YEAR 3

	EYFS	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
Programming A – Sequence in music	**The three Prime ELGS of Communication and Language, PSED and Physical Development provide the foundations of which all other learning is built upon.** **No Specific ELG links.**	To introduce early programming concepts, exploring commands and algorithms.	To develop understanding of instructions in sequences, using commands in different orders to investigate how this affects the outcome. To design, test and debug algorithms.	To explore the concept of sequencing, using motion, sound and event blocks to create their own programs with sequences. To begin to apply stages of program design.	To create programs by planning, modifying and testing commands. To understand repetition and loops within programming.	To explore the concept of selection in programming. To apply knowledge of repetition and conditions to the concept of selection and write algorithms and programs using this concept. To apply stages of programming design.	To explore the concept of variables in programming. To design, modify and improve their own project.

COMPOSITES

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, evaluating and presenting data and information

COMPONENTS

	1	2	3	4	5	6	End Point
	How can I explore a new programming environment?	Can I identify that commands have an outcome?	Can I explain that a program has a start?	Can I recognise that a sequence of commands can have an order?	Can I change the appearance of my project?	How can I create a project from a task description?	This unit assumes that children will have some prior experience of programming; the KS1 NCCE units cover floor robots and ScratchJr. However, experience of other languages or environments may also be useful.
CONCEPTS Link to concept map	Programming A – Sequence in music Information Technology Computer Science	Programming A – Sequence in music Information Technology Computer Science	Programming A – Sequence in music Information Technology Computer Science	Programming A – Sequence in music Information Technology Computer Science	Programming A – Sequence in music Information Technology Computer Science	Programming A – Sequence in music Information Technology Computer Science	Programming A – Sequence in music Information Technology Computer Science

SKILLS	Recognise that commands in Scratch are represented as blocks	Choose a word which describes an on-screen action for my plan Create a program following a design	Start a program in different ways Create a sequence of connected commands	Combine sound commands Order notes into a sequence	Build a sequence of commands Decide the actions for each sprite in a program Make design choices for my artwork	Relate a task description to a design Implement my algorithm as code	Children will create their own programs, featuring sequences. The final project is to make a representation of a piano.
KNOWLEDGE	Explain that objects in Scratch have attributes (linked to) Identify the objects in a Scratch project (sprites, backdrops)	Identify that each sprite is controlled by the commands I choose	Explain that the objects in my project will respond exactly to the code	Explain what a sequence is	Understand what a sprite is.	Identify and name the objects I will need for a project	Introduction to the programming environment and design process.
LESSON LINK	Programming A – Sequence in music	Programming A – Sequence in music	Programming A – Sequence in music	Programming A – Sequence in music	Programming A – Sequence in music	Programming A – Sequence in music	Programming A – Sequence in music
PROGRESSIVE VOCABULARY	Scratch, programming, blocks, commands, code, sprite, costume, stage, backdrop	sprites, programming blocks, motion, turn, point in direction, go to, glide	sequence, event, task, design, code, run the code	sequence, order, note, chord	sprite, stage, costume, backdrop	design, algorithm, bug, debug	Children will be able to understand, articulate and use the vocabulary
CURRICULUM EXPERIENCES						Design and create a program.	
END POINT	This lesson introduces children to a new programming environment: Scratch. Children will	In this lesson, children will create movement for more than one sprite. They will design and implement their	In this lesson, children will be introduced to the concept of sequences by joining blocks of code together. They will also	This lesson explores sequences, and how they are implemented in a simple program. Children have	This lesson develops children' understanding of sequences by giving them the opportunity to combine	In this lesson, children will create a musical instrument in Scratch. They will apply the concept of design to help develop programs and use programming blocks — which they	

	begin by comparing Scratch to other programming environments they may have experienced, before familiarising themselves with the basic layout of the screen.	code, and then will create code to replicate a given outcome. Finally, they will experiment with new motion blocks.	learn how event blocks can be used to start a project in a variety of different ways. In doing this, they will apply principles of design to plan and create a project.	the opportunity to experiment with sequences where order is and is not important. They will create their own sequences from given designs.	motion and sounds in one sequence. They will also learn how to use costumes to change the appearance of a sprite, and backdrops to change the appearance of the stage. They will apply the skills in Activity 1 and 2 to design and create their own project, including sequences, sprites with costumes, and multiple backdrops.	have been introduced to throughout the unit. They will learn that code can be copied from one sprite to another, and that projects should be tested to see if they perform as expected.	