Computing Curriculum Map

Year	Autumn	Spring	Summer
Nursery	Computing is interwoven into the different learning areas in EYFS during continued provision. For example, the nursery children enjoy using the interactive whiteboard to draw pictures and experiment with different colours, and the reception children use headsets to listen to a wide range of stories and songs.		
Reception			

| Year 1 | Online Safety and Basic Skills

To know when to take breaks from device time.

To be respectful of people while using devices.

To learn how to stay safe online.

To login with different devices using my school login (computer, laptops and tablets).

To be able access the internet. | Coding and Programming

Understand sequence and algorithms.

Sequence instructions (commands) to achieve an objective.

Use distances in commands.

Predict, write, execute and debug a simple program. | Digital Art

Change the colour of individual pixels to accurately re-create basic artwork.

Make changes where required.

Change the colour of individual pixels to accurately re-create detailed artwork. |

| Year 2 | Online Safety and Basic Skills

To login using different school devices.

To access the internet and login to school websites.

To understand the importance of being safe, responsible and respectful online.

To recognise the different kinds of feelings they can have when using technology.

To identify websites or apps that are right for them. | Uses of IT

Recognise common uses of IT beyond school.

Spot digital technology in school or at home.

Find a piece of computer equipment amongst day-to-day objects and choose the correct definition.

Understand how different technology helps us

Use a computer keyboard to develop touch typing skills. | Coding and Programming

Create and debug simple programs by selecting code blocks, placing them in the correct sequence and executing a program.

Use logical reasoning to predict the behaviour of simple programs.

Simplify a program by using a loop. | Creating an eBook

Add a book cover with title, author, colour and image.

Add multiple pages based on a theme.

Add text on different pages.

Add images on different pages to match the theme/text.

Add voice recordings to match the text and theme. | Data Handling

Understand what data is and collect it as a tally.

Label a pictogram and add data to each column.

Edit a table with correct titles and numbers.

Create a bar chart/pie chart/line chart suitable for the data.

Interpret a pictogram/bar chart/line chart. | Animation

Add a background and objects to a frame (including text).

Copy/clone a frame and move objects to create an animation, including flipping objects.

Create an animation with multiple objects moving simultaneously.

Create a screen-recording animation.

Create stop-motion animation with photos. |

Year 3	<u>Online Safety</u> To understand how to be a good digital citizen. To recognise ways in which devices can be distracting. To identify what kind of information I should keep private on the internet. To learn about our digital footprints. To understand how people can connect on the internet. To understand what online meanness can look like.	<u>Coding and Programming</u> **Sphero** – Design a robot and code using the Sphero play app. Design, write and debug programs that accomplish specific goals (including outputs). Use repetition in programs. Work with various form of inputs; keyboard, mouse and touch screen. Write programs that simulate physical systems.	<u>Programming in Kodu</u> Create a 3D place using various design tools. Write a program to control a character using inputs. Write a program with conditions to create an if statement. Write a program with variables.	<u>Digital Storyboards</u> Add and edit backgrounds. Add and edit characters, including changing posture, expression and clothing. Add narration and speech bubbles, including formatting text. Duplicate objects to match scenes. As Search for objects to use.	<u>Documents Creation and Editing</u> Copy and paste text and images. Find and replace words. Format text for a purpose. Edit images inside documents. Add bullet points to make lists. Experiment with keyboard shortcuts.	<u>Digital Art</u> Use various lines and fill tools plus copy/paste and rotation to create pattern effects. Use shapes, fill, copy/paste, zoom and flip to create reflective symmetry effects. Use stamps, copy/paste, layers and multiple frames to create animated GIF computer graphics.
Year 4	<u>Online Safety</u> To understand what I am responsible for online. To create strong and memorable passwords. To understand how what I post online can affect me. To define what an online community is. To know what to do if someone uses hurtful language online. To recognise that photos and videos can be digitally altered.	<u>Coding and Programming</u> **Sphero** – Create an algorithm to guide the robot through a maze using Sphero play app. Use sequence, selection, and repetition in programs. Work with variables and various forms of input and output. Debug programs that accomplish goals (correcting errors). Work with variables and conditions.	<u>Internet Research</u> Appreciate how search results are selected and ranked and show awareness of different straggles for finding specific information. Understand the features of an Internet Browser. Use search technologies (different websites) to find specific pieces of information. Reference the correct source of information. Be discerning in evaluating digital content. Check the internet for fake news by cross-referencing facts.	<u>Creating an eBook</u> Add page colour and style. Add, position and format text on different pages. Add and position images from camera/web. Add audio, including hiding it behind an object. Add hyperlinks to text and images. Add and format shapes. Add audio to pages.	<u>Data handling</u> Change appearance of cells in a spreadsheet (fill colour and border) then add and align text. Find and add data to a spreadsheet, resize cells and use the software to create a suitable chart with a title.	<u>Animation</u> Create a stop-motion video by duplicating slides that include backgrounds and shapes. Create animation using transition and animation effects (morph, motion paths, pulse etc), including taking and editing a screenshot. Animate individual elements of objects. Create animated GIF files by animating pixels.
Year 5	<u>Online Safety</u> To make healthy media choices.	<u>Coding and Programming</u> Program list variables that choose randomly.	<u>Programming with Sphero</u> Understanding Bluetooth Technology as Input Device.	<u>Creating an eBook</u> Add page colour and style.	<u>Data Handling</u>	<u>App Design</u> Use the tools in presentation software (PowerPoint) to

	To know what information is okay to share. To know how online activity affects my digital footprint. To know how to be positive while playing online games. To recognise cyber bullying. To describe their responsibilities as digital creators.	Program inputs, conditions and sensing for interaction, data variables for scoring and a game timer. Program inputs, outputs, loops, conditions, sensing and variables.	Write programs for the Sphero using movement and repetition (loops). Write a program to trace a maze/route with Sphero and de-bug. Write a program with outputs. Write a program with random variables.	Add, position and format text on different pages. Add and position images. Add audio, including hiding it behind an object. Add hyperlinks to text and images. Search for shapes. Lock and arrange shapes (extension task).	Select and use non-adjacent cells plus resize multiple cell widths and copy/paste cells. Find data and create a spreadsheet to suit it. Use formulae to find totals, averages and maximum/minimum numbers. Search a database for specific information.	design an app about your school. Edit slide size and background colour. Add text and Images (including transparent images) on different pages. Use different icons. Make interactions using hyperlinks.
Year 6	**Online Safety** To understand media balance. To know how to avoid click bait. To know how gender stereotypes shape our online experience. To understand how to keep online friendships safe. To identify and stop cyber bullying. To identify the important parts of an online news article.	**Coding and Programming** **Sphero** – play a game of football and create an algorithm to score a goal using the Sphero Edu app. Program inputs, conditions, random variables for unpredictability, game timer. Program inputs, conditions, sensing, random variables, operators for direction and data variables for scoring. Use inputs, conditions, loops, sensing, costume changes and broadcasts. Work with multiple sprites to send broadcast messages between them.				**AI and Machine Learning** Understand how computers use information to learn by solving new problems and following new instructions. Understand and use examples of machine learning. Understand how artificial intelligence is used to perform tasks often only performed by humans. Discuss and show awareness of potential dangers of AI.

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