

Driverless Car Challenge

Resources: Data projector/interactive whiteboard, access to [Siemens Education](#)

Additional Resources: Siemens Digitisation: Self-Drive Challenge selfdrivingchallengegame.co.uk

Introduction

This activity presents children with a series of challenges, each one slightly harder than the previous one. Each challenge indicates the route that a vehicle must take. The child must work out which instructions from a selection will enable the car to correctly complete the route. As the steps consist of blocks which are dragged and dropped children don't have to deal with syntax but can rather engage with getting the correct instructions in the correct sequence.

Learning objectives	Learning outcomes
Select and sequence instructions to carry out a set task.	Children being able to programme the movement of a car on a screen then follow a set route.

Activities

Each slide has a challenge consisting of a route and a set of code blocks that can be collated using the drag and drop method. If the program is successfully completed, then the car will run along the route. If incorrect, the user will be prompted to correct the sequence.

The format of the program is very similar to that of Scratch, developed and published by MIT Media Lab. Therefore, this activity would sit well with teaching activities that used Scratch as it would either act as an introduction to the use of that language or alternatively as an activity to check on pupil progress after they had first met it.



Answers to support Pupil Activity Sheet

Activity sheet:

Q1:

The correct blocks to add are:

- turn clockwise 90°
- move forward in 2 seconds.

PowerPoint slide:

- Q1. the code blocks provide individual steps, the program shows the steps used and the sequence followed, and the route is shown on the right.
- Q2. from the start 'A' to the stop 'B'.
- Q3. it shows the size of each block and the speed of the vehicle, so the time required for a movement can be calculated.
- Q4. turn clockwise 90°; move forward 2 seconds.

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