



Computing Medium Term Planning

Year 1

Key Concepts Overview

Key Concepts	EYFS	Year 1	Year2	Year 3	Year 4	Year 5	Year 6
Computing systems and networks	<p>To know that a computer has a mouse and a keyboard and be able to recognise them (N)</p> <p>To use a mouse to manipulate a program (R)</p> <p>To use a keyboard and understand keys represent letters and numbers (R)</p> <p>To understand that a tablet is different to a computer in some ways (R)</p>	<p>Technology Around Us</p> <ul style="list-style-type: none"> Understand what technology is Know what technology they have in their lives Be able to use a mouse and a keyboard Be able to open a file Be able to create a typed document and save it 	<p>IT Around Us</p> <ul style="list-style-type: none"> Develop the understanding of where technology can be found in the world Be able to name the types of technology found in shops, schools and at home Understand why we use IT Understand how to use IT safely 	<p>Connecting Computers</p> <ul style="list-style-type: none"> Understand how inputs and outputs work in digital technology Understand how to use technology and inputs/outputs to achieve an aim Understand why we choose to use technology Understand the difference between digital and analogue outcomes Understand that technology connects people Begin to understand how networks connect people and how they work 	<p>The Internet</p> <ul style="list-style-type: none"> Understand how computers are physically connected in networks Start to understand the role of some of the devices in a network Know what the internet is Know what the WWW is and it is different from the internet Understand that people create web page Understand that not all information on the WWW is accurate 	<p>Sharing information</p> <ul style="list-style-type: none"> Understand what a digital system is Understand how larger computer systems work(traffic lights) Understand that the internet forms part of some systems Know what an IP address is Be able to work collaboratively online Understand how systems and networks enable collaborative working 	<p>Communication</p> <ul style="list-style-type: none"> Develop from the understanding of the internet to understand what the WWW is Be able to carry out specific searches on the WWW Understand how search engines work Understand what SEO is Know that the internet can be used to communicate Understand how to stay safe when communicating online
Creating media	<ul style="list-style-type: none"> To independently listen to digital audio (N) Take photographs using a digital device (N/R) To record video using a digital device (R) To record audio (R) 	<p>Digital Painting</p> <ul style="list-style-type: none"> To be able to digitally paint Use a range of tools to digitally paint Create a digital painting Compare digital painting to a painting on paper <p>Digital Writing</p> <ul style="list-style-type: none"> Type a document on a computer Be able to use a range of tools to digitally write Select tools to create digital writing Compare digital writing with handwriting 	<p>Digital Photography</p> <ul style="list-style-type: none"> Compose and frame an image Select images Edit images using software Produce a final image too meet a brief <p>Making Music</p> <ul style="list-style-type: none"> Discuss how music makes us feel Understand that music has patterns Create rhythms and patterns in music Use software to compose music 	<p>Stop-Frame Animation</p> <ul style="list-style-type: none"> Understand that animations are a series of photos or drawings Understand movement is created by a sequence of images Plan/storyboard an animation Create and improve an animation Evaluate an animation <p>Desktop Publishing</p> <ul style="list-style-type: none"> Understand that text and images convey information Consider layout Understand how to create and edit content Use editing tools such as copy and paste to create content Discuss the benefits of desktop publishing 	<p>Audio Editing</p> <ul style="list-style-type: none"> Understand that sound can be digitally recorded Understand what input(microphone) and output devices are speakers) Use a digital recording device Edit a digital sound file <p>Photo Editing</p> <ul style="list-style-type: none"> Understand that an image can be changed Change the composition of an image Use tools to edit images Understand that some images are fake/edited 	<p>Vector Drawing</p> <ul style="list-style-type: none"> Know how to use tools in a vector based drawing program Use tools to create drawings by combining shapes Understand that vector drawing software uses layers Understand how to group objects for easy use <p>Video Editing</p> <ul style="list-style-type: none"> Understand what makes a video effective Record video using a digital device Create a storyboard Improve video by reshooting and editing 	<p>3D Modelling</p> <ul style="list-style-type: none"> Compare 2d and 3D shapes Use modelling software to combine shapes Colour, rotate and resize shapes Design a physical object Improve designs <p>Web Page Creation</p> <ul style="list-style-type: none"> Understand that web pages are written in HTML Plan a web page design Create a web page using software Use navigation paths and consider effective links
Programming	<ul style="list-style-type: none"> Group objects by type (N) Discuss data and information and understand that things can be categorised using labels (R) Create tally charts (R) 	<p>Floor Robots</p> <ul style="list-style-type: none"> Understand what commands are Use commands to control a floor robot Choose commands to achieve a goal Understand that a program is a set of commands Debug and improve programs <p>Programming Animations</p> <ul style="list-style-type: none"> Compare floor robots to Scratch Jnr Know what block code is Know that an algorithm is a set of instructions Write code (instructions) to control a sprite 	<p>Robot Algorithms</p> <ul style="list-style-type: none"> Understand that an algorithm is a set of instructions Understand that computers read and follow algorithms without thought Make predictions about programs Understand that programs can contain code and artwork Write a program to achieve an aim <p>Programming Quizzes</p> <ul style="list-style-type: none"> Understand that programs have a start and an outcome Incorporate design in a program Edit designs in a program Refine designs in programs to meet the initial brief 	<p>Sequence in Music</p> <ul style="list-style-type: none"> Progress from Srtach Jr to Scratch Understand that commands have outcomes Change the sequence of commands Edit the program appearance Write a program from a task description <p>Events and actions</p> <ul style="list-style-type: none"> Explain how sprites move in a program Be able to move a sprite in four directions using code Adapt an existing program to fit a different context Develop and refine a program by adding features Develop a process for debugging Design and create a program that creates a maze-based challenge 	<p>Repetition in Shapes</p> <ul style="list-style-type: none"> Write code inn a text-based language Understand the role of repetition in programs Understand what a count-controlled loop is Write a program using a count-controlled loop <p>Repetition in Games</p> <ul style="list-style-type: none"> Develop the understanding of a count-controlled loop in a different environment Compare infinite loops and count-controlled loops Use loops in programs 	<p>Selection in Physical Computing</p> <ul style="list-style-type: none"> Control a simple circuit connected to a computer Write programs including controlled loops Understand that a loop can end based on a condition Write a program that includes selection <p>Selection in Quizzes</p> <ul style="list-style-type: none"> Understand that conditions control the flow of programs Link a condition statement to a condition outcome Design and create a program that uses selection 	<p>Variables in Games</p> <ul style="list-style-type: none"> Understand what variables are Know how to use variables in programs Enhance a game code using variables Write a game code using variables Evaluate projects <p>Sensing</p> <ul style="list-style-type: none"> Learn what a Micro bit is Create a program using software Install software onto Micro bit Use variables Write a code to create a compass on a Micro bit Code and debug a step counter
Data and information	<ul style="list-style-type: none"> Program a floor robot to follow a simple set of instructions (N) Completes a simple program on an electronic device to achieve a goal (beebots) (R) 	<p>Grouping Data</p> <ul style="list-style-type: none"> Understand that objects can be labelled and grouped Be able to label and group objects based on properties Choose searches and compare groups Debug and improve 	<p>Pictograms</p> <ul style="list-style-type: none"> Use tally charts to collect data Understand that data can be represented in pictograms Use software to create and analyse pictograms Group object and label groups using attributes Draw conclusions from represented data Be able to present and discuss data 	<p>Databases</p> <ul style="list-style-type: none"> Understand how 'yes/no' can sort data Understand that attributes can be used to refine data Select appropriate attributes required to find desired data Understand what a branching database is Use a branching database to sort information Compare branching databases to pictograms 	<p>Data Logging</p> <ul style="list-style-type: none"> Understand that data can be collected over time Be able to use a datalogger Know that dataloggers collect data points from sensors Select what data need to be collected Answer question using data 	<p>Flat File Databases</p> <ul style="list-style-type: none"> Create paper file databases Understand how computers file records Group data Search records Compare data using charts Select flights based on search criteria 	<p>Spreadsheets</p> <ul style="list-style-type: none"> Understand how spreadsheets organise data Manipulate data sets using spreadsheets Write and use formulas Calculate using spreadsheets Plan a budget

Year 1 Computing Yearly Overview

Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	Technology Around Us	Digital Painting	Moving A Robot	Grouping Data Digital Writing	Programming Animations

Autumn Term 2—Technology Around Us

<i>Prior Learning</i>	Children should know about: a mouse, use a keyboard, be able to open a program			
<i>End Points</i>	<ul style="list-style-type: none"> ◊ Understand what technology is ◊ Know what technology they have in their lives ◊ Be able to use a mouse and a keyboard ◊ Be able to open a file ◊ Be able to create a typed document and save it <p><u>Create a digital poster that gives advice on how to be responsible and stay safe online</u></p>			
<i>Vocabulary</i>	Mouse, keyboard, key edit, text, delete, space bar, return, file, digital, save, technology, screen, track pad, double click, typing			
Key Concept	Second Order Concepts	Lesson Sequence	Learning Objectives	Resources
Computing systems and networks	<p>Responsibility: (being safe online, using social media responsibly and respectfully, privacy, cyberbullying)</p> <p>Similarity and difference: (making comparisons, finding patterns, noting differences and drawing conclusions)</p> <p>Cause and consequence: (inputs and outputs, programming)</p> <p>Significance: (significant inventions, significant figures from the world of computing)</p> <p>Chronology: (changes in technology over time, inventions, future technology)</p>	Lesson1	I can identify technology Learners will become familiar with the term 'technology'. They will classify what is and what is not technology in their school and/or classroom. Learners will demonstrate their understanding of how technology helps us in different ways.	L1 Slides A1 Handout – Is it technology? (printed and images cut out if appropriate) A1 Solutions – Is it technology? A1 – glue A2 – sticky notes (optional) A3 Worksheet – How technology helps us (page 1 should be printed, page 2 optional)
		Lesson 2	I can identify a computer and its main parts Learners will get to know the main parts of a desktop or laptop computer. They will practise turning on and logging in to a computer. The learners will apply their knowledge of the different parts of a computer, to complete a mouse-based task.	L2 Slides A2 – Desktop or laptop computers (tablet devices could be used as an alternative) A2 – Learner access to nccce.io/drag
		Lesson 3	I can use a mouse in different ways Learners will be building on the mouse skills they were introduced to in Lesson 2. Learners will review images of a computer to explain what each part does. They will develop an understanding that different computers use different mice, but they perform the same function. They will use the mouse to	L3 Slides A1 – Desktop or laptop computers (tablet devices could be used as an alternative) A1 – Learner access to paintz.app . <u>Pupils need access to a mouse</u>
		Lesson 4	I can use a keyboard to type Learners will begin to use the computer keyboard for a purpose. They should understand that writing on a keyboard is called typing and will begin to demonstrate their ability to write their name. Learners will then save their work using the save icon and understand that this icon is used in lots of different programs.	L4 Slides A1 – Desktop or laptop computers (tablet devices could be used as an alternative) A1 – Learner access to paintz.app
		Lesson 5	I can use the keyboard to edit text Learners will begin by opening a file they have previously created. They will demonstrate their ability to use a keyboard to edit text, by writing a sentence and then deleting letters. They will also use the keyboard arrow keys to move the text cursor in their textbox.	L5 Slides A0 Resource: Keyboard and mouse (A3 size, printed) A1 Worksheet – Scaffolded learning A1 – Desktop or laptop computers (tablet devices could be used as an alternative) A1 – Learner access to the pictures they saved in the previous lesson.
		Lesson 6	I can create rules for using technology responsibly Learners will be introduced to the concept of using computers safely, within the context of a school setting. They will explore why we have rules in school and how those rules help us, and then apply this understanding to rules needed for using computer technology safely	L6 Slides A1 – Flipchart or large piece of paper (Optional) A1 Resource: Rules grid (size A3; enough for learners to work in pairs) A1 – Print out of your school's rules (Slide 7 can be adapted to reflect the rules in place in your setting) A2 Resource: Scaffolding (Scaffolding opportunity)

Spring Term 1—Digital Painting

<i>Prior Learning</i>	Children should know about: a mouse, use a keyboard, be able to open a program			
<i>End Points</i>	<ul style="list-style-type: none"> ◊ To be able to digitally paint ◊ Use a range of tools to digitally paint ◊ Create a digital painting ◊ Compare digital painting to a painting on paper ◊ <u>Pupils will create digital paintings and physical paintings and be able to discuss their comparisons</u> 			
<i>Vocabulary</i>	Save, mouse, keyboard, image, digital, erase, Piet Mondrian, primary colours, shape tools, line tool, fill tool, undo tool, Wassily Kandinsky, feelings, colour, brush style, Henri Matisse, shape tool, fill tool, Georges Seurat, pointillism, brush size, like, prefer, dislike			
Key Concept	Second Order Concepts	Lesson Sequence	Learning Objectives	Resources
Creating media	<p>Responsibility: (being safe online, using social media responsibly and respectfully, privacy, cyberbullying)</p> <p>Similarity and difference: (making comparisons, finding patterns, noting differences and drawing conclusions)</p> <p>Cause and consequence: (inputs and outputs, programming)</p> <p>Significance: (significant inventions, significant figures from the world of computing)</p> <p>Chronology: (changes in technology over time, inventions, future technology)</p>	Lesson1	I can describe what different freehand tools do This lesson introduces learners to the freehand tools available for digital painting.	Computers or tablets for learners to use A painting program (online or offline) L1 Slides
		Lesson 2	I can use the shape tool and the line tools This lesson introduces learners to the line and shape tools and revisits the fill and undo tools used for digital painting. Learners create their own digital painting in the style of an artist.	A painting program (online or offline) L2 Slides Activities A1 Resource – Piet Mondrian example A2 Resource – Mondrian challenge sheet AP Resource – Self-assessment sheet
		Lesson 3	I can make careful choices when painting a digital picture This lesson introduces learners to a range of shape tools, allowing them to create a painting in the style of an artist	A painting program (online or offline) L3 Slides Activities A2 Handout – Challenge
		Lesson 4	I can explain why I chose the tools I used This lesson increases learners’ understanding of the available paint tools and encourages them to select the best tools to create a digital painting in the style of Wassily Kandinsky.	L4 Slides Activities A2 Handout – Wassily Kandinsky example A2 Handout – Assessment sheet A2 Handout – Assessment: reasons
		Lesson 5	I can use a computer on my own to paint a picture Learners select appropriate colours, brush sizes, and brush tools to independently create their own image in the style of an artist.	L5 Slides Activities A2 Handout – Sunflower image A2 Optional – Printouts of other pictures of sunflowers A2 Handout – Exploratory task
		Lesson 6	I can compare painting a picture on a computer and on paper Learners compare their preferences when creating paintings on computers and on paper.	Cotton buds, paint, paper, water, aprons, and associated materials for the practical painting task Access to the pointillism pictures the learners created in lesson 5 (either via the computer or printed) L6 Slides Activities A2 Handout – Sunflower image (from lesson 5) A2 Handout – Assessment sheet AP Resource – Pictograms for voting

Spring Term 2 — Moving a Robot

<i>Prior Learning</i>	Children should know about: Give a series of commands, Understand directions, be able to give instructions that are clear			
<i>End Points</i>	Plan and program two routes for a floor robot that use a clear algorithm			
<i>Vocabulary</i>	Forwards, backwards, turn, clear, go, commands, Instructions, directions, plan, algorithm, program, route			
Key Concept	Second Order Concepts	Lesson Sequence	Learning Objectives	Resources
Programming	<p>Responsibility: (being safe online, using social media responsibly and respectfully, privacy, cyberbullying)</p> <p>Similarity and difference: (making comparisons, finding patterns, noting differences and drawing conclusions)</p> <p>Cause and consequence: (inputs and outputs, programming)</p> <p>Significance: (significant inventions, significant figures from the world of computing)</p> <p>Chronology: (changes in technology over time, inventions, future technology)</p>	Lesson1	I can explain what a given command will do This lesson introduces the learners to floor robots. Learners will talk about what the buttons might do and then try the buttons out. Time will be spent linking an outcome to a button press. Learners will consider the direction command buttons, as well as buttons to clear memory and run programs.	Slides (ncce.io/pg1a-1-s) Floor robot such as Bee-Bot or Blue-Bot, ideally one between two learners Activity 2 Match commands (ncce.io/pg1a-1-a2-h), one set per learner
		Lesson 2	I can act out a given word During this lesson, learners will think about the language used to give directions and how precise it needs to be. Learners will also work with a partner, giving and following instructions. This real-world activity should, at suitable points during this lesson, be related to the floor robot that was introduced in the last lesson.	Slides (ncce.io/pg1a-2-s) Floor robot such as Bee-Bot or Blue-Bot, for plenary Space to move around during Activity 4
		Lesson 3	I can combine forwards and backwards commands to make a sequence In this lesson, learners will focus on programming the floor robot to move forwards and backwards. They will see that the robot moves forwards and backwards a fixed distance. This highlights the idea that robots follow a clear (fixed) command in a precise and repeatable way. Learners will think about starting the robot from the same place each time. Using the same start position with fixed commands will allow learners to predict what a program will do. Note: This lesson focuses specifically on forwards and backwards movement only. This is to ensure that learners are developing a depth of knowledge in the concepts surrounding programming, as well as increasing their ability to make the robot move. The success criteria chosen highlight this and ensure that the learners' knowledge builds in a suitably paced way.	Slides (ncce.io/pg1a-3-s) Floor robot such as Bee-Bot or Blue-Bot, ideally one between two Mat resource (ncce.io/pg1a-3-r6) A3 size, one per group (this will be used from this lesson onwards; laminated mats make a better surface to run the robot on, and also allow learners to use dry wipe markers on them so they can be reused in later lessons) Activities: Activity 4 Forwards and backwards worksheet (ncce.io/pg1a-3-a4-w), one per group Activity 4 paper-bot handout (ncce.io/pg1a-3-a4-h), one per group
		Lesson 4	I can combine four direction commands to make sequences In this lesson, learners will use left and right turn commands along with forwards and backwards commands. Doing this will allow learners to develop slightly more complex programs. Learners will create their programs in this lesson through trial and error before moving onto planning out their programs in the next lesson. In the last activity, learners will predict where given programs will move the robot. Learners will make their predictions by 'stepping through' the commands and matching the program steps to movements.	Slides (ncce.io/pg1a-4-s) Floor robot such as Bee-Bot or Blue-Bot, ideally one between two Mat resource (ncce.io/pg1a-3-r6) from the previous lesson Activities: A2 Destination cards handout (ncce.io/pg1a-4-a2-h), one set of six cards per group A3 Prediction worksheet (ncce.io/pg1a-4-a3-w), one sheet per group

Spring Term 2 — Moving a Robot

Programming	<p>Responsibility: (being safe online, using social media responsibly and respectfully, privacy, cyberbullying)</p> <p>Similarity and difference: (making comparisons, finding patterns, noting differences and drawing conclusions)</p> <p>Cause and consequence: (inputs and outputs, programming)</p> <p>Significance: (significant inventions, significant figures from the world of computing)</p> <p>Chronology: (changes in technology over time, inventions, future technology)</p>	Lesson 5	<p>I can plan a simple program</p> <p>In this lesson, learners will decide what their program will do. They will then create their program and test it on the robot. Where needed, learners will also debug their programs.</p>	<p>Slides (ncce.io/pg1a-5-s)</p> <p>Floor robot such as Bee-Bot or Blue-Bot, ideally one between two</p> <p>A2 Commands cards handout (ncce.io/pg1a-5-a2-h)</p> <p>Mat resource (ncce.io/pg1a-3-r6) from Lesson 2</p> <p>Destination cards from Lesson 4 (ncce.io/pg1a-4-a2-h)</p> <p>Paper-bot handout (ncce.io/pg1a-3-a4-h) from Lesson 3</p>
		Lesson 6	<p>I can find more than one solution to a problem</p> <p>This lesson encourages learners to plan their routes before they start to write their programs. The activities also introduce the concept of there being more than one way to solve a problem. This concept applies to a lot of programming activities: the same outcome can be achieved through a number of different approaches, and there isn't necessarily a 'right' way. The lesson also introduces the idea of program design, in which learners need to plan what they want their program to achieve before they start programming.</p>	<p>Slides (ncce.io/pg1a-6-s)</p> <p>Activities:</p> <p style="padding-left: 20px;">Floor robot such as Bee-Bot or Blue-Bot, ideally one between two</p> <p style="padding-left: 20px;">Story floor mat (ncce.io/pg1a-6-r6) printed in A3 size, one per group</p> <p style="padding-left: 20px;">A1 Destination cards (ncce.io/pg1a-6-a1-hd), used throughout the lesson</p> <p style="padding-left: 20px;">A1 Route planning sheet (ncce.io/pg1a-6-a1-hr), used throughout the lesson</p> <p style="padding-left: 20px;">A2 Commands cards handout (ncce.io/pg1a-5-a2-h) from Lesson 5</p>

Summer Term 1—Grouping Data

<i>Prior Learning</i>	Children should know about: characteristics of objects and people			
<i>End Points</i>	<ul style="list-style-type: none"> ◊ Labelling, grouping, and searching ◊ Develop an understanding that to search data, it must have labels ◊ Assign images with different labels in order to demonstrate how computers are able to group and present data ◊ Learn what a database is ◊ Use dragging and dropping skills on a device ◊ <u>Pupils will answer a series of questions based on search results</u> 			
<i>Vocabulary</i>	Group, object, property, label, colour, size, image, shape, value, data, data set, value, more, less, most, fewest, the same			
Key Concept	Second Order Concepts	Lesson Sequence	Learning Objectives	Resources
Data and information	<p>Responsibility: (being safe online, using social media responsibly and respectfully, privacy, cyberbullying)</p> <p>Similarity and difference: (making comparisons, finding patterns, noting differences and drawing conclusions)</p> <p>Cause and consequence: (inputs and outputs, programming)</p> <p>Significance: (significant inventions, significant figures from the world of computing)</p> <p>Chronology: (changes in technology over time, inventions, future technology)</p>	Lesson1	I can label objects Learners will begin to understand that objects have many different labels that can be used to put them into groups. They will name different objects and begin to experiment with placing them into different groups. Learners will also label a group of objects, and begin to understand that an object can fit into more than one group depending on the context.	Slides, A2 Resource – Matching objects to groups (optional), A3 Activity sheet – Labelling groups A3 Solutions – Labelling groups An assortment of physical objects for each table/group that fit into a group, eg ‘things we write with’, ‘things we wear’, etc Group labels that match the objects referenced above Large hoops or other sorting equipment
		Lesson 2	I can identify that objects can be counted Learners will begin to think about grouping objects based on what the objects are. They will demonstrate the ability to count a small number of objects before they group them, and will then begin to show that they can count groups of objects with the same label. Learners will also begin to learn that computers are not intelligent, and require input from humans to perform tasks	Slides L2 Teacher resource – Counting and grouping objects (optional) Dry-wipe boards or scrap paper (optional) Three different types of physical classroom objects, eg rulers, erasers, pencils, etc — learners will be grouped (table groups) and each group of learners will need a set of between 10 and 20 objects. Each set of objects should be identical to ensure that it is easy to understand if each group has counted correctly. For example, each group may have:
		Lesson 3	I can describe objects in different ways Learners will begin to understand that objects can be described in many different ways. They will identify the properties of objects and begin to understand that properties can be used to group objects; for example, objects can be grouped by colour or size. Finally, learners will demonstrate their ability to find objects with similar properties and begin to understand the reason that we need to give labels to images on a computer.	Slides A2 Activity sheet – Complete the property A2 Solutions – Complete the property A3 Activity sheet – Similar properties hunt Box of physical 2D shapes of varying colour, size, and shape (optional) Talk buttons or dictation tool (optional)
		Lesson 4	I count objects with the same properties Learners will classify objects based on their properties. They will group objects that have similar properties, and will be able to explain how they have grouped these. Learners will begin to group a number of the same objects in different ways, and will demonstrate their ability to count these different groups.	L4 Slides L4 Teacher resource – 2D objects (optional) A1 Resource – creating a data set (optional) Box of physical 2D shapes of varying colour, size, and shape Sticky notes or strips of plain paper for writing labels
		Lesson 5	I can compare groups of objects Learners will choose how they want to group different objects by properties. They will begin to compare and describe groups of objects, then they will record the number of objects in each group	Slides A1 Activity sheet – Creating groups A2 Handout – Vocabulary for describing A3 Activity sheet – Compare the groups A3 Solutions – Compare the groups Physical objects/2D shapes (optional) Talk buttons or Easispeak microphones(optional)
		Lesson 6	I can answer questions about groups of objects Learners will decide how to group objects to answer questions. They will compare their groups by thinking about how they are similar or different, and they will record what they find. They will then share what they have found with their peers.	Slides A2 Activity sheet – Answering questions A2 Handout – Vocabulary for describing (optional)

Summer Term 1—Digital Writing

<i>Prior Learning</i>	Children should know about: Be able to open and save file Understand that software has different to Be able to open and save file			
<i>End Points</i>	◊ Produce a digital written document that is accurate and formatted after being edited and improved			
<i>Vocabulary</i>	Word processor, keyboard, keys, letters, type, numbers, space, backspace, text cursor, numbers, capital letters, toolbar, bold, italic, underline, mouse, select, font, undo, redo, format			
Key Concept	Second Order Concepts	Lesson Sequence	Learning Objectives	Resources
Creating media	<p>Responsibility: (being safe online, using social media responsibly and respectfully, privacy, cyberbullying)</p> <p>Similarity and difference: (making comparisons, finding patterns, noting differences and drawing conclusions)</p> <p>Cause and consequence: (inputs and outputs, programming)</p> <p>Significance: (significant inventions, significant figures from the world of computing)</p> <p>Chronology: (changes in technology over time, inventions, future technology)</p>	Lesson1	<p>◊ I can use a computer to write This is the first lesson in which Year 1 learners will experience using a computer to create and manipulate text. It is important that they know how to log on and follow the rules that keep them safe.</p> <p>In this lesson, the learners will familiarise themselves with a word processor and think about how they might use this application in the future. The learners will also be identifying and finding keys, before adding text to their page by pressing keys on a keyboard.</p> <p>Note: If this lesson is the first time that the learners will be logging in to the computer, additional support/time may</p>	L1 Slides A1 Blank sheet of paper Activities: A2 Worksheet – The computer keyboard A2 Colouring pencils A3 Handout – Explorer task A3 Computers with access to a word processor
		Lesson 2	<p>◊ I can add and remove text on a computer In this lesson, learners will continue to familiarise themselves with word processors and how they can interact with the computer using a keyboard. The learners will focus on adding text and will explore more of the keys found on a keyboard. Finally, they will begin to use the backspace button to remove text from the computer.</p>	L2 Slides Learners’ keyboard templates from Lesson 1 Activities A1 Teacher handout – Typing on a keyboard A1 Colouring pencils A2 Handout – Adding text on a computer A2 Computers with access to a word processor AP Teacher handout – Using Backspace to remove text
		Lesson 3	<p>◊ I can identify that the look of text can be changed on a computer In this lesson, learners will begin to explore the different tools that can be used in word processors to change the look of the text. Learners will use the Caps Lock key to add capital letters to their writing and will begin thinking about how to use this successfully. The learners will match simple descriptions with the key that they relate to. Finally, learners will begin exploring the different buttons available on the toolbar in more detail, and use these to change their own text.</p>	L3 Slides Learners’ keyboard templates and saved posters from previous lessons Activities A1 Teacher handout – Model toy poster A2 Worksheet – What do these keys do? A2 Worksheet answers – What do these keys do?
		Lesson 4	<p>◊ I can make careful choices when changing text In this lesson, learners will begin to understand when it is best to change the look of their text and which tool will achieve the most appropriate outcome. The learners will begin to use their mouse cursor to select text to enable them to make more efficient changes. They will explore the different fonts available to them and change the font for their lost toy poster.</p>	L4 Slides Learners’ keyboard templates and saved posters from previous lessons Activities A2 Teacher handout – Model lost toy poster
		Lesson 5	<p>◊ I can explain why I used the tools that I chose In this lesson, learners will begin to justify their use of certain tools when changing text. The learners will decide whether the changes that they have made have improved their writing and will begin to use ‘undo’ to remove changes. They will begin to consolidate their ability to select text using the cursor, through double-clicking and clicking and dragging. The learners will be able to explain what tool from the toolbar they have used to change their writing.</p>	L5 Slides Learners’ keyboard templates and saved posters from previous lessons Activities A1 A piece of paper for each learner
		Lesson 6	<p>◊ I can compare writing on a computer with writing on paper In this lesson, learners will make comparisons between using a computer for writing and writing on paper. The learners will discuss how the two methods are the same and different, and think of examples to explain this. They will demonstrate making changes to writing using a computer to compare the two methods. Finally, the learners will begin to explain which they liked best, and think about which method would be the best method to use in different situations.</p>	L6 Slides Flip chart or other non-dry-wipe writing resource with a prewritten, misspelt sentence Learners’ keyboard templates from Lesson 1 Computers with access to a word processor

Summer Term 2—Programming Animations

<i>Prior Learning</i>	Children should know about: Create a series of commands, know that an algorithm is a set of instructions, understand directions, know that programs can go wrong, know what to do is a program goes wrong			
<i>End Points</i>	◊ Produce a finished animation that meets a planned design and be able to explain how it works			
<i>Vocabulary</i>	ScratchJr, Bee-Bot, command, sprite, compare, programming, programming area, block, joining, Start block, run, program, background, delete, reset, algorithm, predict, Eeffect, change, value, instructions, sprite, delete, appropriate,			
Key Concept	Second Order Concepts	Lesson Sequence	Learning Objectives	Resources
Programming	<p>Responsibility: (being safe online, using social media responsibly and respectfully, privacy, cyberbullying)</p> <p>Similarity and difference: (making comparisons, finding patterns, noting differences and drawing conclusions)</p> <p>Cause and consequence: (inputs and outputs, programming)</p> <p>Significance: (significant inventions, significant figures from the world of computing)</p> <p>Chronology: (changes in technology over time, inventions, future technology)</p>	Lesson1	I can choose a command for a given purpose During this lesson learners will become accustomed to the ScratchJr programming environment. They will discover that they can move characters on-screen using commands, and compare ScratchJr to the Bee-Bots used in the previous unit.	L1 Slides Bee-Bots (optional) ScratchJr (https://jfo8000.github.io/ScratchJr-Desktop/) Download ScratchJr App for tablets (iPad or Android) or install ScratchJr for computers before the lesson
		Lesson 2	I can show that a series of commands can be joined together During this lesson learners will discover that blocks can be joined together in ScratchJr. They will use a Start block to run their programs. They will also learn additional skills such as adding backgrounds and deleting sprites. Learners will follow given algorithms to create simple programs.	L2 Slides Activities A2 Worksheet – Joining blocks A2 Solutions – Joining blocks
		Lesson 3	I can identify the effect of changing a value During this lesson learners will discover that some blocks in ScratchJr have numbers underneath them. They will learn how to change these values and identify the effect on a block of changing a value.	L3 Slides Activities A1 Worksheet – Hunt the blocks
		Lesson 4	I can explain that each sprite has its own instructions During this lesson learners will be taught how to add and delete sprites in ScratchJr. They will discover that each sprite has its own programming area, and learn how to add programming blocks to give instructions to each of the sprites.	L4 Slides Activities A2 Worksheet – Sprite algorithms
		Lesson 5	I can design the parts of a project During this lesson learners will choose appropriate backgrounds and sprites for a ‘Space race’ project. They will decide how each sprite will move, and create an algorithm based on the blocks available in ScratchJr that reflects this.	L5 Slides Activities A1 Worksheet – Background design A1 Resource: Rocket design Sticky tack Scissors
		Lesson 6	I can use my algorithm to create a program During this lesson learners will use their project designs from the previous lesson to create their projects on-screen in ScratchJr. They will use their project design, including algorithms created in the previous lesson, to make programs for each of their rocket sprites. They will test whether their algorithms are effective when their programs are run	L6 Slides Learners’ work from the previous lesson Activities A0 Handout: Design – an introduction to animation A3 Worksheet – Testing programs Coloured pencils