

Bomere and the XI Towns Federation Knowledge Organiser - Computing

Topic: Programming A - Sequencing Sounds

Class/Year Groups: Year 3

Term: Spring

What you already know?

This unit assumes that learners 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.

What you will learn:

This unit explores the concept of sequencing in programming through Scratch. It begins with an introduction to the programming environment, which will be new to most learners. They will be introduced to a selection of motion, sound, and event blocks which they will use to create their own programs, featuring sequences. The final project is to make a representation of a piano. The unit is paced to focus on all aspects of sequences, and make sure that knowledge is built in a structured manner. Learners also apply stages of program design through this unit.

1. Introduction to Scratch
2. Programming sprites
3. Sequences
4. Ordering commands
5. Combining motion and sound
6. Making an instrument

Vocabulary:

Scratch - a visual programming language that allows students to create their own interactive stories, games and animations.

Programming - a set of ordered commands that can be run by a computer to complete a task

Block coding - an entry-level programming activity that allows children to gain an understanding of how coding works to develop digital animation or games

Commands - A single instruction that can be used in a program to control a computer

Code - The commands that a computer can run

Sequence - a series of events that must be performed in order to achieve a task

Algorithm - a precise set of ordered steps that can be followed by a human or a computer to achieve a task

Bug - A mistake in a computer program

Debug - The process of finding and correcting errors in a program

National Curriculum Objectives:

- 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

