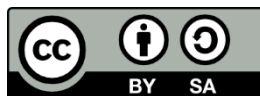
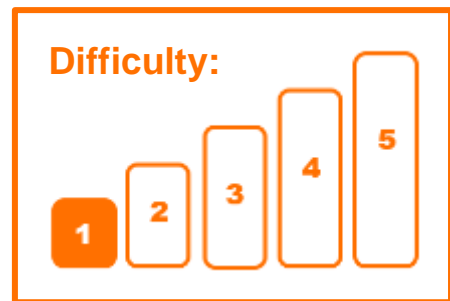




# EdBuild

Let's build the EdTank



The EdTank EdBuild by [Microbric Education](#) is licensed under a [Creative Commons Attribution-ShareAlike 4.0 International License](#).

## U1-1.2e Challenge up: Build and control the EdTank

The TV remote control barcodes let you control your Edison robot to move in different ways. The remote-control barcodes that control Edison's movements are actually controlling the robot's motors. What happens if the motors don't have wheels attached, but something else?

Your robot needs to travel over a rough surface! Take your robot outdoors and find a shady spot (so the sun doesn't interfere with the remote's signal) to drive your robot with the remote control. This is the same challenge the engineering team for NASA had to solve for the rovers that went to Mars. How well does your robot, with two wheels and a skid, do over rough terrain such as sidewalk, cracks, grass, etc. Write about the challenges your robot faced and try to solve your problem with building the EdTank or one of your own ideas.

### What to do

In this activity, you will build and control the EdTank.

The EdTank is a remote-controlled tank that you can drive around. You can use a second Edison robot as well to build a top layer to the tank with a cannon which you can use to fire a rubber band.



Use this link

Go to [meetedison.com/content/EdCreate/EdBuild-EdTank-instructions.pdf](https://meetedison.com/content/EdCreate/EdBuild-EdTank-instructions.pdf)

This link will take you to the step-by-step instructions for building and programming the EdTank.

### Try it out!

Once you have built and programmed the EdTank, try driving it around!

1. Do you notice any differences in how the EdTank drives compared to how Edison normally drives when the robot just has its wheels attached? Think about what might cause any differences you notice. What might be affecting how the EdTank drives?

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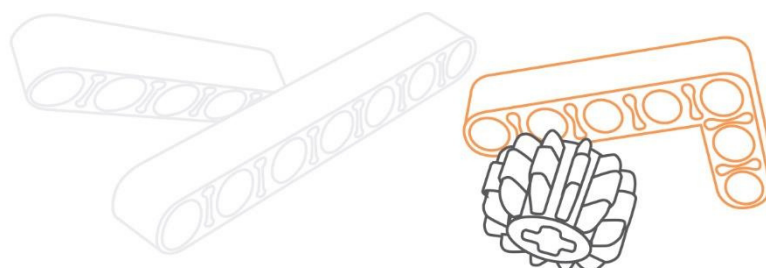
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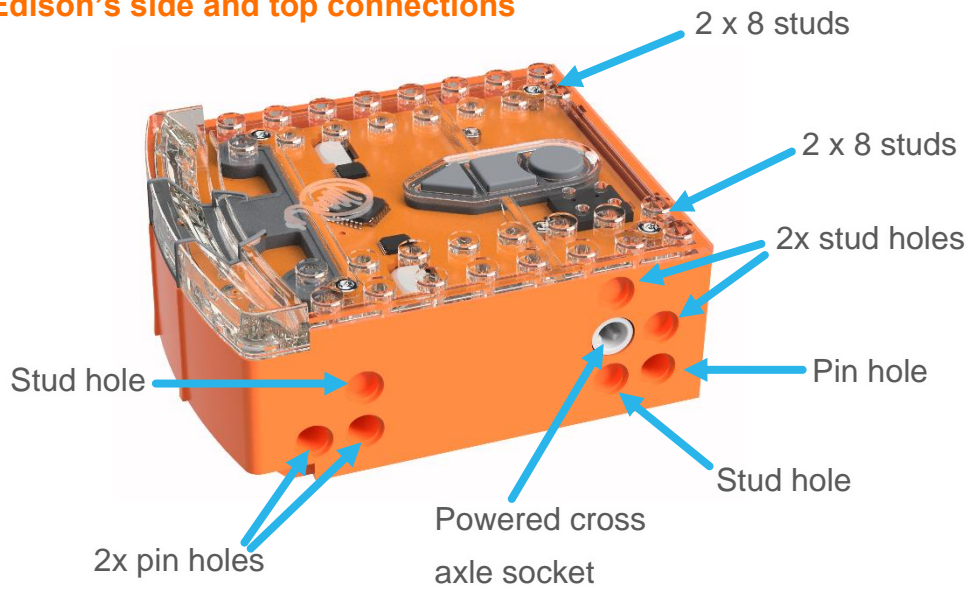
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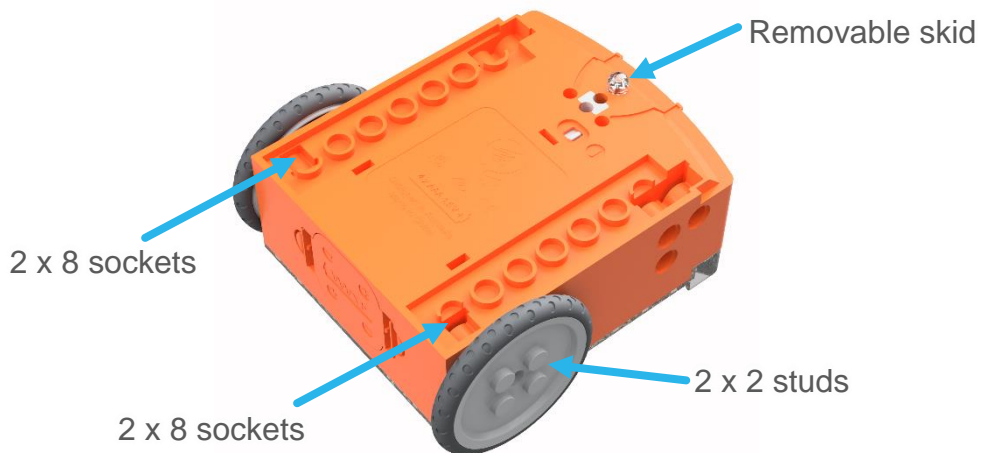
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### Edison's side and top connections



Hole type	Description	Connects to
Pin hole	A full-depth hole for connecting pegs.	
Stud hole	A hole of normal stud-depth which works with half pegs.	
Cross axle socket	A powered socket which rotates.	



### Edison's bottom and wheel connections

## Step 1: Program Edison

Before you begin building with the EdCreate parts, you will need to program the remote-control codes.

### Program the driving Edison

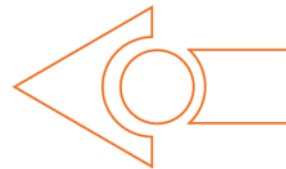
The driving Edison will control the movement of the EdTank (forwards, backwards, turn left and turn right). Drive this Edison over the following barcodes, programming each to a button that corresponds well with the driving manoeuvre on the remote control. Don't use buttons that you want to use to control the cannon.

#### Reading the barcode

1. Place Edison facing the barcode on the right side
2. Press the record (round) button 3 times
3. Edison will drive forward and scan the barcode
4. Press a button on your TV/DVD remote that you want to activate that function



Barcode – IR learn drive forward



Barcode – IR learn drive backward



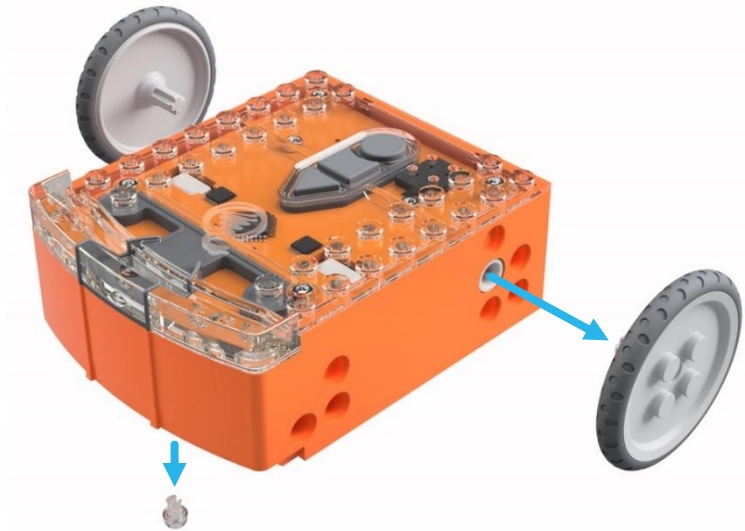
Barcode – IR learn turn right



Barcode – IR learn turn left

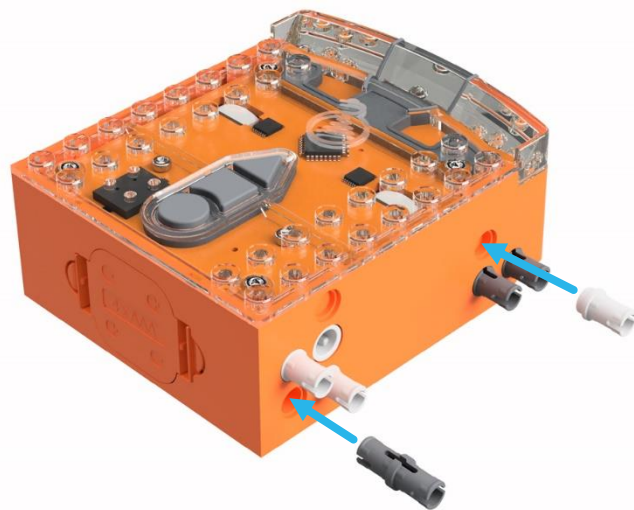


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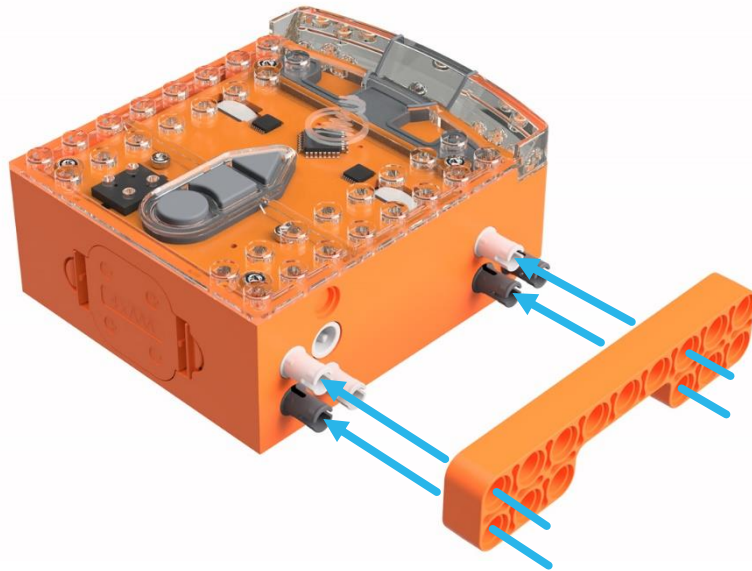
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3x  3x 



3

1x



4

3x

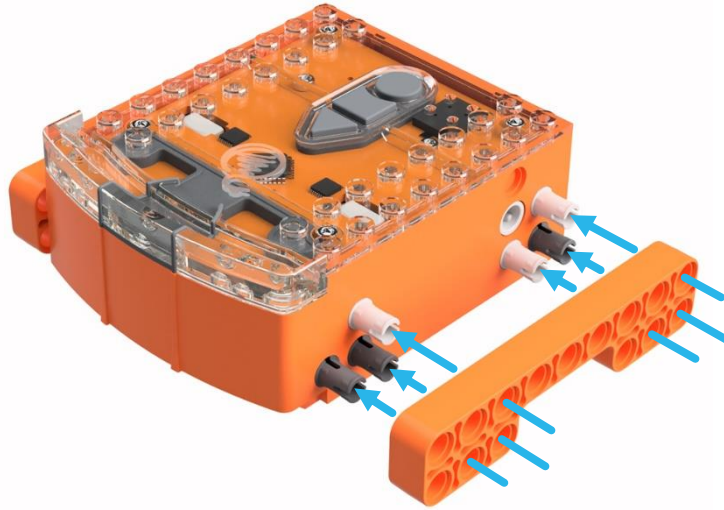


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5

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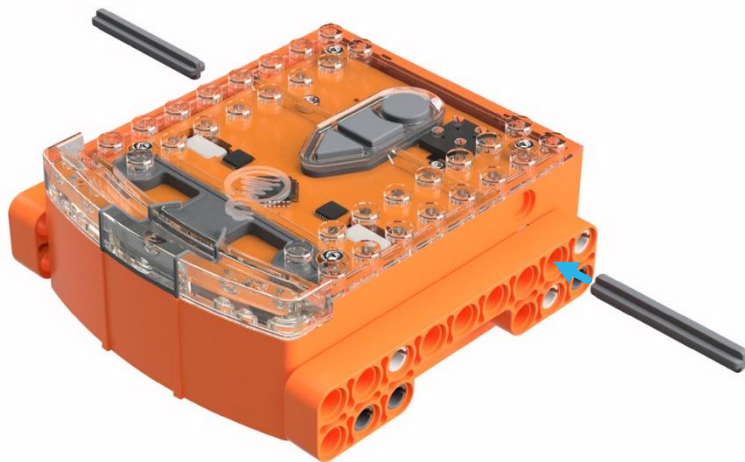


6

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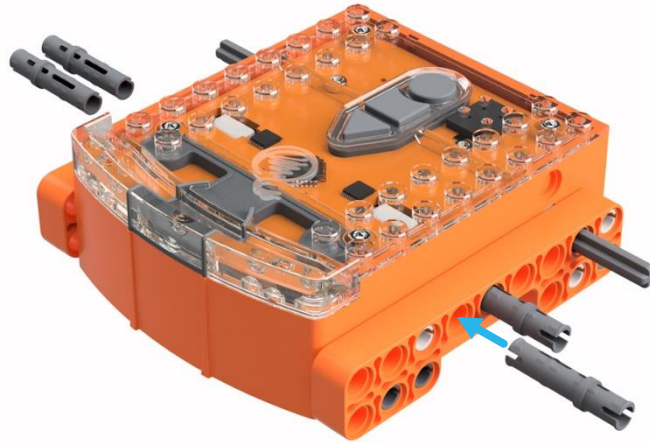


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7

4x



8

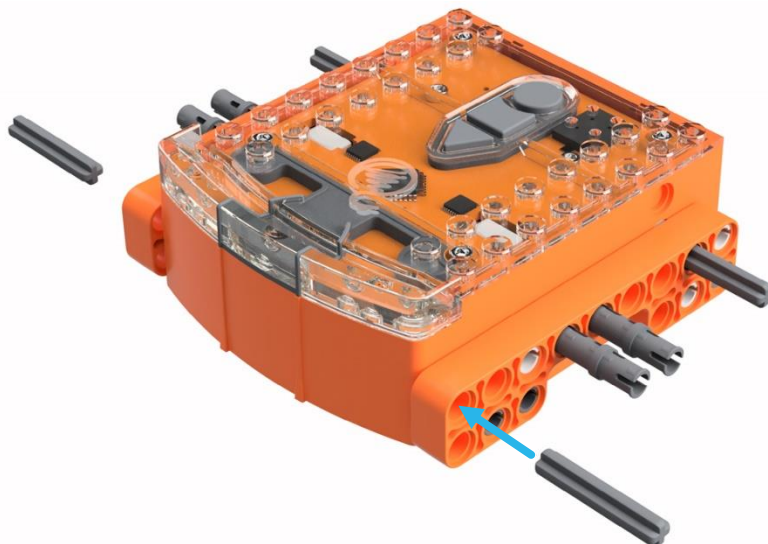
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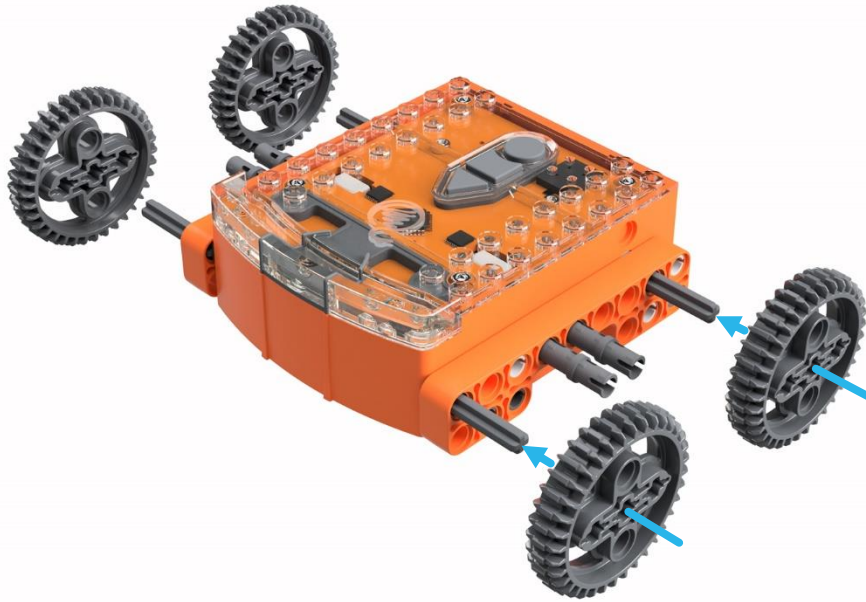
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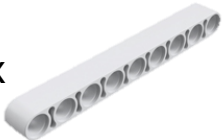
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10

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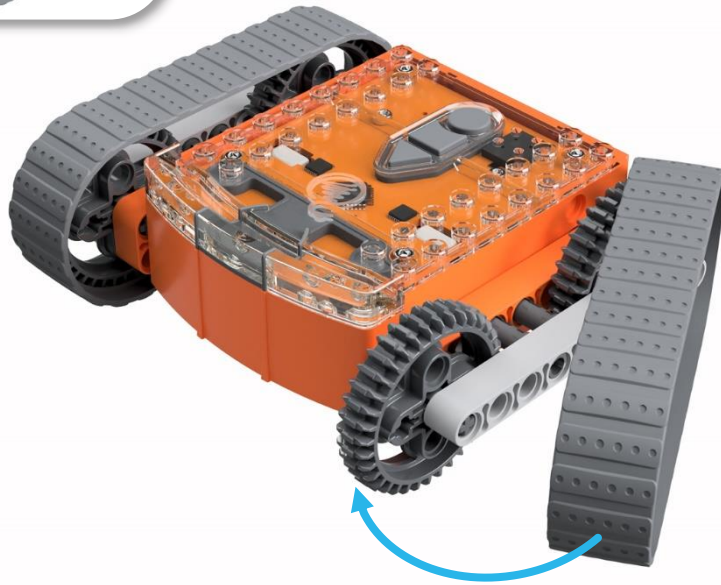


1:1



11

2x



12

