Churchfields Infants' School: Year One curriculum information Computing

Outlined below is a summary of the skills children will work on during each half term in Year One, along with some activities children will complete, key vocabulary that will be taught and ideas of how parents can help to develop this learning at home.

Half Term	Skills	Activities	Key Vocabulary	How can you help at home?
Autumn 1 *Getting Together*	**We Are Treasure Hunters** - how to stay safe when using technology - understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute them by following precise and unambiguous instructions - create and debug simple programs - use logical reasoning to predict the behaviour of simple programs	**We Are Treasure Hunters** - planning precise sequences of instructions to achieve an objective - exploring and understanding input, program and output in the context of a Blue-Bot (programmable robot) - developing and recording sequences of instructions as an algorithm - programming a robot to follow an algorithm (programming to solve a problem by	Computing technology tablet keyboard log on log off username password online safe trusted adults privacy forwards backwards turn left right algorithm bug	- continue to reiterate messages delivered at school around internet safety and rules to follow so that children can ensure they are safe online. Consider use of filters and parental controls if you don't already to minimise risk when your child uses technology and continue to ensure they are never unsupervised when using devices - create an obstacle course at home and see if you can guide your child round it giving them precise instructions (blindfold them if you're feeling confident!) Can they do the same for you by giving simple instructions? - model examples of programs at home e.g. when you turn the washing machine or dishwasher on and how giving instructions by programming it tells it how to do its' job! - if you have any controllable toys at home you could have a go at using them and

	- learn that a programmable robot can be controlled by inputting a sequence of instructions ***Revision:*** *- basics of using a programmable robot* *- cause and effect*	moving to a particular location) - reading a Blue-Bot program and predicting logically what will happen - correcting sequences of instructions ***Revision:*** *- using simple controls to make a programmable robot move*	computer debug input logical reasoning output program robot (Blue-Bot)	discuss how the controls send an algorithm (instruction) to the toy to make it do what you've asked it to!
Autumn 2 *Music and Light*	**We Are Rhythmic** - use technology purposefully to create, organise, store, manipulate and retrieve digital content - recognise common uses of technology beyond school - understand what algorithms are - record audio on a tablet ***Revision:*** *- basic use of Chromebooks e.g. turning on and off, using volume controls,*	**We Are Rhythmic** - recording and playing back audio using ScratchJr - programming sprites to playback recorded audio - using repetition in ScratchJr to play a pattern using recorded audio - exploring different effects that can be applied to audio - creating a repeating percussion pattern using a virtual drum machine (GarageBand)	Computing technology tablet keyboard log on log off username password online safe trusted adults privacy audio digital message microphone MIDI repetition	- continue to reiterate messages delivered at school around internet safety and rules to follow so that children can ensure they are safe online. Consider use of filters and parental controls if you don't already to minimise risk when your child uses technology and continue to ensure they are never unsupervised when using devices - continue exploring programmable toys that you may have at home, and any devices you need to program (under close supervision of course!) - consider downloading the free app ScratchJr. onto one of your devices (see ScratchJr - Home for more information) so children can demonstrate what they have been learning at school and continue to explore writing code

	naming parts e.g. screen, keyboard *- how to stay safe when using technology* *- understanding what algorithms are*	- experimenting with a range of virtual instruments ***Revision:*** *- using a Chromebook* *- accessing a given programme on the Chromebooks* *- using simple commands such as open, close to navigate around programmes*	sample sequencer speaker sprite track virtual	- you may like to use other opportunities for coding and using algorithms too! A couple we know and love are: [Computer Science Curriculum for Grades K-5	Code.org](Computer Science Curriculum for Grades K-5 | Code.org) (we suggest you start with Course A which will really build children's basic skills with coding), or the free app Hopscotch
Spring 1 *Emotions*	**We Are Digital Artists** - use technology purposefully to create, organise, store, manipulate and retrieve digital content - recognise common uses of technology beyond school - select and set brushes and colours - creating artwork in a range of styles using tablets - using the undo function if they make mistakes, and to encourage experimentation	**We Are Digital Artists** - creating colour blocks in the style of the artist Rothko - selecting brushes and choosing colours to create patterns and shapes in the style of Kandinsky's Colour Study, Squares with Concentric Circles (1913) - selecting and set brushes to create a simple drawing in the style of Picasso's Dove of Peace - creating and transforming multiple layers in the style of Matisse's The Snail	Computing technology tablet keyboard log on log off username password online safe trusted adults privacy analogue bitmap digital effect layer pixel stylus	- continue to reiterate messages delivered at school around internet safety and rules to follow so that children can ensure they are safe online. Consider use of filters and parental controls if you don't already to minimise risk when your child uses technology and continue to ensure they are never unsupervised when using devices - explore Artworks discussed in the Skills column – can you find out what they look like? Can your child tell you how they created something similar in their Computing session at school? - consider downloading or using a simple paint program with your child – ensure they are supervised and encourage them to explore the controls and what each different 'button' does. Experimenting with these will help to further develop their skills, and will build their confidence in using

	- use multiple layers in their art - transform layers - paint on top of photographs *Revision:* *- how to stay safe when using technology* *- use technology purposefully to create, organise, store, manipulate and retrieve digital content* *- recognise common uses of technology beyond school*	- creating a painting as a layer above a photo, in the style of Julian Opie - learning to draw grid paintings in the style of Mondrian *Revision:* *- using a Chromebook* *- accessing a given programme on the Chromebooks* *- using simple commands such as open, close, save to navigate around and use programmes*	transform undo zoom	technology safely (they just need to know how to undo errors!) This simple online program may be a start JIT5 (j2e.com) - can your child fill a background in? Can they draw lines and shapes of different colours? Can they undo mistakes if they need to?
Spring 2 *Fire! Fire!*	**We Are TV Chefs** - understand what algorithms are - use technology purposefully to create, organise, store, manipulate and retrieve digital content - recognise common uses of technology beyond school - break down a process into simple, clear steps (an algorithm)	**We Are TV Chefs** - working out an algorithm for a common task - learning how to use different features of a video camera and how to record video on a tablet - working collaboratively to film a recipe, using ground rules for filming	Computing technology tablet keyboard log on log off username password online safe trusted adults privacy algorithm audio	- continue to reiterate messages delivered at school around internet safety and rules to follow so that children can ensure they are safe online. Consider use of filters and parental controls if you don't already to minimise risk when your child uses technology and continue to ensure they are never unsupervised when using devices - you could encourage your child to explore recording short portions of their day as a kind of diary of what they get up to (maybe over the Easter break?) to allow them to experiment with the controls on simple video cameras (on a phone or

	- use different features of a video camera - use a video camera to capture moving images - edit a video to include an audio commentary - develop collaboration skills - discuss their work and think about how it could be improved *Revision:* *- how to stay safe when using technology* *- use technology purposefully to create, organise, store, manipulate and retrieve digital content* *- recognise common uses of technology beyond school* *- understanding what algorithms are* *- record audio*	- editing a video to include audio commentary - discussing their own and others' work, thinking about how it could be improved *Revision:* *- using audio to enhance a piece of work* *- accessing saved work from previous sessions* *- using algorithms to plan and create a finished piece of work* *- evaluating finished work against success criteria* *- editing own work*	edit frame narration pattern storyboard video camera abstraction decomposition	device, or you may have a separate camera?) as they have been at school - you could perhaps do some cooking of your own at home by following a simple recipe with your child. How do the instructions in the right order help you to be successful? Are they clear enough to follow? What would happen if they weren't? - if you're feeling really brave, you could allow your child to choose their own recipe to record over the holiday to create their own cooking show? They could either narrate as they go, or record audio over the top of their video separately of that's easier to support stage fright and doing too many things at once!
Summer 1 *All the World*	**We Are Detectives** - use technology purposefully to create, organise, store, manipulate and	**We Are Detectives** - exploring a dataset to understand the structure of data	Computing technology tablet keyboard log on	- continue to reiterate messages delivered at school around internet safety and rules to follow so that children can ensure they are safe online. Consider use of filters and parental controls if you don't already to

retrieve digital content - 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 and other online technologies - recognise common uses of technology beyond school - learn how data can be structured as records with fields for information - how data can be organised into groups and subgroups - how data can be structured as a tree - how data can be organised into a table - how data in a table can be filtered and searched *Revision:* *- how to stay safe when using technology*	- exploring a dataset as virtual cards in Popplet - creating a tree for identification of data - inputting data into an online form in order to create a table - creating filters to identify subsets of their data - searching a database to solve clues! *Revision:* *- accessing saved work from previous sessions* *- using commands and features of programmes to access, store and manipulate their own work over a period of time* *- editing own work* *- evaluating finished work against success criteria*	log off username password online safe trusted adults privacy database dataset field filter form leaf record sort table tree	minimise risk when your child uses technology and continue to ensure they are never unsupervised when using devices - play games at home such as Guess Who? as they will complement the learning taking place in Computing about how information is organised on a database, using questions and clues to organise different pieces of information. Our brains play this game like a computer! - share information presented in different ways with your child e.g. a simple table in a book (or on the local weather are simple and easy to read and understand) or a graph showing simple data - this free website JIT5 (j2e.com) (you may need to log in using your child's USO – on the back of their Reading Record!) could be incredibly useful to support children in creating their own branch database to sort some items using simple questions! (If your child is a pro at Guess Who? you may like to choose the 'People' option!) The trick is not to put too many items in on your first few goes!

	- use technology purposefully to create, organise, store, manipulate and retrieve digital content *- recognise common uses of technology beyond school*			
Summer 2 *Into the Jungle…*	**We Are Publishers** - use technology purposefully to create, organise, store, manipulate and retrieve digital content - 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 and other online technologies - recognise common uses of technology beyond school - plan a small multimedia eBook - choose and import images	**We Are Publishers** - planning a multimedia eBook, thinking carefully about an intended audience - selecting and importing images for an eBook, thinking carefully about what is appropriate for their intended audience - recording high-quality audio commentary for an eBook - adding text to eBook pages and formatting it - searching a picture library on the internet to add further images to their eBook, considering copyright and understanding	Computing technology tablet keyboard log on log off username password online safe trusted adults privacy audio clipart copyright creative commons eBook filter font images multimedia safe search speech synthesis	- continue to reiterate messages delivered at school around internet safety and rules to follow so that children can ensure they are safe online. Consider use of filters and parental controls if you don't already to minimise risk when your child uses technology and continue to ensure they are never unsupervised when using devices - discuss your child's achievements during Year One with them so they have some ideas of what to include in their book! - rehearse selecting pictures from a selection (this could be photos from a camera roll) and adding them to a page on an app - you could perhaps search an online picture library together to see how we can use technology to find additional images for any projects we may be working on - if you'd like your child to show off their skills, you could create your own eBook showing what you go up to in the summer holidays! Add some photos to different pages and type a small amount under

- record audio commentary - add and format titles and other text - think carefully about protecting their privacy - respect other people's copyright - revise and improve their work ***Revision:*** *- how to stay safe when using technology* *- recognise common uses of technology beyond school* *- use audio commentary* *- manipulate text and pictures* *- understand the advantages and possible disadvantages of using certain forms of technology*	what to do if they see inappropriate images when searching - reviewing and revising their eBook contents ***Revision:*** *- using a range of programmes independently and safely to perform tasks* *- understand the advantages and possible disadvantages of using certain forms of technology* *- accessing saved work from previous sessions* *- using commands and features of programmes to access, store and manipulate their own work over a period of time* *- editing own work* *- evaluating finished work against success criteria*	voice dictation	each to explain what you did! You'll have it to remember for years to come!