**Holy Cross Catholic Primary School**



**Computing Curriculum and Progression Map**

**2023 - 2024**

**We care, we share, we value.**

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|  | **Autumn 1** | **Autumn 2** | **Spring 1** | **Spring 2** |  | **Summer 1** | **Summer 2** |
| **Nursery** |  **Computer Science**-To learn that an algorithm is a list of instructions that solves a problem-To sequence a series of events and explain the importance of sequencing.-To experiment controlling a range of ‘toys’ using remote controls and do this with purpose and direction.-Through play about action/reaction and will be asked “what do you think will happen?” when using technology or attempting to solve a problem.-To access the web on a classroom device-Through play learn about action/reaction and will be asked “what do you think will happen?” when using technology or attempting to solve a problem.-How to access the internet on a classroom device.**Information Technology** -Learn how various devices and apps can be used in the classroom. -To independently choose an application for a particular purpose. Eg drawing a picture. -To type keywords in a search engine (Google). **Digital Literacy** -To recognise and discuss common uses of information technology in school and outside of school. -To recognise that there are many diﬀerent types of media content including; sound, images, books, podcasts/ audiobooks and video via the web.-To know that the Internet can be used to communicate with others.-Understand simple online safety rules. - To know that people create online content such as video and websites |
| **Reception** |
| **Digital Literacy Whole School** **Theme**  | **Self- Image and Identity** | **Online Relationships****Online Bullying** | **Managing Information Online** | **Health, Wellbeing and Lifestyle** | **Privacy and Security** | **Copyright and Owner ship** |
| **Year 1** | **Technology around us****(1.1)\***-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 a keyboard to type on a computer | **Digital painting****(1.2)**-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 | **Moving a robot****(1.3)**-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 | **Grouping data****(1.4)**-To label objects-To identify that objects can be counted-To describe objects in different ways-To count objects with the same properties-To compare groups of objects-To answer questions about groups of objects | **Digital writing****(1.5)**-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 make careful choices when changing text-To explain why I used the tools that I chose-To compare typing on a computer to writing on paper | **Programming****animations****(1.6)**-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-To use my algorithm to create a program |
| **Year 2** | **IT Around us****(2.1)**-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 recognise that choices are made when using information technology | **Digital photography (2.2)**-To use a digital device to take a photograph-To make choices when taking a photograph-To decide how photographs can be improved-To use tools to change an image-To recognise that photos can be changed | **Robot algorithms****(2.3)**-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 | **Pictograms****(2.4)**-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 | **Digital music****(2.5)**-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-To review and refine our computer work | **Programming quizzes****(2.6)**-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 |

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| **Year 3** | **Connecting****Computers (3.1)**-To explain how digital devices function-To identify input and output devices-To recognise how digital devices can change the way 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-To explain why it is helpful for a database to be well structured | **Stop-frame****Animation (3.2)**-To explain that animation is a sequence of drawings or photographs-To relate animated movement with a sequence of images-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 | **Sequencing****Sounds (3.3)**-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 create a project from a task description | **Branching****Databases (3.4)**-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. | **Desktop****Publishing (3.5)**-To recognise how text and images convey information-To recognise how text and images convey information-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 | **Events and actions****in programs (3.6)**-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** | **The Internet** **(4.1)**-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-To evaluate the consequences of unreliable content. | **Audio production** **(4.2)**-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. | **Repetition in shapes** **(4.3)**-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 logging** **(4.4)**-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  | **Photo editing** **(4.5)**-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 | **Repetition in games** **(4.6)**-To evaluate how changes can improve an image-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 |
| **Year 5** | **Systems and****Searching** **(5.1)**-To explain that computers can be connected together to form systems-To recognise the role of computer systems in our lives-To experiment with search engines-To describe how search engines select results-To explain how search results are ranked-To recognise why the order of results is important, and to whom | **Video****Production** **(5.2)**-To explain what makes a video effective.-To identify digital devices that can 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 making and sharing a video. | **Selection in****physical computing** **(5.3)**-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-To design a physical project that includes selection | **Flat- file Databases (5.4)**-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. | **Introduction to****vector graphics** **(5.5)**-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 | **Selection****in quizzes** **(5.6)**-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 which uses selection-To create a program which uses selection-To evaluate my program. |
| **Year 6** | **Communication and****Collaboration** **(6.1)**-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-To evaluate different methods of online communication | **Webpage****Creation** **(6.2)**-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 | **Variables****in games** **(6.3)**-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. | **Introduction to****Spreadsheets (6.4)**-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 | **3D Modelling (6.5)**-To recognise that you can work in three dimensions on a computer-To identify that digital 3D objects can be modified-To recognise that objects can be combined in a 3D model-To create a 3D model for a given purpose-To plan my own 3D model-To create my own digital 3D model | **Sensing movement** **(6.6)**-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 a 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 outputs on a controllable device |