

Our Lady and St Anne's Computing Curriculum

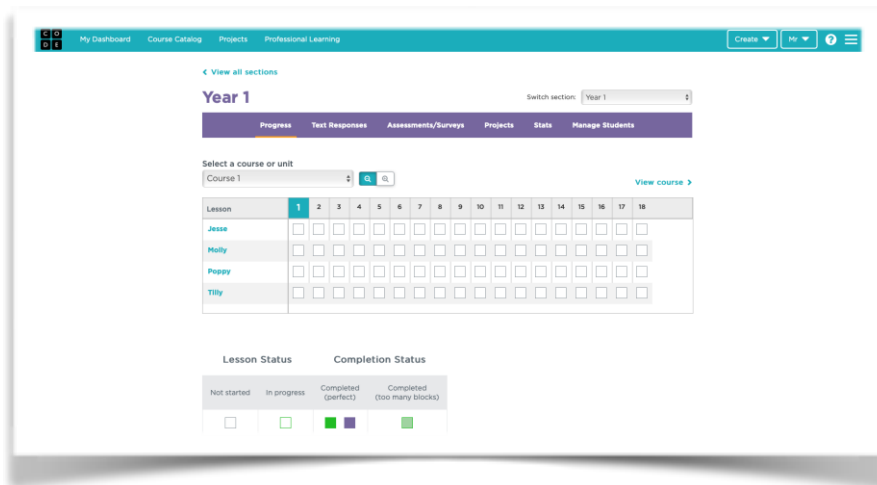
This overview has been designed so that each half term has a set theme which all the school are working towards. For example, Autumn 2 is focused on Information Technology - Video and Animation theme.

The reasoning behind this is to enable staff to support each other and for teachers to be able to go into different classes to observe the progression. In addition, it also provides an opportunity for the school to hold end of half term celebrations for certain units eg Oscars ceremony for the Video and Animation project.

The tasks have been differentiated to allow progression throughout the school so that the children are exposed to a wide variety of programs, apps and challenges.



Code.org is used partially or fully in 2 half terms. This is deliberate as it provides continuity and clear progression in the Computing Science strand. Moreover, as the children log in to complete their tasks, the program will automatically show the units which have been completed successfully. This information can be accessed through the Teacher Dashboard in Code.org removing the need for a separate assessment procedure.



For the Barefoot Computing tasks you will need to create a free Teacher account to download the resources. CS Unplugged resources can be found at: <https://csunplugged.org/en/>

For more information on the primary computing curriculum please view:

<https://www.computingschool.org.uk/data/uploads/CASPrimaryComputing.pdf>

At the start of term it might be useful to work with the children on general IT skills. This will mean teaching them:


- Keyboard skills including typing and shortcuts
- Using the mouse
- How to save their documents
- How to open/move/delete documents
- How to create folders to organise their work

In terms of assessment you may wish to use the Gem Education Assessment Tracker which will help you break down the National Curriculum statements further if you need more precise objectives.

For each year group I have tried to find opportunities to link in with the current topic, although please feel free to deviate from these and create your own more bespoke links. You may also find it easier to link in with your English themes. Remember you can always use computing and ICT to enhance your curriculum in many other ways. Some additional ideas which you may wish to explore (which I have not added in the Computing plan) are:

- Skype in the Classroom - Connect with an author and get the children to interview them. <https://education.microsoft.com//skype-in-the-classroom/find-authors-primary-school>
- Use video in PE to help improve technique and tactics
- Use Flyover tours in Apple Maps or Google Expeditions to explore different countries
- Use AR apps to explore the universe, hold dinosaurs and bring images to life
- Use GarageBand, Launchpad or Keezy to create music
- Use PicCollage, Moldiv, Canva or Adobe Spark Post to create topic posters

[illegible]



Algorithms

Name	Lower KS1	Upper KS1	Lower KS2	Upper KS2
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Overview

Algorithms

Programming

Data

Hardware

Communication

IT

- Use Prisma, ColorEffects or PaintSparkle (EYFS) to create interesting art effects
- Use Little Digits or 10 Fingers to teach younger children to count
- Get the children moving everyday using GoNoodle
- Create pupil portfolios and engage with parents using Seesaw
- Develop a whole school behaviour rewards system using ClassDojo

Our Lady and St Anne's Curriculum Plan - Computing Overview

Year Group	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Focus	Digital Literacy	Information Technology	Computer Science	Digital Literacy	Information Technology	Computer Science
Resources	Digital Literacy Planning	Microsoft Word, PowerPoint, Excel, Publisher	Barefoot, CS Unplugged & Code.org	Digital Literacy Planning	Video and animation focus	Physical Computing devices, Scratch & iPad apps
KS1 Objectives	Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies	Use technology purposefully to create, organise, store, manipulate and retrieve digital content	Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions	Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies	Use technology purposefully to create, organise, store, manipulate and retrieve digital content	Create and debug simple programs Use logical reasoning to predict the behaviour of simple programs
1	The UK Animals and Humans	Toys Seasonal Changes	Chronology of Royal Family Properties and Changes of Materials	Antarctica Seasonal Changes	Local Environment Plants At the Seaside	George Stephenson Railways Seasonal Changes Living Things
	Digital Literacy Planning Folder	Microsoft Word DoInk Green Screen	Barefoot Computing, Code.org	Digital Literacy Planning Folder	Book Creator	Code.org, Beebots.
2	Our Local Area Animals and Humans	The Great Fire of London	Africa Materials	Plants Explorers	Plants Island Life	Seaside Then and Now

		Living Things and their Habitats				
	Digital Literacy Planning Folder	Microsoft Word, Powerpoint	Barefoot Computing, Code.org	Digital Literacy Planning Folder	Book Creator, DoInk Green Screen	Code.org, Scratch Jr.
KS2 Objectives	Understand the opportunities [networks] offer for communication and collaboration Be discerning in evaluating digital content Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact	Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information	Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts Use sequence, selection, and repetition in programs; work with variables and various forms of input and output	Understand the opportunities [networks] offer for communication and collaboration Be discerning in evaluating digital content Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact	Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information	Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs Understand computer networks including the internet; how they can provide multiple services, such as the World Wide Web Appreciate how [search] results are selected and ranked
3	Map Skills – Our Place in the World Animals and Humans	The Stone Age Animals and Humans	The Iron and Bronze Ages Rocks	Settlement The Water Cycle Plants	Ancient Egyptian Civilisation Forces	Coasts Light
	Digital Literacy Planning Folder	Microsoft Word, Powerpoint.	Barefoot Computing, Code.org	Digital Literacy Planning Folder	Book Creator, I Can Animate.	Code.org, Tynker.
4	Our Place in the World Animals and Humans	Romans in Britain Living Things and their Habitats	Changing Jobs States of Matter	Ancient Greek Myths States of Matter	Rivers and Mountains Electricity	Ancient Greeks Sound
	Digital Literacy Planning Folder	Microsoft Word, Powerpoint, Excel.	Barefoot Computing, Code.org	Digital Literacy Planning Folder	Microsoft Powerpoint, Kahoot	Code.org, Scratch

5	Climate Zones Animals and Humans	Anglo Saxons Living Things and their Habitats	Energy Properties and changes in materials	Early Islamic Civilisation Properties and changes in materials	Resources Forces	Local Study – Newcastle Earth and Space
	Digital Literacy Planning Folder	Microsoft Publisher	Code.org	Digital Literacy Planning Folder	Microsoft Excel, Word, Publisher	Scratch
6	Map Skills Animals and Humans	World War 2 Living Things and their Habitats	Medicine through Time Evolution and Inheritance	Ecosystems	Hazardous World Electricity	Ancient Maya Civilisation
	Digital Literacy Planning Folder	Microsoft Powerpoint, Excel	Code.org	Digital Literacy Planning Folder	Microsoft Office / Internet Research	Microbit: Makecode.

Year 1

Term	Topic	Tasks & Objectives	Ideas for cross curricular links
Autumn 1	The UK Animals and Humans	<u>Digital Literacy</u> <ul style="list-style-type: none"> - Smartie the Penguin - Clicky's Online Safety Rap - Jessie and Friends – Think U Know 	
Autumn 2	Toys Seasonal Changes Create a Hat	<u>Microsoft Word</u> To add text (to type, use space bar, enter to make a new line), change the size and colour and add images. <u>Green Screen</u> Take pictures and use a green screen to place children in the picture.	Use topics as work to write about in Word. Take pictures or find pictures online and use Green screen to put children in picture with old toys / different seasons.
Spring 1	Chronology of Royal Family Properties and Changes of Materials	<u>Barefoot tasks:</u> BeeBots 1,2,3 Programming BeeBot Basics Crazy Characters Algorithms <u>Code.org</u> Unit A - Sequencing unit	For the BeeBot activities have a floor map with polar animals. In Code.org Lessons 4 & 5 are programming with Scrat from Ice Age.
Spring 2	Antarctica Seasonal Changes	<u>Digital Literacy</u> <ul style="list-style-type: none"> - Media Balance is Important - Pause for People - Safety in my Online Neighbourhood 	
Summer 1	Local Environment Plants At the Seaside	<u>Book Creator</u> Create a book with images, photos and narrations of different plants in the school grounds.	Get the children to take photos and describe the different plants in the school grounds.

			Add text and photos about the local area.
Summer 2	George Stephenson Railways Seasonal Changes Living Things	<u>Code.org</u> Unit A. Loops and Events units <u>BlueBot</u> Program the Beebot to navigate different floor mats. Use the App if there are no BeeBots.	Use a mat with different seasonal images Explore how the BeeBot works and compare it with non-interactive toys.

Year 2

Term	Topic	Tasks & Objectives	Ideas for cross curricular links
Autumn 1	Our Local Area Animals and Humans	<u>Digital Literacy</u> <ul style="list-style-type: none"> - Pause and Think Online - Jessie and Friends Episode 3 - Smartie the Penguin (If not completed in Y1) 	
Autumn 2	The Great Fire of London Living Things and their Habitats	<u>Microsoft Word</u> Add text -resize, colour and change font. Add images and symbols. <u>Microsoft Powerpoint</u> Add text, images and transitions	Write about topics using Microsoft Word and Powerpoint.
Spring 1	Africa Materials	<u>Barefoot tasks:</u> Decomposition Unplugged Sharing Sweets Algorithm Spelling Rules Algorithms <u>Code.org</u> Unit B - Sequencing	Angry Birds and Pigs Harvesting in Code.org
Spring 2	Plants Explorers	<u>Digital Literacy</u> <ul style="list-style-type: none"> - How Technology makes you feel - Hector's World - Internet Traffic Light - Digiduck 	

Summer 1	Plants Island Life	<u>Book Creator</u> Add text, narration, images and photos. <u>Green Screen</u> Learn how to superimpose onto a background and how to edit an image to turn it black and white.	Use Book Creator to create work about the topics (avoid plants if done previously in Year 1) Children take pictures and then edit to make it black and white, then placing the children in the picture in colour using green screen app.
Summer 2	Seaside Then and Now	<u>Code.org</u> Loops and Events <u>Scratch Jr</u> https://www.scratchjr.org/teach/activities	Adapt some of the Scratch Jr projects by having a seaside background

Year 3

Term	Topic	Tasks & Objectives	Ideas for cross curricular links
Autumn 1	Map Skills – Our Place in the World Animals and Humans	<u>Digital Literacy</u> <ul style="list-style-type: none"> - Smart Crew Videos - We, the Digital Citizens - Device Free Moments 	
Autumn 2	The Stone Age Animals and Humans	<u>Microsoft Word</u> Page orientation, alignment, page borders & designs <u>PowerPoint</u> Presentation focus on slide designs, animations	Create a word document about the Stone Age Create a PPT about Animals and Humans.
Spring 1	The Iron and Bronze Ages Rocks	<u>Barefoot tasks:</u> 2D shape drawing Debugging Decomposition Unplugged Selecting Search activity <u>Code.org</u> Unit C - Sequencing	
Spring 2	Settlement The Water Cycle Plants	<u>Digital Literacy</u> <ul style="list-style-type: none"> - That's Private - Digital Trails - Who is in your Online Community? - Putting a STOP to Online Meanness - Lets Give Credit. 	

Summer 1	Ancient Egyptian Civilisation Forces	<u>Book Creator</u> Create an information text with contents, glossary etc <u>I Can Animate</u> Use cut out characters/play doh models to create a stop frame animation	Create a book about the Egyptians Create a stop frame animation about the Egyptians.
Summer 2	Coasts Light	<u>Code.org</u> Unit C - Loops & Events <u>Tynker</u> Explore the Space Cadet Challenges	

Year 4

Term	Topic	Tasks & Objectives	Ideas for cross curricular links
Autumn 1	Our Place in the World Animals and Humans	<u>Digital Literacy</u> <ul style="list-style-type: none"> - Cyber-Detectives - Your Rings of Responsibility - Password Power-Up - This is Me 	
Autumn 2	Romans in Britain Living Things and their Habitats	<u>Microsoft Word & PowerPoint</u> Create a document and/or PPT presentation with hyperlinks. <u>Excel</u> Input values and use the sum function	Create a presentation about Romans in Britain. Create an Excel Spreadsheet using data about living things.
Spring 1	Changing Jobs States of Matter	<u>CS Unplugged</u> Download CS Unplugged - https://bit.ly/2n88f2f Binary Numbers - p 4 - 12 Pixels - p 16 -25 <u>Code.org</u> Unit D - Sequencing	Code.org focus on bees pollinating and farmers harvesting.
Spring 2	Ancient Greek Myths States of Matter	<u>Digital Literacy</u> <ul style="list-style-type: none"> - Our Digital Citizenship Pledge - The Power of Words - Is Seeing Believing? - Treasure Hunts 	

Summer 1	Rivers and Mountains Electricity	<u>Kahoot</u> Create a Kahoot with simple questions and multiple choice answers. <u>Microsoft Powerpoint</u> Create a presentation with transitions and animated text.	Create a quiz based on Rivers and Mountains to present to the rest of the class.
Summer 2	Ancient Greeks Sound	<u>Code.org</u> Unit D Events, Loops, Conditionals <u>Scratch</u> Use the sound functions in scratch	Create a musical instrument or a selection of instruments using Scratch.

Year 5

Term	Topic	Tasks & Objectives	Ideas for cross curricular links
Autumn 1	Climate Zones Animals and Humans	<u>Digital Literacy</u> <ul style="list-style-type: none"> - Play Like Share - My Media Choices - Private and Personal Information - Our Online Tracks 	
Autumn 2	Anglo Saxons Living Things and their Habitats	<u>Microsoft Publisher</u> Create documents, posters, leaflets which require a variety of pictures and text. Organising how text and images are placed on the document.	Create a poster about the Anglo Saxons
Spring 1	Energy Properties and changes in materials	<u>Code.org</u> Unit E Events, Loops, Conditionals	
Spring 2	Early Islamic Civilisation Properties and changes in materials	<u>Digital Literacy</u> <ul style="list-style-type: none"> - Livestreaming - Keeping Games Fun and Friendly - Be a Super Digital Citizen - A Creator's Rights and Responsibilities - Trust Me 	
Summer 1	Resources Forces	<u>Microsoft Excel</u> Use spreadsheets to collect and analyse data. <u>Microsoft Word / Publisher</u> Use the editing tools on Microsoft programs to change photographs and pictures.	Use data from the forces topic to create spreadsheets. Use photos from the resources topic to edit.

Summer 2	Local Study – Newcastle Earth and Space	<u>Programming with Scratch</u> Make a game project (Barefoot Computing)	Create a game with a Newcastle or Earth/Space theme.
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Year 6

Term	Topic	Tasks & Objectives	Ideas for cross curricular links
Autumn 1	Map Skills Animals and Humans	<u>Digital Literacy</u> <ul style="list-style-type: none"> - Game On - Trust Me - Finding my Media Balance - You Won't Believe This! 	
Autumn 2	World War 2 Living Things and their Habitats	<u>Microsoft Powerpoint</u> <ul style="list-style-type: none"> - Use sounds, text, transitions and hyperlinks effectively in presentations. <u>Microsoft Excel</u> <ul style="list-style-type: none"> - Use spreadsheets to collate data and use the data to create different representations (charts, graphs) 	Create a powerpoint of World War 2 with links to web pages. Collect data in Science lessons and create charts from this data.
Spring 1	Medicine through Time Evolution and Inheritance	<u>Code.org</u> Unit F	
Spring 2	Ecosystems	<u>Digital Literacy</u> <ul style="list-style-type: none"> - Beyond Gender Stereotypes - Digital Friendships - Is It Cyberbullying? - Reading News Online 	
Summer 1	Hazardous World Electricity	<u>Microsoft Office</u> Use of Microsoft Office software for pieces of work and research to show skills.	
Summer 2	Ancient Maya Civilisation	<u>Microbit</u> Car building and programming project	

		<p><u>Adobe Spark</u></p> <p>Create an interactive web page using the work done in the car building project (or from other topic where fits)</p>	
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