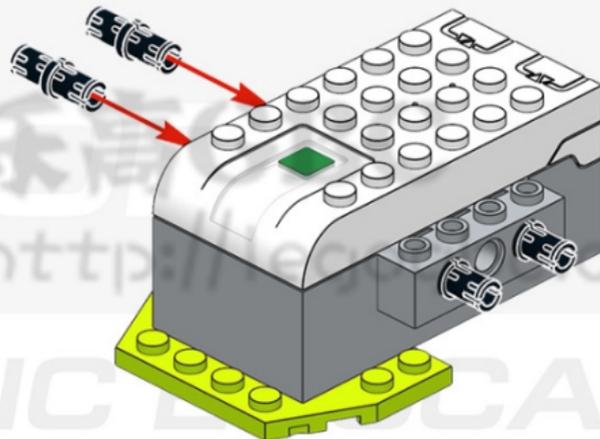
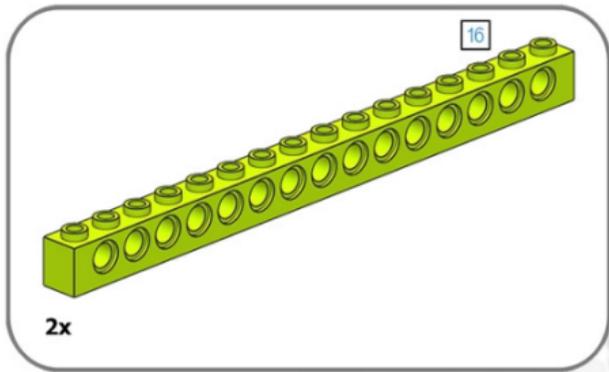


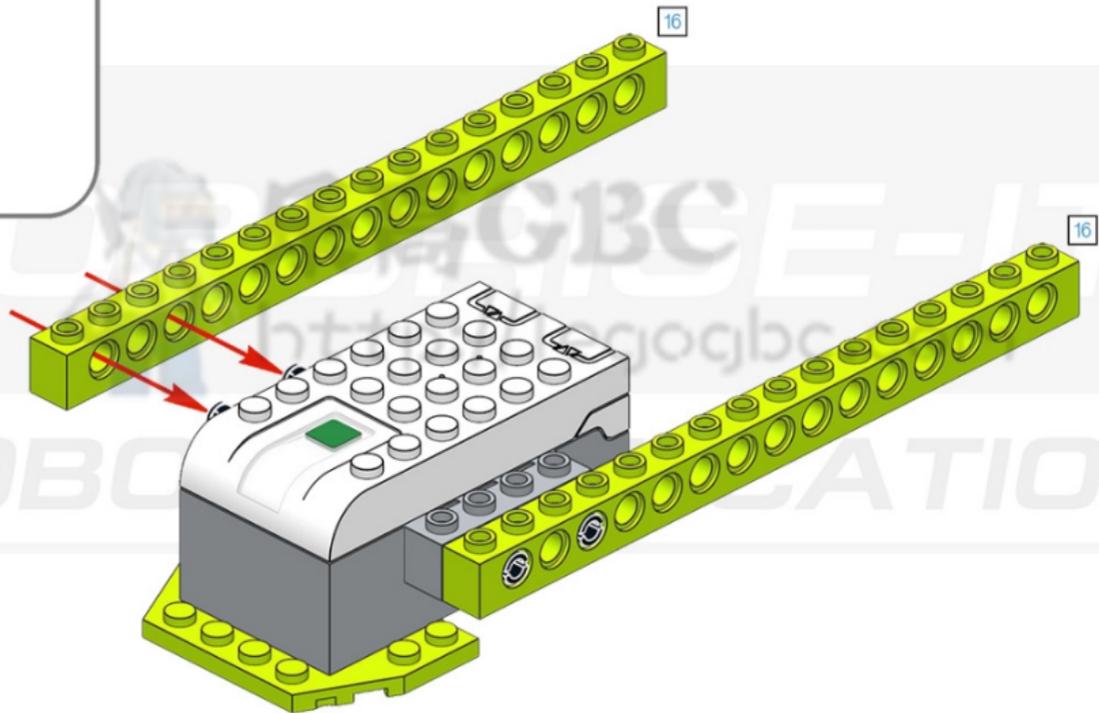
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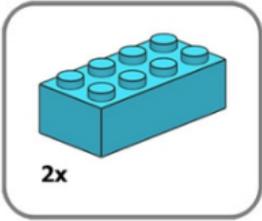


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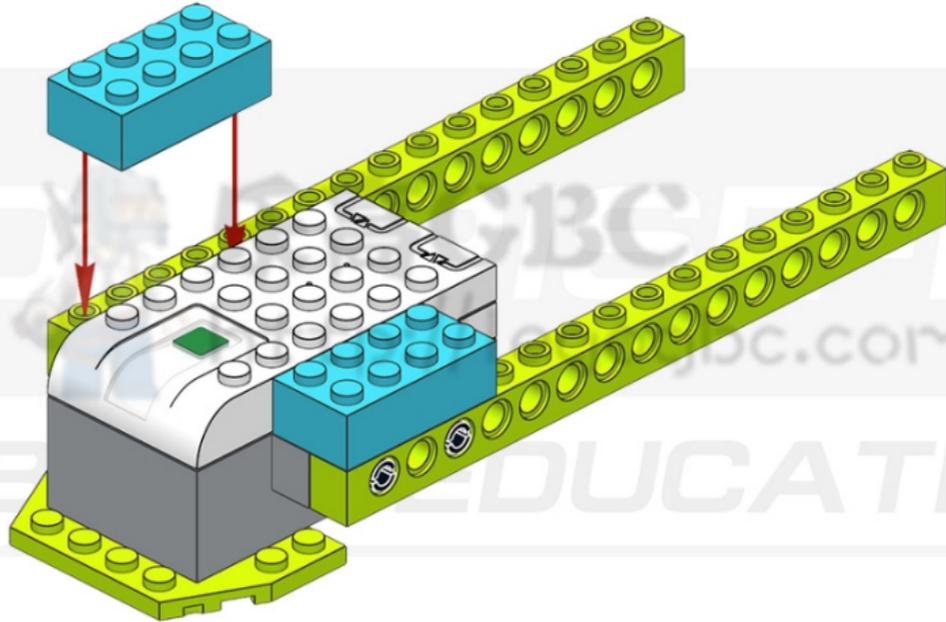


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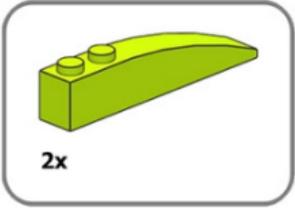




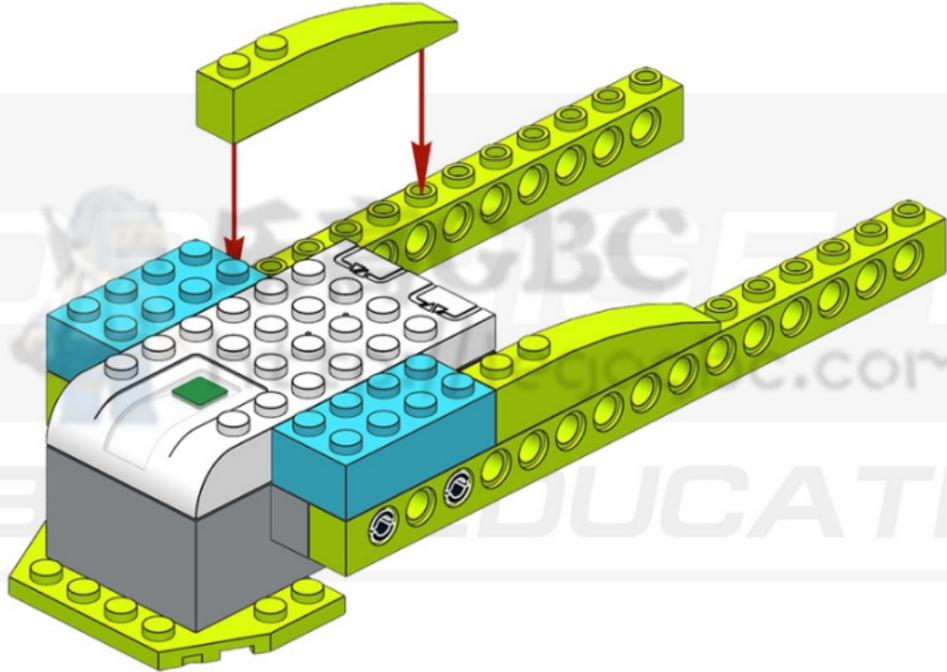
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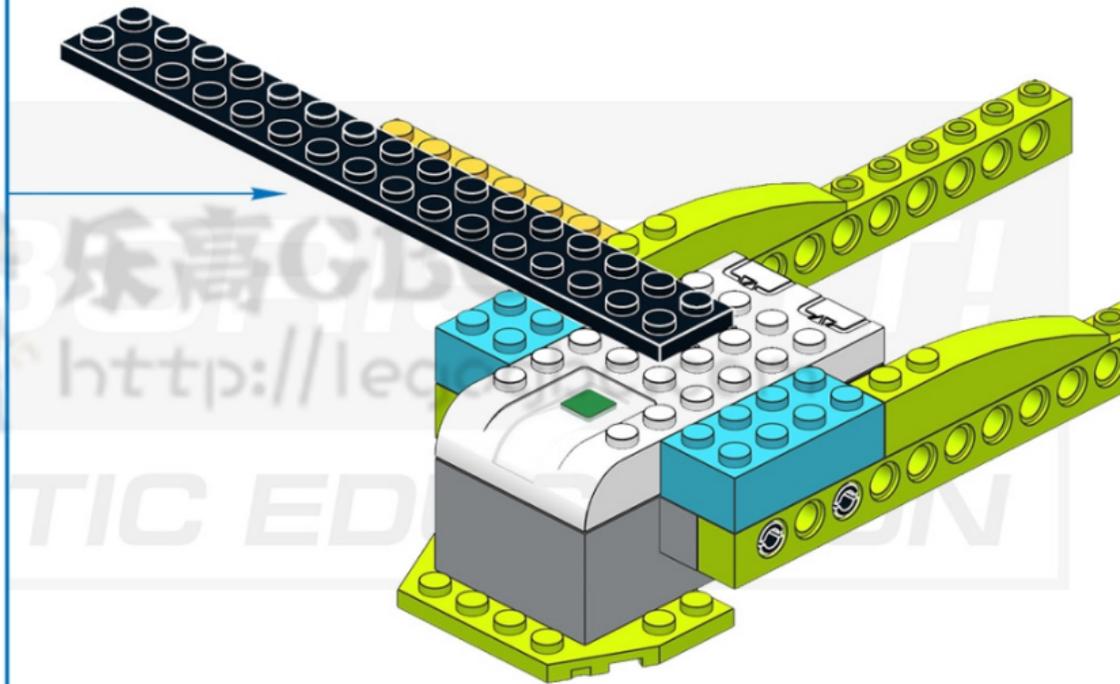
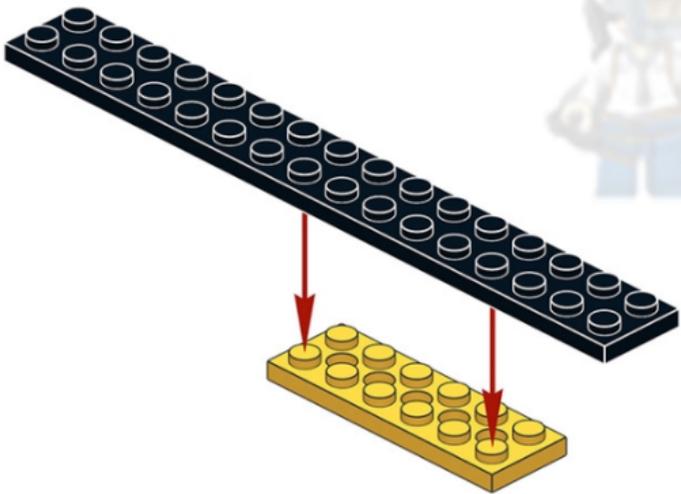
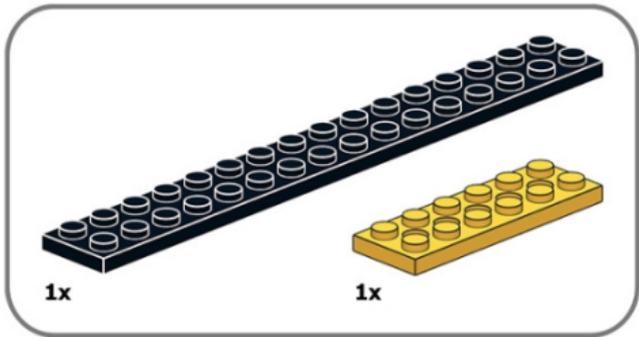


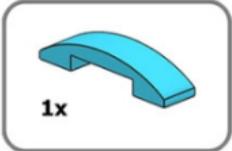
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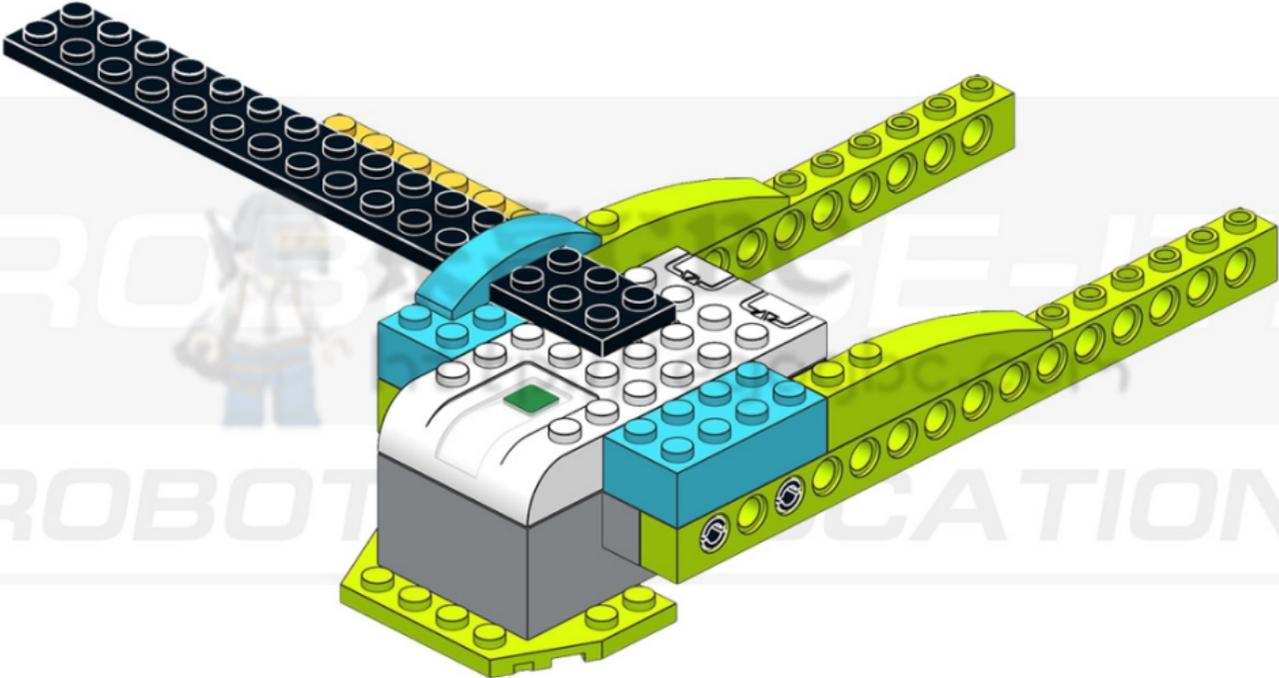
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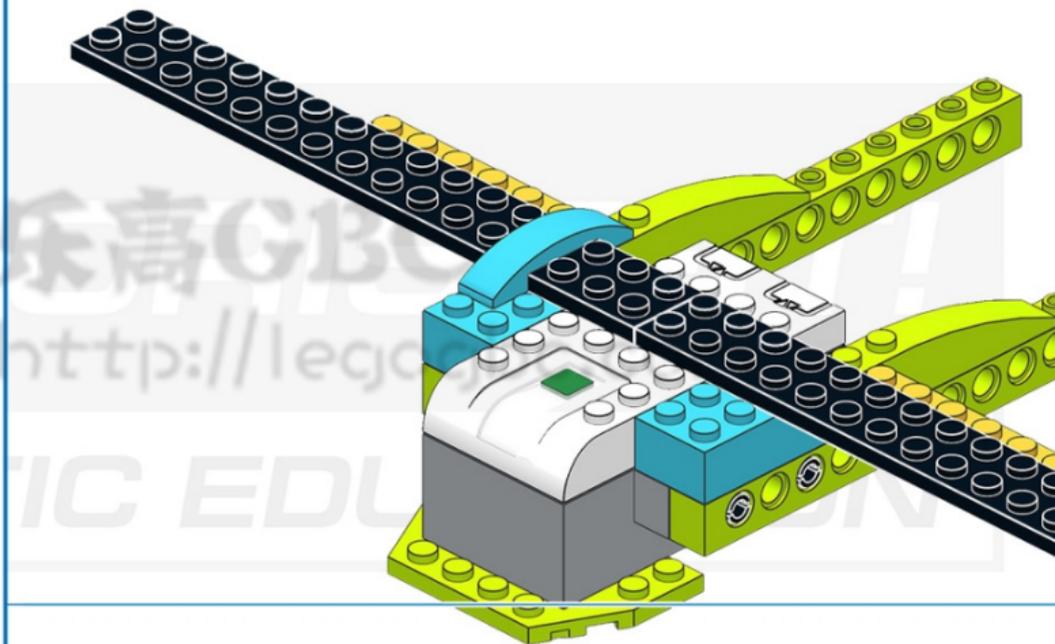
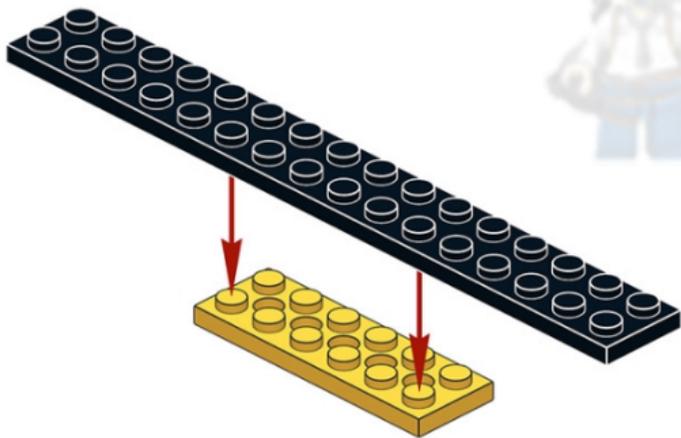
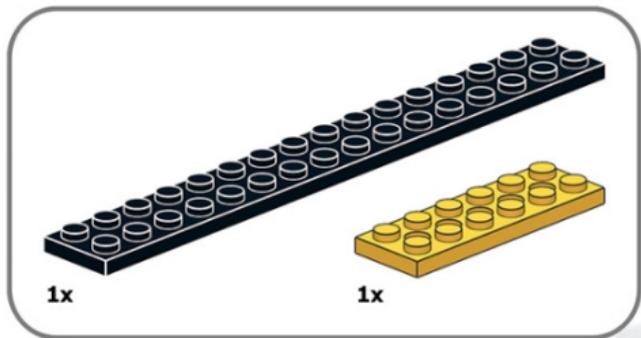


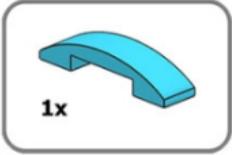




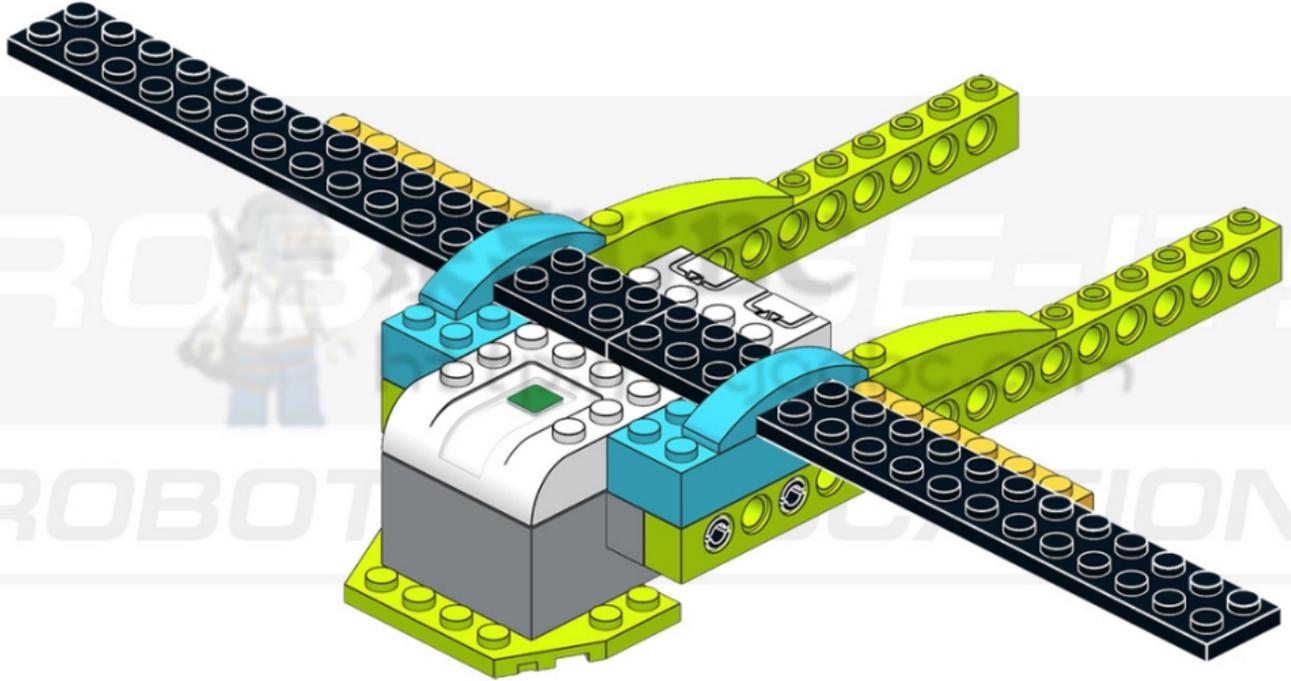
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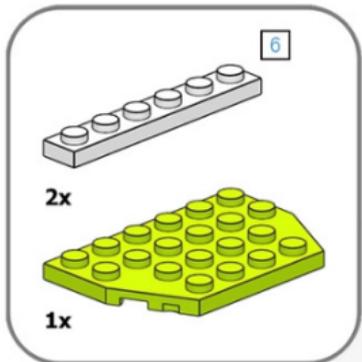




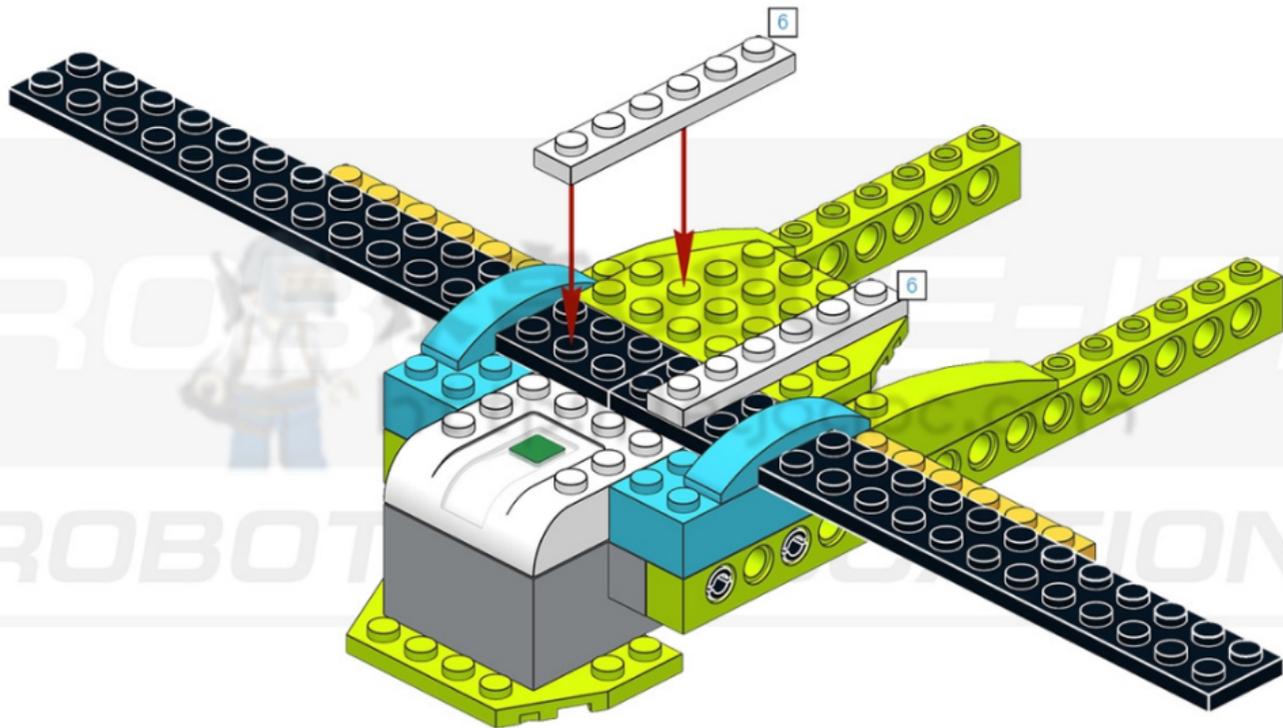


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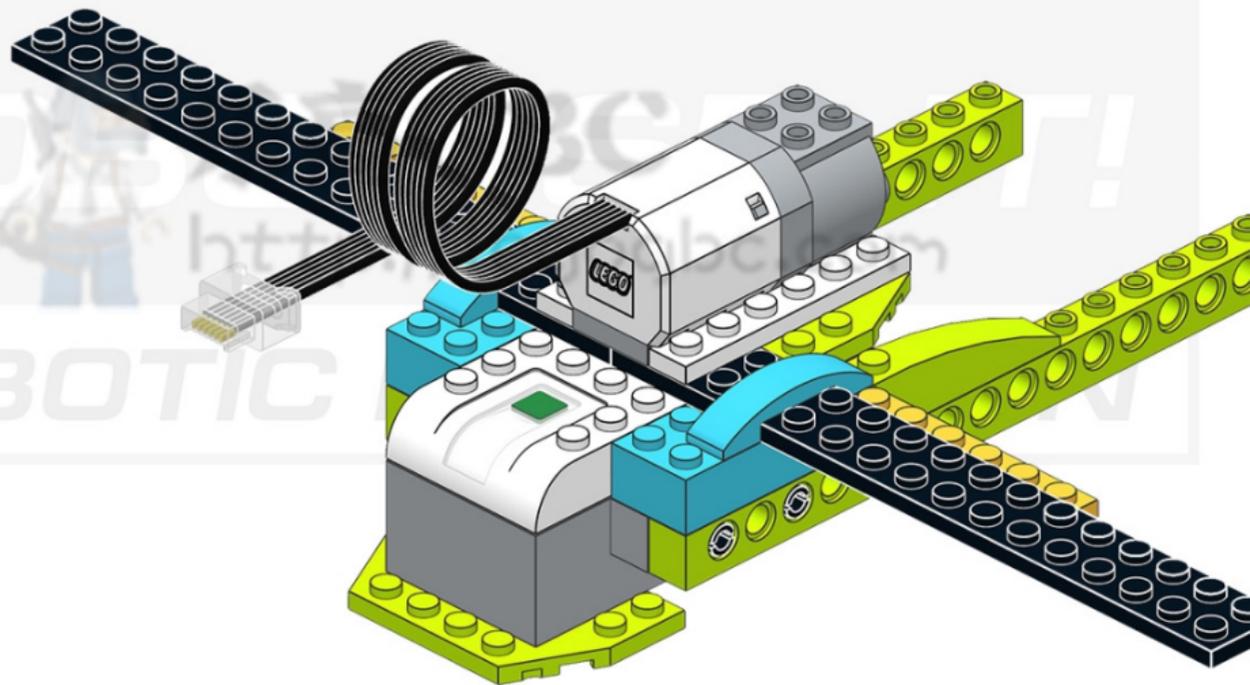


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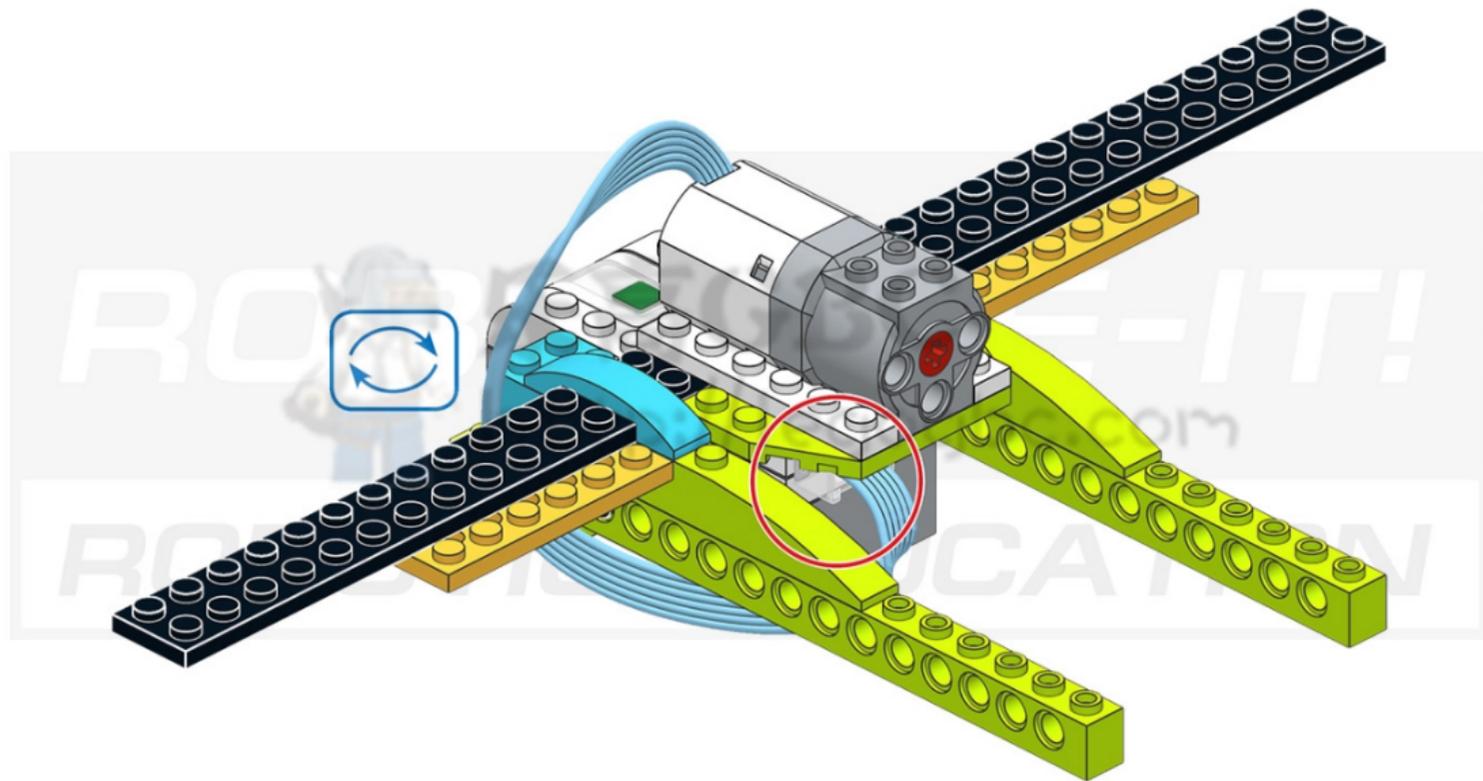




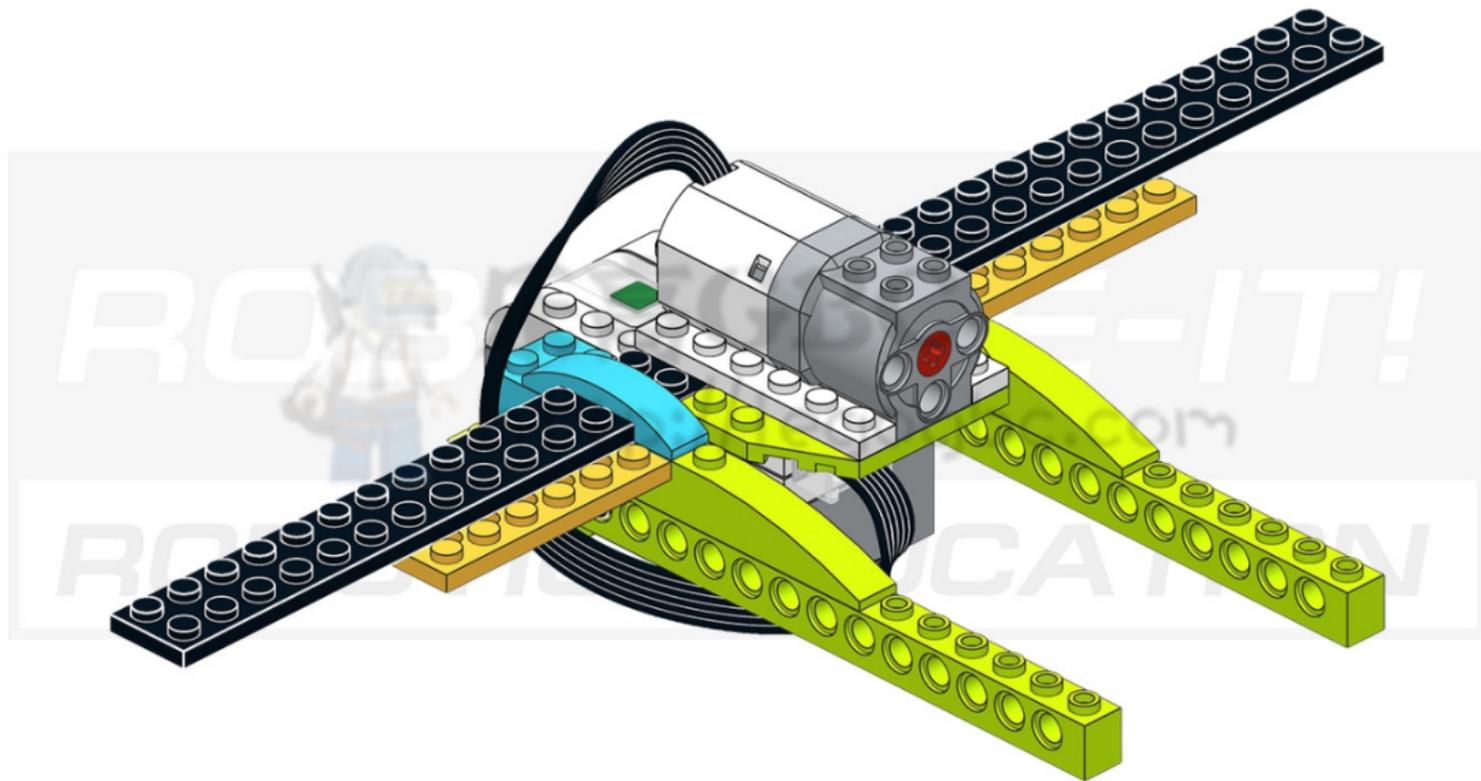
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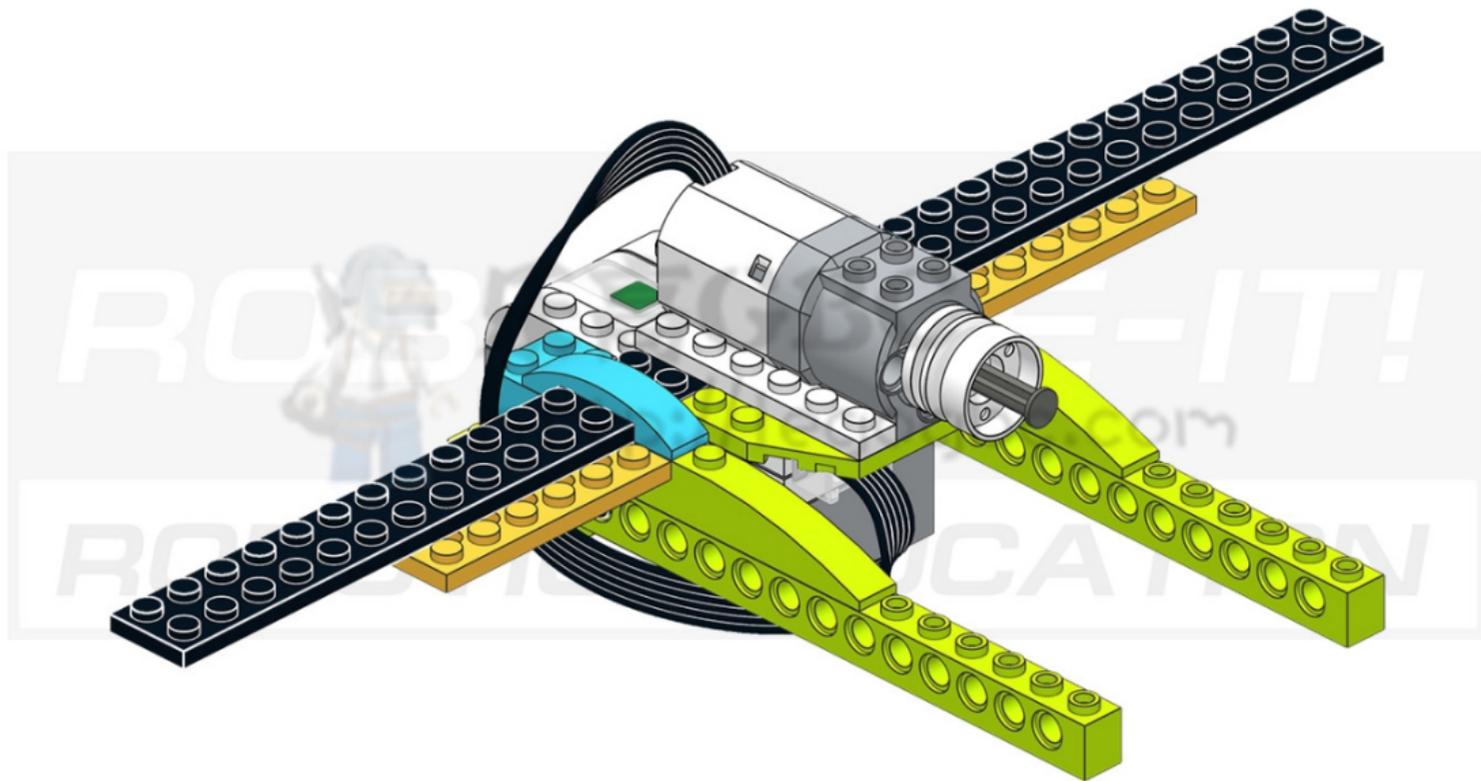
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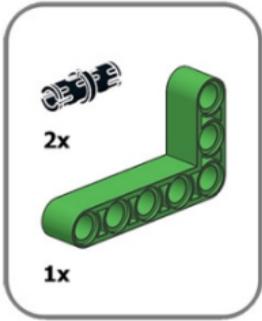


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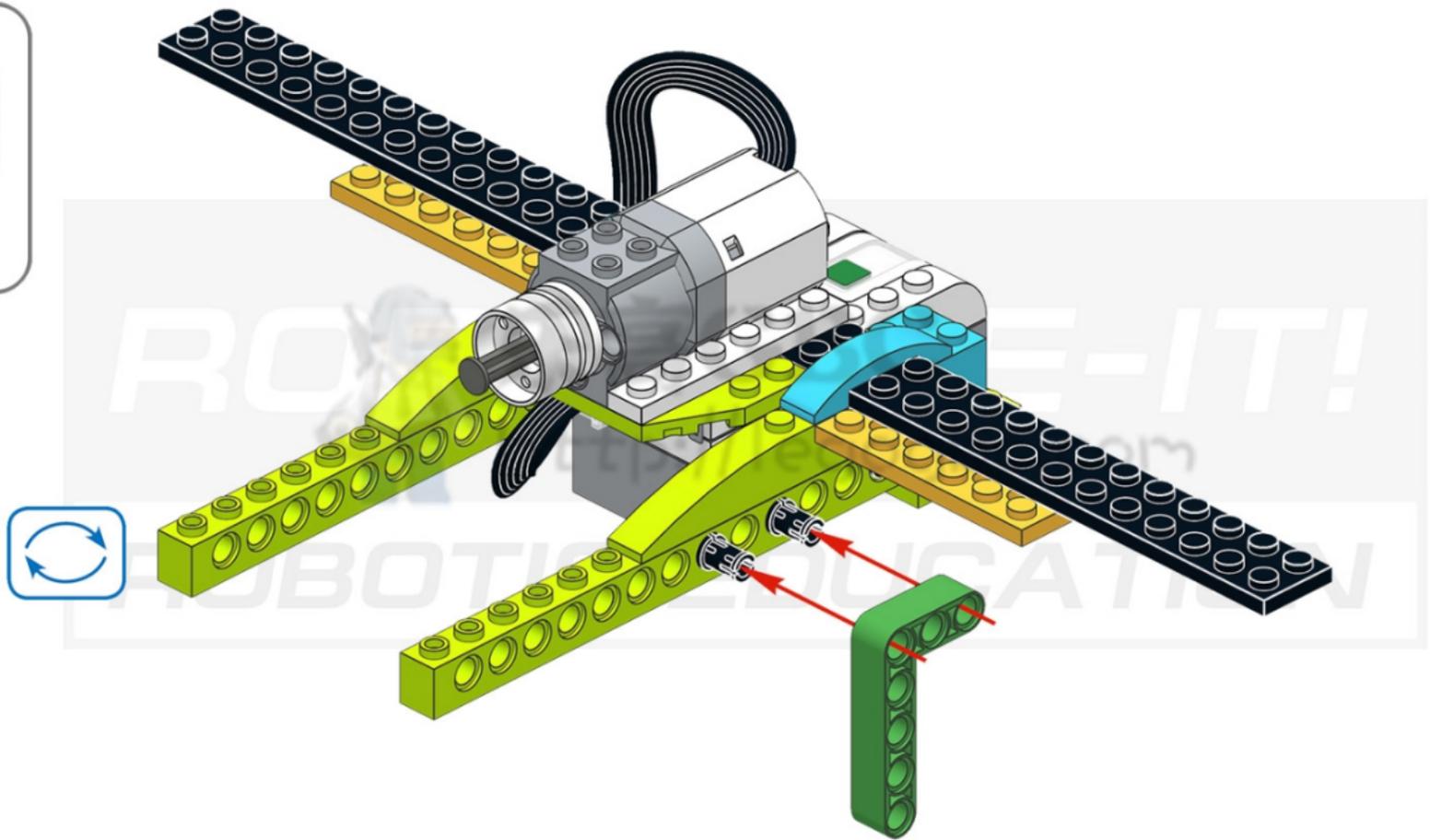


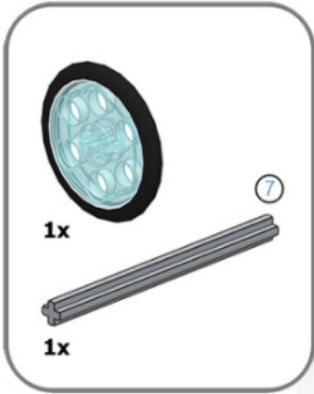
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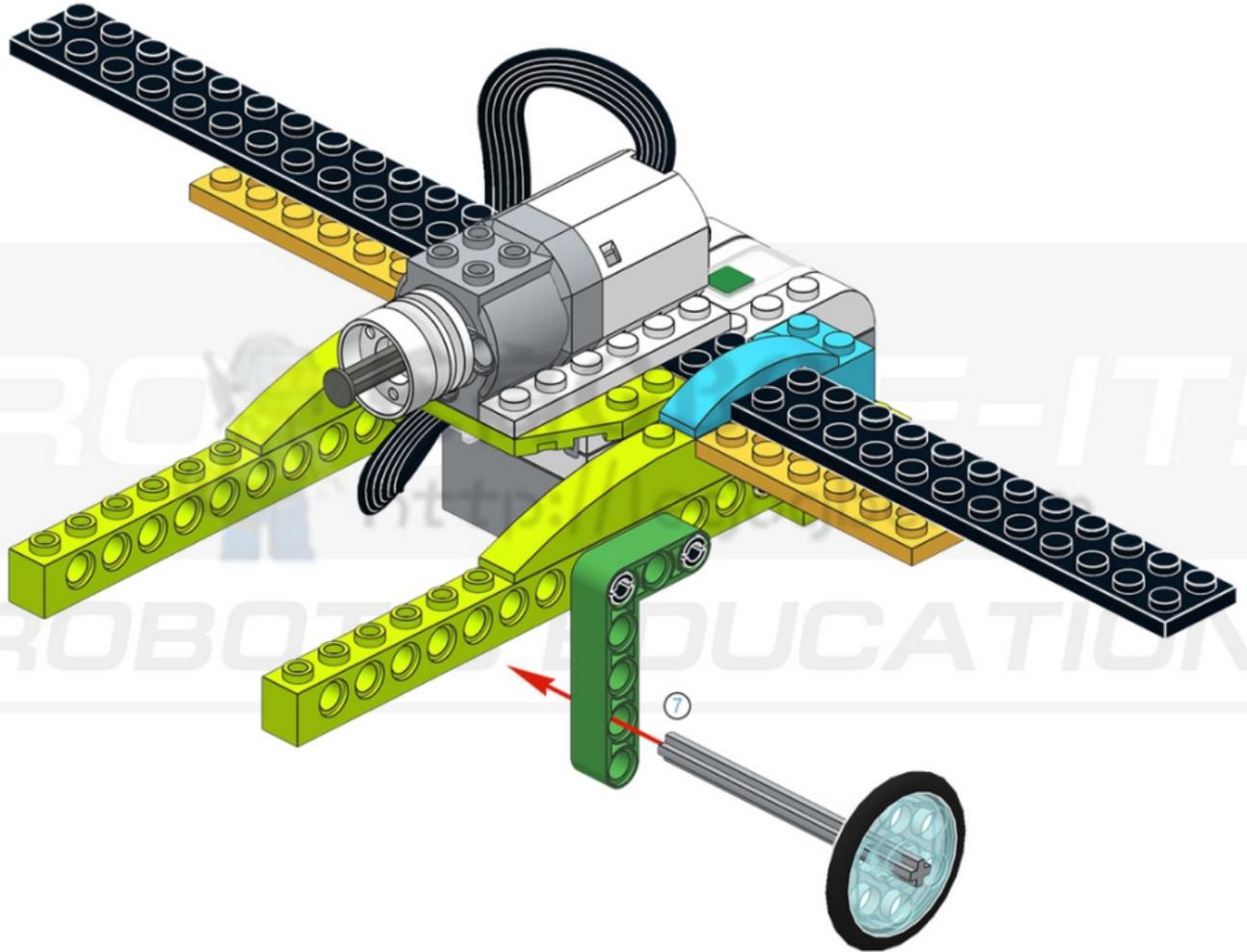


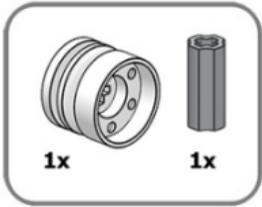
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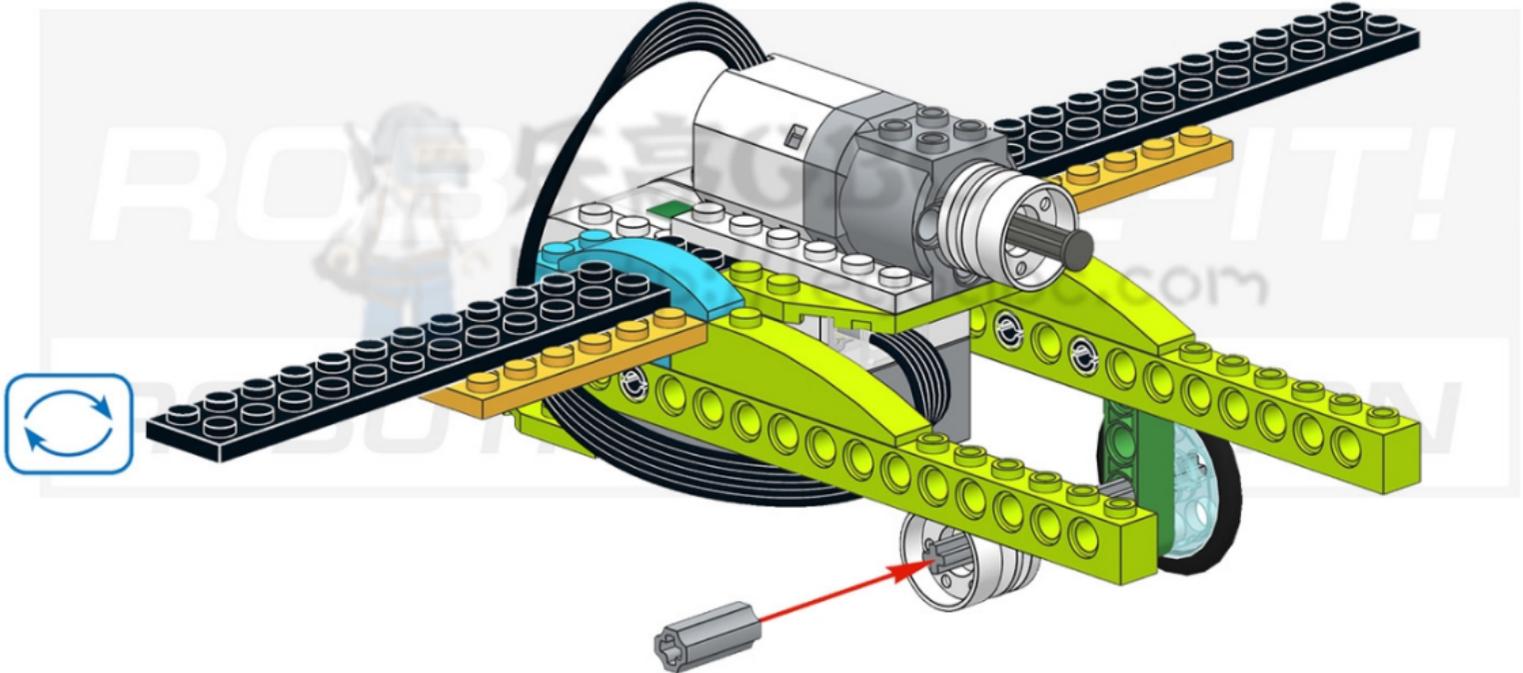


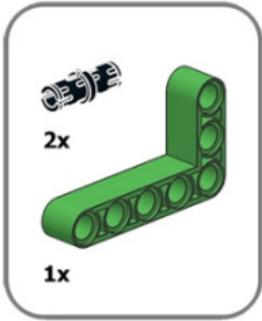
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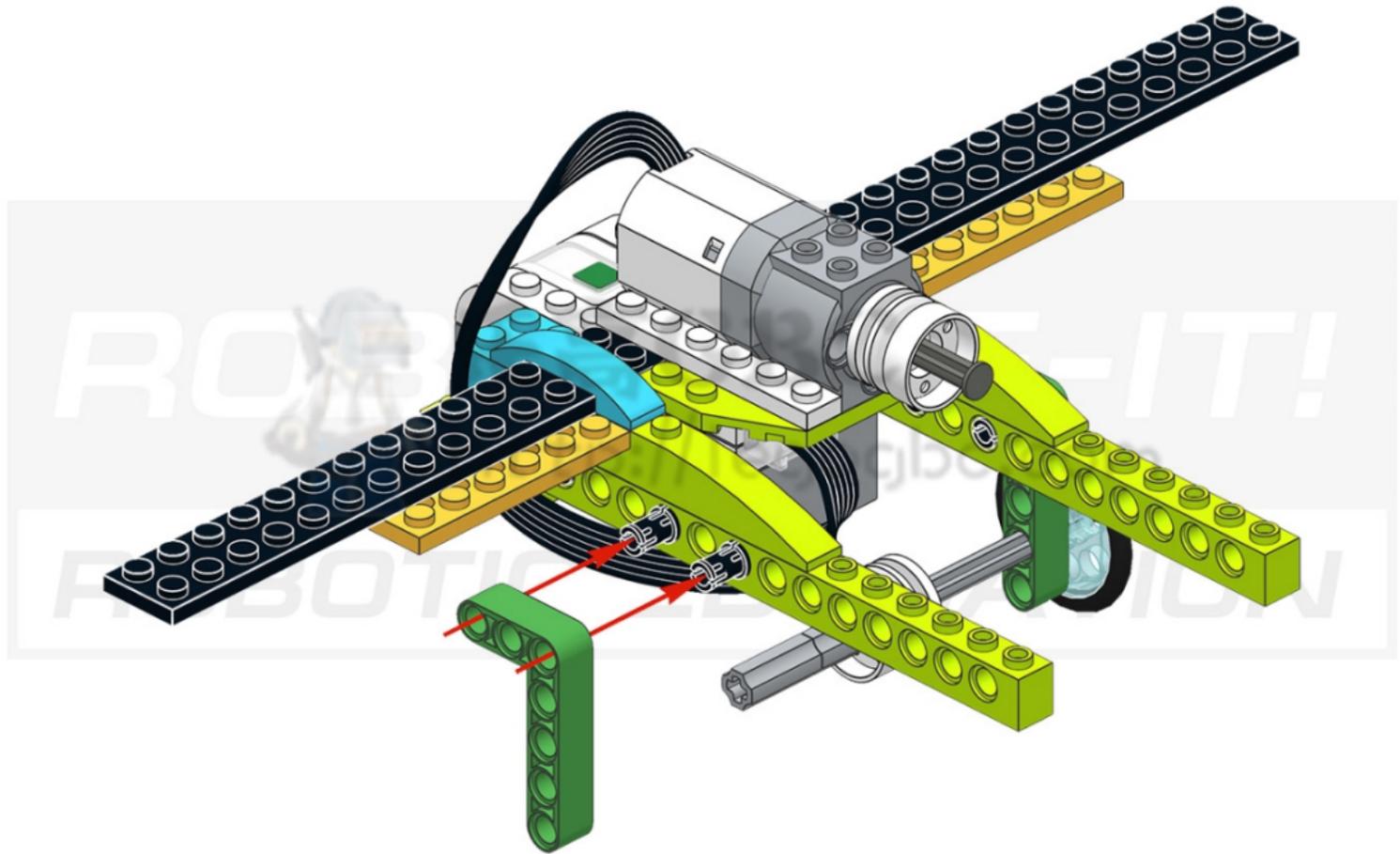


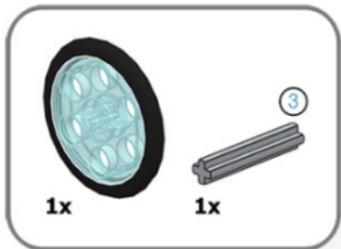
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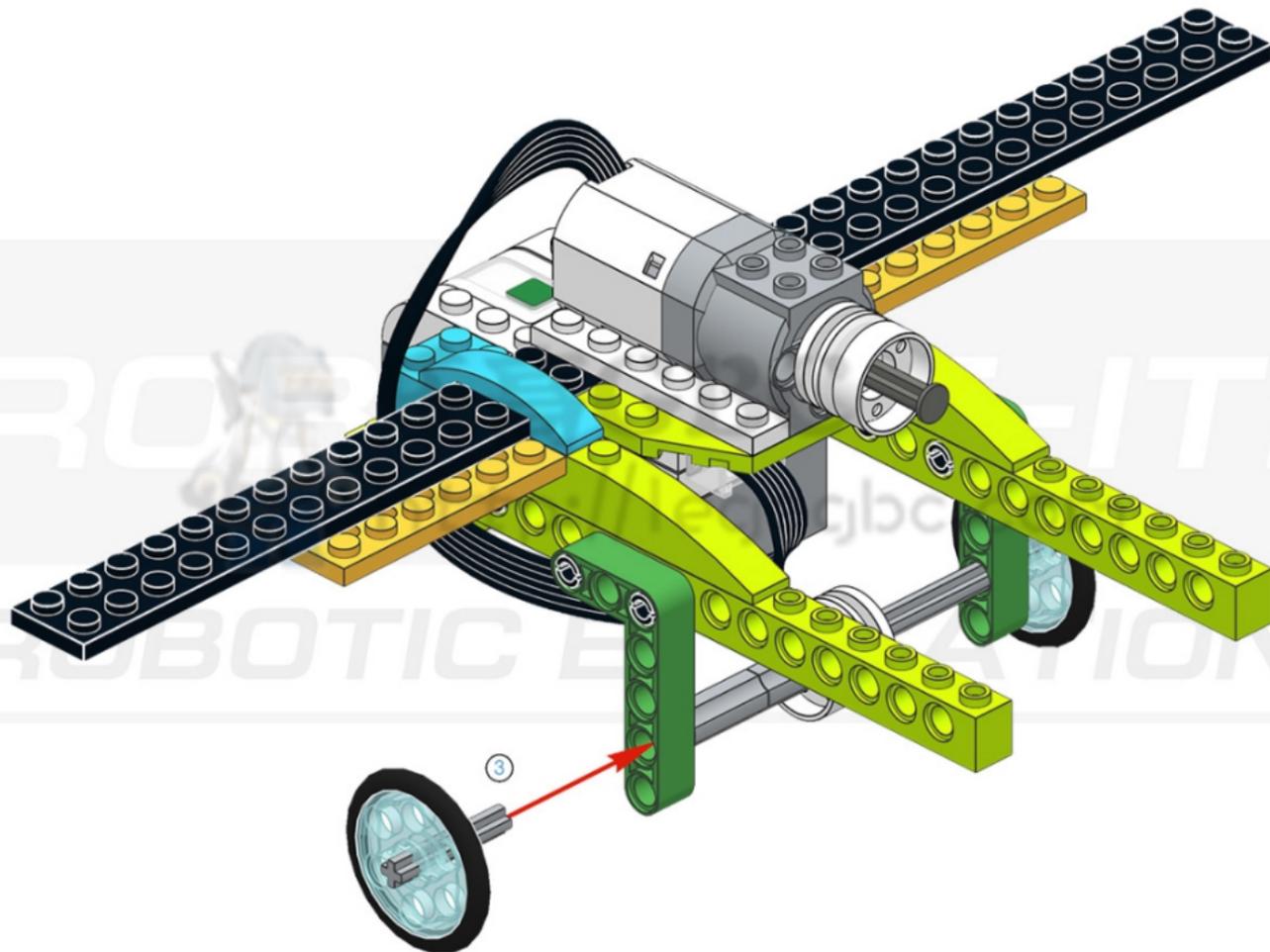


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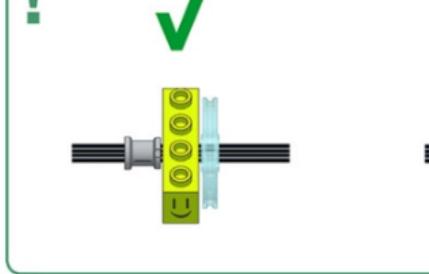
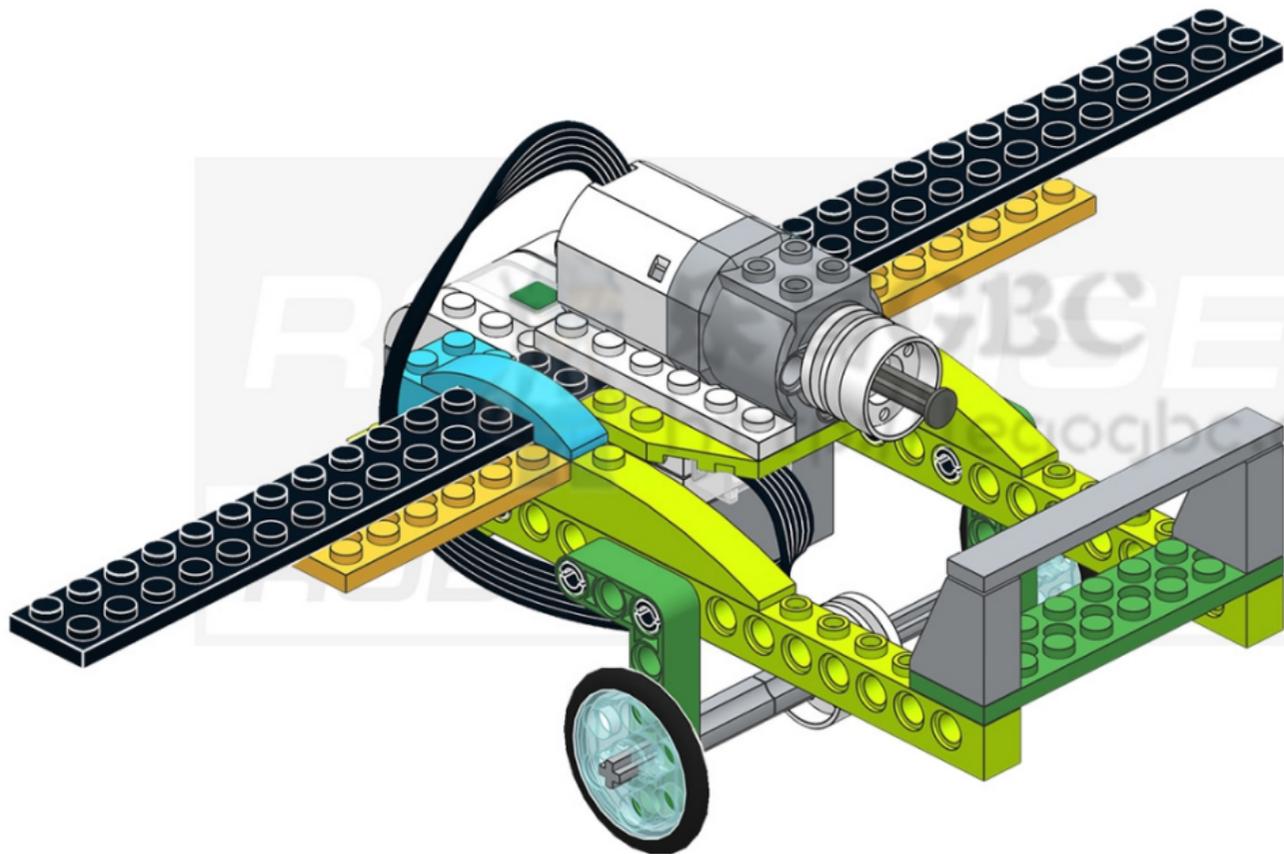


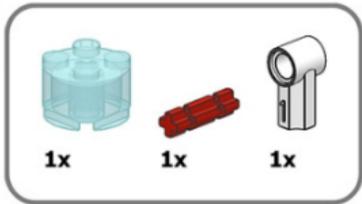


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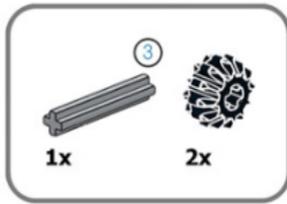
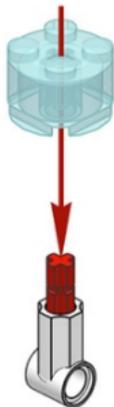


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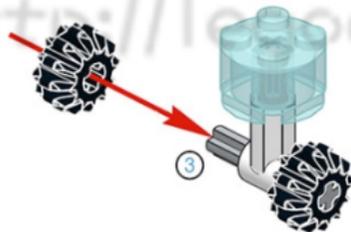




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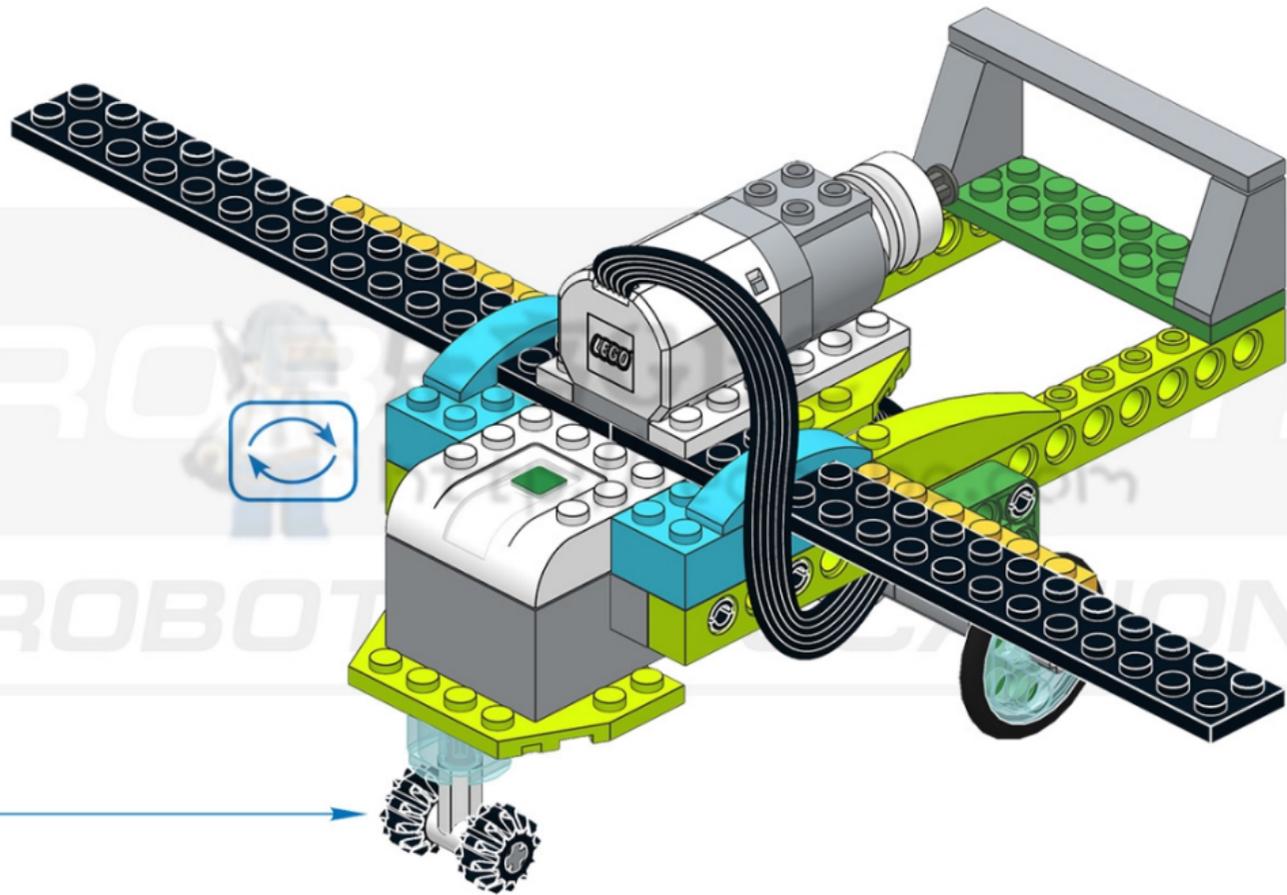


3



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Extended version

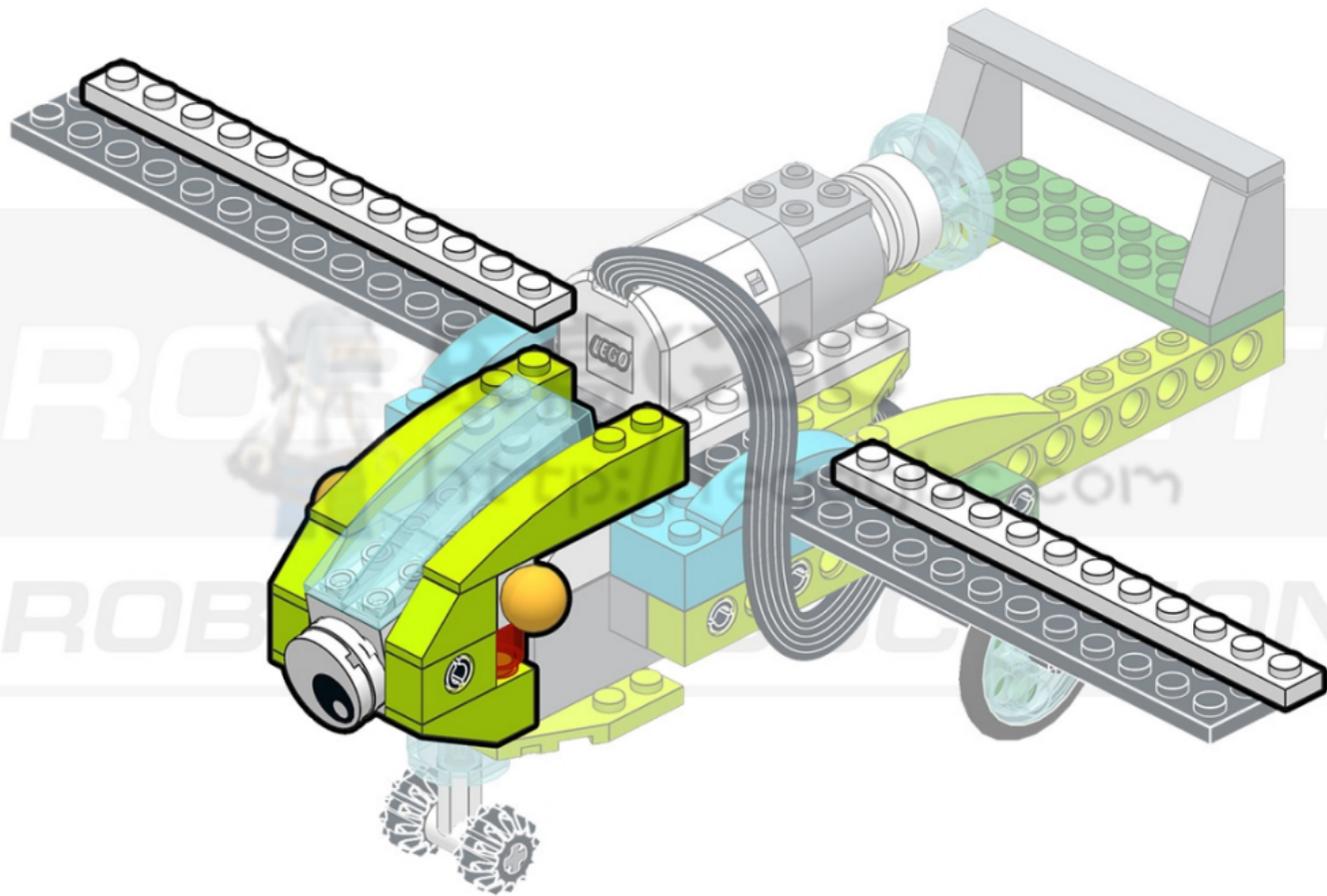


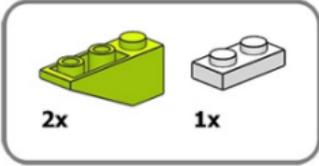
Complete additional cockpit and wings



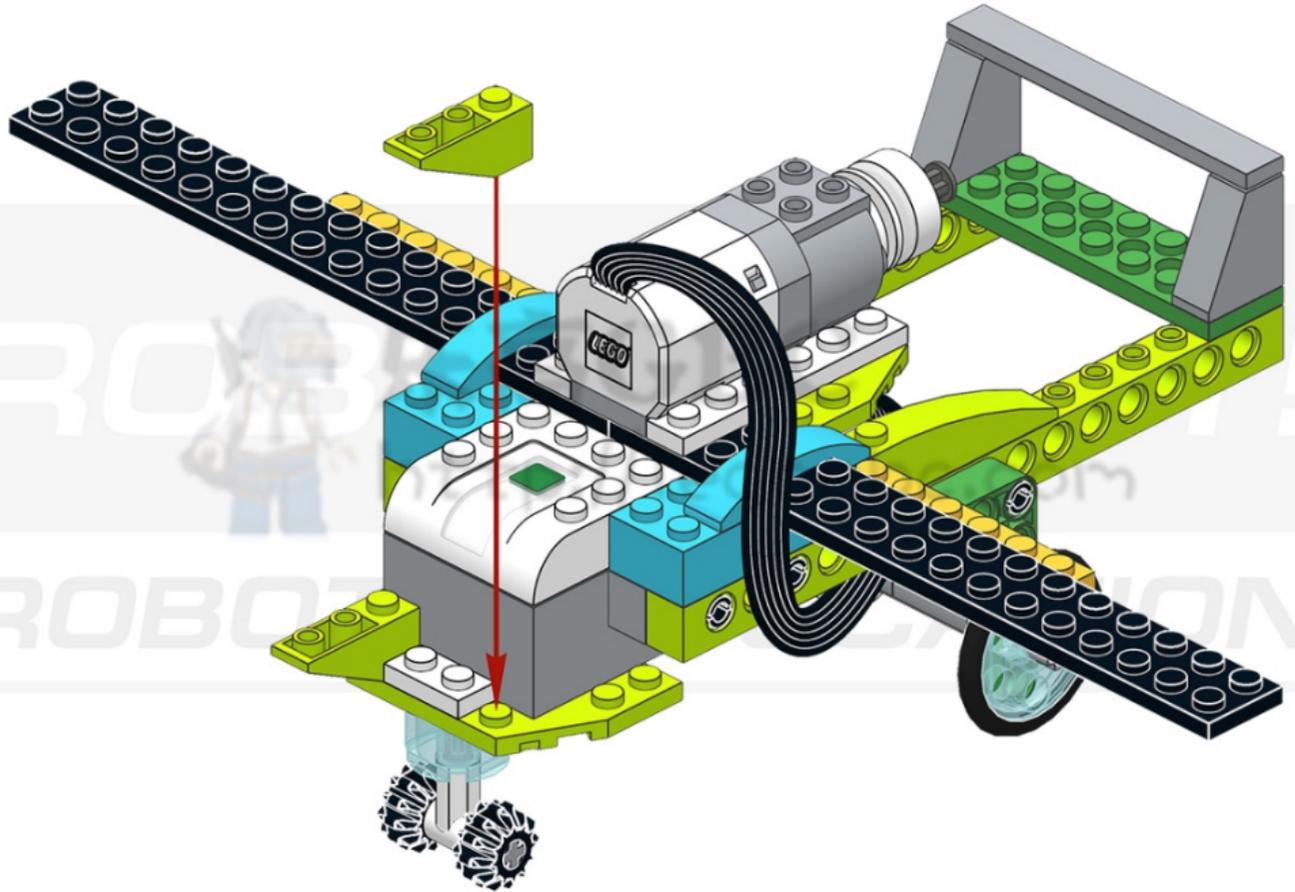
Go to the first slide of
the instruction

24

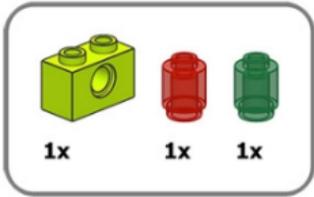




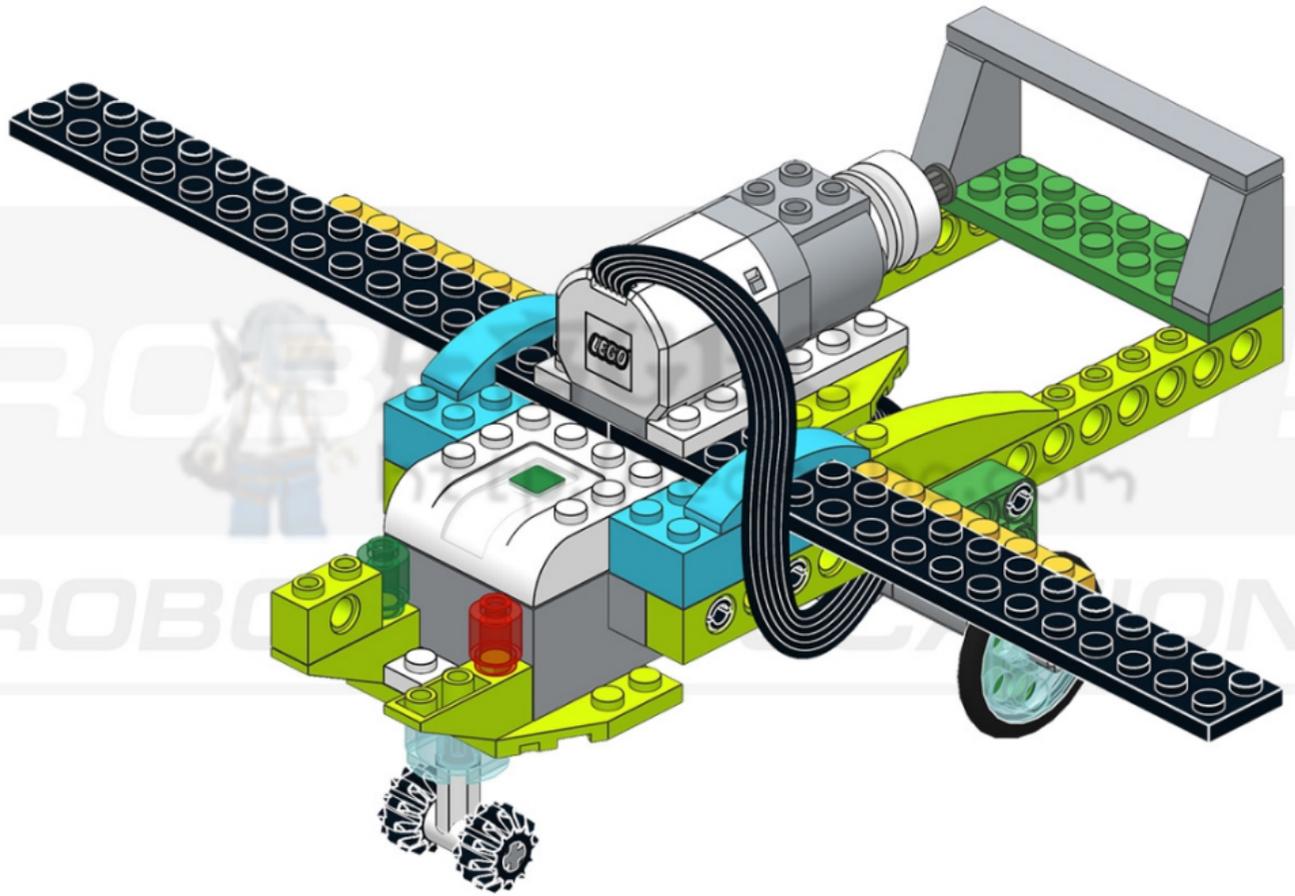
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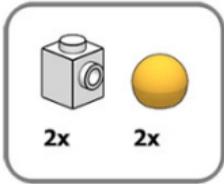


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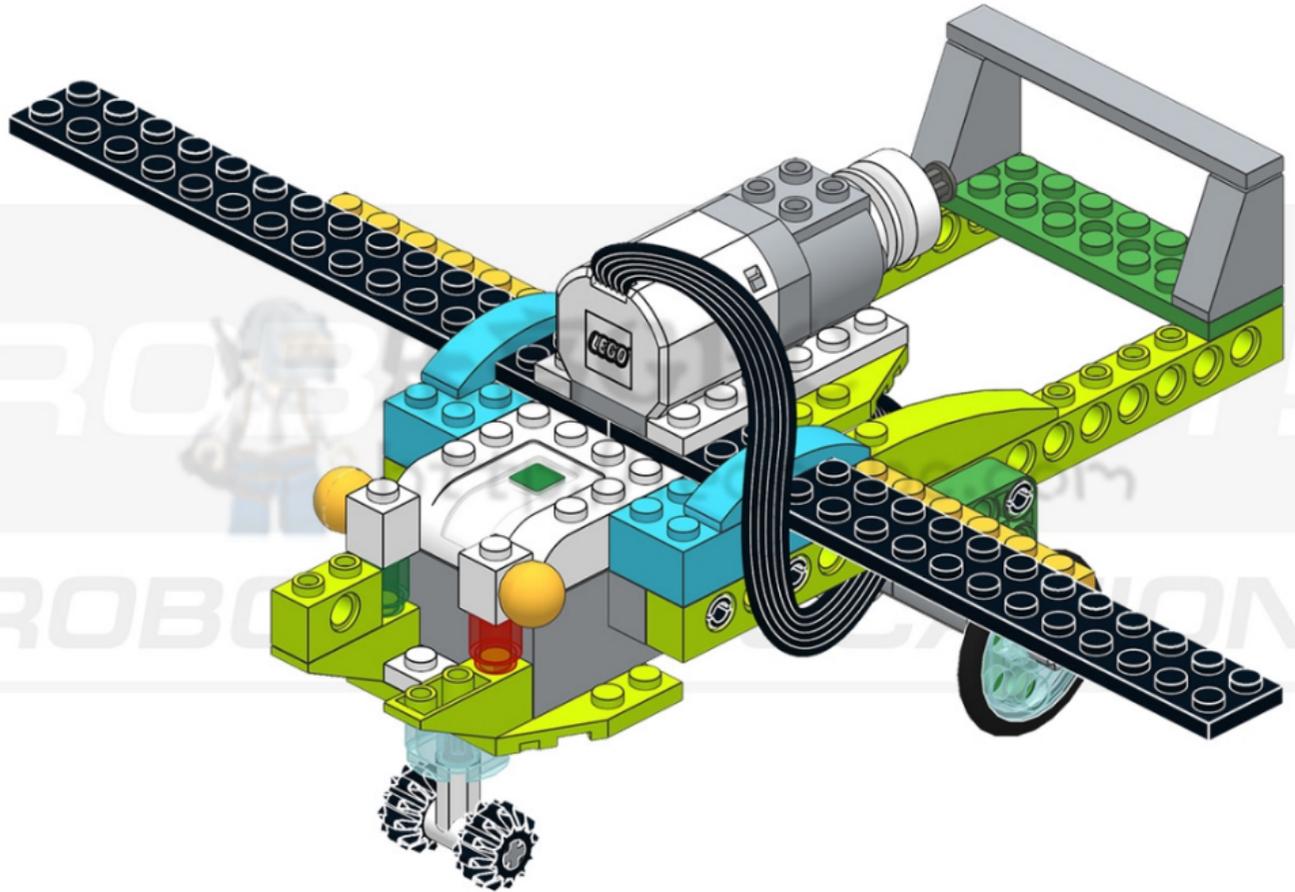


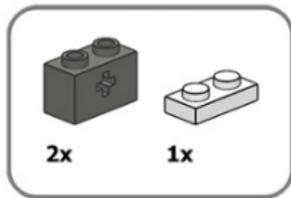
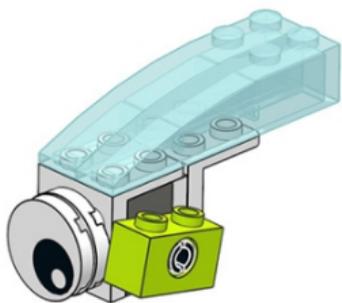
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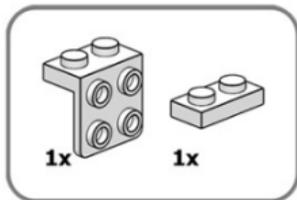




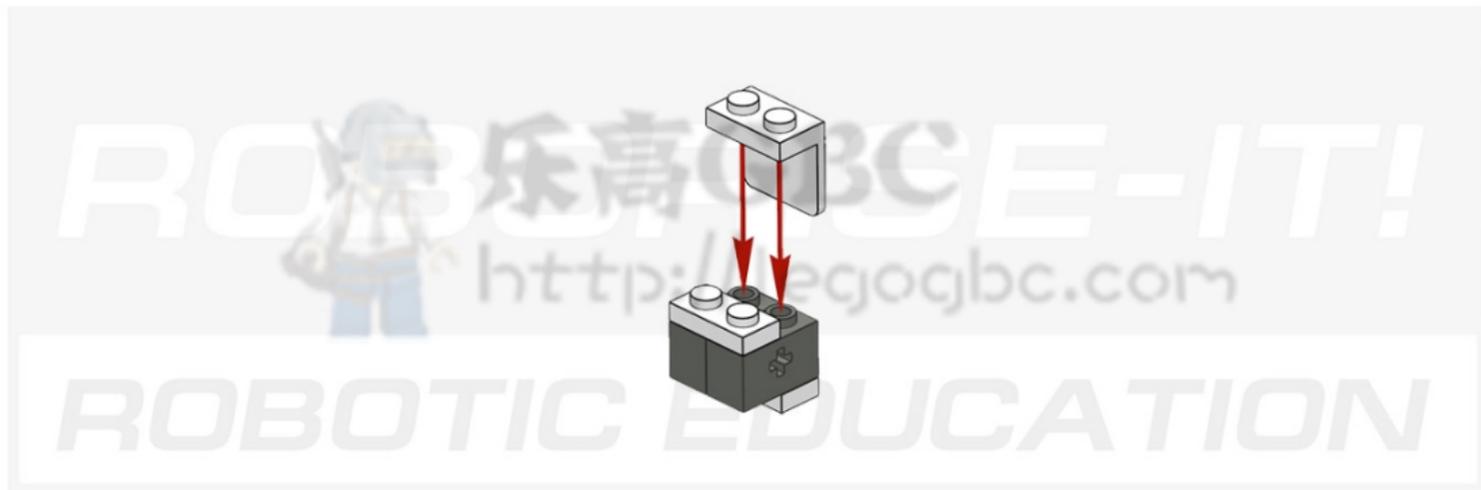
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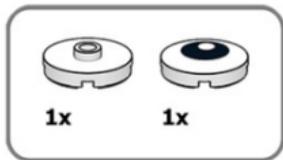


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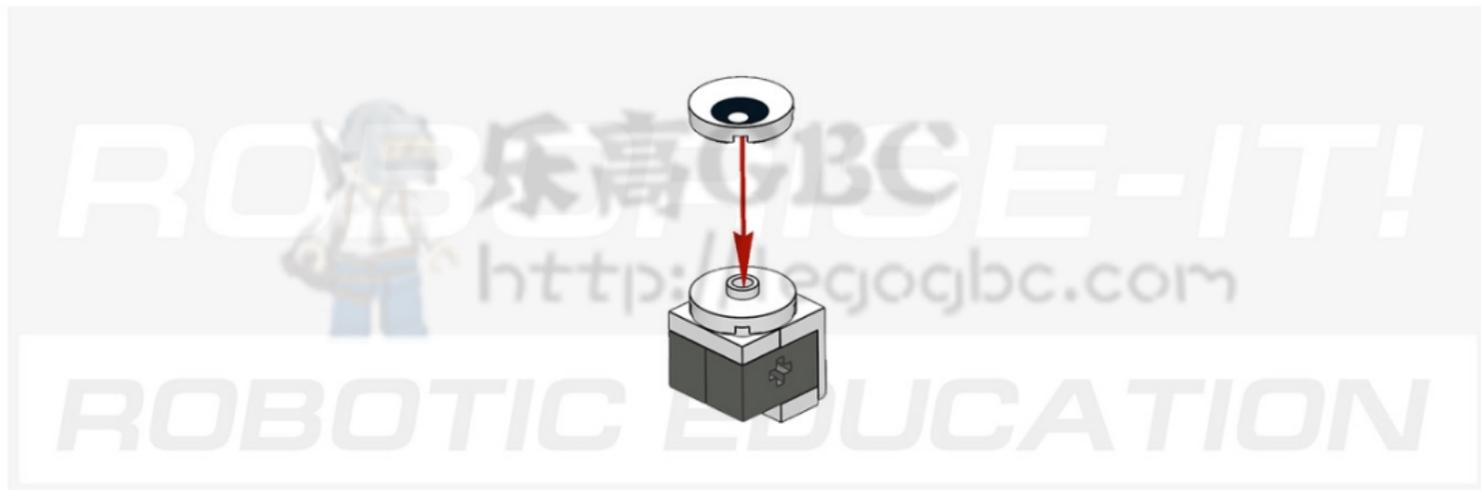


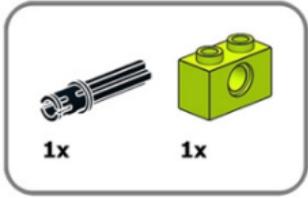
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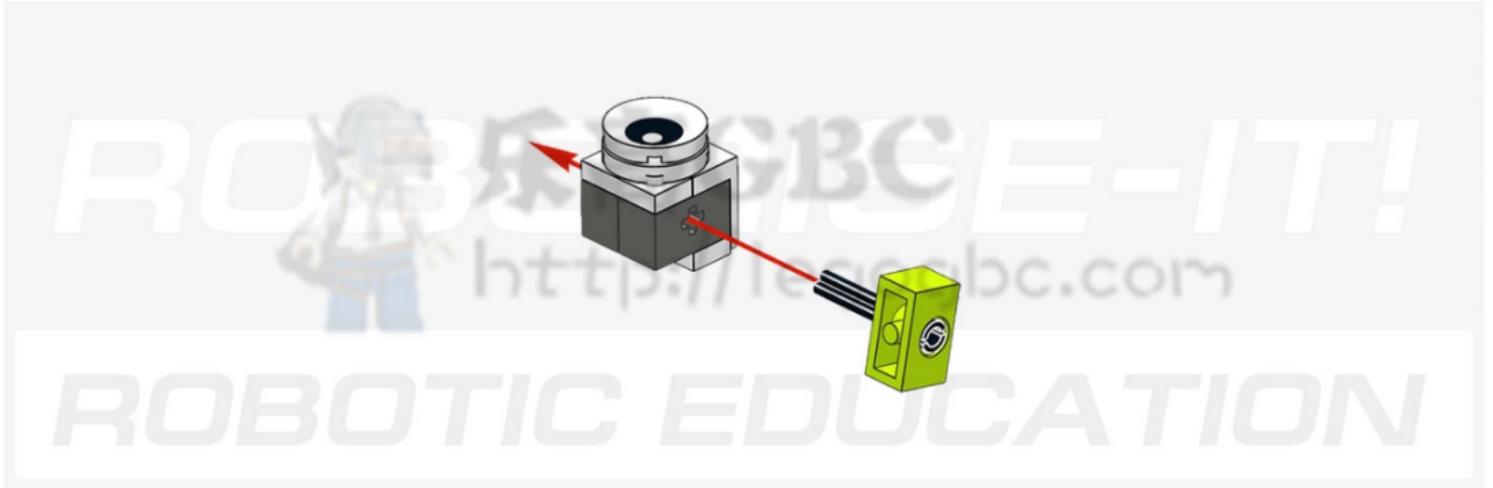


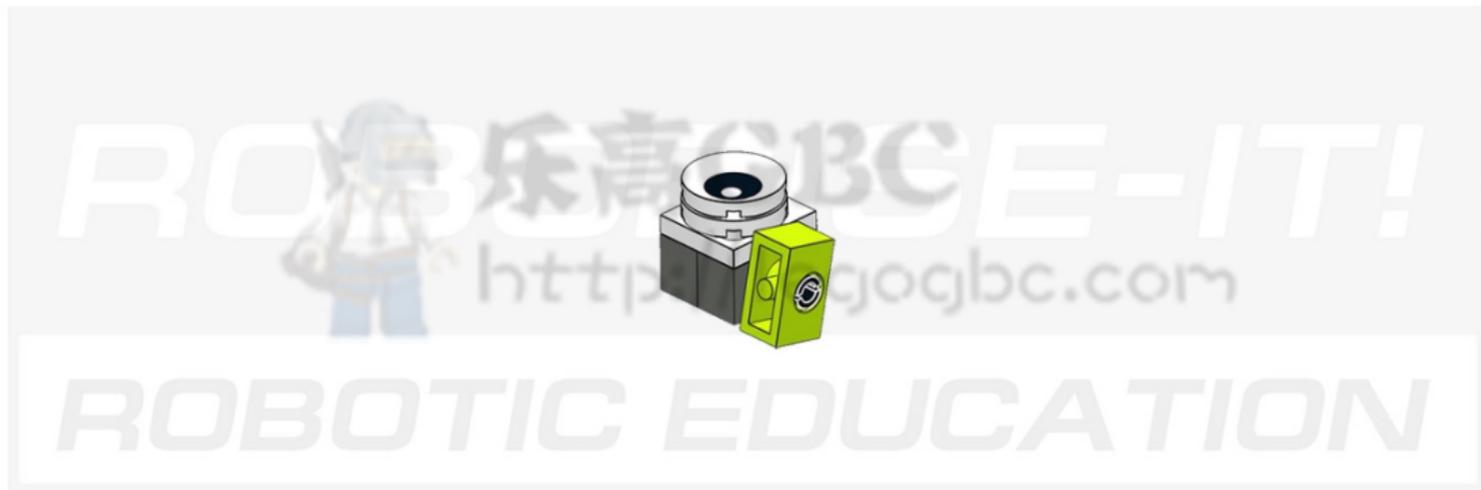
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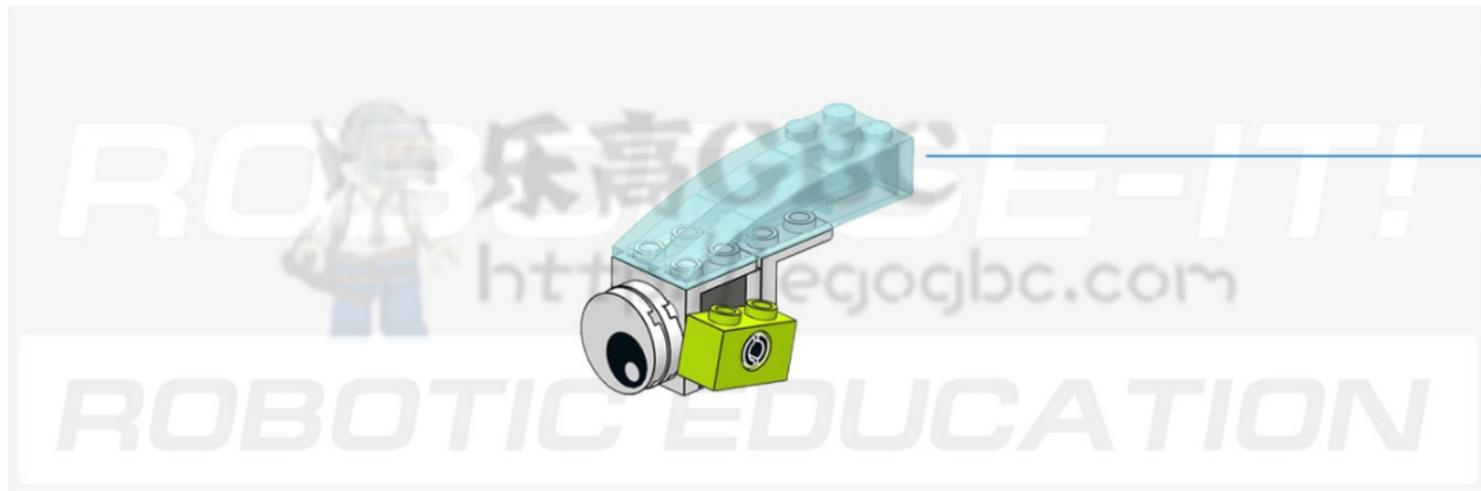




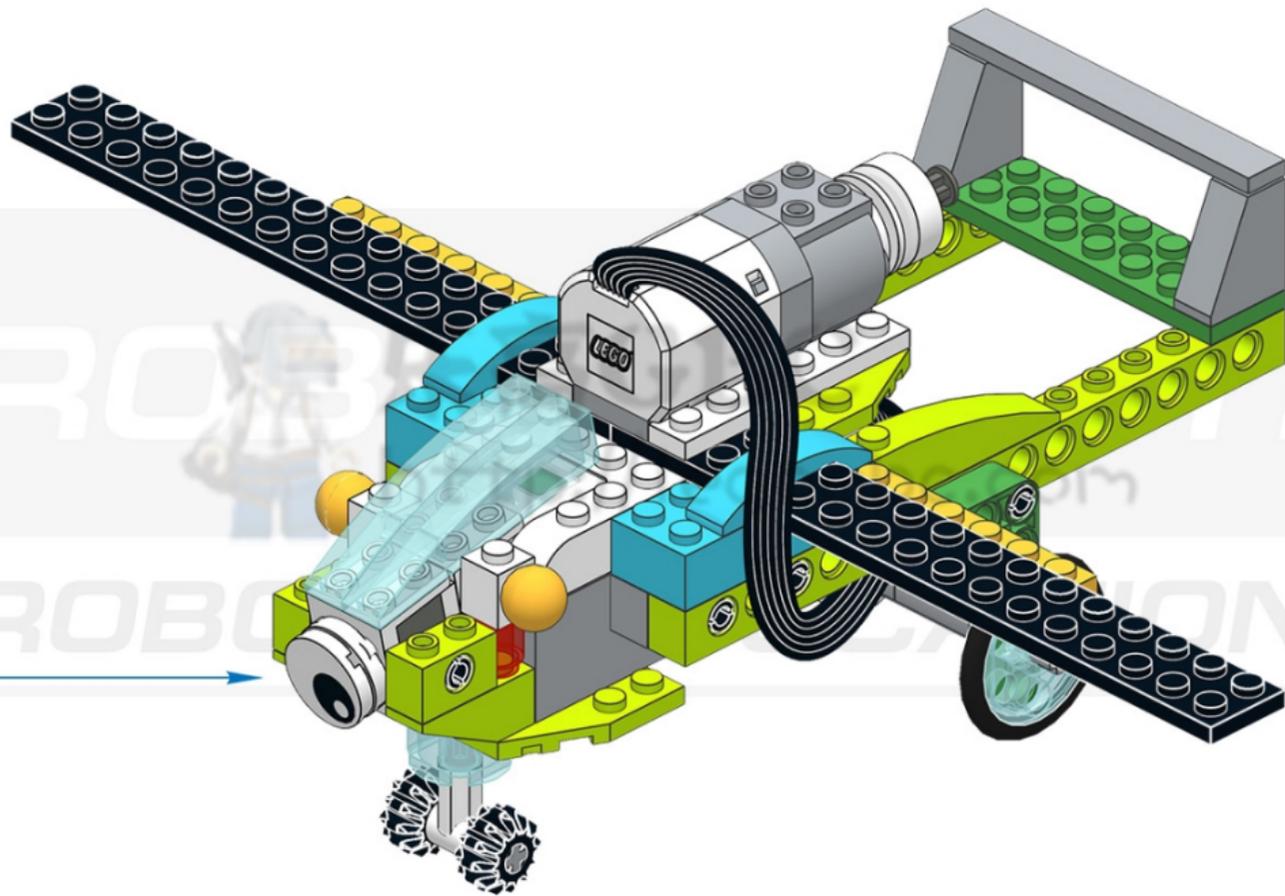
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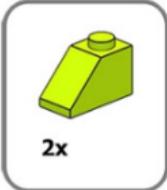




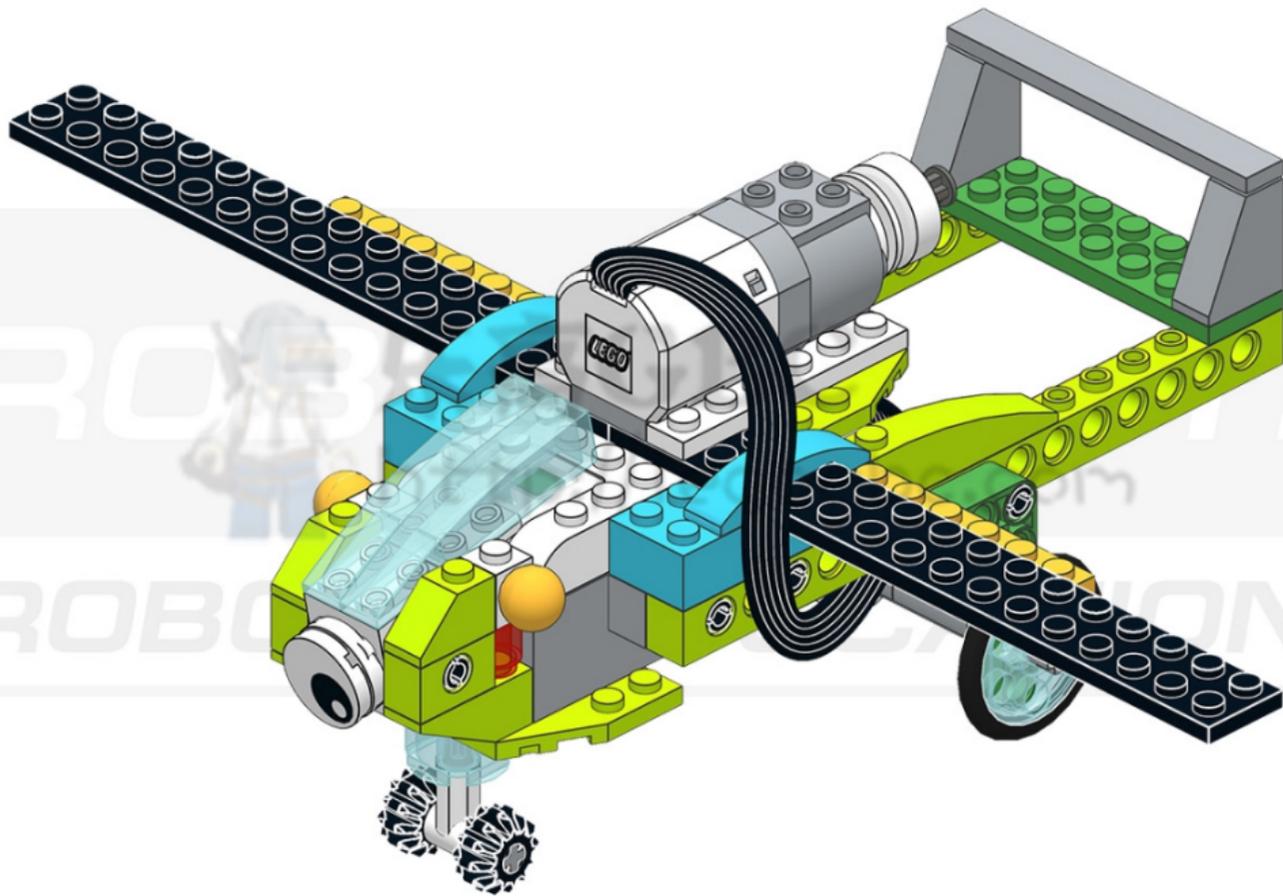


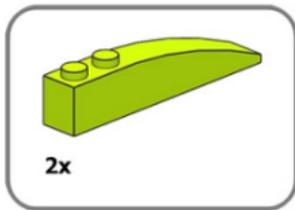
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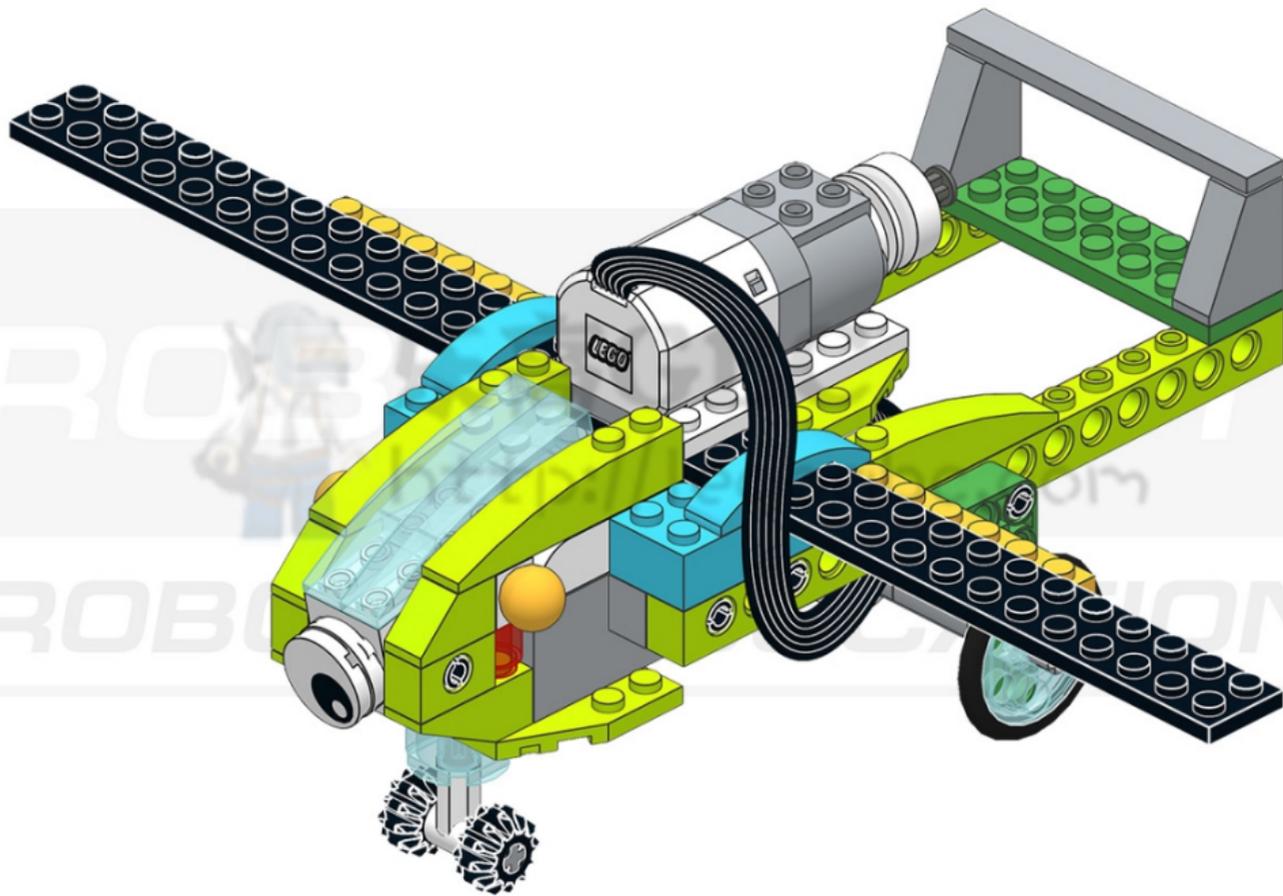


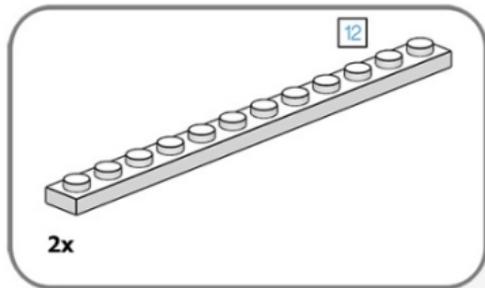
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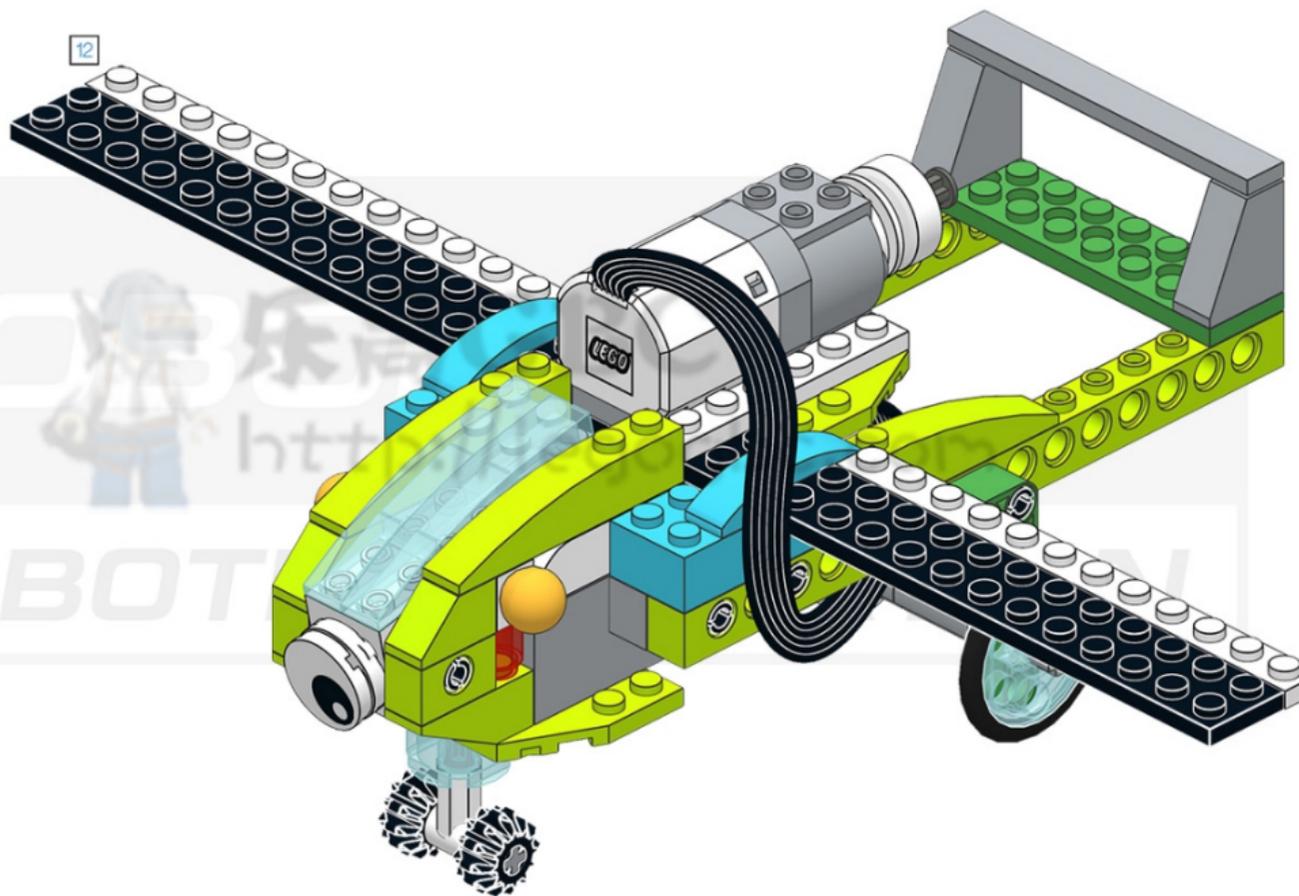


37





38





Note!



The cables must not rub while the robot is moving!



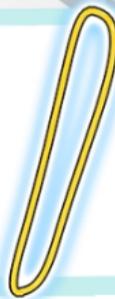
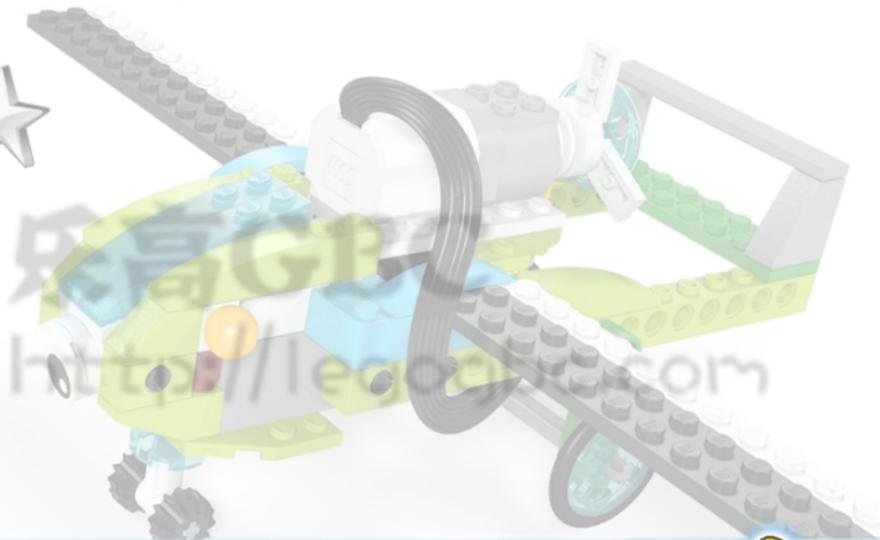
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Tasks

Place the robot parts in the correct places





Task 1



Program the movement of the robot and check if it can move.
Inspect the robot and determine what is not working correctly.



Task 1. Program



Scratch

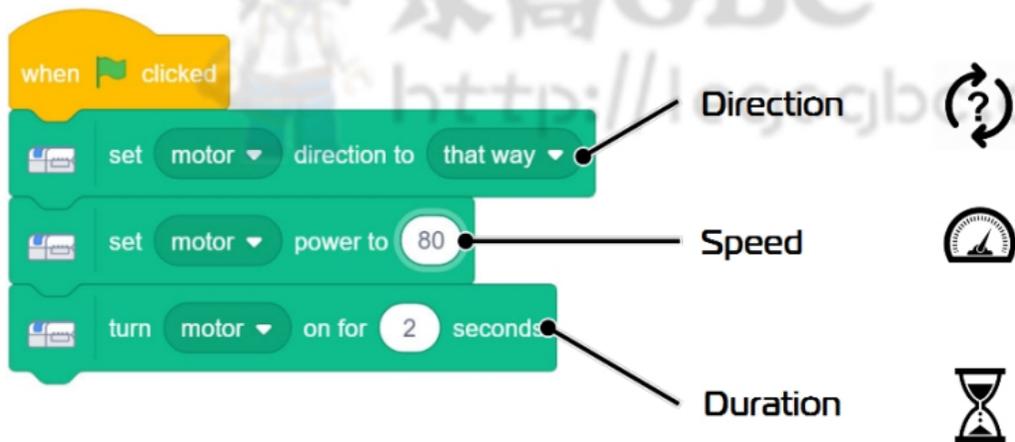


WeDo Software



Write a test program. In it you need to configure all the parameters of the motor:

In the Scratch 3.0 programming environment, the program looks like this:



The image shows a Scratch 3.0 script with three green blocks. The first block is a yellow 'when green flag clicked' block. The second block is 'set motor direction to that way', with a line pointing to the 'that way' dropdown menu labeled 'Direction'. The third block is 'set motor power to 80', with a line pointing to the '80' input field labeled 'Speed'. The fourth block is 'turn motor on for 2 seconds', with a line pointing to the '2' input field labeled 'Duration'. To the right of the labels are icons: a question mark in a circle for Direction, a speedometer for Speed, and an hourglass for Duration.

when green flag clicked

set motor direction to that way

set motor power to 80

turn motor on for 2 seconds

Direction

Speed

Duration

Task 1. Program



Scratch



WeDo Software



Write a test program. In it you need to configure all the parameters of the motor:

In WeDo Software, a similar program looks like this:

1

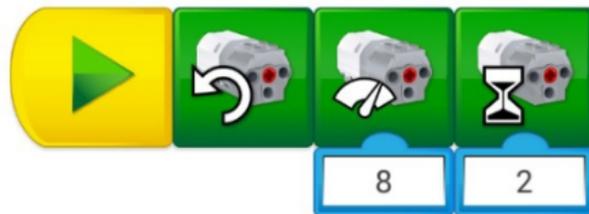
Set direction of rotation

2

Set rotation

3

Set rotation duration



Step:



Discuss!



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What's missing robot so that it could fly?



Task 2



The plane moves thanks to the rotation of the propeller. But it disappeared from our robot! Build a propeller and fix it!



Task 4



Install a belt drive between the motor and the wheel axle. Please note that it can not only transmit rotation, but also change the orientation of the rotation axis by 90 degrees - from longitudinal near the motor to transverse.



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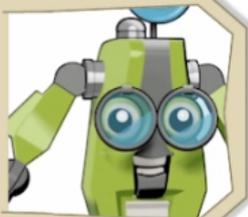
Task 5 *. Program



Scratch



WeDo Software



Make the following changes to the program:

The image shows a sequence of Scratch code blocks for a program. It starts with a yellow 'when green flag clicked' block. This is followed by three green 'LEGO WeDo' blocks: 'set motor direction to that way', 'set motor power to 80', and 'turn motor on'. These are followed by an orange 'forever' loop block containing a green 'LEGO WeDo' block 'set light color to pick random 1 to 100' and an orange 'wait 1 seconds' block. A small arrow icon is at the bottom of the loop block.

This block randomly selects the next Smarthub backlight color

Task 5 *. Program



Scratch



WeDo Software



Make the following changes to the program:

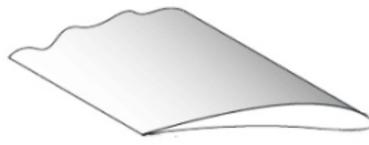
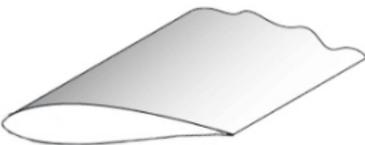


This block randomly selects the next Smarthub backlight color

Question



At what position of the wing relative to the air flow is lift generated?



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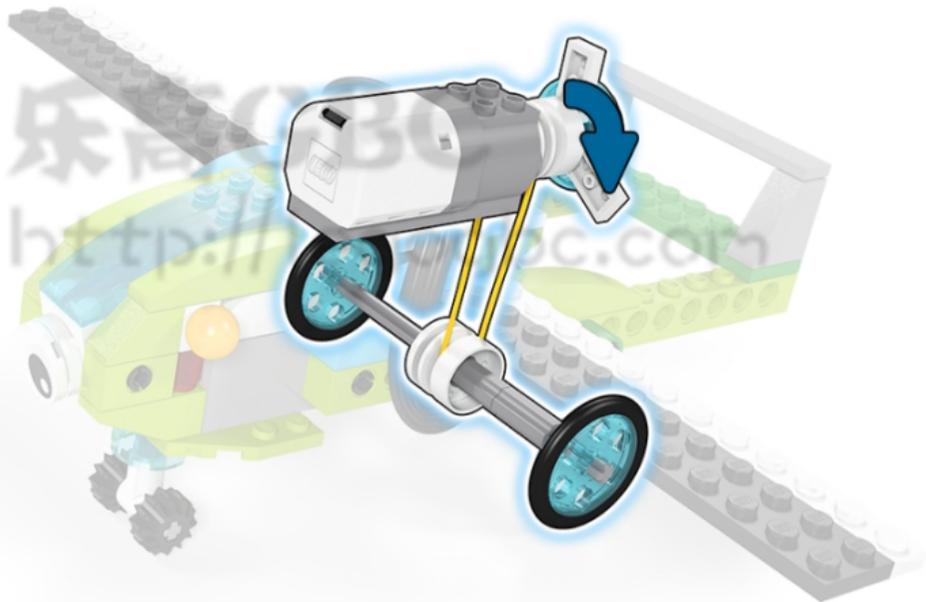
Tasks



Select the direction of rotation of the motor in which the robot will move forward



Check
answer



Question



Scratch



WeDo Software



What color of the hub button is set by the program below:



```
when clicked
  set motor direction to that way
  set motor power to 80
  turn motor on
  forever
    set light color to pick random 1 to 100
  wait 1 seconds
```

Red

Blue

Random

Question



Scratch



WeDo Software



The color of the hub button is set by the program below:



Red

Blue

Random

Discuss!

- Why couldn't the robot move?
- What exactly sets the plane in motion in the air?
- What is the function of the wings?
- What are ailerons used for?
- What did you use the belt drive for?



Your achievements

Total:

0



1



2



3



4

