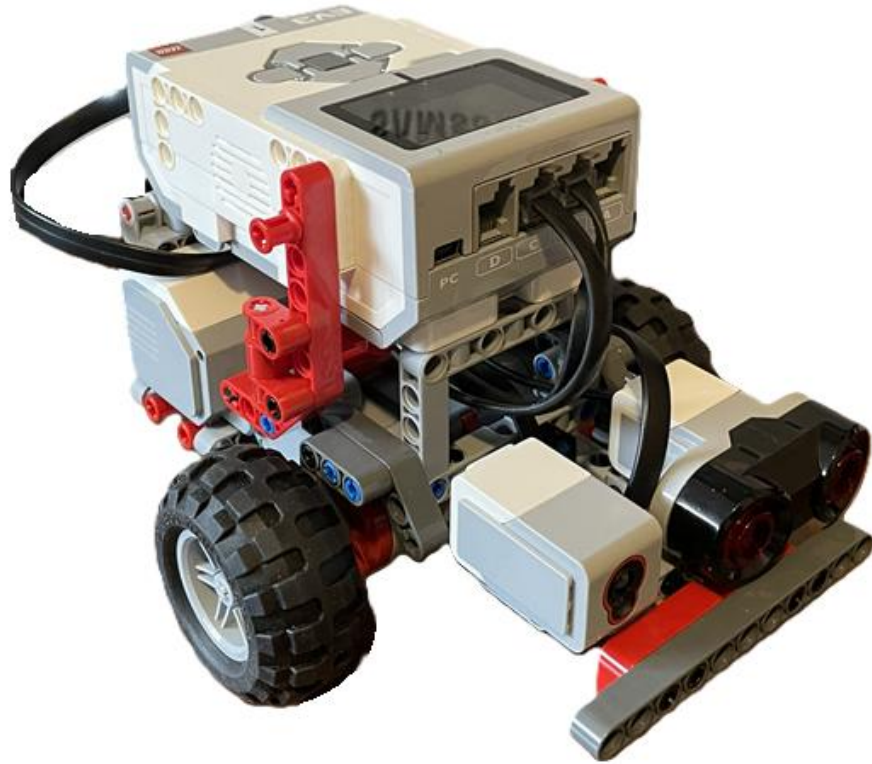
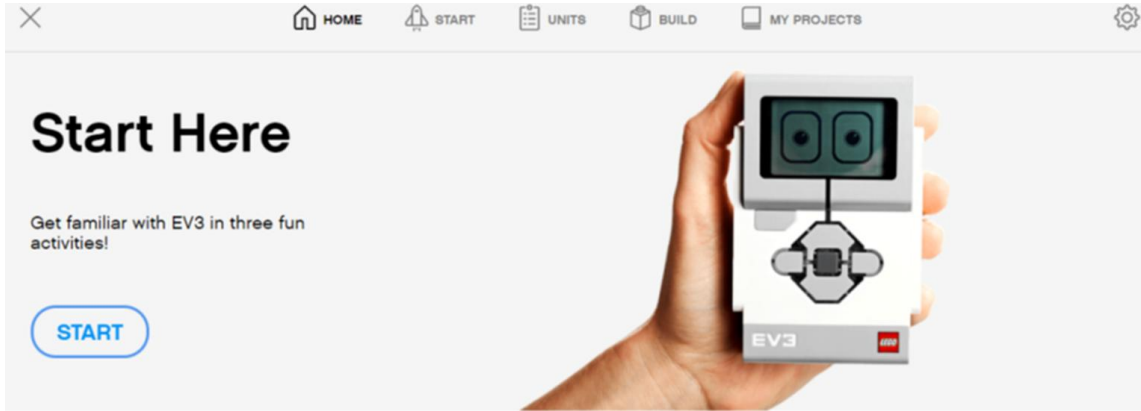


MOVEMENT

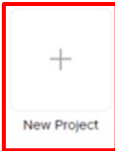


motors
=> port B & C

MOVEMENT



Recent projects



← Click the New Project button.

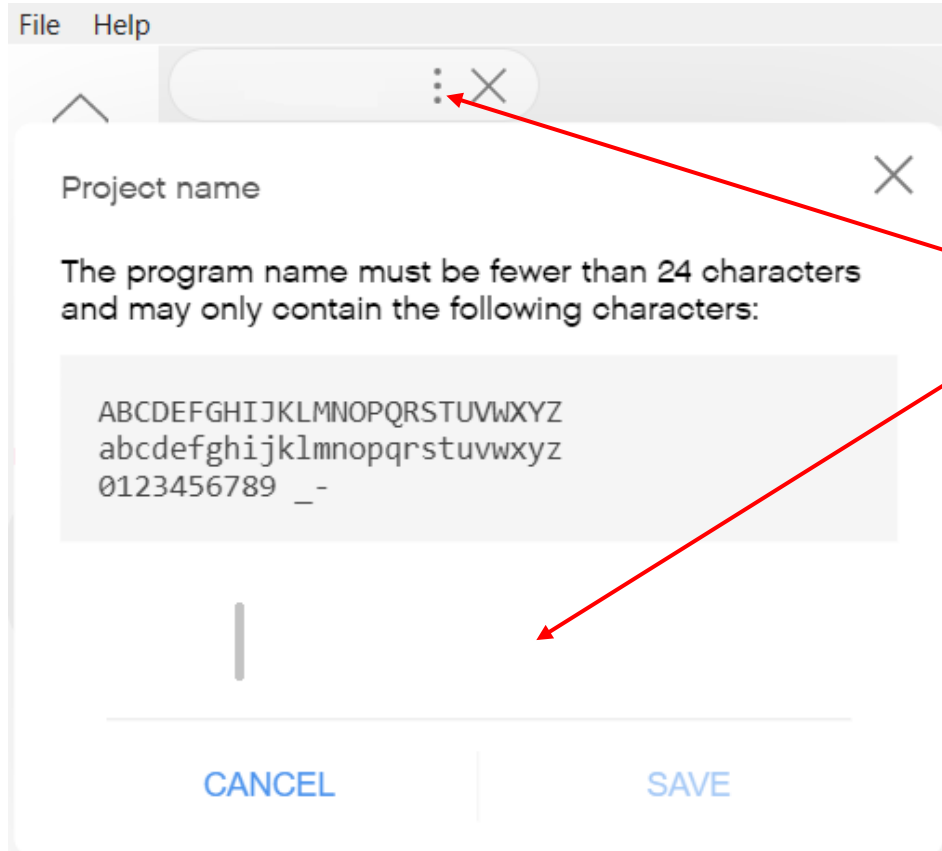
Unit Plans



Core Set Models



MOVEMENT



Name your program.

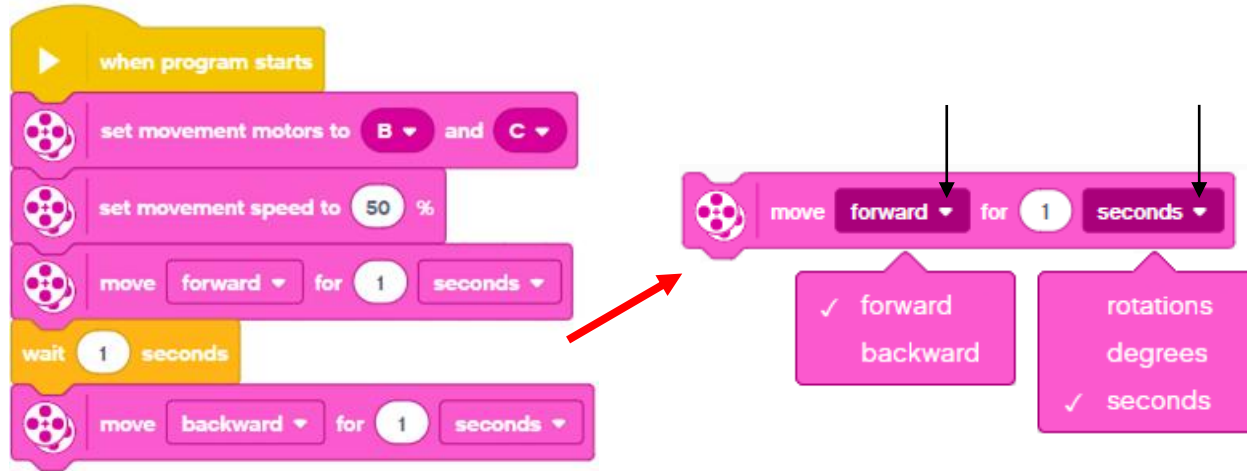
Click the three dots.

In the project name window type:

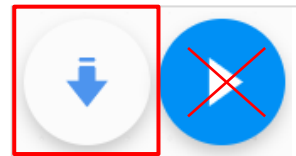
Move- _____
(your names).

MOVEMENT – FORWARD AND BACKWARD

Create a code sequence to have the Robocar move forward for one second and then backward for one second.



Download your code. →



MOVEMENT – FORWARD AND BACKWARD

1) Run your program from the EV3.

Make note of how far forward the Robocar travels at 50% speed for 1 second.

2) Change the time in your code to 2 seconds.

Run your program. Make note of how far forward the Robocar travels at 50% speed for 2 seconds.

3) Change the time in your code to 3 seconds.

Run your program. Make note of how far forward the Robocar travels at 50% speed for 3 seconds.

MOVEMENT – FORWARD AND BACKWARD

Think about it, discuss your ideas as a group, and then write your answers on a piece of paper.

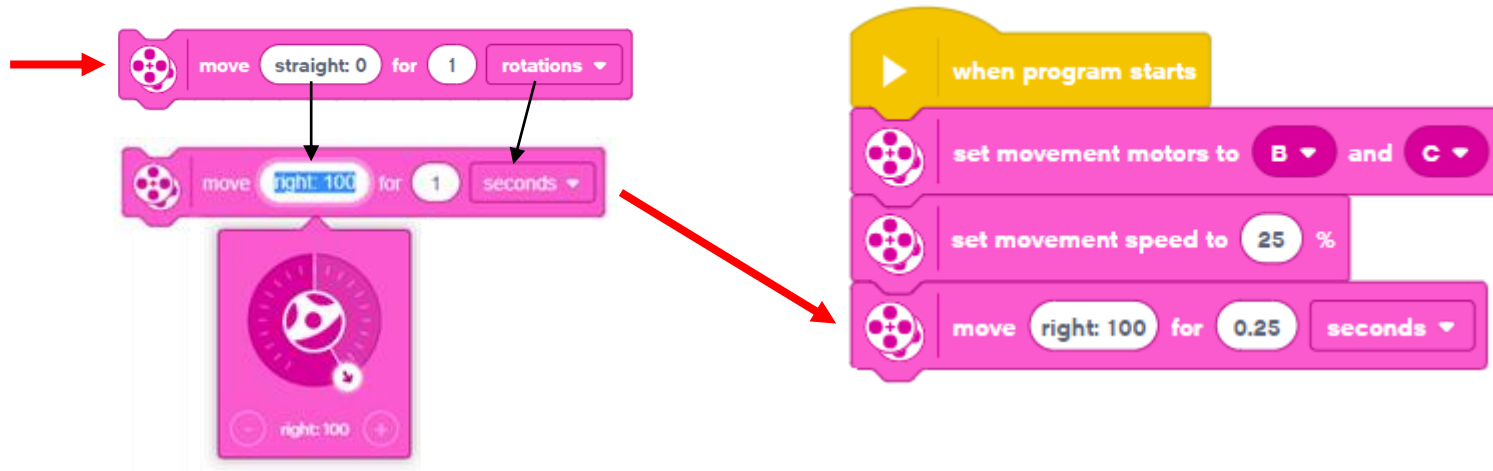
1) Explain how time affects the distance the Robocar will travel.

Check in with Mr. Desmond.
Be prepared to show your work
and discuss your ideas.



MOVEMENT – STEERING

Create a code sequence to have the Robocar at 25% speed and move right 100 for 0.25 seconds.



Download the program to the EV3.



MOVEMENT – STEERING

1) Run your program.

Make note of how far the Robocar turned after 0.25 seconds.

2) Change the time in your code to 0.50 seconds.

Run your program. Make note of how far the Robocar turned after 0.50 seconds.

3) Change the time in your code to 1 second.

Run your program. Make note of how far the Robocar turned after 1 second.

MOVEMENT – STEERING

Think about it, discuss your ideas as a group, and then write your answers on a piece of paper.

1) Explain how time affects how much the Robocar turns (distance).

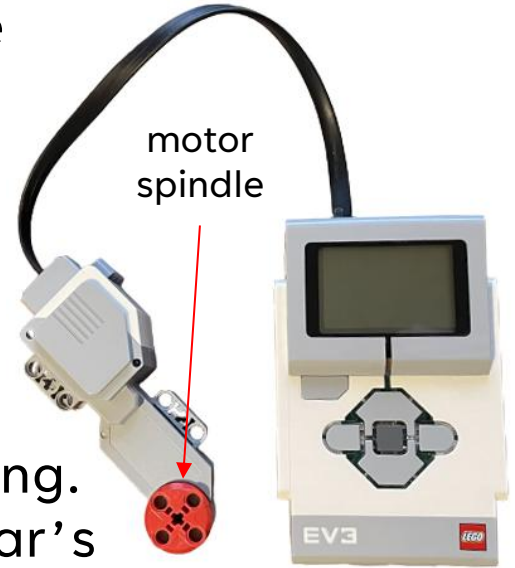
Check in with Mr. Desmond.
Be prepared to show your work
and discuss your ideas.



MOVEMENT – CONSIDER THIS

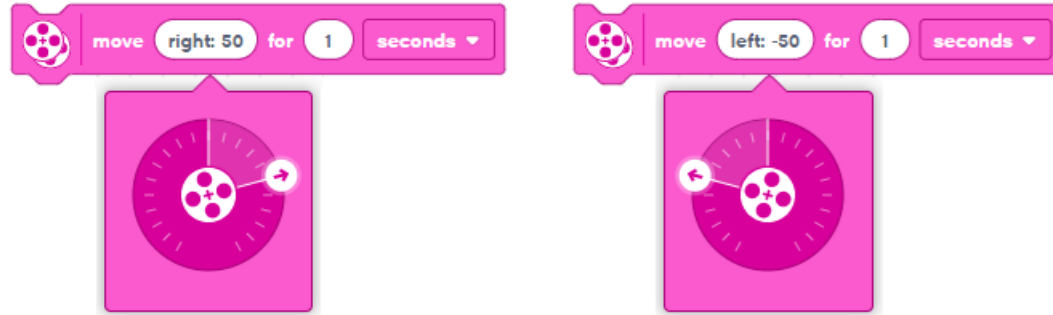
When the motor runs it is the motor spindle that is moving (spinning). The Robocar's wheels are attached to the motor spindle. That means the wheels spin at the same time and at the same rate as the spindle.

When the motor runs the spindle moves for a certain duration as controlled by the coding. For example, if we were to code the Robocar's motors to move for 2 seconds each motor spindle would spin for two seconds.



MOVEMENT – CONSIDER THIS

To determine **how gradual or sharp** the turn needs to be the EV3 Classroom app uses a turning dial.



The turn dial uses points on an arc from zero; **right turns are positive numbers**, and **left turns are negative numbers**.

The turn dial arc range is from -100 to 100.

Low numbers make the arc bigger and the turn **more gradual**.

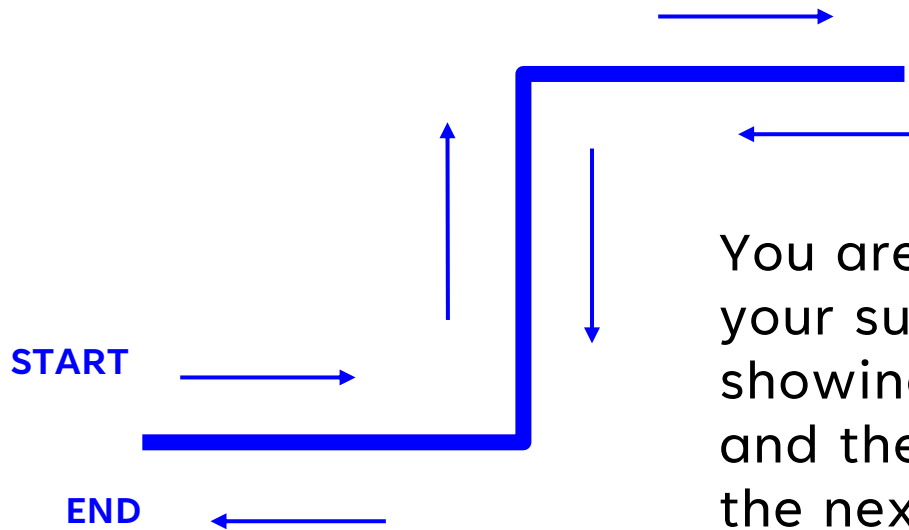
High numbers make the arc smaller and the turn **sharper**.

For most activities with the Robocar sharp turns are better.

MOVEMENT – CHALLENGE

The Two Corner Turnaround Challenge

Program the Robocar using seconds as the duration unit to complete movement along the path of the design below. Each move should be about 25 cm.



Make each turn as precise as possible.

You are expected to demonstrate your success to Mr. Desmond - showing both the robot in action and the code before you begin the next activity.