

# Blockly Challenge 5

## What is Blockly?

Blockly is a block-based visual programming tool. It is written in JavaScript, which is a popular programming language. We will be using Blockly to complete a series of maze challenges – this will introduce you to some programming fundamentals such as loops and conditionals!

## The Fifth Maze

Do this challenge after completing maze 1-4. This challenge uses While Loops – an explanation of these can be found in the programming concepts box.

Step 1 – As before, navigate <https://blockly.games> to and select “maze” – you can skip straight to challenge 5. If you’re doing this straight after the second challenge, you’ll probably have automatically been moved on to the third maze.

Step 2 – Complete the maze by choosing blocks and putting them into the correct sequence (creating an algorithm).

Step 3 – Click “Run Program” to test your program and if you’re wrong, try again!

You could use a blank piece of paper or the back of this sheet to write down your workings out if you need to.

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## Why Are we Doing This?

Blockly is a great introduction into the fundamentals of programming, and uses problem solving skills. The challenges are fun and can be quite challenging – this encourages computational thinking, and you'll start using loops and conditionals.

## What You'll Need

Access to the internet and this handout. There is a video tutorial covering While Loops and If Statements and also another video covering how to use the website.

## Programming Concepts

This maze uses a while loop, which is one of the main types of loops used in programming. A while loop is a “control flow statement” – it runs code depending on whether a statement is true or false. In this case, it will run the code inside the loop until the figure reaches the checkpoint.

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## Solution

The solution for this is one loop and 4 movement blocks. The difference here is that there are 3 blocks before the loop – loops can be embedded within code.

