St Alphonsus' Computing Curriculum Map

	Autumn	Spring	Summer
Year 1	**1.1a E safety** ● Understand what the internet is and how it's used. ● Understand what personal information is. ● Know why we keep personal information private. ● Identify where to go for help and support. ● Know what to do if something upsets us online. ● Know what the dangers are of sharing photos online. ● Know why it is important to be responsible on the internet. **1.1b Introducing programming** ● Know how to create a sequence to make something work. ● Use direction arrows to move on-screen objects. ● Know how to sequence direction commands. **1.1c Music creation** ● Know how to create a rhythm using a pattern of beats. ● Create a digital sound using patterns. ● Create a simple melody using patterns. ● Know how to adjust tempo.	**1.2a Mouse & keyboard skills** ● to move the mouse or trackpad with increasing control. ● left click to select an object and move it objects. ● find letters and numbers on a keyboard. **1.2b Digital art** ● Know how to change the colour of pixels. ● Know how to make changes when required.	**1.3a 3D design** ● Know how to change colour and pattern. ● Know how to position and rotate objects. ● Know how to position objects in relation to each other. ● Know how to resize, rotate and flip objects. **1.3b Text & Images** ● Know how to change the background colour of a page. ● Know how to add and resize images. ● Know how to type and position text on a page. **1.3c Comic creation** ● Know how to add, resize and organise colour or backgrounds. ● Know how to add text and speech bubbles. ● Know how to save a comic with a title. ● Know how to add and resize characters. (Builds on 1.1b)
Year 2	**2.1a E safety** ● Understand what the internet is and how it's used. ● Understand what personal information is. ● Know why we keep personal information private. ● Identify where to go for help and support. ● Know what to do if something upsets us online.	**2.2a Internet research** ● Understand how web-pages display information. ● Know how to use a web-page to answer questions.	**2.3a Digital art** ● Know how to use lines and fill tools to make interesting patterns. ● Know how to add a variety of shapes. ● Know how to label shapes with text. ● Know how to re-create a graphic using pixels. (Builds on 1.2b)

	● Know what the dangers are of sharing photos online. ● Know why it is important to be responsible on the internet. (Builds on 1.1a) **2.1b Introduce data handling** ● Understand what data is and collect is as a tally. ● Know how to use software to label a pictogram. ● Know how to use software to add data to each column. ● Know how to create a bar chart/pie chart using suitable data. **2.1c Develop programming** ● Know how to create and debug simple programmes. ● Know how to place code blocks in the correct sequence. ● Know how to use a loop to simplify a program. (Builds on 1.1b)	**2.2b Programming with Scratch Jr.** ● Know how to program a movement Know how to program outputs for audio or text. ● Know how to find errors in a program. ● Know how to program inputs by touch or click. **2.2c Recognise uses of IT** ● Recognise common uses of information technology. ● Understand the computer stores and follow instructions. ● Be able to spot technology at home or in school. ● Understand how different technology helps us.	**2.3b Introduction to animation** ● Know how to add a background and objects to a frame. ● Know how to copy/clone a frame. ● Know how to move objects to create animation. ● Know how to create animation with multiple objects moving simultaneously. **2.3c E-Book Creation** • Be able to add a book cover with title, author, colour and image. • Be able to add multiple pages on a theme. • Be able to add text on different pages. • Be able to add images on different pages to match the theme and text. • Be able to add voice recordings to match the text and theme.
Year 3	**3.1a E safety** ● Know what to do if something upsets you online. ● Know the term 'sharing online' and what this means. ● Know why we need permission before sharing photos and videos online. ● Understand why we only talk to people we know in the real world, when online. ● Know not to always trust what we read online. ● Understand the importance of being kind online. (Builds on 2.1a)	**3.2a Digital art** ● Know how to use various lines and fill tools. ● Know how to copy/paste and rotate to create pattern effects. ● Know how to use shapes, fill, copy/paste and flip to create a reflective symmetry effect. ● Know how to use stamps, layers and multiple frames to create animated GIF compute game graphics. (Builds on 2.3a) **3.2b Document editing and creation** ● Know how to copy and paste text and images.	**3.3a 3D design** ● Understand and use 3D space on a grid. ● Know how to re-create or design familiar 3D models using cubes. ● Know how to use a chisel tool to improve and adapt models. ● Know how to colour individual blocks or whole models. **3.3b Branching databases** ● Know how to add and label objects. ● Know how to ask questions to classify objects correctly.

	3.1b Programming in Scratch ● Know how to design, write and debug programs that accomplish specific goals. ● Know how to use repetition in programs. ● Know how to work with various forms of inputs; keyboard, mouse and touch screen. ● Know how to write programs that simulate physical systems. (Builds on 2.1c and 2.2b) **3.1c Music creation** ● Know how to create an ascending and descending scale. ● Know how to add chords evenly across the scales. ● Know how to add a steady and even rhythm. ● Know how to build beats, melody and effects. (Builds on 1.1c) **3.1d Infographics** ● Understand what infographics are. ● Know why we use infographics. ● Know how to add and format suitable titles and text. ● Know how to label an image using arrows.	● Know how to find and replace words. ● Know how to format text for a purpose. ● Know how to edit images inside documents. ● Know how to add bullet points to make lists. ● Begin to experiment with keyboard shortcuts.	**3.3c Comic creation** ● Know how to add, resize and organise colour or picture backgrounds. ● Know how to add, resize, organise characters/ objects to different panels. ● Know how to add narration using text and direct speech using speech bubbles. ● Know how to save a comic with a name and title. (Builds on 1.3b and 1.3c) **3.3d Storyboards** ● Know how to add and edit backgrounds. ● Know how to add and edit characters, including changing posture, expression and clothing. ● Know how to add narration and speech bubbles, including formatting text. ● Know how to duplicate objects to match scenes. ● Know how to search for objects to use.
Year 4	**4.1a E safety** ● Know what to do if something upsets you online. ● Know the term 'sharing online' and what this means. ● Know why we need permission before sharing photos and videos online. ● Understand why we only talk to people we know in the real world, when online. ● Know not to always trust what we read online.	**4.2a Inside a computer** ● Understand what important parts of inside a computer or mobile device do to help with performance. ● Understand that memory is measured in bytes and gigabytes. ● Know how to use search filters on websites to find suitable information.	**4.3a Internet research** ● Understand the features of an Internet Browser. ● Know how to use search technologies (different websites) to find specific information. ● Know how to reference the correct source of information. ● Know how to check the internet for fake news by cross-referencing. **4.3b 3D design** ● Understand 3D spatial awareness.

	● Understand the importance of being kind online. (Builds on 3.1a) **4.1b Animation** ● Know how to duplicate slides that include backgrounds and shapes. ● Know how to use transition and animation effects (morph, motion paths, pulse), including taking and editing a screenshot. ● Know how to animate individual elements of objects. ● Know how to animate GIF files by animating pixels. (Builds on 2.3b) **4.1c Video editing** ● Know how to add scene images. ● Know how to add a scripted voiceover audio, adjust the volume and crop clips. ● Know how to add more clips and use transition effects. ● Know how to add background music and adjust the volume. ● Know how to export a project.	**4.2b Programming in Scratch** ● Know how to program inputs with loops, selection and sensing for interactions. ● Know how to work with variables and various forms of inputs and outputs. ● Know how to debug programs. ● Know how to use selection, data variables and operators. (Builds on 3.1b)	● Know how to add 3D shapes, resize, adjust height, duplicate and use the different perspectives. ● Know how to add, move and change colours and duplicate. ● Know how to rotate objects. (Builds on 3.3a) **4.3c Data handling** ● Know how to change the appearance of cells in a spreadsheet. ● Know how to add and align text in a spreadsheet. ● Know how to find and add data to a spreadsheet. ● Know how to resize cells and use the software to create a suitable chart with a title.
Year 5	**5.1a E safety** ● Understand to keep personal information private. ● Know how to protect against online bullies. ● Understand the consequences of sharing photos and videos online. ● Understand the term digital footprint. ● Know how to check online content is trustworthy. ● Understand how, where and who we can report concerns we have to.	**5.2a Programming in Scratch** ● Know how to program inputs for control, selection and sensing for interaction. ● Know how to program distance sensing and movement. ● Know how to program inputs, outputs, loops, selection, sensing and variables. ● Know how to program list variables that are chosen randomly. (Builds on 4.2b)	**5.3a Computer networks and the internet** ● Understand Computer Networks, Internet, Cloud Computing and Bluetooth and how they help us. ● Know what email is and how we can use it safely. ● Understand how and why we collaborate online.

	● Understand the pitfalls of in-app purchases **5.1b App design** ● Know how to use the tools in different presentation software. ● Know how to change a slide size and background colour. ● Know how to add text and images on different pages. ● Know how to insert icons. ● Know how to include interactions using hyperlinks. **5.1c Text-based programming** ● Know how to change the variables of text-based commands. ● Know how to write text-based commands accurately and use fill effects, stamps and functions. ● Know how to program a loop. ● Know how to use coordinates in text-based programming. ● Know how to write text commands/functions to program keyboard inputs.	**5.2b Data handling** ● Know how to select and use non-adjacent cells plus resize multiple cell widths and copy/paste cells. ● Know how to find data and create a spreadsheet to suit it. ● Know how to use formulae to find totals, averages and maximum/ minimum numbers. ● Know how to search a database for specific information.	**5.3b Physical devices** ● Understand that computers use physical inputs and outputs. ● Know how to program physical inputs, outputs and loops. ● Know how to design, write and debug programs that accomplish specific goals. **5.3c E-book creation** ● Know how to add page colour and style. ● Know how to add, position and format text on different pages. ● Know how to add and position images. ● Know how to add audio, including hiding it behind an object. ● Know how to add hyperlinks to text and images. ● Know how to search for shapes. ● Know how to lock and arrange shapes. **5.3d Music creation** ● Know how to layer tracks using sounds and effects. ● Know how to create effective instrument tracks. ● Know how to edit tracks and effectively adjust volume and add effects. (Builds on 3.1c)
Year 6	**6.1a E safety** ● Understand to keep personal information private. ● Know how to protect against online bullies. ● Understand the consequences of sharing photos and videos online. ● Understand the term digital footprint. ● Know how to check online content is trustworthy.	**6.2a Programming in Scratch** ● Know how to program inputs, selection, loops and random variables for unpredictability. ● Know how to program inputs, selection, sensing, random variables, operators for direction and data variables. ● Know how to use inputs, selection, loops, sensing, costume changes and broadcasts. ● Know how to work with multiple sprites to send broadcast messages between them.	**6.3a Image editing** ● Know how to adjust colours, brightness and contrast. ● Know how to create a before and after slide in presentation software. ● Know how to take and crop a screenshot. ● Know how to add drawing and text layers. ● Know how to import new images as layers and resize them.

● Understand how, where and who we can report concerns we have to.
● Understand the pitfalls of in-app purchases.
(Builds on 5.1a)

6.1b Graphic design
● Know how to add, adjust and fill shapes.
● Know how to group shapes to improve accuracy and speed.
● Know how to add and customise gradient effects.
● Know how to adjust transparency/opacity for a purpose.
● Know how to accurately rotate shapes.

6.1c Virtual reality
● Understand what virtual reality is and how it can be used.
● Know how to add, move and resize objects in a virtual reality environment.
● Know how to animate objects for realism.
● Know how to use code blocks to add movement and interactions.

(Builds on 5.2a)

6.2b Binary code
● Understand why computers/electronics use binary.
● Know how to match a sequence of binary code to create digital art.
● Know how to convert binary code to denary numbers (decimal numbers) and vice versa.

● Know how to add colour elements to a black and white photo.

6.3b Data detectives
● Know how to use spreadsheet tools (filter and conditional formatting) to find specific data.
(Builds on 5.2b)

6.3c Web Design
● Know how to create a static homepage.
● Know how to choose a suitable theme for your website.
● Know how to change the site identity to a suitable title, tagline and website icon.
● Know how to upload a suitable header and/or background image.
● Know how to adjust the website sidebar and add suitable widgets.
● Know how to add text and images to a page and edit them.
● Know how to add multiple pages and edit the navigation, including sub-menus.
● Know how to provide constructive feedback for your classmates' websites.