Sequence of Instructions

Ages: 5-7
Length: 1 hour
Equipment: PDF print out

Introduction

This lesson introduces the relevant words; ***sequence*** and ***instructions*** through activities that link to student's lives to help them relate to the concepts introduced.

Curriculum Alignment	• UK National Curriculum Computing Key Stage 1
Learning Objective	• To identify how sequence is used in a program • To discuss the importance of the sequence of instructions in a program • To create a program with a sequence
Keywords	• Sequence • Instruction
Resources	• MiRo Lesson - Loops - Student tasks
Lesson Sections	• Setting the Scene • Activity 1 – Sequence • Activity 2 – MiRo simulator vs MiRo Robot • Summary

Setting the Scene

Do you follow instructions?

A sequence of instructions is the order that it must be completed.

Concept	How it is used
An algorithm is step by step ***instructions***. The order these steps are in is the ***sequence***. *Can you think of a time where you had to follow a set of instructions?*	When you create the code in your program using the blocks available, you are creating a sequence of instructions that the program follows.

Thinking the steps through is essential to creating a working program.

First let us look at what a sequence is.

Scenario

Scenarios are focused on getting students to think about what a sequence is.

Scenario 1	Scenario 2
You are learning to spell a new word and think about the letters used within that word. The letters must be in the right sequence to spell the word.	A dance routine is designed to go with the rhythm of the music if the steps are not in the right sequence they will not fit with the rhythm.

Small Group Activity 1

Can you put the words in the correct sequence to spell a word?

t c a	i s t	m e o s	o o r d

Solution:

1. Cat
2. Sit
3. Some
4. Door

Whole Class Activity

Take students to an open area and introduce the steps to a dance.

Option 1

- Ask students to create their own dance routine to a short piece of music and teach the class their steps.

Option 2

- https://www.youtube.com/watch?v=9sxifR0Ltqk
- Watch the YouTube video learning the steps to 'Can't Stop the Feeling' as a class

With both options, discuss how the ***instructions*** had to be in the correct sequence to work.

Differentiation

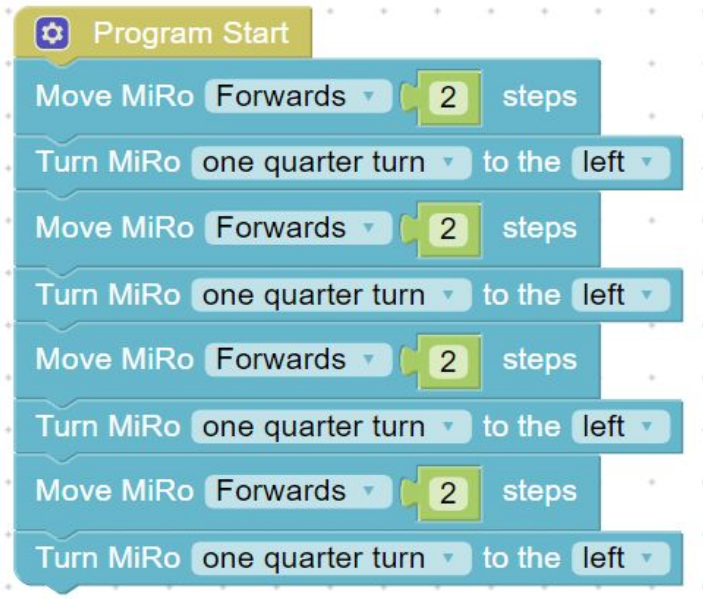
- If pupils need extra support to understand a sequence of instructions, ask them to complete a task within the classroom and discuss how they followed the instructions in a sequence, the order.
- For higher ability pupils ask them to create a musical sequence that could be shared with the class to demonstrate how the sequence is important.

“How do you use a sequence with MiRo programming?”
We are going to create a program for MiRo with a sequence.

Activity 2

Predict what will happen with this sequence.

Activity 2 - Can you act out what the program will do when run?



“What was your prediction?”
Remember there is no fail in computing only debugging, fixing and learning!

<table>
<tr><th colspan="2">Activity 2 - Step-by-Step
Create the programs to run and see if your predictions were correct.</th></tr>
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Program

- ➔ Add **Program Start** from **setup**.
- ➔ Add **Move MiRo [forwards] [1] steps** from simple motion and connect to the **Program Start** block.
- ➔ Set to **2 steps.**
- ➔ Add **Turn MiRo [one quarter turn] to the [left]** from simple motion and connect to the previous block.
- ➔ Add **Move MiRo [forwards] [1] steps** from simple motion and connect to the **Program Start** block.
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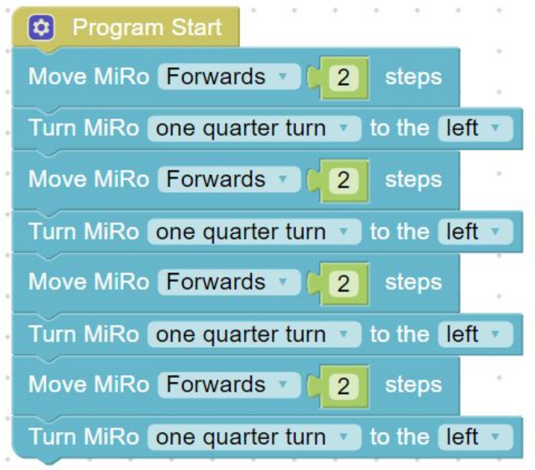
** Discuss what is happening with each block and can introduce the use of right click and duplicate if students are confident.



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After program creation -

- ➔ Click Simulator Play OR
- ➔ Click Robot play

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** If you are using the physical MiRO ensure the IP address is correctly added to the onscreen code to allow the code to be communicated to MiRO to action.

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Challenge

Were your predictions correct?
Can you change the direction of the movement?
Can you change the size of the shape drawn?

Summary

Have a discussion with the class about what they have learnt in the lesson. Discuss the new words learnt **sequence and instruction** and talk through any difficulties they had.

Ask students to complete the self-assessment and can be done by thumbs up, down and centre or using the images; on the following 3 questions

Questions
Can you identify how sequence is used in a program?
Can you discuss the importance of the sequence of instructions in a program?
Can you create a program with a sequence?