Computing curriculum map

Our curriculum aims to prepare our learners for their future by giving them the opportunities to gain knowledge and develop skills that will equip them for an ever-changing digital world. We focus on a progression of skills in digital literacy, computer science, information technology and online safety, to ensure that children become competent in safely using, as well as understanding, technology. Creativity is encouraged through cross curricular learning to engage and inspire children and as a result efforts are valued, individuality is celebrated, confidence and resilience is developed and all children flourish in computing

	Autumn	Spring	Summer	Key Vocabulary
Nursery	**Computing systems and networks:** **Explore** various technology eg remote control cars during continuous provision to begin to understand forwards and backwards **Use** technology in roleplay eg answering the phone	**Computing systems and networks:** **Explore** different types of technology e.g. computer, camera, remote controlled games, microwave, programmable toys, torches **Explore** using Beebots and pushing/pulling different vehicles	**E-safety** **Name** a real life dangers e.g.traffic and road safety, dangerous litter, stranger danger, sun safety **Discuss** importance of keeping safe around the school e.g. different coloured lanyards, playground safety	push on off battery computer mouse keyboard forwards backwards
Reception	**Computing systems and networks** **Know** how technology in the helps us at home, in school and everyday uses **Explain** how technology can be used in different jobs **Use** the IWB in the classroom e.g. 2simple **E-safety** **Name** something/someone that makes you feel safe/unsafe **Discuss** real life dangers e.g. traffic and road safety, dangerous litter, stranger danger, sun safety	**Digital photography** **Use** ipad to take a photo **Know** how to show photo on IWB **Know** how to switch on the chromebooks and control a mouse with increasing control **Name** different types of technology e.g. ipads, computers,programmable toys, torches **Digital Painting** **Explore** changing font size and colour **Complete** a simple program e.g. BusyThings, 2Simple paint	**Moving a robot** **Explore** using Beebot/Codapillar and know how to code. **Explain** why a simple BusyThings program (Beebot, Codapillar) has not worked e.g. moved too far, not far enough, wrong turn **Press** buttons and keyboard to make technology/games move e.g. Beebot, Codapillar, **E-safety** **Turn** chromebooks on and shut down after use	keys instruction screen shut down Log on program sequence double click right click open icon pictogram turtle type space bar turn left/right

	Know different ways of communicating e.g. letters, postcards, emails	**Use** a keyboard to write name, using a capital with CAPS lock	**Recall** how to keep safe around the school e.g. different coloured lanyards, playground safety **Know** that the internet shouldn't be used without permission from an adult e.g. parents at home	cut paste paint brush enter CAPS lock
Year 1	**Computing systems and networks:** **Explain** technology as something that helps us. **Know** the main parts of a computer and how to log in. **Use** a mouse to make a picture and open a program. **Use** the shape tool to create a shape **Save** work to a file and **open** it. **Undo/redo** and backspace/delete button **Explore** using a keyboard to move cursor and delete letters. **Identify** rules for keeping us safe when we use technology. **Turn** chromebook on and off and log on using LGFL password **Digital painting** **Explore** using different paint tools. **Use** shape and line tools effectively.	**Moving a robot** **Explain** what an algorithm is **Predict** the outcome of a command on a device. **Follow** and **give** clear instructions **Compare** forwards and backwards movements. **Experiment** with turn and move commands to move a robot. **Choose** the order of commands in a sequence. **Identify** several possible solutions to a problem. **Programme** and direct a Beebot to a toy using the arrow buttons **Explain** how Beebot buttons change direction and distance, predicting behaviour of Beebot. Debug a program and start again if needed **Evaluate** and improve a sequence	**Digital writing** **Recognise** keys on a keyboard. **Use** keyboard to add and remove text. **Identify** the toolbar and use bold, italic and underline. **Select** text by clicking. **Say** which tool was used to change the text. **Explain** the differences between typing and writing. **Use** shift and CAPS lock **Programming Animations** **Use** commands to move a sprite. **Join** blocks and run my program. **Say** what happens when I change a value. **Know** that a program that can include more than one sprite.	algorithm code username password debug search engine retrieve store save re-save animation clockwise/anticlockwise file folder animation load image video audio text toolbar copyright save folder font style undo/redo

	Choose appropriate shapes and colours to recreate the work of an artist. **Explain** which paint tools were helpful and why. **Experiment** with dots of colour to create a picture. **Identify** differences between painting on a computer and on paper.	**Grouping data** **Describe** objects using labels. **Group** and **count** objects. **Describe** a property of an object. **Explore** grouping objects in different ways. **Record** how many objects are in a group. **Decide** how to group objects to answer a question. **Know** when something online might not be safe **Explain** that some personal information can affect my personal safety e.g.personal address	**Create** an algorithm for each sprite. **Test** programs that I have created.	straight line primary colours portrait information safety personal
Year 2	**Computer systems and networks:** **Know** that a computer is part of IT **Identify** examples of computers and IT and technology and explain how some IT can be used in more than one way **Describe** some uses of computers **Discuss** the uses of IT and explain why we use it **List** the different rules for using IT **Identify** the choices that we make when using IT	**Robot algorithms** **Name** an example of an algorithm. **Explain** what happens when the order of instructions is changed. **Use** the same instructions to create different algorithms **Plan** an algorithm to program a sequence on J2e Turtle floor robot, debug by reordering **Show** the difference in outcomes between two sequences that consist of the same commands	**Digital art** **Recreate** Art in eg Jit, Paint, powerpoint by arranging different shapes **Change** the colour and size of dots/paintbrush . **Insert** lines that are different sizes into work. Use knowledge of artists techniques to create a digital artwork) **Fill** areas with different colours **Rotate, resize and colour** shapes	frame duplicate retrieve email subject address communicate sender reliable Search filter alter trusted adult Digital footprint Content social media post

	Use J2E mix to create a powerpoint, applying skills of keyboard, colour and tools **Know** what a digital footprint mean and how it contains information about a person **Identify** which keywords will give me good results and use a website to search for information **Decide** unkind online behaviour and know what to do if someone is being unkind online **Use** both hands on the keyboard, use a word bank to create a piece of writing and use colour and formatting <u>Digital photography:</u> **Recognise** what devices can be used to take photograph **Explain** how to capture a digital photo and the process of taking a good photograph **Take** photos in both landscape and portrait format and explain which is better **Identify** what is wrong with a photograph	**Follow** a sequence, **predict** the outcome of a sequence and **compare** my prediction to the program outcome **Explain** the choices I made for my mat design **Identify** different routes around my mat **Test** my mat to make sure that it is usable **Create** an algorithm to meet my goal, **explain** what my algorithm should achieve and **use** my algorithm to create a program **Create** and **debug** a programme test each part of the program, **planning** algorithms for different parts of a task and putting together the different parts of my program <u>Data information - Pictograms</u> **Record** and **organise** data in a tally chart **Compare** totals in a tally chart **Use** pictograms to **answer** simple questions about objects **Use** a tally chart to **create** a pictogram and **explain** what the pictogram shows **Select** objects by attribute and make comparisons **Tally** objects using a common attribute **Create** a pictogram to arrange objects by an attribute	**Produce** lighter and darker shades and make 2 versions of a piece of art using different shades **Retrieve** a picture file and open it in a computer programme **Duplicate** an image and alter the colours to create a piece of pop art **Decide** whether a website is useful or not **Explain** likes/dislikes about a website, use clues to decide who a website is aimed at <u>Programming quizzes</u> **Explain** that a sequence of commands has a start **Identify** the start of a sequence and that a program needs to be started **Explain** that a sequence of commands has an outcome **Predict** the outcome of a sequence of commands **Change** the outcome of a sequence of commands **Create** a program using a given design **Solve** the actions of a sprite in an algorithm and decide which blocks to use to meet the design	public appropriate cyber-bullying keywords

Discuss how to take a good photograph **Improve** a photograph by retaking it **Explore** the effect that light has on a photo **Experiment** with different light sources and **explain** why a picture may be unclear **Recognise** that images can be changed **Use** a tool to achieve a desired effect **Apply** a range of photography skills to capture a photo **Identify** which photos are real and which have been changed	**Answer** 'more than'/'less than' and 'most/least' questions about an attribute Use a J2e to **present** information in different ways **Share** what I have found out and give simple examples of why information should not be shared **Use** both hands on the keyboard, use a word bank to create a piece of writing and use colour and formatting	**Build** the sequences of blocks I need **Change** a given design **Choose** backgrounds and characters for the design **Create** a program based on the new design and using my own design **Choose** the images for my own design **Decide** how my project can be improved, compare my project to my design and improve my project by adding features **Debug** my program

Burlington Infant & Nursery School