Whale Hill Primary School 2020-2021
Subject Overview
Computing

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Year Group	Autumn term	Spring Term	Summer Term	Resources	Location
EYFS	Use a Bee Bot/programmable toy			Bee Bots/iPads	Classroom/iPads
	Use paint programme to make a picture (change pen, size of mark) – on IWB and standalone with mouse			2Paint	Classroom/ICT Suite
	Use a keyboard to type name/simple words Use a mouse to access a simple program by move and click			2Simple/Purple Mash	ICT Suite

	Use a simple data program to collect information	2Simple/Purple Mash	Classroom/ICT Suite
	Know some different examples of ICT in everyday life		Classroom
	Use a camera to take a photograph	iPads/Camera	Classroom

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One	**Unit 1: Online Safety** Link Self Image and identity • I can recognise that there may be people online who could make me feel sad embarrassed or upset • If something happens that makes me feel sad, worried or frightened I can give examples of when and how to speak to an adult I trust. Online relationships • I can use the internet with adult support to communicate with people I know • I can explain why it is important to be kind and considerate to people online. Health, Well-being and Lifestyle • I can explain rules to keep us safe when we are using technology both in and beyond the home. • I can give examples of some of these rules **Privacy and Security**	**Unit 3: Coding** Link **Bee Bots** Children learn how to construct algorithms through programming Bee-Bots with instructions to meet a specific goal.	**Unit 5: ICT** Link **Digital Writing** During this unit, learners will develop their understanding of the various aspects of using a computer to create and manipulate text. Learners will become more familiar with using a keyboard and mouse to enter and remove text. Learners will also consider how to change the look of their text, and will be able to justify their reasoning in making these changes. Finally, learners will consider the differences between using a computer to create text, and writing text on paper. They will be able to explain which method they prefer and explain their reasoning for choosing this.

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	• I can recognise more detailed examples of information that is personal to me I can explain why I should always ask a trusted adult before I share any information about myself online.		
Resources		Bee Bots	2Simple
Location	Classroom or ICT Suite	Classroom or ICT Suite	ICT Suite
	Unit 2: ICT **Link** **Technology around us** In this unit, learners will develop their understanding of technology and how it can help us. They will start to become familiar with the different components of a computer by developing their keyboard and mouse skills. Learners will also consider how to use technology responsibly.	**Unit 4: ICT** **Link** **Digital Painting** During this unit, learners develop their understanding of a range of tools used for digital painting. They then use these tools to create their own digital paintings, while gaining inspiration from a range of artists' work. The unit concludes with learners considering their preferences when painting with and without the use of digital devices.	**Unit 6: Coding** **Link** **Scratch Jr** During this unit the children will begin to explore the program: Scratch jr. The children will be working on the following: • Writing an algorithm • Adding sprites • Making sprites move • Changing backgrounds • Making their program repeat

			• Using speech in their program Using sequencing in a program
Resources		2Paint	Scratch Jr (APP)
Location	Classroom or ICT Suite	ICT Suite	iPads

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Two	**Unit 1: Online Safety** Link **Self-Image and Identity** • I can explain how other people's identity online can be different to their identity in real life. • I can describe ways in which people might make themselves look different online. **Health, Wellbeing and Lifestyle** • I can explain simple guidance for using technology in different environments and settings. • I can say how those rules/ guides can help me **Privacy and Security** • I can describe how online information about me could be seen by others. • I can describe and explain some rules for keeping my information private. • I can explain what passwords are and can use passwords for my accounts and devices. • I can explain how many devices in my home could be connected to the internet and can list some of those devices. **Online relationships**	**Unit 3: Coding** Link **Scratch Jr** During this unit the children will begin to explore the program: Scratch jr. The children will be working on the following: • Writing an algorithm • Adding sprites • Making sprites move • Changing backgrounds • Making their program repeat • Using speech in their program • Using sequencing in a program	**Unit 5: ICT** Link **Making music** In this unit, learners will be using a computer to create music. They will listen to a variety of pieces of music and consider how music can make them think and feel. Learners will compare creating music digitally and non-digitally. Learners will look at patterns and purposefully create music.

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	• I can use the internet to communicate with people I don't know well. • I can give examples of how I might use technology to communicate with others.		
Resources		Scratch Jr (App)	Chrome Music Lab (Web Page)
Location	Classroom	iPads	ICT Suite

	Unit 2: ICT **Link** **IT around us** In this unit, learners will look at information technology at school and beyond, in settings such as shops, hospitals, and libraries. Learners will investigate how information technology improves our world, and they will learn about using information technology responsibly.	**Unit 4: ICT** **Link** **Digital photography** Through the lessons in this unit, learners will learn to recognise that different devices can be used to capture photographs and will gain experience capturing, editing, and improving photos. Finally,	**Unit 6: Coding** **Link** **Scratch Jr** During this unit the children will built on what they have previously learned to complete a range of projects. The children will: • Animate a sprite • Make sprites appear and disappear • Use a repeat block • Control a sprite's actions

		they will use this knowledge to recognise that images they see may not be real.	• Change the size of a sprite • Use messaging to control a sprite
			Create a game.
Resources	Computers	iPads	iPads
Location	ICT Suite	Classroom	Classroom

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Three	**Unit 1: Online Safety** Link **Self Image and identity** • I can explain how other people's identity online can be different to their identity in real life • I can give examples of issues online that might make me feel sad, worried or frightened; I can give examples of how I might get help. • I can describe ways in which people might make themselves look different online. **Online Relationships** • I can use the internet to communicate with people I don't know well. • I can give examples of how I might use technology to communicate with others I don't know well. **Health, Well-being and Lifestyle** • I can explain simple guidance for using technology in different environments and settings. • I can say how those rules/ guides can help me. **Privacy and Security** • I can describe how inline information about me could be seen by others. • I can explain what passwords are and can use passwords for my accounts and devices	**Unit 3: ICT** Link **Desktop Publishing** During this unit, learners will become familiar with the terms 'text' and 'images' and understand that they can be used to communicate messages. They will use desktop publishing software and consider careful choices of font size, color and type to edit and improve pre-made documents. Learners will be introduced to the terms 'templates', 'orientation', and 'placeholders' and begin to understand how these can support them in making their own template for a magazine front cover. They will start to add text and images to create their own pieces of work using desktop publishing software. Learners will look at a range of page layouts thinking carefully about the	**Unit 5: Coding** Link **Rock Music** During this unit, the children will be introduced to the software: Scratch. This is building on from their work in Scratch Jr. from KS1. In this unit the children will: • Create a project in scratch • Change the backdrop in the project • Add sound to a sprite • Change the sound of a sprite • Change a sprite's costume • Create an animation with sound.

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	• I can explain how many devices in my home could be connected to the internet and can list some of those devices. I can describe and explain some rules for keeping my information private.	purpose of these and evaluate how and why desktop publishing is used in the real world.	
Resources		Microsoft Publisher	Scratch
Location	Classroom	ICT Suite	ICT Suite

	Unit 2: ICT **Link** **Connecting Computers** During this unit, learners develop their understanding of digital devices, with an initial focus on inputs, processes, and outputs. They also compare digital and non-digital devices. Following this, learners are introduced to computer networks, including devices that make up a network's infrastructure, such as wireless access points and switches. The unit concludes	**Unit 4: Coding** **Link** **Lost in Space** During this unit, the children will be introduced to the software: Scratch. This is building on from their work in Scratch Jr. from KS1. In this unit the children will: • Create a scratch project • Animate a sprite • Use repetition	**Unit 6: ICT** **Link** **Stop Frame Animation** During this unit, learners will use a range of techniques to create a stop frame animation using tablets. Next, they will apply those skills to create a story-based animation. This unit will conclude with

	with learners discovering the benefits of connecting devices in a network.	• Edit a sprite • Change the size of a sprite	learners adding other types of media to their animation, such as music and text.
		Test and debug.	
Resources	Paint program (paint.net?) and iPads	Scratch	Imotion (app) iPads
Location	Classroom or ICT Suite	ICT Suite	Classroom

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Four	**Unit 1: Online Safety** Link **Self-Image and Identity** • I can explain how my online identity can be different to the identity I present in real life. • Knowing this, I can describe the right decisions about how I interact with others and how others perceive me. **Online relationships** • I can describe strategies for safe and fun experiences in a range of online social environments • I can give examples of how to be respectful to others online. **Health, Well-being and Lifestyle** • I can explain how using technology can distract me from other things I might do or should be doing. • I can identify times or situations when I might need to limit the amount of time I use technology. • I can suggest strategies to help me limit this time. **Privacy and Security** • I can explain what a strong password is. • I can explain that others online can pretend to be me or other people including my friends. • I can explain how internet use can be monitored	**Unit 3:** Link **Chat Box** During this unit the children will be using the software: Scratch. They will be familiar with the program from previous work and will continue to build their coding skills on the software. In this unit the children will: • Plan and design a chatbox • Create and use a variable • Ask a question in Scratch • Use Selection Test and debug a program.	**Unit 5: ICT** Link **Audio Editing** In this unit, learners will initially examine devices capable of recording digital audio, which will include identifying the input device (microphone) and output devices (speaker or headphones) if available. Learners will discuss the ownership of digital audio and the copyright implications of duplicating the work of others. In order to record audio themselves, learners will use Audacity to produce a podcast, which will include editing their work, adding multiple tracks, and opening and saving the audio files. Finally, learners will evaluate their work and give feedback to their peers.

	• I can describe strategies for keeping my personal information private depending on context I can suggest reasons why they might do this.		
Resources		Scratch	Audacity - Microphones
Location	Classroom	ICT Suite	ICT Suite

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	Unit 2: ICT **Link** **The Internet** During this unit learners will apply their knowledge and understanding of networks, to appreciate the internet as a network of networks which need to be kept secure. They will learn that the World Wide Web is part of the internet, and be given opportunities to explore the World Wide Web for themselves to learn about who owns content and what they can access, add, and create. Finally they will evaluate online content to decide how honest, accurate, or reliable it is, and understand the consequences of false information.	**Unit 4: Coding** **Link** **Boat Race** During this unit the children will be using the software: Scratch. They will be familiar with the program from previous work and will continue to build their coding skills on the software. In this unit the children will: • Trace code and understand what it does • Use repetition and selection • Use a variable to create a times • Introduce challenge to the game Add extra functionality to the game.	**Unit 6: ICT** **Link** **Photo Editing** In this unit, learners will develop their understanding of how digital images can be changed and edited, and how they can then be resaved and reused. They will consider the impact that editing images can have, and evaluate the effectiveness of their choices.
Resources	Internet	Scratch	Paint.net or befunky (app)
Location	ICT Suite or Classroom	ICT Suite	ICT Suite or classroom

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Five	**Unit 1: Online Safety** Link **Self-Image and Identity** • I can explain how identity online can be copied, modified or altered. • I can demonstrate responsible choices about my online identity depending on context. **Online relationships** • I can explain that there are some people I communicate with online who may want to do me or my friends harm. I can recognise that this is not my/ our fault. • I can make positive contributions and be part of online communities. • I can describe some of the communities in which I am involved and describe how I collaborate with others positively. **Health, Well-being and Lifestyle** • I can describe ways technology can affect healthy sleep and can describe some of the issues. • I can describe some strategies, tips or advice to promote healthy sleep with regards to technology **Privacy and Security** • I can create and use strong and secure passwords. • I can explain how many free apps or services may read and share my private information.	**Unit 3: Coding** Link **Space Junk** During this unit the children will be using the software: Scratch. They will be familiar with the program from previous work and will continue to build their coding skills on the software. In this unit the children will: • Discuss how a game works • Control a sprite using input • Use collision detection • Add a timer to the game • Add 2 player functionality.	**Unit 5: ICT** Link **Vector Drawing** In this unit learners will find out that vector images are made up of shapes. They will learn how to use the different drawing tools and how images are created in layers. They will explore the ways in which images can be grouped and duplicated to support them in creating more complex pieces of work. This unit is planned using the Google Drawings app other alternative pieces of software are available.

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	I can explain how and why some apps may request or take payment for additional content and explain why I should seek permission from a trusted adult before purchasing.		
Resources		Scratch	Google Drawing/Publisher
Location	Classroom	ICT Suite	ICT Suite

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	Unit 2: ICT **Link** **Sharing Information** In this unit, learners will develop their understanding of computer systems and how information is transferred between systems and devices. Learners will consider small-scale systems as well as large-scale systems. They will explain the input, output, and process aspects of a variety of different real-world systems. Learners will also take part in a collaborative online project with other class members and develop their skills in working together online.	**Unit 4: Coding** **Link** **Dots game** During this unit the children will be using the software: Scratch. They will be familiar with the program from previous work and will continue to build their coding skills on the software. In this unit the children will: • Create a sprite • Clone a sprite • Add difficulty to a game • Add a high score to a game • Make the game more enjoyable Add an interface to a game.	**Unit 6:ICT** **Link** **Video Editing** This unit gives learners the opportunity to learn how to create short videos in groups. As they progress through this unit, they will be exposed to topic-based language and develop the skills of capturing, editing, and manipulating video. Active learning is encouraged through guided questions and by working in small groups to investigate the use of devices and software. Learners are guided with step-by-step support to take their idea from conception to completion. At the teacher's discretion, the use of green screen can be incorporated into this unit. At the conclusion of the unit, learners have the opportunity to reflect on and assess their progress in creating a video.
Resources	Google slides (MS Powerpoint?)	Scratch	iPads
Location	ICT Suite	ICT Suite	Classroom

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Six	**Unit 1: Online Safety** Link **Self-Images and Identity** • I can describe ways in which media can shape ideas about gender. • I can describe issues online. I know and can give examples of how I might get help both on and offline. • I can identify messages about gender roles and make judgements based on them. • I can challenge and explain why it is important to reject inappropriate messages about gender online. • I can explain why I should not be afraid to keep asking until I get the help I need. **Online Relationships** • I can show I understand my responsibilities for the well-being of others in my online social group. • I can explain how impulsive and rash communications online may cause problems. • I can demonstrate how I would support others online. • I can demonstrate ways of reporting problems online for both myself and my friends. **Health, Well-being and Lifestyle** • I can describe common systems that regulate age-related content and describe their purpose. • I can access and action different strategies to limit the impact of technology on my health. • I can explain the importance of self-regulating my use of technology; I can demonstrate the strategies I use to do this. **Privacy and Security** • I can use different passwords for a range of different online services. • I can explain what app permissions are and can give some examples from technology or services I use. • I can describe effective strategies for managing those passwords • I know what to do if my password is lost or stolen	**Unit 3: Coding** **Lego Robots** Children will follow instructions to build a robot. They will then program the robot to carry our a series of tasks.	**Unit 5: ICT** Link **Web Page Creation** This unit introduces learners to the creation of websites for a chosen purpose. Learners identify what makes a good web page and use this information to design and evaluate their own website using Google Sites. Throughout the process learners pay specific attention to copyright and fair use of media, the aesthetics of the site, and navigation paths.

	• I can describe ways to increase privacy on apps and services that provide privacy settings. • I can describe ways in which some online content targets people to gain money or information illegally; I can describe strategies to help me identify such content.		
Resources		Lego Mindstorm kits	iPads
Location	Classroom	Classroom	Classroom

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	Unit 2: ICT **Link** **Communication** In this unit, the class will learn about the World Wide Web as a communication tool. First, they will learn how we find information on the World Wide Web, through learning how search engines work (including how they select and rank results) and what influences searching, and through comparing different search engines. They will then investigate different methods of communication, before focusing on internet-based communication. Finally, they will evaluate which methods of internet communication to use for particular purposes.	**Unit 4: Coding** **Link** **Memory Game** During this unit the children will be using the software: Scratch. They will be familiar with the program from previous work and will continue to build their coding skills on the software. In this unit the children will: • Plan an interactive game • Create a list • Add items to a list • Use broadcast as a notification • Create and use a variable to track scores	**Unit 6: Coding** **Link** **Project** Children will be given the freedom to complete a project of their choice. They may choose from the options on the webpage link or they may choose to build something from scratch using what they have learnt in previous years.
		Create and use a variable to track high scores	
Resources		Scratch	Scratch
Location	Classroom	ICT Suite	ICT Suite

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