

# Computing Long Term Overview KS1



## Year 1

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Curriculum Strand	Computing systems and networks	Creating media	Programming A	Data and Information	Creating media	Programming B
Topic	Technology around us	Digital painting	Moving a robot	Grouping data	Digital writing	Programming animations
Unit Summary	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.	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 preferences when painting with and without the use of digital devices.	Learners will be introduced to early programming concepts. Learners will explore using individual commands, both with other learners and as part of a computer program. They will identify what each command for the floor robot does, and use that knowledge to start predicting the outcome of programs. The unit is paced to ensure time is spent on all aspects of programming, and builds knowledge in a structured manner. Learners are also introduced to the early stages of program design through the introduction of algorithms.	This unit introduces learners to data and information. Labelling, grouping, and searching are important aspects of data and 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 in order to demonstrate how computers are able to group and present data. During this unit, learners will be logging on to the computers, opening their documents, and saving their documents.	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.	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.



Vocabulary	Technology Computer, mouse, trackpad, keyboard, screen double-click, typing	paint program, tool, paintbrush, erase, fill, undo Henri Matisse, Piet Mondrian, primary colours, shape tools, line tool, fill tool, undo tool Wassily Kandinsky, tools, feelings, colour, brush style Georges Seurat, pointillism, brush size pictures, painting, computers, like, prefer, dislike	Forwards, backwards, turn, clear, go, commands Instructions, directions Left, right Plan, algorithm, program Route,	Object, label, group, search, image property, colour, size, shape value, colour, data set more, less, most, fewest least, the same	Word processor, keyboard, keys, letters, type Numbers, space, backspace, text cursor Capital letters, toolbar, bold, italic, underline Mouse, select, font Undo, redo, font, format Compare, typing, writing	ScratchJr, Bee-Bot, sprite, compare, programming, programming area Block, joining, command, <b>Start</b> block, run, program, background, delete, reset, algorithm, predict, Effect, change, value, instructions, appropriate, design
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**Year 2**

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Curriculum Strand	Computing systems and networks	Creating Media	Programming A	Data and information	Creating media	Programming B
Topic	IT around us	Digital photography	Robot Algorithms	Pictograms	Digital music	Programming quizzes



Unit Summary	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.	Learners will learn to recognise that different devices can be used to capture photographs and will gain experience capturing, editing, and improving photos. Finally, they will use this knowledge to recognise that images they see may not be real.	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.	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 data presented to answer questions.	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.	This unit initially recaps on learning from the Year 1 ScratchJr unit 'Programming B – Programming animations'. Learners begin to understand that sequences of commands have an outcome, and make predictions based on their learning. They use and modify designs to create their own quiz questions in ScratchJr, and realise these designs in ScratchJr using blocks of code. Finally, learners evaluate their work and make improvements to their programming projects.
Vocabulary	Information technology (IT), computer barcode, scanner/scan	Device, camera, photograph, capture, image, digital Landscape, portrait Framing, subject, compose, Light sources, flash, focus, background, Editing, filter, lighting,	Instruction, sequence, clear, unambiguous, algorithm, program Order, prediction, Artwork, design, route, mat, Debugging, decomposition	More than, less than, most, least, organise, data, object, tally chart, votes, total, Pictogram, enter, data, compare, count, explain, more common, least common, Attribute, group, same, different, object, conclusion block diagram, sharing, data	Music, planets, Mars, Venus, war, peace, quiet, loud, feelings, emotions Pattern, rhythm, pulse Neptune, pitch, tempo, rhythm, notes instrument, Create, pulse/beat, Open, edit	Sequence, command, program, run, start, blocks, Sprite, algorithm, design, sequence, predict Actions, project, modify, change Design, build, match Compare, debug, features, evaluate



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