

# Circuits - Create a Moon Buggy

Topic: Computer Science; Programming and Control



## Curriculum Objectives:

- Develop students understanding of how motors work either together or against each other
- Learn how to create movement using littleBits

## Timing:

Approx 45 Minutes

## Resources and Planning:

- Steam littleBits Set - servo, motors, lights and buzzer
- iPad / Camera

## Task:

To create a moon buggy using littleBits.

## Learning Structure:

Students will need to use the documentation which comes with the littleBits kit to help them create a moving Moon buggy. They need to be able to start and stop the buggy and race it over a straight course. They will need to understand how the motors work and how they need to work in tandem with each side for the buggy to move forward.

Students need to decide on how many wheels their buggy will have and the design of the buggy itself. A discussion needs to take place whether it will require one or more power sources.

Once they have designed the buggy, they need to build it and customise if time allows ready for a race at the end of the lesson.

Students should document all of their decision making process and the build as they go along. Highlighting any improvements they might make along the way.

Students should create a diagrammatical representation of the circuit using the symbols already learnt or making up their own, showing a key as to how it all links together.

## Greater Depth Learning:

Students should start to investigate ways in which the buggy could be controlled if it was on the Moon and needed to be automated from Earth.

