

St Marys Computing Curriculum

Infants (Year 1 and 2)

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
CYCLE 1	<p>Mouse and typing skills Y1 (4-6 hours) www.ilearn2.co.uk</p> <ul style="list-style-type: none"> • Move cursor and left click to select. • Click and drag to move items. • Find letters on a keyboard and begin touch typing. 	<p>E-Safety Y1 (1-2 hours) www.ilearn2.co.uk</p> <ul style="list-style-type: none"> • Keep personal information private. • Why do websites want personal information. • Identify when and where to go for help when concerned. <p>E-Safety Y2 (1-2 hours) www.ilearn2.co.uk</p> <ul style="list-style-type: none"> • What are the dangers of sharing photos online? • People online are not always who they say they are. • Trusting information online. • Using the Internet responsibly. • Being respectful. <p>Internet research Y2 (1 hour) www.ilearn2.co.uk</p> <ul style="list-style-type: none"> • Understand how a web-page displays information in different ways; text, images, videos and interactive elements. • Use a web-page to answer questions. 	<p>Introduce Programming Y1 (5-7 hours) www.ilearn2.co.uk</p> <ul style="list-style-type: none"> • Understand sequence and algorithms. • Sequence instructions (commands) to achieve an objective. • Use distances in commands. • Predict, write, execute and debug a simple program. 	<p>Digital Art Y1 (1-2 hours) www.ilearn2.co.uk</p> <ul style="list-style-type: none"> • 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. <p>Digital Art Y2 (3-4 hours) www.ilearn2.co.uk</p> <ul style="list-style-type: none"> • Use lines and fill tools to make interesting patterns. • Add a variety of shapes (outlines and fill) and label them with text. • Re-create graphics using pixels with different colours. 	<p>Design Y1 (1-2hours) www.ilearn2.co.uk</p> <ul style="list-style-type: none"> • Change the colour and pattern of elements. • Position and rotate objects on a design. • Position objects in relation to each other. • Resize, rotate, flip and arrange objects behind/in front of each other. <p>Introduction to animation y2 (2-4 hours) www.ilearn2.co.uk</p> <ul style="list-style-type: none"> • Add a background and objects to a frame, including text. • Copy/clone a frame and move objects to create an animation. Plus flip an object. • Create screen-recording animation (optional, requires iPad). • Create stop-motion animation with photos (optional, requires iPad). 	<p>Develop programming y2 (3-4 hours) www.ilearn2.co.uk</p> <ul style="list-style-type: none"> • 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.

Mouse and typing skills Y1 (4-6 hours)
www.ilearn2.co.uk

- Move cursor and left click to select.
- Click and drag to move items.
- Find letters on a keyboard and begin touch typing.

E-Safety Y1 (1-2 hours)
www.ilearn2.co.uk

- Keep personal information private.
- Why do websites want personal information.
- Identify when and where to go for help when concerned.

E-Safety Y2 (1-2 hours)
www.ilearn2.co.uk

- What are the dangers of sharing photos online?
- People online are not always who they say they are.
- Trusting information online.
- Using the Internet responsibly.
- Being respectful.

Recognise uses of IT Y2 (1-2 hours)
www.ilearn2.co.uk

- Understand what makes a computer a computer.
- Understand computers store and follow instructions.
- Spot digital technology in school.
- Understand how different technology helps us.

Introduce Programming Y1 (5-7 hours)
www.ilearn2.co.uk

- Understand sequence and algorithms.
- Sequence instructions (commands) to achieve an objective.
- Use distances in commands.
- Predict, write, execute and debug a simple program.

Comic creation Y1 (1-2 hours)
www.ilearn2.co.uk

- Add, resize and organise colour or picture backgrounds.
- Add, resize, organise characters/object to different panels.
- Add narration using text and direct speech using speech bubbles.

Ebook Creation Y2 (3-4 hours)
www.ilearn2.co.uk

- 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.

Text and images Y1 (3-4 hours)
www.ilearn2.co.uk

- Add, move and resize images. Add text and adjust size and placement.
- Add, resize and place images on a page then add and position text to label and describe images.
- Use word banks to write sentences about images.

Introduce data handling Y2 (2-3 hours)
www.ilearn2.co.uk

- Understand what data is and collect it as a tally.
- Use software to label a pictogram and add data to each column.
- Edit a table with correct titles and numbers.
- Use software to create a bar chart/pie chart/line chart suitable for the data.
- Interpret a pictogram/bar chart/line chart.

Programming with Scratch Jr Y2 (3-4 hours)
www.ilearn2.co.uk

- Understand sequence and algorithms.
- Sequence instructions (commands) to achieve an objective.
- Predict, write, execute and debug a simple program.

Lower Juniors (Years 3 and 4)

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
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Touch Typing KS2 (3-4 hours)www.ilearn2.co.uk

- What are the uses of different keys on a computer keyboard?
- Can I use the correct hand position and fingers for touch typing?
- Am I confident with some key computer skills such as opening and saving documents?

Document Editing Y3 (1-2 hours)www.ilearn2.co.uk

- Copy and Paste text and images.
- Find and replace words.
- Format text for a purpose.
- Add bullet points to make lists.
- Experiment with keyboard shortcuts.

E-Safety Y3 (1-2 hours)www.ilearn2.co.uk

- Understand what to do if something upsets you online.
- Understand why and how people can be nasty online.
- Describe the term 'sharing online' and why we need to get permission to share photos and videos of other people.
- Understand why people pretend to be someone else online.
- Understand why we only talk to people we know in the real world, when online.
- Understand why we should not always trust what we read online and how to check
- Understand the importance of being kind in the real world and also online.

Ebook Creation Y4 (3-5 hours)www.ilearn2.co.uk

- Add page colour and style then position and format text.
- Add and position images from camera/internet.
- Add audio, including hiding it behind an object.
- Add hyperlinks to text and images.
- Add and format shapes.

Programming in Scratch Y3 (4-6 hours)www.ilearn2.co.uk

- 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 to simulate physical systems.

3D Design Y3 (3-5 hours)www.ilearn2.co.uk

- Understand and use 3D space on a grid.
- Re-create or design familiar 3D models using cubes, such as tables and chairs.
- Use chisel tool to improve and adapt models.
- Colour individual blocks or whole models.

Branching Databases Y3 (1 hour)www.ilearn2.co.uk

- Add and label objects within a branching database.
- Ask questions to sort (classify) objects.

Data Handling Y4 (3-4 hours)www.ilearn2.co.uk

- 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.

Animation Y4 (6-8 hours)www.ilearn2.co.uk

- 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.

		<ul style="list-style-type: none">• Use hyperlinks for navigation.				
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Touch Typing KS2 (3-4 hours)www.ilearn2.co.uk

- What are the uses of different keys on a computer keyboard?
- Can I use the correct hand position and fingers for touch typing?
- Am I confident with some key computer skills such as opening and saving documents?

Infographics Y3 (1-2 hours)www.ilearn2.co.uk

- Understand what an infographic is and why we use them.
- Search for and add suitable graphic elements.
- Add and format suitable titles and text.
- Label an image with arrows and text.

E-Safety Y4 (1-2 hours)www.ilearn2.co.uk

- Understand what to do if something upsets you online.
- Understand why and how people can be nasty online.
- Describe the term 'sharing online' and why we need to get permission to share photos and videos of other people.
- Understand why people pretend to be someone else online.
- Understand why we only talk to people we know in the real world, when online.
- Understand why we should not always trust what we read online and how to check
- Understand the importance of being kind in the real world and also online.

Comic creation Y3 (3-4 hours)www.ilearn2.co.uk

- Add, resize and organise colour or picture backgrounds.
- Add, resize, organise characters/object to different panels.
- Add narration using text and direct speech using speech bubbles.

Programming in Scratch Y4 (6-8 hours)www.ilearn2.co.uk

- Use sequence, selection, and repetition in programs.
- Work with variables and various forms of input and output.
- Debug programs that accomplish goals.
- Work with variables and conditions.

3D Design Y4 (6-8 hours)www.ilearn2.co.uk**3D Village Pupil Activity Pack skills:**

- Understand 3D spatial awareness.
- Add 3D shapes, resize, adjust height, duplicate and use the different perspective.
- Re-create different types of buildings using 3D shapes.
- Create roads/paths by adjusting the height of 3D shapes.
- Add windows and door shapes.

Lego Modelling Pupil Activity Pack skills:

- Add, move, change colour and duplicate a brick.
- Rotate bricks.
- Use sloping bricks and special bricks for a purpose.
- Change the transparency of bricks.

Digital art Y3 (4-6 hours)www.ilearn2.co.uk

- 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.

Music creation Y3 (3-4 hours)www.ilearn2.co.uk

- Create ascending and descending scales.
- Add chords evenly across the scales.
- Add arpeggios and melodies.
- Add a steady and even rhythm.
- Use sampled sounds to create an effective mix.
- Build beats, melody (tones) and effects.

Video editing Y4 (2-3 hours)www.ilearn2.co.uk

- Add scene images.
- Add scripted voiceover audio, adjust the volume and crop clips (including splitting a clip).
- Add more clips and use transition effects.
- Add titles.
- Use elements such as shapes.
- Add music background music and adjust the volume.
- Export a project.

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Upper Juniors (Years 5 and 6)

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
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	<p>Touch Typing KS2 (2-3 hours) www.ilearn2.co.uk</p> <ul style="list-style-type: none"> • What are the uses of different keys on a computer keyboard? • Can I use the correct hand position and fingers for touch typing? • Am I confident with some key computer skills such as opening and saving documents? <p>Music Creation Y5 (2-3 Hours) www.ilearn2.co.uk</p> <ul style="list-style-type: none"> • Layer tracks using sounds and effects. • Create effective instrument tracks. • Edit tracks and effectively adjust volume and add effects. 	<p>E-Safety Y5 (1-2 hours) www.ilearn2.co.uk Jigsaw online safety video Digital passport E-safety quiz</p> <ul style="list-style-type: none"> • Keep personal information private. • Respect and protect again online bullies. • Understand the consequences of sharing photo/videos online. • Understand the term digital footprint. • How can we check online content is trustworthy. • How and where and who can we report concerns we have to. <p>Data Handling Y5 (3-4 hours) www.ilearn2.co.uk</p> <ul style="list-style-type: none"> • Select and use non-adjacent cells plus resize multiple cell widths and copy/paste cells. • Use formulae to find totals, averages and maximum/minimum numbers. • Find data and create a spreadsheet to suit it. • Search a database for specific information. 	<p>Programming in Scratch Y5 (5-7 hours) www.ilearn2.co.uk</p> <ul style="list-style-type: none"> • Program inputs, selection (conditions) and sensing for interaction, data variables for scoring and a game timer. • Program distance sensing and movement. • Program inputs, outputs, loops, selection (conditions), sensing and variables. • Program list variables that chooses randomly. 	<p>Graphic design Y6 (2-3 hours) www.ilearn2.co.uk</p> <ul style="list-style-type: none"> • Add, adjust and fill shapes. • Group shapes to improve accuracy and speed. • Add and customise gradient effects. • Adjust transparency/opacity for a purpose. • Use a colour picker correctly. • Accurately rotate shapes. <p>Computer Networks Y5 (2-3 hours) www.ilearn2.co.uk</p> <ul style="list-style-type: none"> • Understand Computer Networks, Internet and Cloud Computing and how they help us. • What is email and how can we use it safely? • Understand how and why we collaborate online (including blogging). 	<p>Binary Code Y6 (1-2 hours) www.ilearn2.co.uk</p> <ul style="list-style-type: none"> • Understand why computers/electronics use binary. • Match a sequence of binary code to create digital art. • To convert binary code to denary numbers (decimal numbers) and visa versa. <p>HTML Y6 (3-4 hours) www.ilearn2.co.uk</p> <ul style="list-style-type: none"> • Add and align text and change colour. • Program background colour. • Add and align images. • Add hyperlinks to other websites. • Add an iframe (such as a Google Map) and adjust the height and width. 	<p>Web Design Y6 (5-8 hours) www.ilearn2.co.uk</p> <ul style="list-style-type: none"> • Add and format text within a website. • Organise sections of web-pages and multiple page with relevant titles. • Add and edit images. • Include other features such as hyperlinks, buttons and files. • Evaluate other websites and provide constructive feedback. • Make necessary changes to the website based on feedback.
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Touch Typing KS2 (2-3 hours)

www.ilearn2.co.uk

- What are the uses of different keys on a computer keyboard?
- Can I use the correct hand position and fingers for touch typing?
- Am I confident with some key computer skills such as opening and saving documents?

Image Editing Y6 (2-3 hours)

www.ilearn2.co.uk

- Take and crop a screenshot and understand ratios.
- Adjust the colours, brightness, contrast and filters.
- Add drawing and text layers.
- Import new images as layers and resize/add effects.
- Save finished image to use in other projects.

E-Safety Y6 (1-2 hours)

www.ilearn2.co.uk

Caught in the web video

Online messaging

In-app purchases

Trusting the internet

E-safety quiz

- Keep personal information private.
- Respect and protect against online bullies.
- Understand the consequences of sharing photo/videos online.
- Understand the term digital footprint.
- How can we check online content is trustworthy.
- How, where and who can we report concerns we have to.
- Use suitable usernames and passwords for online accounts.

Ebook Creation Y5 (3-5 hours)

www.ilearn2.co.uk

- Add page colour and style.
- 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.

Programming in Scratch Y6 (7-9 hours)

www.ilearn2.co.uk

- Program keyboard/touch screen inputs, selection (conditions), loops and random variables for unpredictability (operators).
- 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.

App Design Y5 (4-6 hours)

www.ilearn2.co.uk

- Adjust slide size to mimic a phone/tablet size.
- Add text and images (*including transparent images*) to a slide.
- Add icons and text to use as navigation.
- Duplicate slides to create multiple pages of the app.
- Create hyperlinks to create navigation.

Python programming Language Y6 (2-3 hours)

www.ilearn2.co.uk

- Use the PRINT command for text.
- Program a simple calculator in Python.
- Program loops to repeat text.
- Program interactive inputs.
- Program a trivia chatbot using 'send message' functions (challenge)

Physical devices Y5 (3-5 hours)

www.ilearn2.co.uk

- Understand that computers use physical inputs and outputs and give examples.
- Program physical inputs and outputs (e.g program LED lights).
- Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems.

Virtual reality Y6 (5-8 hours)

www.ilearn2.co.uk

- Understand what virtual reality is and how it can be used to help people.
- Add, move and resize objects in a virtual reality environment.
- Animate objects for realism.
- Use code blocks to add movement (with grouping) and interactions (conditions).
- Create multiple scenes of VR environments.

		<ul style="list-style-type: none">• Lock and arrange shapes (extension task).				
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