Move Forward Exercise – Instructions

Task Description

This task will help students to learn about and systemize one of the robot's simplest functions: driving forward.

There are two additional parts to this exercise, and printable PDFs of student worksheets can be found here:

- Student Worksheet Part 1
- Student Worksheet Part 2

Materials Needed

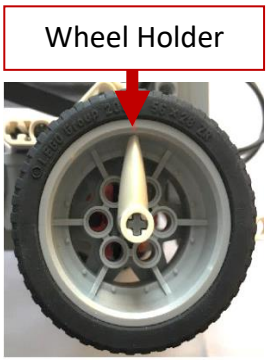
- Measuring sticks/meter sticks (rulers might be too short)
- Tape to mark exact start and finish
- EV3 robot in base configuration as per the instruction booklet (no sensors or attachments are needed)

Key Understandings

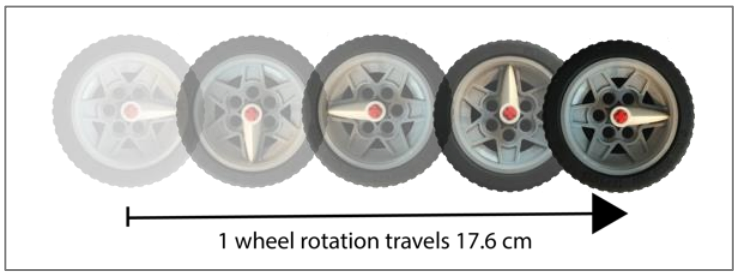
- Students will gain experiences with connecting the robot to the iPad (or another device), as well as downloading and running programs.
- Students will learn how to program the robot to move forward.
- Students will gain a spatial sense of the proportion of wheel rotations and distance traveled.

Note for Teachers

- Different surfaces affect the robot's driving: try to direct students to an even floor without friction (carpet is not ideal)
- This exercise can be used to practice measurement strategies, for instance lining up a meter stick and the robot's wheels – encourage students to use the robot's white wheel holder



- 1 wheel rotation makes the robot travel appr. 17.6 cm



- Decimal numbers are important in this exercise. Having a printout of a number line with decimals available will help students learn to use decimal numbers to program travel distances. Do not worry if you have not taught decimal numbers yet. Students can learn to use them quickly in this lesson.
- **Note:** Language is important. **Wheel rotations** are a count – asking **how many** wheel rotations is most appropriate.
  Questions about the **robot** refer to a **distance** traveled – asking **how far** the robot travels is the most appropriate.