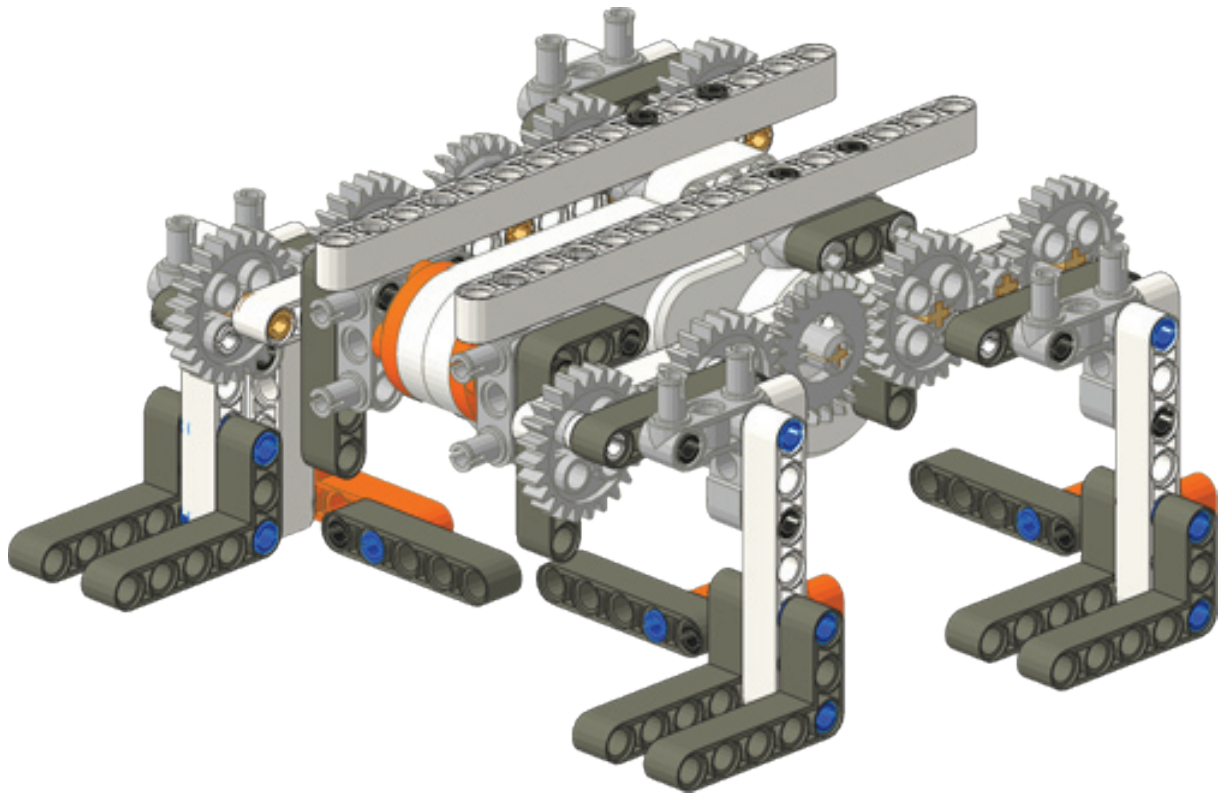


Four-Legged Robot—Quick Start

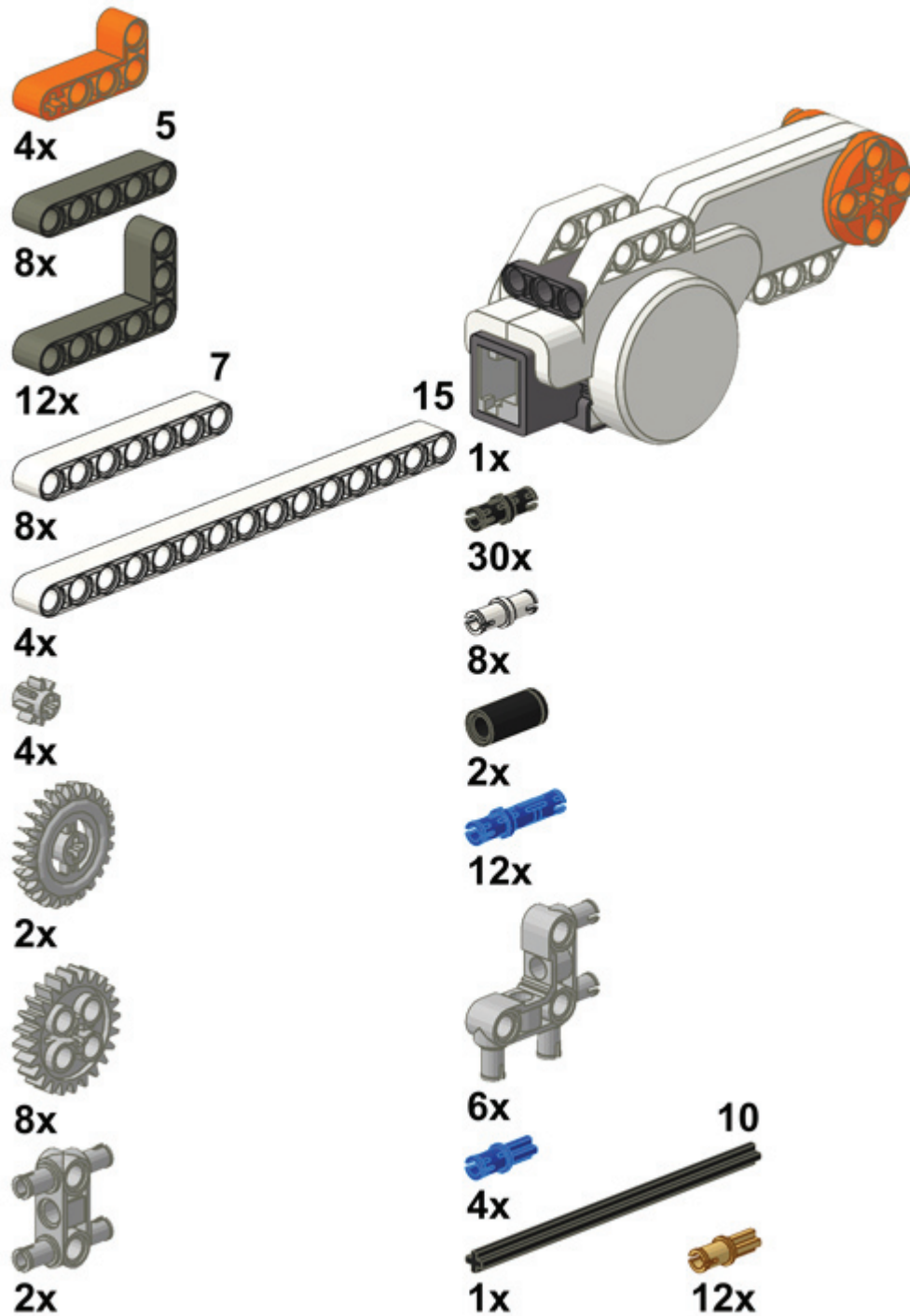


This simple walking base can be transformed into many different robots. You are limited only by the parts you have and your imagination.

When you look at this base, can you “see” an animal? Where do you picture attaching the brick? (I’m imagining it as part of a dragon’s tail.) Using any sensors you own, can you program “realistic” actions? Does your animal bite or roar? Do you have a shooting mechanism in your LEGO stash that might be used for a spitting llama or a spraying skunk?... (I want wings on my dragon.)

Why do you think I have placed a Beam 5 on the inside of each foot? Try walking the robot without the extensions. What happens? Why do you think this is? (Hint: Look at the robot from the front as it walks. Are the legs straight up and down? If not, why does it matter?)

Parts List (To build the robot as shown.)



If you have an NXT kit does not contain gears—or not enough of them—they can be purchased them from bricklink.com or legoeducation.com. These gears are also commonly used in other NXT sets—particularly Technic sets. Part lists for all LEGO building sets can be found at peeron.com.

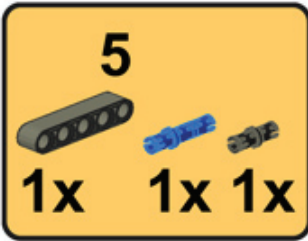
Right Leg (Make Two)

(You may want to change the design of the feet. Just keep the center of gravity in mind.)

1

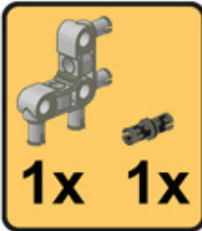
5

1x **1x** **1x**



2


1x **1x**



3

7

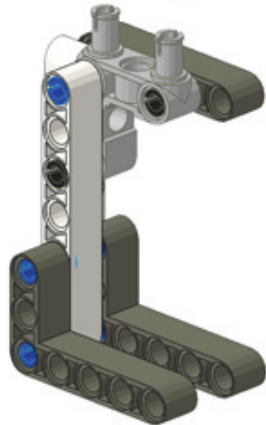
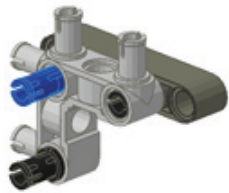

2x



4

2x


2x



5

2x

1x

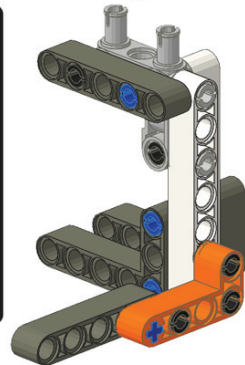
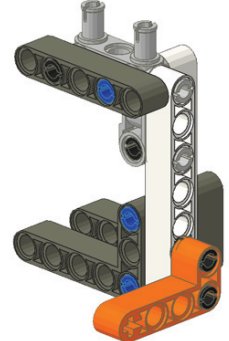



6

1x

1x **5**

1x

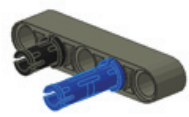


Left Leg (Make Two)

1

5

1x 1x 1x



2

1x 1x



3

7

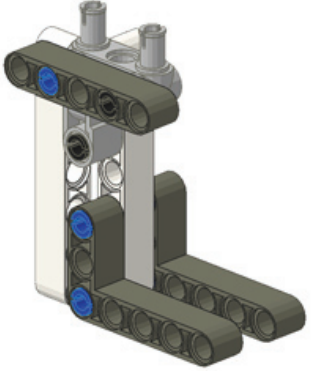
2x



4

2x 2x

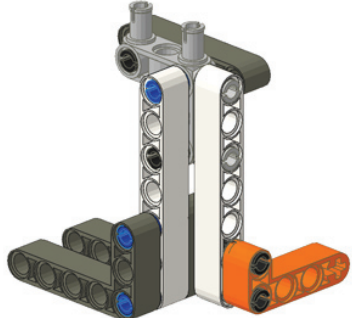
2x



5

2x 1x

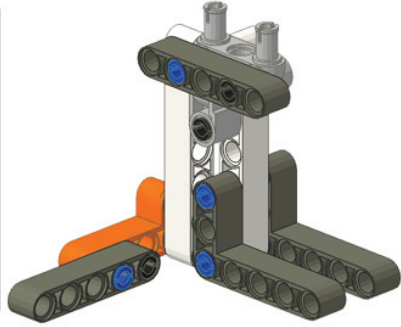
1x



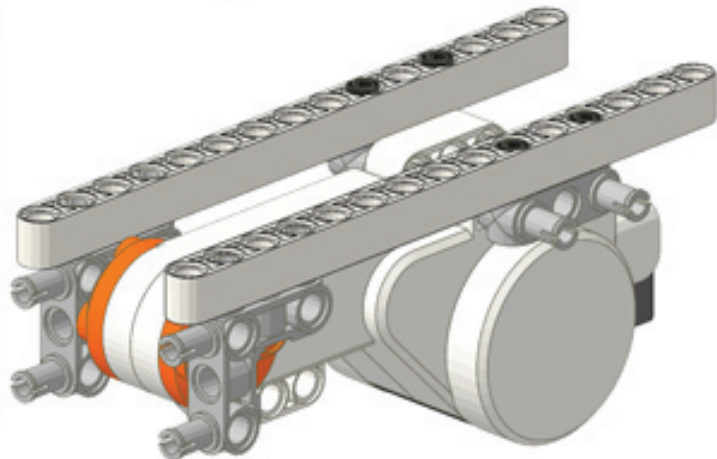
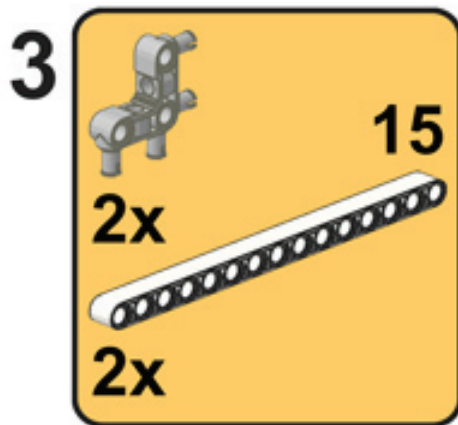
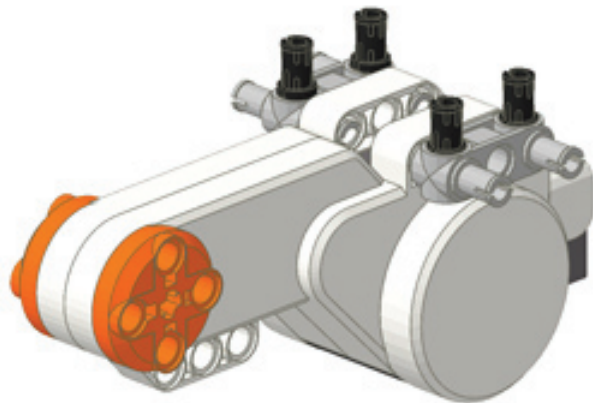
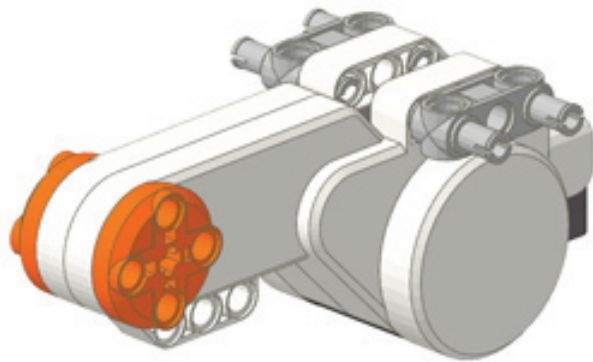
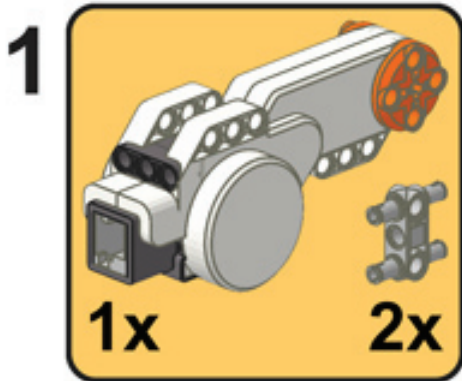
6

1x 1x 5 1x

1x

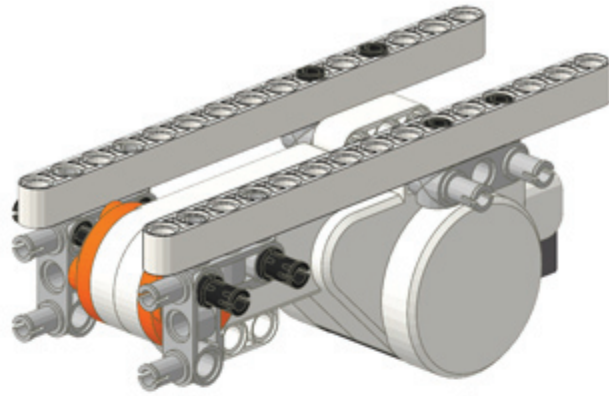


The Base

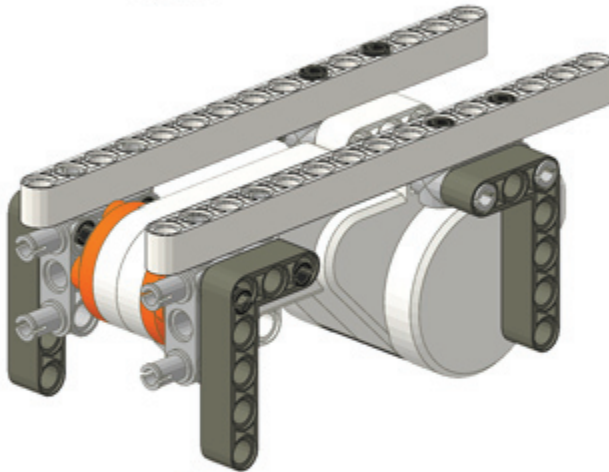


These beams offer one of the possible platforms for the NXT brick.

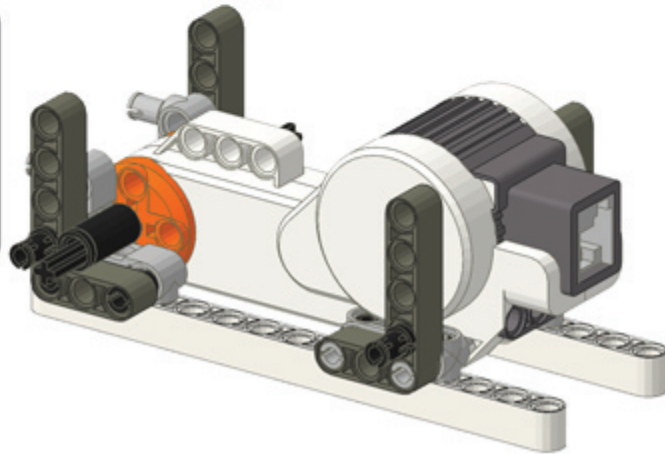
4  4x

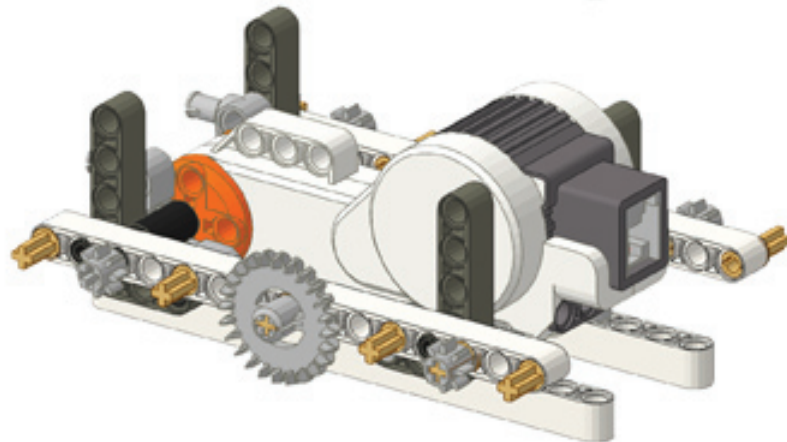
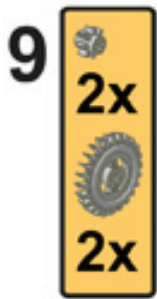
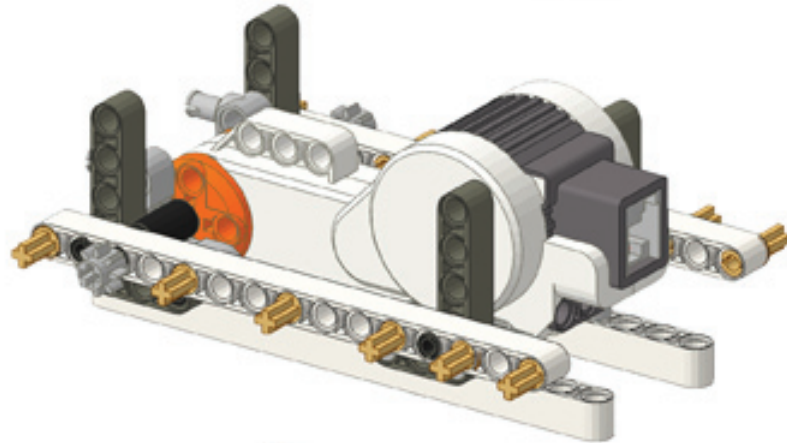
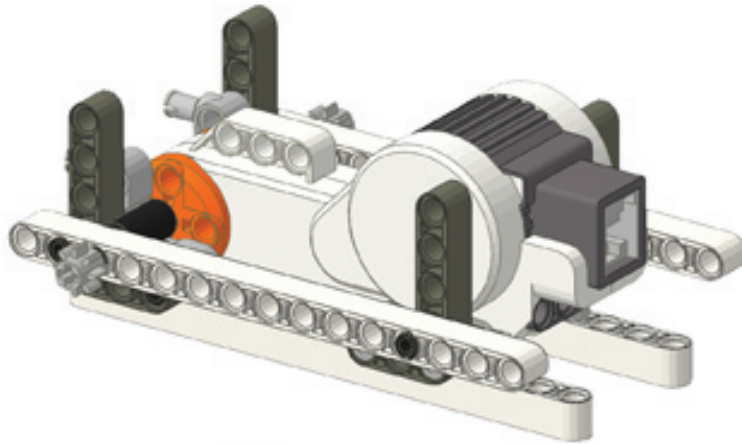
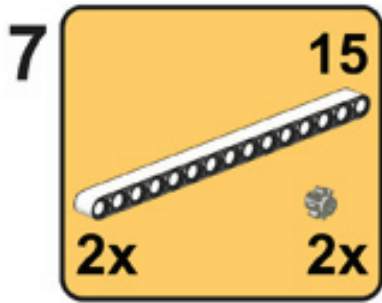


5  4x



6  2x 10
 1x  2x

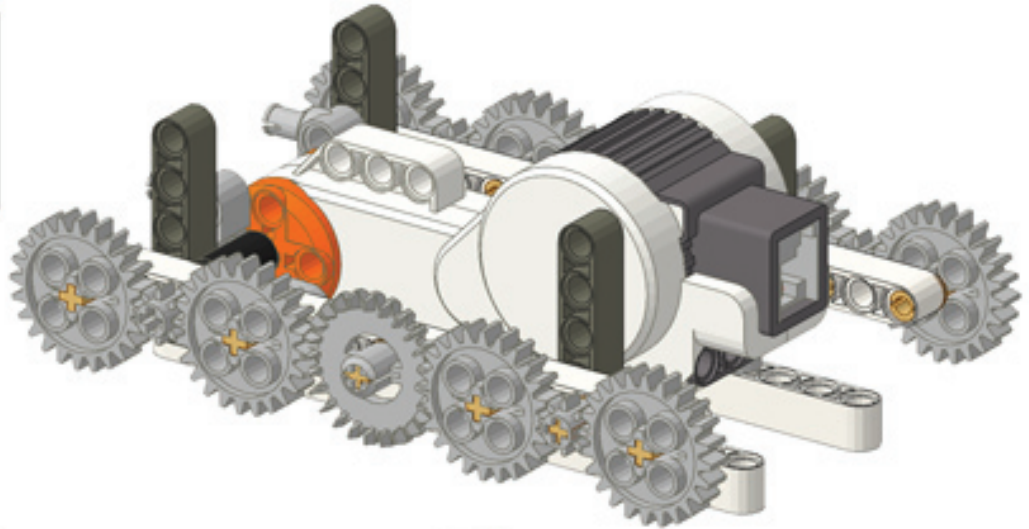




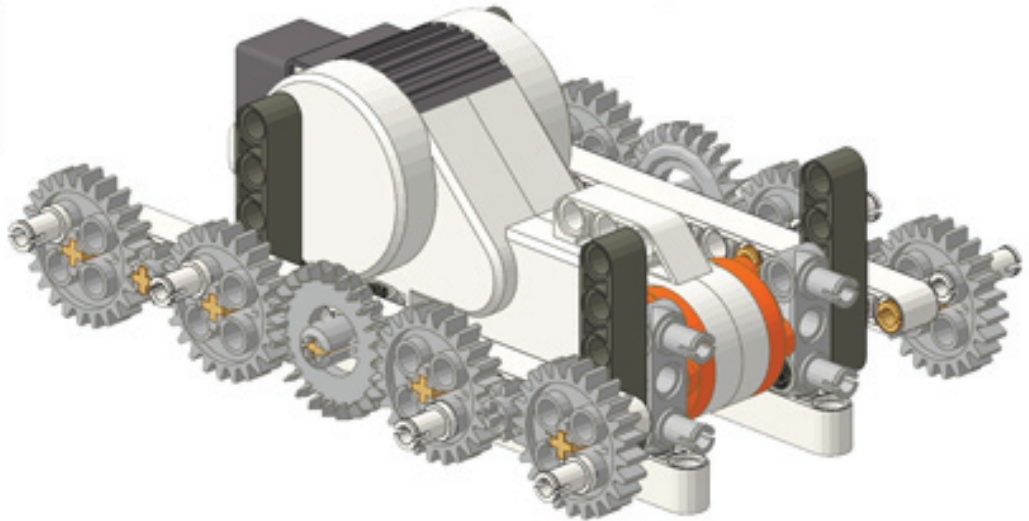
The gears used in Step 10 can be used here instead of this crown gears.

Note the orientation of the gear holes. It should look the same on both sides.

10 
8x

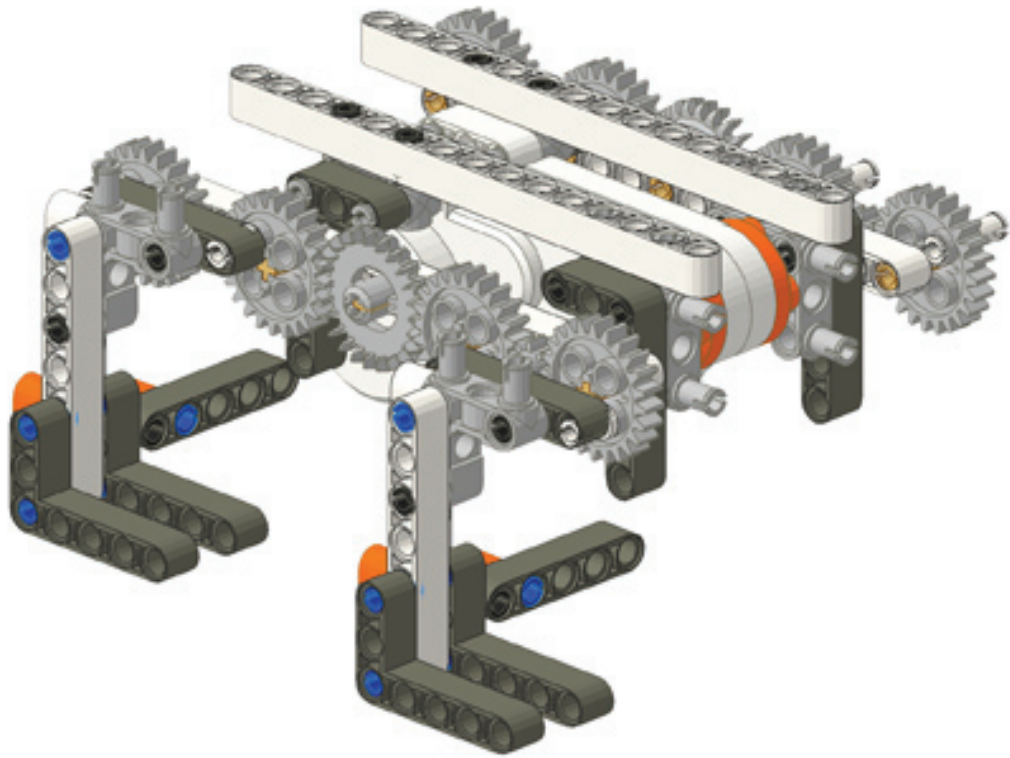


11 
8x

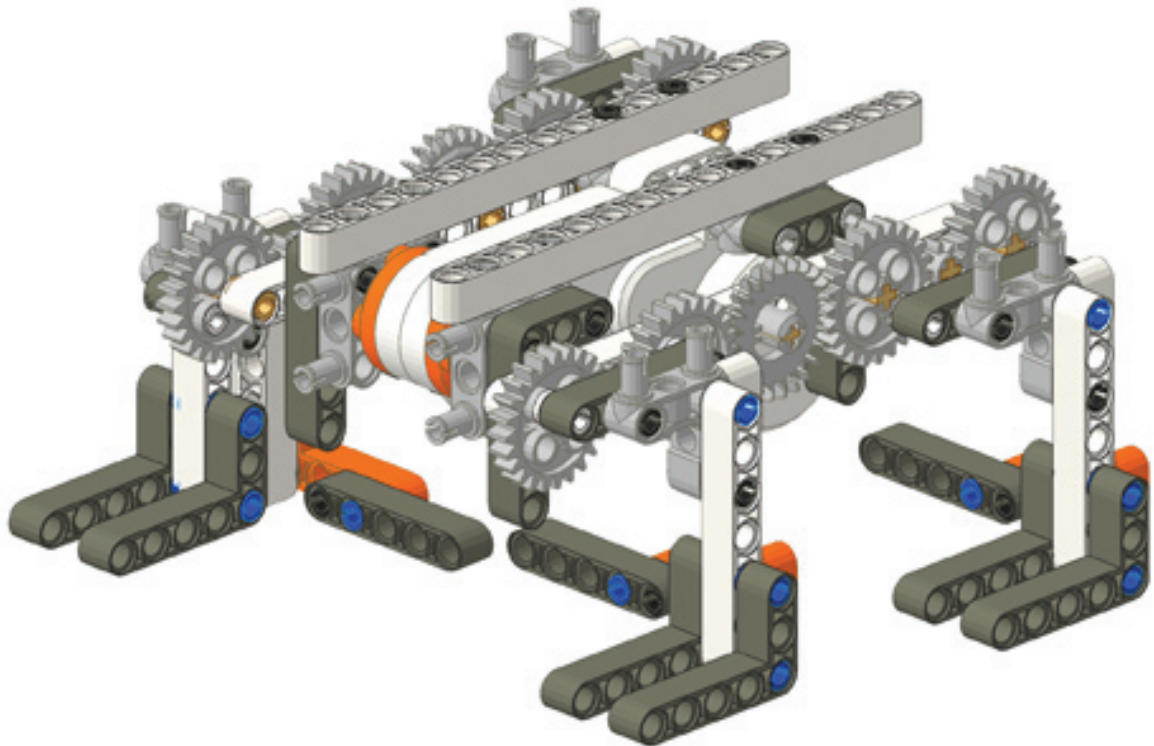


As you face each side, the leg on the left should be inserted in the upper left holes. The gears on the right should be connected to the bottom right holes.

12

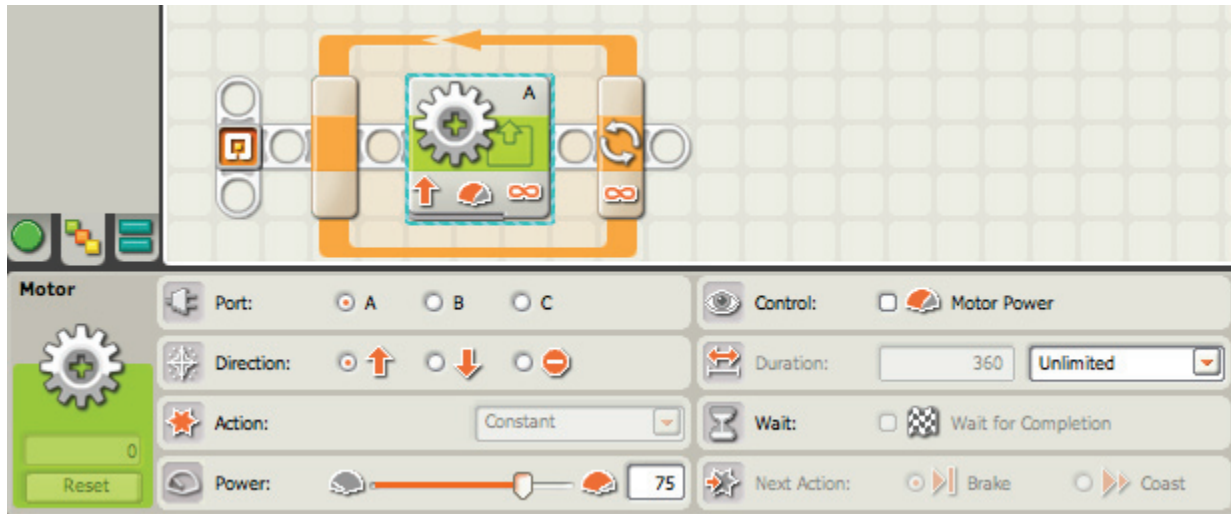


13



You take it from here!

Programming the Robot to Walk



This simple program makes the the robot walk forward. If you want to make use of sensors and additional motors, think about how you would program their use. (I'd want my dragon to roar and show his sharp teeth when anyone intrudes on his territory.)