National Centre for Computing Education

Raspberry Pi

Year 3 – Programming A - Sequencing sounds

Lesson	Brief overview	Learning objectives
1. Introduction to Scratch	This lesson introduces learners to a new programming environment: Scratch. Learners will begin by comparing Scratch to other programming environments they may have experienced, before familiarising themselves with the basic layout of the screen.	To explore a new programming environment • I can identify the objects in a Scratch project (sprites, backdrops) • I can explain that objects in Scratch have attributes (linked to) • I can recognise that commands in Scratch are represented as blocks
2. Programming sprites	In this lesson, learners will create movement for more than one sprite. In doing this, they will design and implement their code, and then will create code to replicate a given outcome. Finally, they will experiment with new motion blocks.	To identify that commands have an outcome • I can create a program following a design and understand that each sprite is controlled by the commands I choose • I can predict the coding blocks used to move a sprite • I can match coding blocks to their actions
3. Sequences	In this lesson, learners will be introduced to the concept of sequences by joining blocks of code together. They will also 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.	To explain that a program has a start • I can start a program in different ways • I can create a sequence of connected commands • I can explain that the objects in my project will respond exactly to the code

4. Ordering commands	This lesson explores sequences, and how they are implemented in a simple program. Learners have the opportunity to experiment with sequences where order is and is not important. They will create their own sequences from given designs.	To recognise that a sequence of commands can have an order • I can explain what a sequence is • I can combine sound commands • I can order notes into a sequence
5. Looking good	This lesson develops learners' understanding of sequences by giving them the opportunity to combine 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.	To change the appearance of my project • I can build a sequence of commands • I can decide the actions for each sprite in a program • I can make design choices for my artwork
6. Making an instrument	In this lesson, learners will create a musical instrument in Scratch. They will apply the concept of design to help develop programs and use programming blocks — which they 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.	To create a project from a task description • I can identify and name the objects I will need for a project • I can relate a task description to a design • I can implement my algorithm as code