Day 2: Teaching Your Robocar to Move

(2 of 6 of the Robotics Club Module)

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# Summary

Students will learn a little bit about what it’s like to program a self-driving car and then try it for themselves by programming their robot to complete a series of 4 challenges. If they did not finish assembling their robocar during the previous lesson, they can finish that today.

# Engineering Connection

For any engineer who wants to build a self-driving car, the most important part after building or buying the car is programming the car to drive itself, which is what we will be working on today. Programming a self-driving car involves giving it detailed, specific instructions for whatever situations it may encountered. For both real engineers and the students, programming requires a lot of trial-and-error and troubleshooting.

# Grade Level

4-6

# Duration

60 minutes

# Cost Per Group

~$1, assuming you have Lego NXTs and computers

# Materials List

Each group needs:

* Lego NXT robot - $279
* A computer with the Lego NXT software installed

To Be Shared By All:

* The courses shown in the slides and handout, which can be made from blocks, boxes, paper and tape, or some other set of materials.
* A projector or something similar for displaying the presentation slides.

# Learning Objectives

After this activity, students should be able to:

* Work with a technology design
* Apply their understanding about science and technology
* Demonstrate abilities of a technological design
* Use troubleshooting as a problem-solving method used to identify the cause of a malfunction in a technological system.
* Use information provided in manuals, protocols, or by experienced people to see and understand how things work.

# Procedure

Before the activity:

* Build the challenge courses using whatever materials are available to you. The exact shape and size is not important, but try to have something that looks fairly similar to what is in the slides.

For the activity:

* The procedure of the lesson, including assessments, is embedded in the presentation slides. See the slides and slide notes for more.