Computing long term plan

Autumn 1	Online safety
Autumn 2	Computing systems/networks
Spring 1	Programming
Spring 2	Creating media
Summer 1	Creating media
Summer 2	Databases

Year 1

	Overview	NC link	Educating for a connected world link	Vocabulary
Autumn 1- online safety				
Autumn 2- Technology around us **Digital literacy**	Learners will develop their understanding of technology and how it can help them in their everyday lives. 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.	○ Use technology purposefully to create, organise, store, manipulate and retrieve digital content. ○ Recognise common uses of information technology beyond school. ○ 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.	**Health, well-being and lifestyle** I can identify rules that help keep us safe and healthy in and beyond the home when using technology. I can give some simple examples. **Copyright and ownership** I know that the work I create belongs to me.	technology, computer, mouse, trackpad, keyboard, screen, double-click, typing.

			I can name my work so that others know it belongs to me	
Spring 1- Programming animations **Computer science**	Learners will be introduced to on-screen programming through ScratchJr. Learners will explore the way a project looks by investigating sprites and backgrounds. They will use programming blocks to use, modify, and create programs. Learners will also be introduced to the early stages of program design through the introduction of algorithms.	○ Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions. ○ Create and debug simple programs. ○ Use logical reasoning to predict the behaviour of simple programs. ○ Use technology purposefully to create, organise, store, manipulate and retrieve digital content		ScratchJr, command, sprite, compare, programming, area, block, joining, start, run, program, background, delete, reset, algorithm, predict, effect, change, value, instructions, design.
Spring 2- digital painting **Information technology**	Learners will 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	○ use technology purposefully to create, organise, store, manipulate and retrieve digital content.		paint program, tool, paintbrush, erase, fill, undo, shape tools, line tool, fill tool, undo tool, colour, brush style, brush size, pictures, painting, computers.

Digital literacy	preferences when painting with and without the use of digital devices.			
Summer 1- Digital writing **Information technology** **Digital literacy**	Learners will develop their understanding of the various aspects of using a computer to create and manipulate text. They 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.	○ 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 or other online technologies.	**Privacy and security** I can give reasons why I should only share information with people I choose to and can trust. (Y1)	word processor, keyboard, keys, letters, type, numbers, space, backspace, text cursor, capital letters, toolbar, bold, italic, underline, mouse, select, font, undo, redo, format, compare, typing, writing.
Summer 2- grouping data	This unit introduces learners to data and information. Labelling, grouping, and searching are important aspects of data and		**Copyright and ownership** I know that work I create belongs to me (Y1)	object, label, group, search, image, property, colour, size, shape, value, data set,

Digital literacy **Information technology**	information. Searching is a common operation in many applications, and requires an understanding that to search data, it must have labels. This unit of work focuses on assigning data (images) with different labels to demonstrate how computers are able to group and present data.		I can name my work so that others know it belongs to me (Y1)	more, less, most, fewest, least, the same

Year 2-

	Overview	NC link	Educating for a connected world link	Vocabulary
Autumn 1- online safety				
Autumn 2- information technology around us **Digital literacy**	Learners will develop their understanding of what information technology (IT) is and will begin to identify examples. They will discuss where they have seen IT in school and beyond, in settings such as shops, hospitals, and libraries. Learners will then investigate how IT improves our world, and they will learn about the importance of using IT responsibly.	○ Use technology purposefully to create, organise, store, manipulate, and retrieve digital content. ○ Recognise common uses of information technology beyond school. ○ 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	**Health, well-being, and lifestyle** I can identify rules that help keep us safe and healthy in and beyond the home when using technology. I can give some simple examples.	Information technology (IT), computer, barcode, scanner/scan

Spring 1- Robot algorithms **Computer science** **Digital literacy**	This unit develops learners' understanding of instructions in sequences and the use of logical reasoning to predict outcomes. Learners will use given commands in different orders to investigate how the order affects the outcome. They will also learn about design in programming. They will develop artwork and test it for use in a program. They will design algorithms and then test those algorithms as programs and debug them.	○ Understand what algorithms are, how they are implemented as programs on digital devices, and that programs execute by following precise and unambiguous instructions. ○ Create and debug simple programs. ○ Use logical reasoning to predict the behaviour of simple programs		instruction, sequence, clear, unambiguous, algorithm, program, order, prediction, artwork, design, route, mat, debugging, decomposition
Spring 2- digital music **Information technology**	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.	○ Use technology purposefully to create, organise, store, manipulate, and retrieve digital content	**Copyright and ownership** I know that work I create belongs to me.	music, quiet, loud, feelings, emotions, pattern, rhythm, pulse, pitch, tempo, rhythm, notes, create, emotion, beat, instrument, open, edit.
Summer 1- Digital photography	Learners will learn to recognise that different devices can be used to capture photographs and will gain experience capturing, editing, and	○ Use technology purposefully to create, organise, store,	To identify that some images are not real (fake)	device, camera, photograph, capture, image, digital, landscape, portrait,

Information technology **Digital literacy**	improving photos. Finally, they will use this knowledge to recognise that images they see may not be real.	manipulate, and retrieve digital content. ○ Recognise common uses of information technology beyond school. ○ 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.		framing, subject, compose, light sources, flash, focus, background, editing, filter, format, framing, lighting,
Summer 2- pictograms **Information technology** **Digital literacy**	Learners will begin to understand what the term data means and how data can be collected in the form of a tally chart. They will learn the term 'attribute' and use this to help them organise data. They will then progress onto presenting data in the form of pictograms and finally block diagrams. Learners will use the	○ use technology purposefully to create, organise, store, manipulate and retrieve digital content ○ use technology safely and respectfully, keeping personal information private; identify where to	**Self image and identity** I can recognise that I can say 'no'/'please stop'/'I'll tell'/'I'll ask' to somebody who asks me to do something that makes me feel sad, embarrassed or upset	more than, less than, most, least, common, popular, organise, data, object, tally chart, votes, total, pictogram, enter, data, compare, objects, count, explain, attribute, group, same,

	data presented to answer questions.	go for help and support when they have concerns about content or contact on the internet or other online technologies.	I can explain how this could be either in real life or online If something happens that makes me feel sad, worried, uncomfortable, or frightened I can give examples of when and how to speak to an adult I can trust **Health, wellbeing and lifestyle** I can identify rules that help keep us safe and healthy in and beyond the home when using technology **Privacy and security** I can identify some simple examples of my personal information. I can describe the people I can trust and can share this with; I can explain why I can trust them	different, conclusion, block diagram, sharing

			I can recognise more detailed examples of information that is personal to me.	

Year 3-

	Overview	NC link	Educating for a connected world link	Vocabulary
Autumn 1- online safety				
Autumn 2- Connecting computers Digital literacy	Learners will develop their understanding of digital devices, with an initial focus on inputs, processes, and outputs. They will also compare digital and non-digital devices. Next, learners will be introduced to computer networks, including devices that make up a network's infrastructure, such as wireless access points and switches. Finally, learners will discover the benefits of connecting devices in a network.	○ use sequence, selection, and repetition in programs; work with variables and various forms of input and output ○ understand computer networks including the internet; how they can provide multiple services, such as the World Wide Web; and the opportunities they offer		digital device, input, process, output, program, digital, non-digital, connection, network, switch, server, wireless access point, cables, sockets

		for communication and collaboration ○ 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		
Spring 1- Events and actions **Computer science**	This unit explores the links between events and actions, while consolidating prior learning relating to sequencing. Learners begin by moving a sprite in four directions (up, down, left, and right). They then explore movement within the context of a maze, using design to choose an appropriately sized sprite. This unit also	○ 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		motion, event, sprite, algorithm, logic, move, resize, extension block, pen up, set up, pen, design, action, debugging, errors, setup, code, test, debug, actions.

	introduces programming extensions, through the use of **Pen** blocks. Learners are given the opportunity to draw lines with sprites and change the size and colour of lines. The unit concludes with learners designing and coding their own maze-tracing program.	programs; work with variables and various forms of input and output ○ Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs ○ 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		

Spring 2- stop frame animations **Information technology** **Digital literacy**	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 learners adding other types of media to their animation, such as music and text.	○ 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 technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.	**Managing online information** I can use key phrases in search engines. I can use search technologies effectively. **Copyright and ownership** I can explain why copying someone else's work from the internet without permission can cause problems. I can give examples of what those problems might be. When searching on the internet for content to use, I can explain why I need to consider who owns it and whether I have the right to reuse it. I can give some simple examples. I can give examples of content that is permitted to be reused. I can demonstrate the use of search tools to find and access online content which can be reused by others.	animation, flip book, stop- frame, frame, sequence, image, photograph, setting, character, events, onion skinning, consistency, evaluation, delete, media, import, transition.

Summer 1- desktop publishing **Information technology** **Digital literacy**	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, colour and type to edit and improve premade 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 purpose of these and evaluate how and why desktop publishing is used in the real world.	○ Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content ○ 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	**Managing online information** I can use key phrases in search engines I can use search technologies effectively **Copyright and ownership** When searching on the internet for content to use, I can explain why I need to consider who owns it and whether I have the right to reuse it I can demonstrate the use of search tools to find and access online content which can be reused by others	text, images, advantages, disadvantages, communicate, font, style, landscape, portrait, orientation, placeholder, template, layout, content, desktop publishing, copy, paste, purpose, benefits.
Summer 2- Branching databases	Learners will develop their understanding of what a branching database is and how to create one. They will use yes/no questions to gain an understanding of what	○ select, use and combine a variety of software (including internet services) on a range of digital devices to design		attribute, value, questions, table, objects, branching, database, objects, equal, even,

Digital literacy	attributes are and how to use them to sort groups of objects. Learners will create physical and on-screen branching databases. To conclude the unit, they will create an identification tool using a branching database, which they will test by using it. They will also consider real-world applications for branching databases.	and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information ○ use technology safely, respectfully and responsibly		separate, structure, compare, order, organise, selecting, information, decision tree.

Year 4-

	Overview	NC link	Educating for a connected world link	Vocabulary
Autumn 1- online safety				
Autumn 2- The internet **Digital literacy**	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 will be given opportunities to explore the World Wide Web for themselves in order 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	○ Understand computer networks including the internet; how they can provide multiple services, such as the World Wide Web, and the opportunities they offer for communication and collaboration ○ Use search technologies effectively, appreciate how results are selected and ranked, and be discerning	**Managing online information** I can analyse information to make a judgement about probable accuracy, and I understand why it is important to make my own decisions regarding content and that my decisions are respected by others. I can explain what is meant by fake news, e.g. why some people will	internet, network, router, security, switch, server, wireless access point (WAP), website, web page, web address, routing, web browser, World Wide Web, content, links, files, use, download, sharing, ownership, permission, information, accurate, honest, content, adverts.

	is, and understand the consequences of false information.	in evaluating digital content ○ 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 technology safely, respectfully, and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.	create stories or alter photographs and put them online to pretend something is true when it isn't. I can describe ways of identifying when online content has been commercially sponsored or boosted, (e.g. by commercial companies or by vloggers, content creators, or influencers). I can describe how fake news may affect someone's emotions and behaviour, and explain why this may be harmful.	

Spring 1- repetition in shapes **Computer science**	Learners will create programs by planning, modifying, and testing commands to create shapes and patterns. They will use Logo, a text-based programming language. This unit is the first of the two programming units in Year 4, and looks at repetition and loops within programming	○ 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 ○ Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs ○ 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,		Logo (programming environment), program, turtle, commands, code snippet, algorithm, design, debug, pattern, repeat, repetition, count-controlled loop, value, trace, decompose, procedure

		evaluating and presenting data and information		
Spring 2- photo editing **Information technology** **Digital literacy**	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.	○ 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 technology safely, respectfully, and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact	**Self-image and identity** I can describe ways in which people might make themselves look different online	image, edit, digital, crop, rotate, undo, save, adjustments, effects, colours, hue, saturation, sepia, vignette, image, retouch, clone, select, combine, made up, real, composite, cut, copy, paste, alter, background, foreground, zoom, undo, font.

Summer 1- audio production **Information technology** **Digital literacy**	Learners will identify the input device (microphone) and output devices (speaker or headphones) required to work with sound digitally. 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.	○ Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content ○ 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 technology safely, respectfully, and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report	**Copyright and ownership** I can explain why copying someone else's work from the internet without permission can cause problems (Y3) I can give examples of what those problems might be (Y3) When searching on the internet for content to use, I can explain why I need to consider who owns it and whether I have the right to reuse it (Y4) I can give some simple examples (Y4)	audio, microphone, speaker, headphones, input device, output device, sound, podcast, edit, trim, align, layer, import, record, playback, selection, load, save, export, MP3, evaluate, feedback.

		concerns about content and contact		
Summer 2- Data logging **Digital literacy**	In this unit, learners will consider how and why data is collected over time. Learners will consider the senses that humans use to experience the environment and how computers can use special input devices called sensors to monitor the environment. Learners will collect data as well as access data captured over long periods of time. They will look at data points, data sets, and logging intervals. Learners will spend time using a computer to review and analyse data. Towards the end of the unit, learners will pose questions and then use data loggers to automatically collect the data needed to answer those questions.	○ Use sequence, selection, and repetition in programs; work with variables and various forms of input and output ○ 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		data, table, layout, input device, sensor, logger, logging, data point, interval, analyse, dataset, import, export, logged, collection, review, conclusion

Year 5-

	Overview	NC link	Educating for a connected world link	Vocabulary
Autumn 1- online safety				
Autumn 2- systems and searching **Digital literacy**	Learners develop their understanding of computer systems and how information is transferred between systems and devices. Learners consider small-scale systems as well as large-scale systems. They explain the input, output, and process aspects of a variety of different real-world systems. Learners discover how information is found on the World Wide Web, through learning how search engines work (including how they select and rank results) and what influences searching,	○ Understand computer networks, including the internet; how they can provide multiple services, such as the World Wide Web, and the opportunities they offer for communication and collaboration ○ Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content	I am aware that a person's online activity, history or profile (their 'digital personality') will affect the type of information returned to them in a search or on a social media feed, and how this may be intended to influence their beliefs, actions and choices. I can explain how search engine rankings are returned and can explain how they can be influenced (e.g. commerce, sponsored results)	system, connection, digital, input, process, storage, output, search, search engine, refine, index, bot, ordering, links, algorithm, search engine optimisation (SEO), web crawler, content creator, selection, ranking.

	and through comparing different search engines.			
Spring 1- selection in physical computing **Computer science** **Digital literacy**	In this unit, learners will use physical computing to explore the concept of selection in programming through the use of the Crumble programming environment. Learners will be introduced to a microcontroller (Crumble controller) and learn how to connect and program it to control components (including output devices — LEDs and motors). Learners will be introduced to conditions as a means of controlling the flow of actions in a program. Learners will make use of their knowledge of repetition and conditions when introduced to the concept of selection (through the 'if…then…' structure) and write algorithms and programs that utilise this concept. To conclude the unit, learners will design and make a working model of a fairground	○ 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 ○ Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs ○ 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		microcontroller, USB, components, connection, infinite loop, output component, motor, repetition, count-controlled loop, Crumble controller, switch, LED, Sparkle, crocodile clips, connect, battery box, program, condition, Input, output, selection, action, debug, circuit, power, cell, buzzer

	carousel that will demonstrate their understanding of how the microcontroller and its components are connected, and how selection can be used to control the operation of the model. Throughout this unit, learners will apply the stages of programming design.	collecting, analysing, evaluating, and presenting data and information		
Spring 2- video production **Information technology** **Digital literacy**	Learners will learn how to create short videos by working in pairs or 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. Learners are guided with step-by-step support to take their idea from conception to completion. At the conclusion of the unit, learners have the opportunity to reflect on and assess their progress in creating a video.	○ Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content ○ 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		video, audio, camera, talking head, panning, close up, video camera, microphone, lens, mid-range, long shot, moving subject, side by side, angle (high, low, normal), static, zoom, pan, tilt, storyboard, filming, review, import, split, trim, clip, edit, reshoot, delete, reorder, export, evaluate, share.

		○ Use technology safely, respectfully, and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact **Internet safety** ○ Use technology safely, respectfully, and responsibly; recognise acceptable/unacceptable behaviour.		
Summer 1- vector graphics **Information technology** **Digital literacy**	In this unit, learners start to create vector drawings. They learn how to use different drawing tools to help them create images. Learners recognise that images in vector drawings are created using shapes and lines, and each individual element in the drawing is called an object. Learners layer their objects and begin grouping and duplicating them to support the creation of more complex pieces of work.	○ 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.		vector, drawing tools, object, toolbar, vector drawing, move, resize, colour, rotate, duplicate/copy, zoom, select, align, modify, layers, order, copy, paste, group, ungroup, reuse, reflection

Summer 2- flat file databases **Digital literacy**	This unit looks at how a flat-file database can be used to organise data in records. Learners will use tools within a database to order and answer questions about data. They will create graphs and charts from their data to help solve problems. They will also use a real-life database to answer a question and present their work to others.	○ Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content ○ 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.		database, data, information, record, field, sort, order, group, search, value, criteria, graph, chart, axis, compare, filter, presentation.

Year 6-

	Overview	NC link	Educating for a connected world link	Vocabulary
Autumn 1- online safety				
Autumn 2- Communication and collaboration Digital literacy	In this unit learners explore how data is transferred over the internet. Learners initially focus on addressing, before they move on to the makeup and structure of data packets. Learners then look at how the internet facilitates online communication and collaboration; they complete shared projects online and evaluate different methods of communication. Finally, they learn how to communicate responsibly by considering what	○ Understand computer networks, including the internet; how they can provide multiple services, such as the World Wide Web, and the opportunities they offer for communication and collaboration ○ Select, use and combine a variety of software (including internet services) on a range of	I can describe and assess the benefits and the potential risks of sharing information online. I can assess and justify when it is acceptable to use the work of others I can give examples of content that is permitted to be reused	communication, protocol, data, address, Internet Protocol (IP), Domain Name Server (DNS), packet, header, data payload, chat, explore, slide deck, reuse, remix, collaboration, internet, public, private, one- way, two-way, one-to-one, one-to-many.

	should and should not be shared on the internet.	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 technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact		
Spring 1- Variables in games **Computer science**	This unit explores the concept of variables in programming through games in Scratch. First, learners find out what variables are and relate them to real-world examples of values that can be set and changed. Then they use variables to create a simulation of	○ Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts		variable, change, name, value, set, design, event, algorithm, code, task, artwork, program, project, code, test, debug, improve,

	a scoreboard. In Lessons 2, 3, and 5, which follow the Use-Modify-Create model, learners experiment with variables in an existing project, then modify them, before they create their own project. In Lesson 4, learners focus on design. Finally, in Lesson 6, learners apply their knowledge of variables and design to improve their games in Scratch.	○ Use sequence, selection, and repetition in programs; work with variables and various forms of input and output ○ Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs ○ 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		evaluate, share, assign, declare

Spring 2- web page creation **Information technology** **Digital literacy**	Learners will be introduced to creating 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.	○ Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content ○ 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 technology safely, respectfully, and responsibly; recognise acceptable/unacceptable behaviour.	**Online relationships** I can use the internet with adult support to communicate with people I know. (EY-7) **Managing information online** I can navigate online content, websites, or social media feeds using more sophisticated tools to get to the information I want (e.g. menus, sitemaps, breadcrumb-trails, site search functions). (11-14) **Copyright and ownership** I can explain why copying someone else's work from the internet without permission can cause problems. I can give examples of what those problems might be.	website, web page, browser, media, Hypertext Markup Language (HTML), logo, layout, header, media, purpose, copyright, fair use, home page, preview, evaluate, device, Google Sites, breadcrumb trail, navigation, hyperlink, subpage, evaluate, implication, external link, embed.

			When searching on the internet for content to use, I can explain why I need to consider who owns it and whether I have the right to reuse it. I can give some simple examples. I can assess and justify when it is acceptable to use the work of others. I can give examples of content that is permitted to be reused. I can demonstrate the use of search tools to find and access online content which can be reused by others. I can demonstrate how to make references to and acknowledge sources I have used from the internet.	

			I can explain the principles of fair use and apply this to case studies. (11-14)	
Summer 1- 3D modelling **Information technology** **Digital literacy**	Learners will develop their knowledge and understanding of using a computer to produce 3D models. Learners will initially familiarise themselves with working in a 3D space, moving, resizing, and duplicating objects. They will then create hollow objects using placeholders and combine multiple objects to create a model of a desk tidy. Finally, learners will examine the benefits of grouping and ungrouping 3D objects, then go on to plan, develop, and evaluate their own 3D model of a building.	○ 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 technology safely, respectfully, and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report	**Strand** Lesson 1 and Lesson 3 – Privacy and Security (Y4) – I can describe strategies for keeping my personal information private, depending on context	TinkerCAD, 2D, 3D, shapes, select, move, perspective, view, handles, resize, lift, lower, recolour, rotate, duplicate, group, cylinder, cube, cuboid, sphere, cone, prism, pyramid, placeholder, hollow, choose, combine, construct, evaluate, modify.

		concerns about content and contact		
Summer 2- Spreadsheets **Digital literacy**	This unit introduces the learners to spreadsheets. They will be supported in organising data into columns and rows to create their own data set. Learners will be taught the importance of formatting data to support calculations, while also being introduced to formulas and will begin to understand how they can be used to produce calculated data. Learners will be taught how to apply formulas that include a range of cells, and apply formulas to multiple cells by duplicating them. Learners will use spreadsheets to plan an event and answer questions. Finally, learners will create charts, and evaluate their results in comparison to questions asked.	○ 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	**Managing information online** I can describe how I can search for information within a wide group of technologies (e.g. social media, image sites, video sites) I can use different search technologies I can evaluate digital content and can explain how I make choices from search results	data, collecting, table, structure, spreadsheet, cell, cell reference, data item, format, formula, calculation, spreadsheet, input, output, operation, range, duplicate, sigma, propose, question, data set, organised, chart, evaluate, results, sum, comparison, software, tools.