Name_____

U2-1.3 Let's explore driving Edison

One of the groups of blocks in the EdScratch block pallet is the Drive category. All the blocks in this category relate to using Edison's motors. One of the things you can use the motors to do is drive the robot like a car.

No driver needed! Just a programmer

How do you 'drive' an Edison robot? By programming the robot with code!

Jargon buster

Programs are the sets of instructions you create for a computer, or an Edison robot, to follow. The stuff inside a program is sometimes called **code**.

People often use the words **code** and **program** to mean the same thing. For example, you could say 'write a program for Edison' or 'write some code for Edison'. Either way it means 'write commands to instruct the Edison robot what to do using a programming language it understands.'

When you use EdScratch to create a set of instructions for Edison, you can say you are **programming** or that you are **coding** or both. Which makes you a **programmer** and a **coder**!

Let's try programming Edison using drive blocks.

Task 1: Drive a straight track

For this task, you need to get Edison to drive a straight track. Use activity sheet U2-2. You need to write a program so that Edison can drive the track. Start Edison on the outline and have the robot stop after it crosses the 'finish' line.

Go to the EdScratch app on your computer. Look at the blocks in the Drive category. Which blocks will you need to write your program? Test your program by downloading it to your Edison robot and running it using the activity sheet. Did it work?

Don't forget

You can change the numbers in a block by clicking on the number and changing it using your keyboard.

You can change a drop-down item in a block by clicking on the down arrow and selecting the option you want.

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1. You can code a solution for this task using just one block! Which block will work? Fill out the block below to match what you used in your successful one-block program.

Task 2: Drive a maze

For this task, you need to get Edison to drive through a maze. Look at the maze on activity sheet U2-3. Think about the different actions Edison will need to take to drive the maze. Be sure to consider the sequence of the actions too!

2. What actions do you think Edison will need to take to complete the maze? Write down a plan to get Edison through the maze.

Sample student answer: forwards for 26.5 cm at speed 5 OR forwards for 10.5 inches at speed 5 OR forwards for 1.05 seconds at speed 5 .

Use this plan to help you write a program in EdScratch for Edison to drive through the maze. You will need to use several different blocks in your program to be able to complete the maze. You will also need to figure out what input parameters to use in each block.

Jargon buster

The things you can change inside a block, like the numbers and choices in the drop-down lists, are called **input parameters**.

Start Edison on the outline in the maze and have the robot stop after it crosses the 'finish' line. Be sure to have Edison stay inside the lines all through the maze - no cheating!

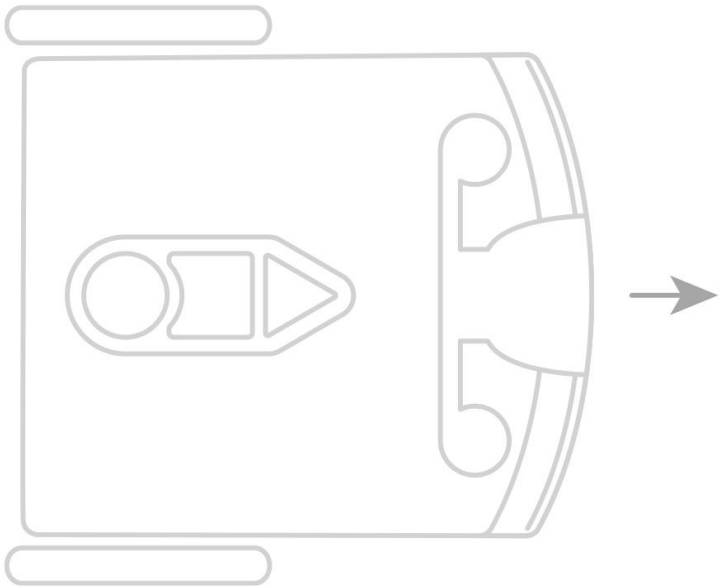
Hint!

Your program might not work the first time – and that's okay! Part of coding is experimenting and problem solving. If your program isn't working, think about the actions you need Edison to do one by one to complete the maze.

Are you missing any actions in your program? Are there any actions out of order?

You can also try changing some your input parameters. Sometimes changing an input parameter even just a little bit makes a big difference!

Activity sheet U2-2: Driving track



Activity sheet U2-3: Mini maze