Predict and Plan

Describe how your EV3 robot meats the definition of a system (see the definition above, but use your own words).

_____

_____

_____

What subsystems are present? Account for the brick, all the motors, and sensors in your answer.

The drive train, chasis, castor wheel, wires…

_____

_____

Take one subsystem and break it down to as many individual components as possible.

Drive train has the motors, wheels, tires, magnets, wires…

_____

_____

_____

Demonstrate/Design/Discover

- ✓ So far we've covered the sound block, light block, and display block; all of which are outputs. An input occurs when the robot gathers information about the outside world. The "Wait for Button" block will help us do that. Change a wait block to make it look like this ->

- ✓ Using this wait block and the other blocks mentioned, create a program that waits for a button press to turn yellow, and

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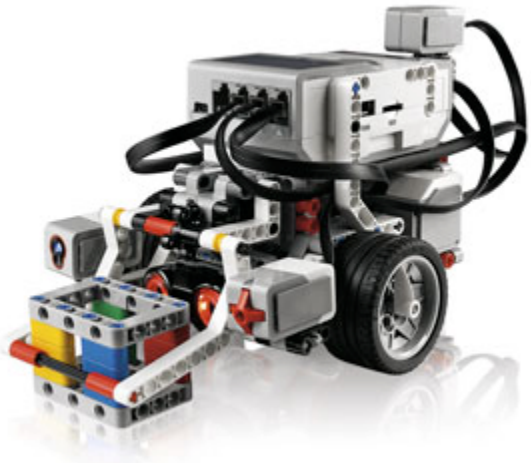
says “yellow” using the speaker, and then does the same for red. End your program with a normal “wait for seconds” block.

Tips: Blocks can be modified quite a bit, click on them to explore exactly how. There’s a large sound library in the EV3 software (click the top left of the sound block). Also, by editing the light block, you can change whether the light blinks or stays on.

Record	
Record all your inputs and outputs of your current program below.	
Input(s)	Output(s)

Questions	
Question 1 Science	Is the EV3 robot a physical or social system? (If yes why, if not could they be in the future?)
It is a physical system because it does not rely on social communicating organisms/entities. _____ _____ _____ _____	
Question 2 Science	EV3 has many sensors which sends information to the brick. Are these inputs or outputs?
The sensors are inputs to the robot.	
Question 2 Science	With help from the picture below, label and describe the design of each subsystem on the robot, commenting on the location of each sensor, motor, and brick. Explain

	how the design and location help it to be a better output or input. 

The gyro sensor is located behind the robot so it can measure the turns left and right, and also at the back to allow room for other sensors which need to be at the front. The wheels and motors subsystem (or drive train) are symmetrical, and have markers to tell when the tire has rotated once around.

Extension Coding and Science	Play a tune. An instrument has inputs and outputs as well. Modify the sound block to make your play a note. Program a simple tune that you play on the EV3 buttons. (You can use

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	more notes than buttons). Because this program is just one path, you can only play preprogrammed songs. With other blocks, you can learn how to play the EV3 brick like a real piano.