

# Maze: Sequence

Lesson time: 30 Minutes

## LESSON OVERVIEW

In this series of puzzles students will build on the understanding of algorithms learned in the Graph Paper Programming and Real-Life Algorithms Unplugged activities. Featuring characters from the game Angry Birds, students will develop sequential algorithms to move a bird from one side of the maze to the pig at the other side. To do this they will stack blocks together in a linear sequence to move straight or turn left and right.

### TEACHING SUMMARY

#### Getting Started

[Introduction](#)

#### Activity: Maze: Sequence

[Maze: Sequence](#)

#### Extended Learning

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## LESSON OBJECTIVES

### Students will:

- Express movement as a series of commands
- Order movement commands as sequential steps in a program
- Represent an algorithm as a computer program
- Count the number of times an action should be executed and represent it as instructions in a program
- Recall and apply the rules of pair programming
- Use pair programming to complete collaborative tasks with or without a computer
- Identify situations when the rules of pair programming are not followed

## GETTING STARTED

### Introduction

Ask your students if they are familiar with the game Angry Birds. Explain that they will be writing programs to help an Angry Bird locate a Pig.

- Getting the bird to the pig will require putting your directions in a very specific order or sequence.
- Can you solve the puzzles using the fewest blocks possible?

### LESSON TIP

*Some students may struggle with turning their bird in the correct direction, particularly when the bird isn't facing up. Remind students that when we say turn left or right, we're talking about it from the bird's point of view.*

## ACTIVITY

### Maze: Sequence

As your students work through the puzzles, observe how they plan the path for the bird. Identify different strategies used and ask students to share with the whole class. This helps students to recognize that there are many ways to approach these problems. You may want to go through a few puzzles on the projector. While doing this you can ask one student to trace the path on the screen while another writes the directions on a whiteboard.

## EXTENDED LEARNING

Use these activities to enhance student learning. They can be used as outside of class activities or other enrichment.

### Create Your Own

In small groups, let students design their own mazes and challenge each other to write programs to solve them. For added fun, make life-size mazes with students as the pig and bird.



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