

Computing 2019-2020 Sequence Overview Year 3 – Year 6

		Communication	Coding	E-safety	Computing skills
3	AUT	<p>We Are Communicators (5)</p> <p>Pupils learn how to use emails and video calls. They discuss keeping email accounts secure and how to talk to people online. We look at how emails and video calls work and how we might use these in real life and work situations. They learn how to send an email, write an email, login to accounts, send a video call, receive a video call and how to prepare information to share via a video call.</p>		<p>Avatars/Password set up for personal accounts (2)</p> <p>Children to create an avatar to protect their identity and understand why this might be beneficial when using social media or other online channels</p> <p>As a part of this short unit, children will also have been set up with personal accounts when they joined Chesswood. These include IXL, TT rock stars and AR. They will check that their passwords work and we discuss the importance of password protection, logging off an account/site properly and what to do if you think that someone may have accessed your personal account.</p>	
	SPR 1		<p>We Are Bug Fixers (3)</p> <p>Pupils are shown algorithms as a set of instructions that a computer programme will follow. Children are then introduced to debugging an algorithm and how to use logical reasoning to achieve this. They are also shown debugging cycles as a process of debugging algorithms.</p>		
	SPR 2/SUM 1		<p>We Are Programmers (5.2)</p> <p>Pupils will be introduced to storyboards as a way of designing an algorithm for an animation. The process is broken down into steps and uses knowledge from the debugging unit too. Basic computer skills are taught through saving and loading on scratch (file paths) and how to navigate a computer screen and icons/buttons to open Google chrome or close a window etc.</p>	<p>We Are Pollsters (3)</p> <p>Pupils will design a poll and then use google sites to make their poll. They will then complete other children's polls to gather data. The results of this will be collated and analysed using excel.</p> <p>Please note: There is a year group assembly on e-safety linking to personal data and data protection to launch this unit and links to the Avatar online profile e-safety knowledge gained in the Autumn term.</p>	
	SUM 2				
4	AUT		<p>We Are Game Designers (3)</p> <p>Children are to produce a simple racing car game through the use of scratch coding. Children make a simple backdrop, a racing car and a track. They then follow a set code to make the car navigate the track building on the skills learnt in YR 3 where they had to make a character move in different directions. Children will also get to improve their debugging knowledge from YR 3 by fixing any issues that may occur during this process.</p> <p>We are html editors (2)</p> <p>Children are introduced to the difference between the web and the internet. They consider how a webpage works and the html (hypertext mark-up language)</p>	<p>Avatars/Password set up for personal accounts (2)</p> <p>Children to create an avatar to protect their identity and understand why this might be beneficial when using social media or other online channels</p> <p>This is recapping the e-safety linked to identity from Year 3.</p> <p>As a part of this short unit, children also review their personal accounts that were set up for them in YR 3 such as IXL, TT rockstars and AR. They check that their passwords still work and we discuss the importance of password protection, logging off an account/site properly and what to do if you think that someone may have accessed your personal account.</p>	

[Type here]

			allows the site to look and perform. Children then get to modify existing web pages by altering the html via visual inspector. This has strong links to e-safety in terms of not believing everything you believe on a website and the importance of security online.		
SPR 1	We Are Co-authors (3) Children are to learn about and create their own wiki page using google sites. They will do this on the Vikings (which they have learnt about in history). They are taught about how these pages are an online community which a user may have produced collaboratively and the responsibility associated with doing this and the need for accuracy. Children are also exposed to creating text boxes, adding images, changing backgrounds and adding additional pages to their wiki.				
SPR 2/SUM 1					Google Earth/Maps (4.5) Children are learning how to use search technologies (google earth and maps) effectively by searching for postcodes of famous landmarks in the UK from a sheet provided by the teacher. They practice using zoom and pan skills to help with this. Children also use important computing skills such as copy and paste to have a record of what they find and this is saved on a publisher document with captions to describe what they have found. Children will repeat this process with areas off interest within the local community to consolidate the skills and knowledge taught in this unit. These skills will be used in Year 5 and 6 for CV publishing and updating linking to real and relevant use of computing.
SUM 2					We are Meteorologists (spreadsheets) (2.5) Children will enter data about historic weather onto their spreadsheet. They will learn how to sum and total their results. They will then make at least 2 graphs to show their findings and to write a brief summary of the strengths and weaknesses of each graph. This is building on knowledge and skills learnt in the YR 3 pollsters' unit which used a spreadsheet to analyse the poll.

5	AUT	<p>We Are Experienced Communicators (6.5)</p> <p>Building on from the 'we are communicators' unit in Year 3 which used emails and video calls, the year 5s will take this further by using emails and video calls in a professional context. This will be achieved by organising a formal video conference; using emails in a professional context and planning, filming and uploading a video to respond to formal questions. By establishing a real and relevant context through setting up the children as companies, an opportunity can be created to engage with this form of communication technology in a professional and 'work ready' way. This module also links in to the 'relationships' strand of ACRO, linking to 'working with others, communication and participation.</p>	<p>Game Developing (7)</p> <p>Building on from year 3 and 4 children will use what they have learnt to design and create a more sophisticated game. By using storyboards and flowcharts children will design sprites, backdrops and sounds. Children will then code and debug the game over the next few lessons. Children have more freedom of choice than the year 4 game to add more sprites and codable items such as scores and multiplayer features to make a more complex game.</p>		
	SPR 1				<p>We Are Architects (6)</p> <p>Children will design a single storey building and then create it using Minecraft. This provides real and relevant experiences of design and architecture including aesthetics and spatial awareness. This also introduces the children to 3d software to be used later in year 6 (kodu game).</p>
	SPR 2/SUM 1		<p>Scratch Coding – Shapes (5.5)</p> <p>This unit will focus on using events, repetition and variables to create and activate code within Scratch. This will build on the knowledge used in the 'Game Developing' module and will focus on moving a sprite around a screen using repeated algorithms and variables. The module will allow children to tackle a larger problem by breaking the required algorithm into smaller chunks.</p>	<p>We Are Bloggers (5)</p> <p>Children will design and make a blog on Google sites based on knowledge learnt from a previous foundation subject in that school year. They will learn about e-safety relating to communicating via blogs. This will lead on from the YR 4 wiki unit and covers a user's responsibility when publishing online, the importance of accurate content being added and how to respond to online feedback on something that they post. By using Google sites learners also have the opportunity to improve the knowledge and skills taught using this software in year 4 and can take it on further by adding video links and higher quality design features.</p>	
	SUM 2		<p>Introduction to 3D coding environments (2)</p> <p>This module will introduce children to a 3D coding environment and introduce them to type commands. This will prepare them for using this type of coding in 'We Are Experienced Architects' in year 6.</p>		<p>CV publishing (5)</p> <p>Children build on the skills taught from the google earth/maps YR 4 unit to create a publisher document as a means of producing a CV. This will include developing their ability to add text boxes, images and experiment with different fonts and effects.</p>
6	AUT		<p>We Are Experienced Architects (7.5)</p> <p>This module will build on the knowledge gained throughout the previous coding modules of using movement and repetition within 2D coding. This knowledge will be transferred onto a 3D coding</p>	<p>E-Safety (4)</p> <p>This module is to be delivered at the start of each new term in 1-hour slots and then again as a 20-minute refresher before each end of term holiday. It is centred around online communications such as WhatsApp, snapchat, Facebook messenger etc. It is to promote the</p>	

		environment. It will also allow children to use more 'type command' coding, which is widely used within computer programming. By using 'type command' coding, children are using abstraction. This is where the surface level code hides the mechanics behind it.	safe and positive use of these technologies as well as alerting children to school policy/age legislation when doing so and giving them the tools and knowledge to be able to report anything that is abusive, offensive, hurtful or harmful.	
	SPR 1			Spreadsheets theme park design (6) Building on from the YR 4 spreadsheet unit, children will use the skills that they have acquired to enter data into columns and rows. They will explore basic formulas such as sum to total profit/loss and future forecasting. Presenting this on a graph to consider how successful they were in this project.
	SPR 2/SUM 1	Scratch Algorithms – number guessing game (5) Building on from the previous coding units taught throughout their time at Chesswood, children have the chance to create their own algorithm for a number generator using variables and 'if', 'then' and 'repeat until' commands. This will involve testing and debugging cycles to ensure that they have created the most efficient algorithm possible. Children will explore linear algorithms and binary algorithms to see how and why they are used.		
	SUM 2	Kodu game (6) Following on from the previous unit and using all of the knowledge and skills learnt in the different coding units throughout the school, children will create a world in Kodu. They will design and create characters and objects which use sequence, selection, repetition and variables to create a game. They will detect and correct errors in their game by using all of the debugging experience that they have acquired in the three years previously. They will also use iterative development techniques (making and testing a series of small changes) to improve their game whilst ensuring that it still works.		CV Updating (2) Children will revisit learning from Year 5 and will add further information onto their CV, this is to focus on the ACRO skills (real and relevant for secondary education and beyond) already being visited earlier in the school which can then be utilised through computing to build on skills previously learnt in creating a publisher document as a means of producing a CV. This will include reviewing what is on there to see if it is still accurate. Adding highlights from Year 5 as well as aspirations for the future. They can do this by developing their CV with up to date images, changing fonts and backgrounds and generally presenting this in a more grown up way to reflect their transition to KS3.