health, well-being & lifestyle • Privacy & security • Copyright & Ownership

Respect　　　　**Responsibility**　　　　**Reflection**　　　　**Resilience**

Y6 Autumn	Y6 Spring	Y6 Summer
Connecting systems & networks – Communication & collaboration • Explain the importance of internet addresses • Recognise how data is transferred across the internet • Explain how sharing information online can help people to work together • Evaluate different ways of working together online • Recognise how we communicate using technology • Evaluate different methods of online communication	**Programming – Variables in Games** • Define a 'variable' as something that is changeable • Explain why a variable is used in a program • Choose how to improve a game by using variables • Design a project that builds on a given example • Use my design to create a project • Evaluate my project	**Creating Media – 3D Modelling** • Recognise that you can work in three dimensions on a computer • Identify that digital 3D objects can be modified • Recognise that objects can be combined in a 3D model • Create a 3D model for a given purpose • Plan my own 3D model • Create my own digital 3D model
Creating Media - Webpage Creation • Review an existing website and consider its structure • Plan the features of a web page • Consider the ownership and use of images (copyright) • Recognise the need to preview pages • Outline the need for a navigation path • Recognise the implications of linking to content owned by other people	**Data & Information - Spreadsheets** • Create a data set in a spreadsheet • Build a data set in a spreadsheet • Explain that formulas can be used to produce calculated data • Apply formulas to data • Create a spreadsheet to plan an event • Choose suitable ways to present data	**Programming – Sensing movement** • Create a program to run on a controllable device • Explain that selection can control the flow of a program • Update a variable with a user input • Use a conditional statement to compare a variable to a value • Design a project that uses inputs and outputs on a controllable device • Develop a program to use inputs and outputs on a controllable device
Online Safety • Self-image and identity • Online reputation • Online relationships	**Online safety** • Online bullying • Managing online information	**Online Safety** • Health, well-being & lifestyle • Privacy & security • Copyright & Ownership

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Area	LKS2	UKS2
Computing Systems & Networks	**Y3 Connecting computers**: Identifying that digital devices have inputs, processes and outputs and how devices can be connected to make networks.	**Y5 Systems & Searching**: Recognising IT systems in the world and how some can enable searching on the internet.
	Y4 The internet: Recognising that the internet is a network of networks including the WWW, and why we should evaluate online content.	**Y6 Communication and collaboration**: Exploring how data is transferred by working collaboratively online.
Creating Media	**Y3 Stop-frame animation:** Capturing and editing digital still images to produce a stop frame animation that tells a story.	**Y5 Video production:** Planning, capturing, and editing video to produce a short film.
	Y4 Audio production: Capturing and editing audio to produce a podcast, ensuring that copyright is considered.	**Y6 Webpage creation**: Designing and creating webpages, giving consideration to copyright, aesthetics and navigation.
Programming A	**Y3 Sequencing sounds**: Creating sequences in a block-based programming language to make music.	**Y5 Selection in physical computing**: Exploring conditions and selection using a programmable microcontroller.
	Y4 Repetition in shapes: Using a text-based programming language to explore count-controlled loops when drawing shapes.	**Y6 Variables in games:** Exploring variables when designing and coding a game.
Programming B	**Y3 Events and actions in programs:** Writing algorithms and programs that use a range of events to trigger sequences of actions.	**Y5 Selection in quizzes:** Exploring selection in programming to design and code an interactive quiz.
	Y4 Repetition in games: Using a block-based programming language to explore count-controlled and infinite loops when creating a game.	**Y6 Sensing movement:** Designing and coding a project that captures inputs from physical devices.
Data & Information	**Y3 Branching databases:** Building and using branching databases to group objects using yes/no questions.	**Y5 Flat-file databases**: Using a database to order data and create charts to answer questions
	Y4 Data logging: Recognising how and why data is collected over time, before using data loggers to carry out an investigation	**Y6 Introduction to spreadsheets**: Answering questions by using spreadsheets to organise and calculate data.
Creating Media	**Y3 Desktop publishing:** Creating documents and modifying text, images and page layouts for a specific purpose.	**Y5 Introduction to vector graphics**: Creating images in a drawing program by using layers and groups of objects.
	Y4 Photo editing: Manipulating digital images, and reflecting on the impact of the changes and whether the required purpose is fulfilled,	**Y6 3D modelling:** Planning, developing and evaluating 3D computer models of physical objects.

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