

# Case 20: The Smart Arier

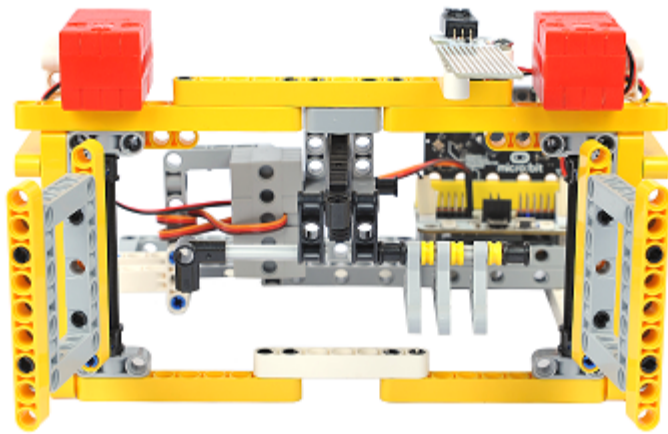
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## 22.1. Purpose

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To make a smart arier.



## 22.2. Link:

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[micro:bit Wonder Building Kit](#)

## 22.3. Materials Required

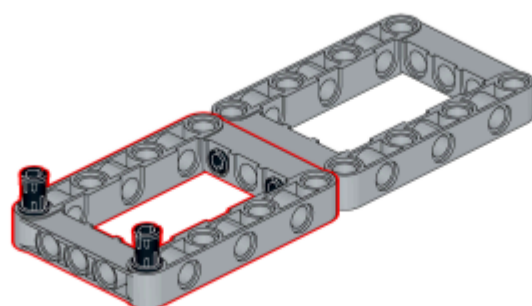
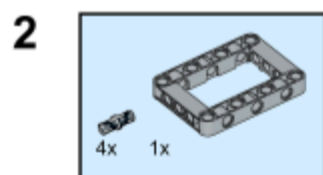
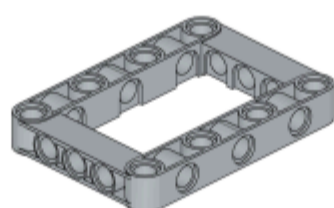
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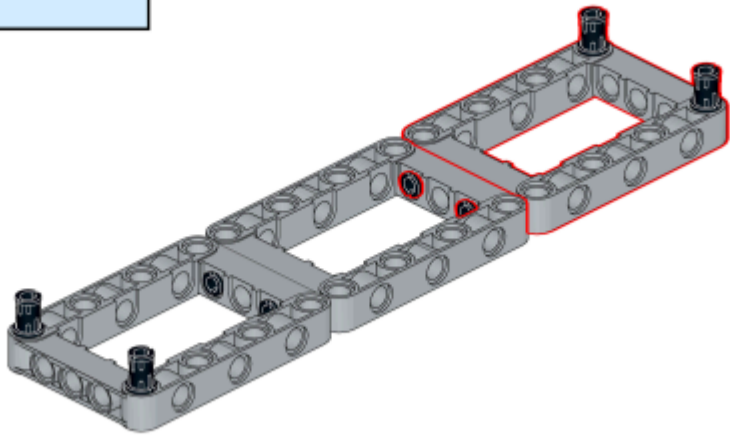
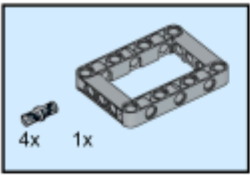
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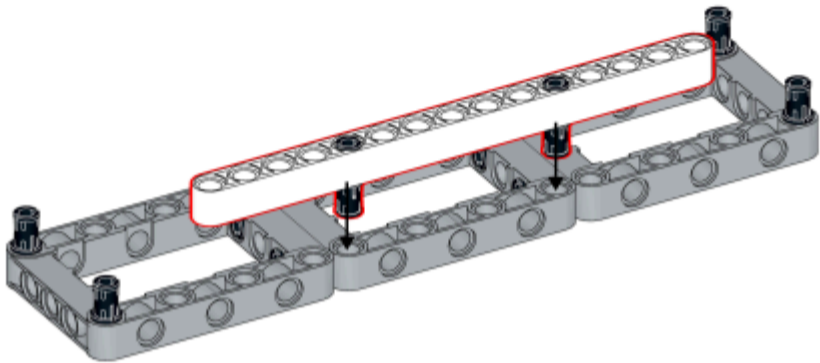
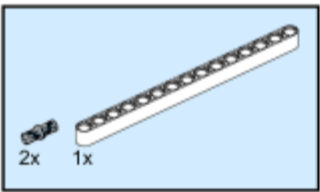
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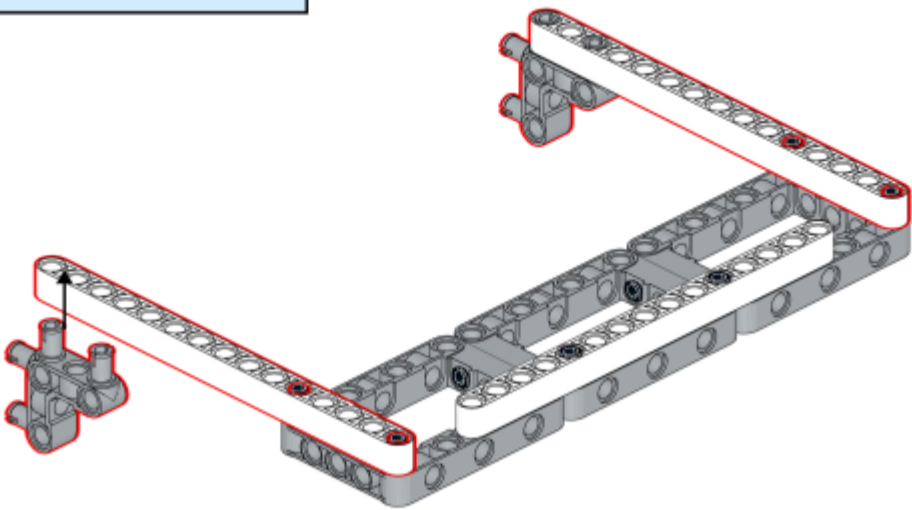
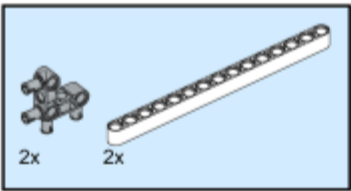
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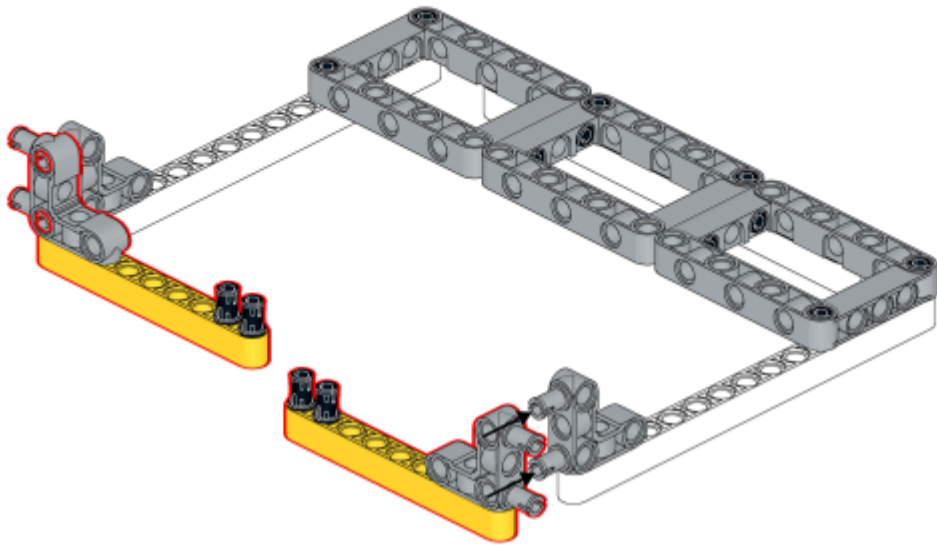
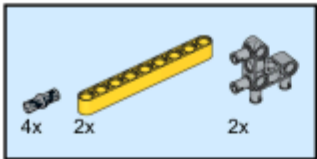
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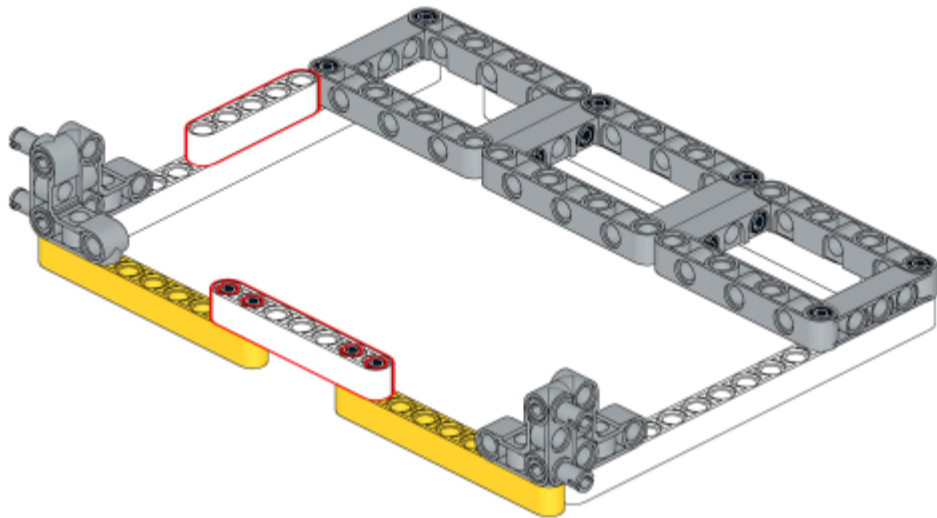
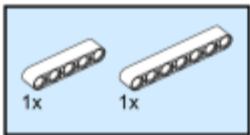
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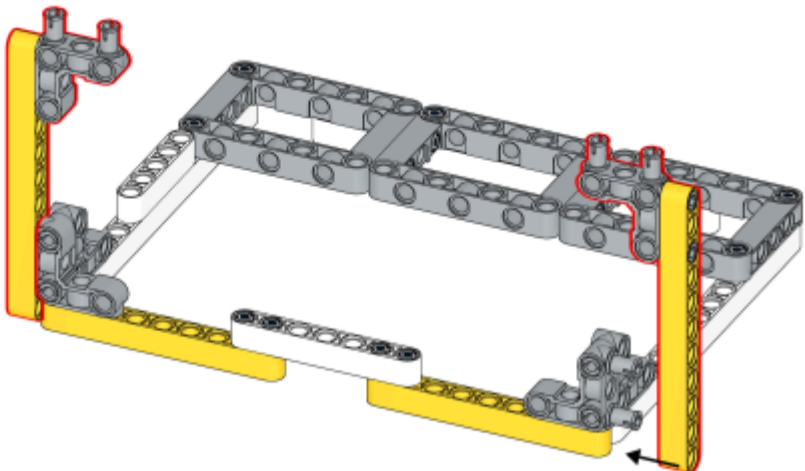
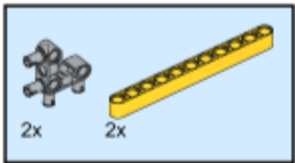
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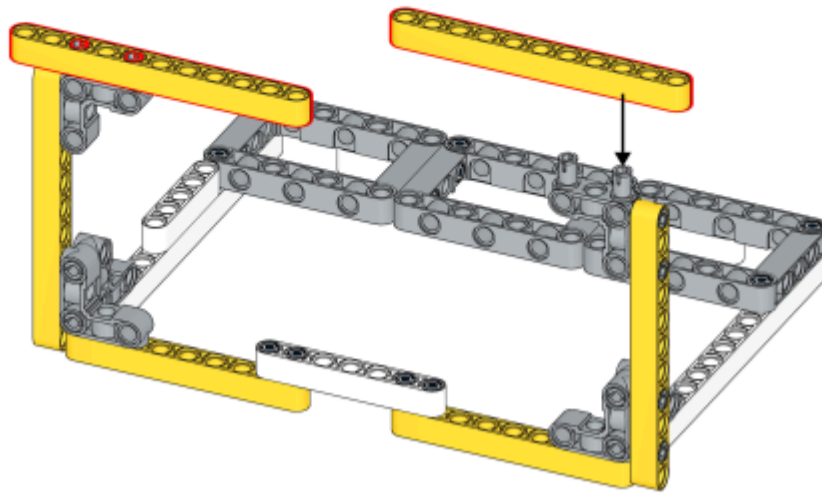
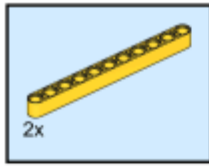
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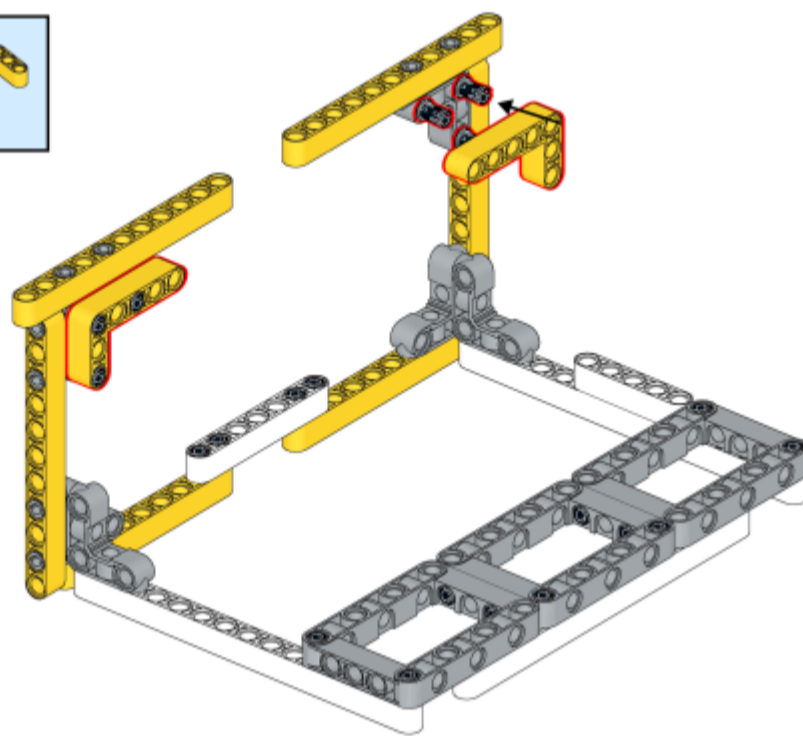
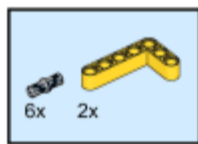
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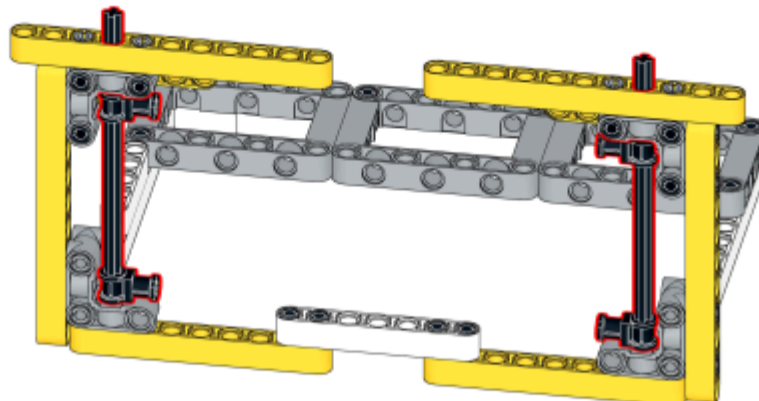
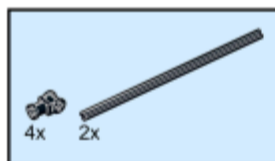
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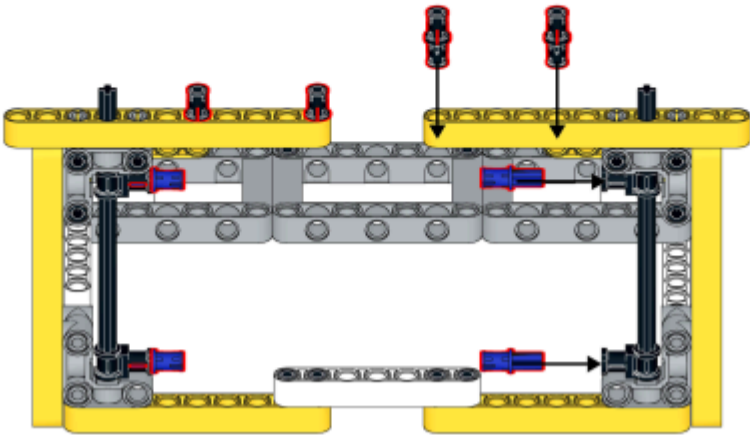
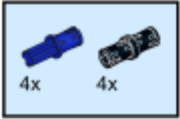
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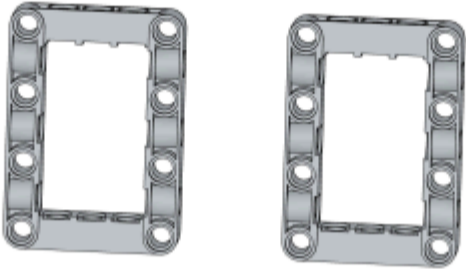
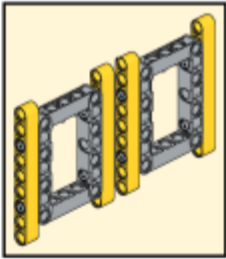
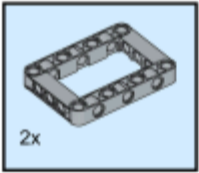
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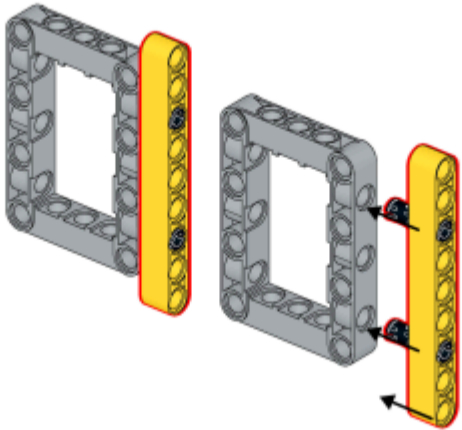
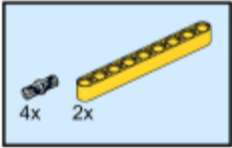
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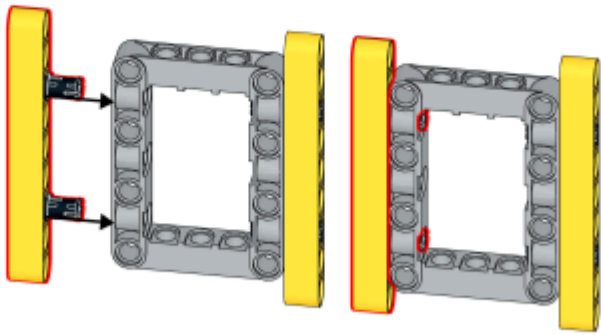
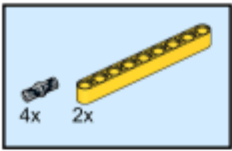
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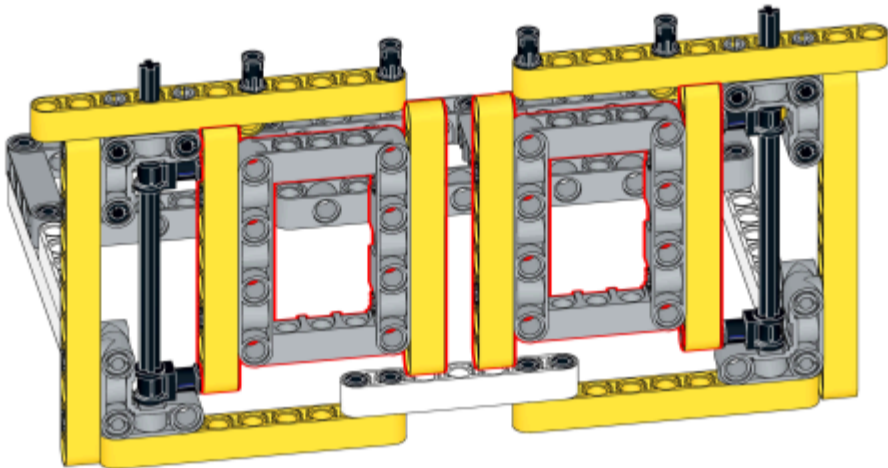
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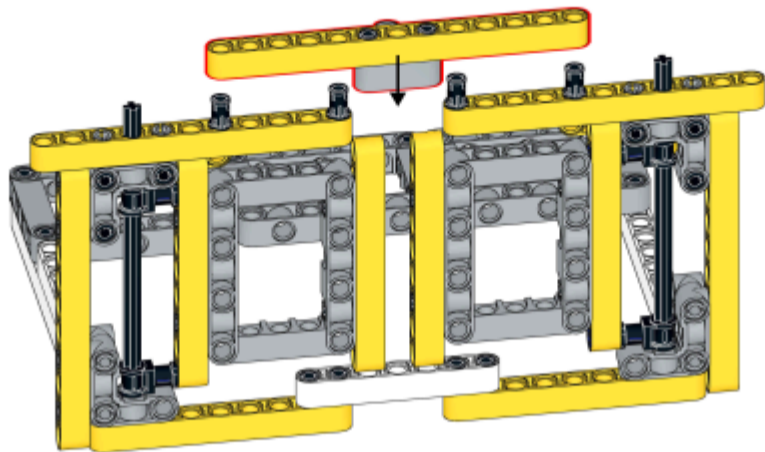
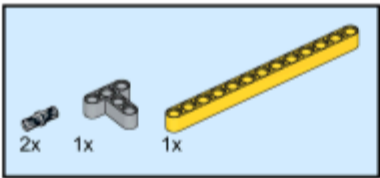
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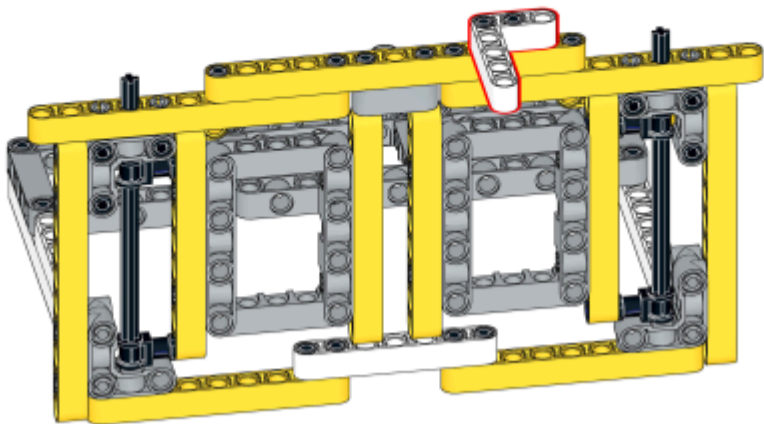
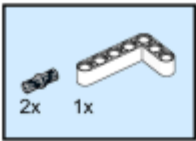
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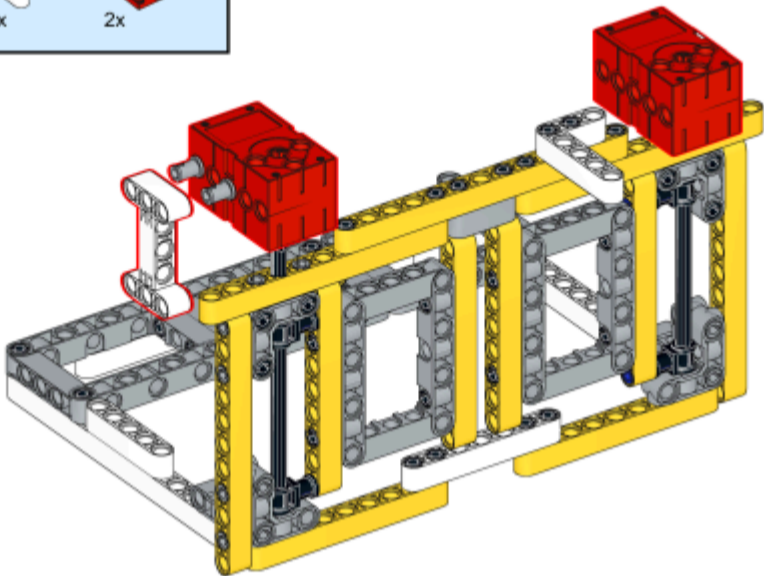
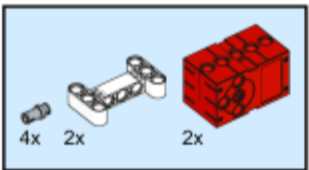
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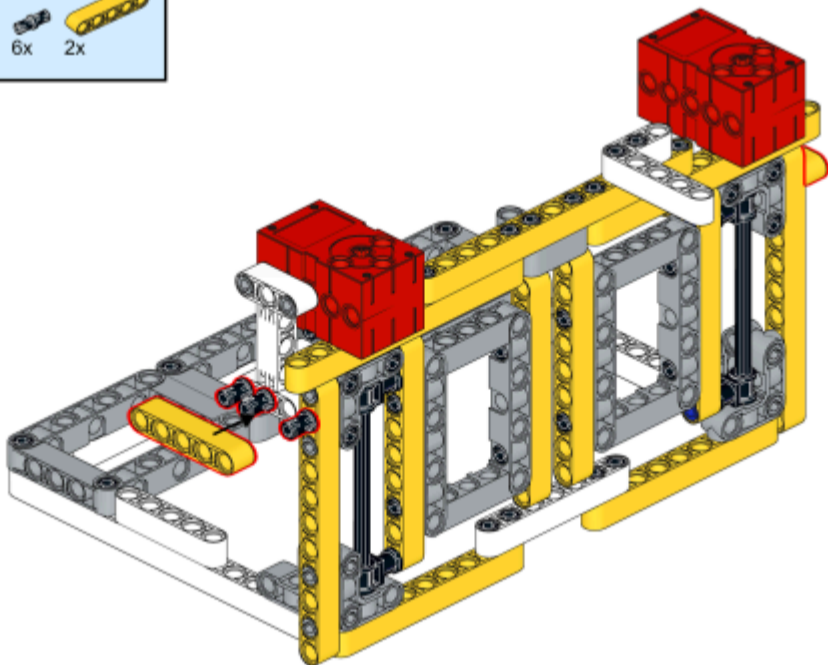
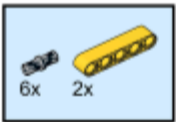
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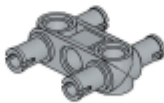
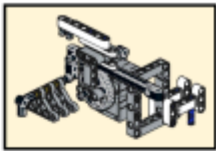
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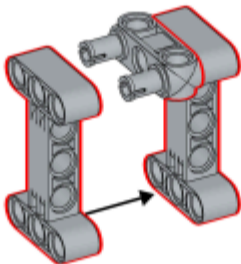
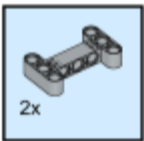
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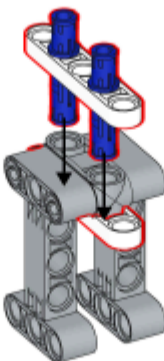
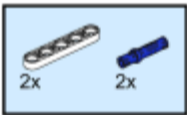
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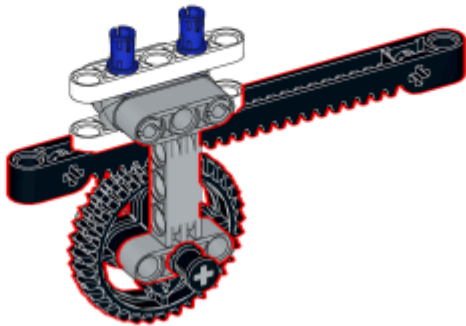
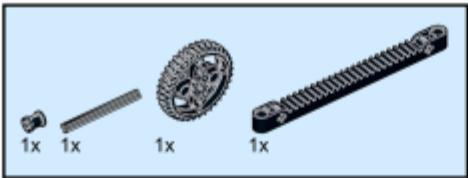
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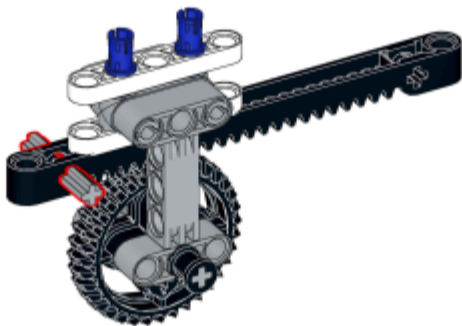
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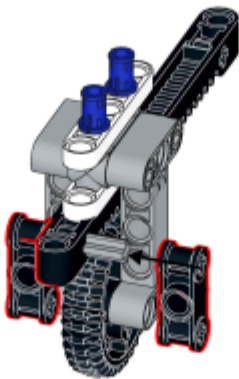
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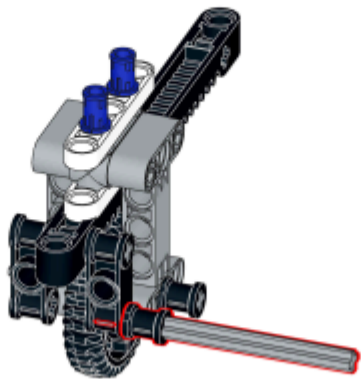
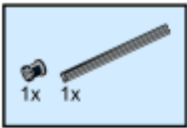
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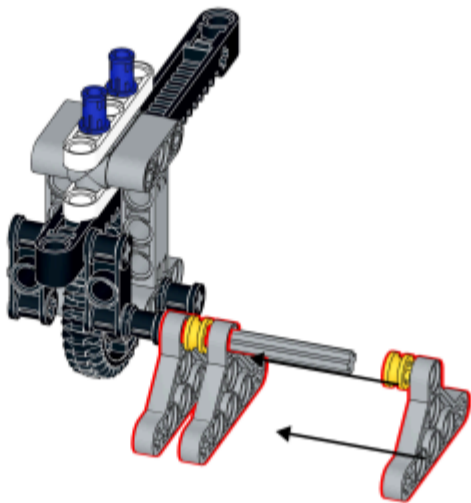
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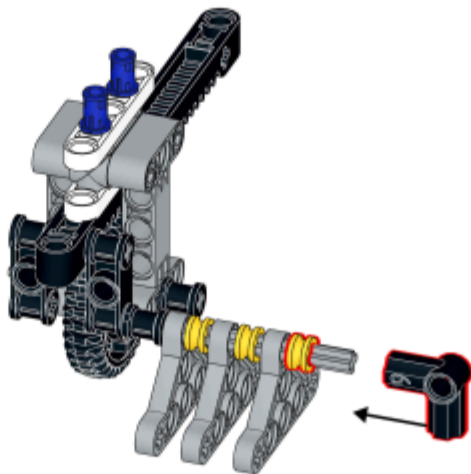
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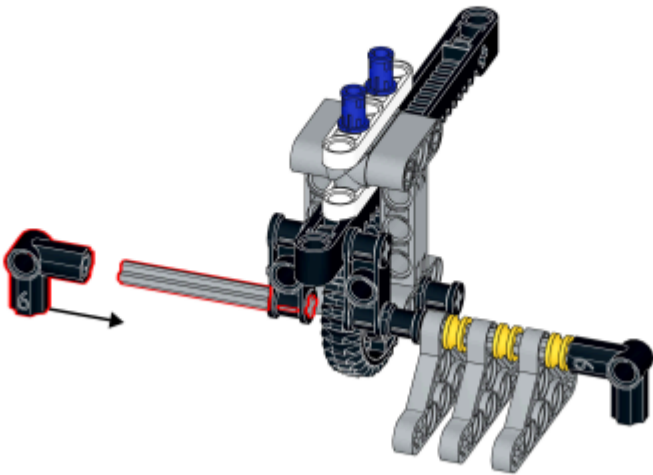
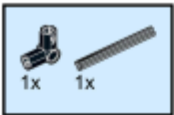
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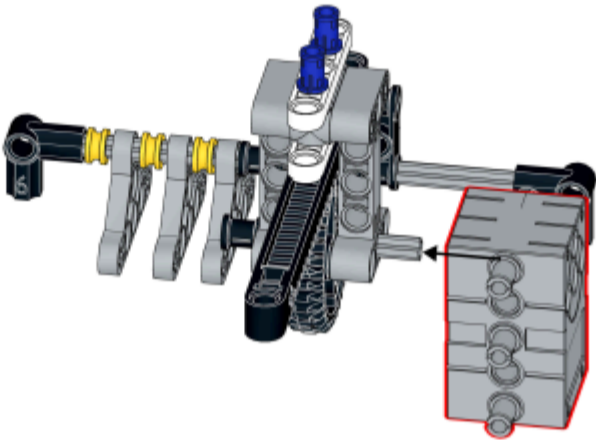
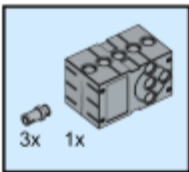
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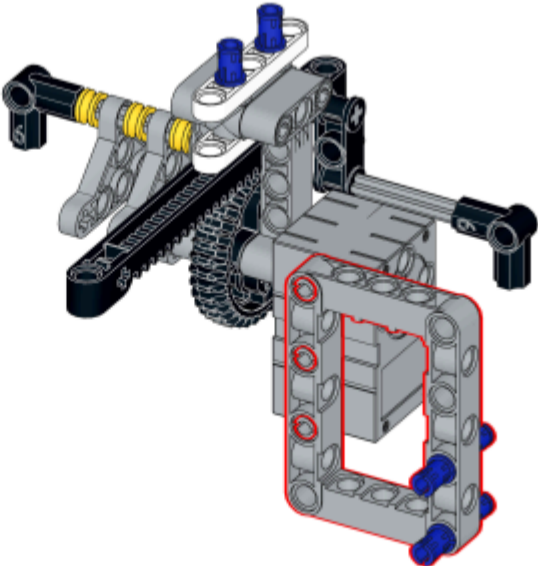
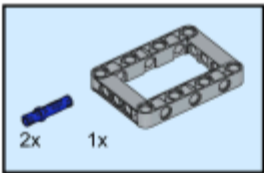
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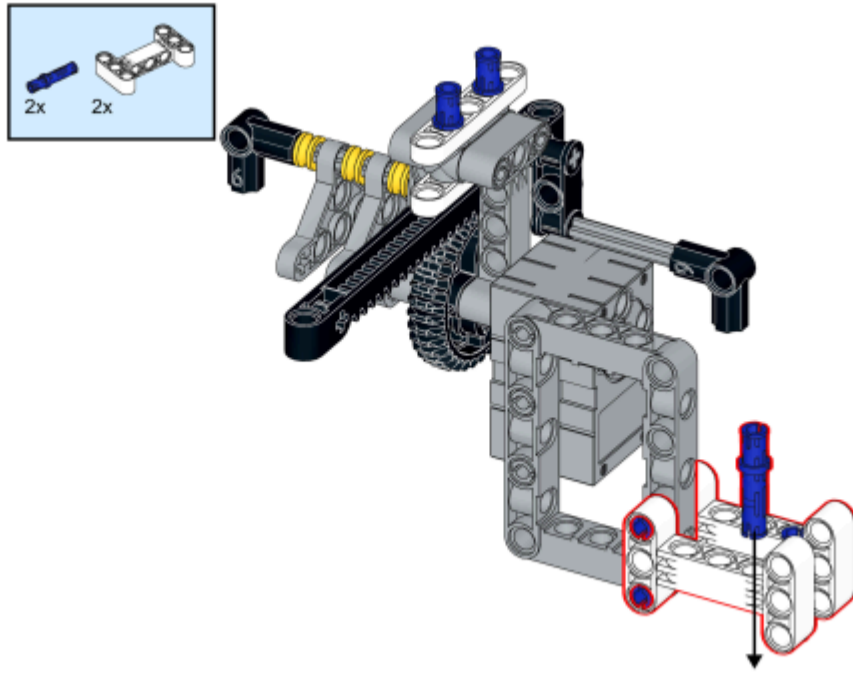
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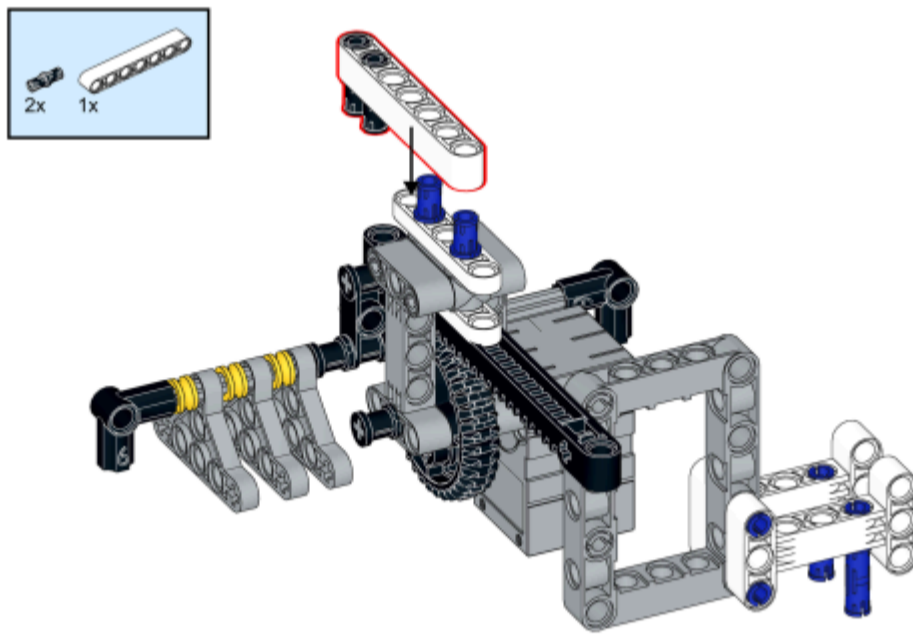
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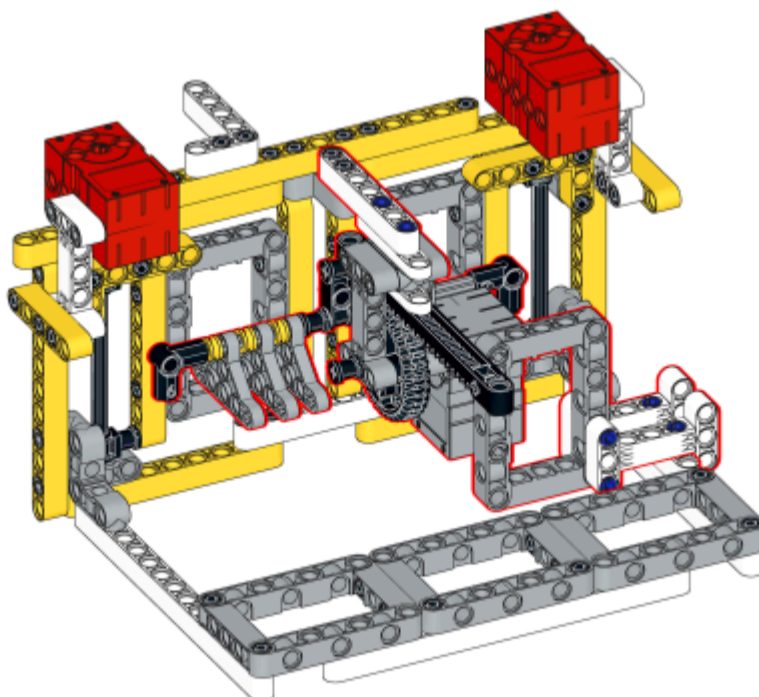
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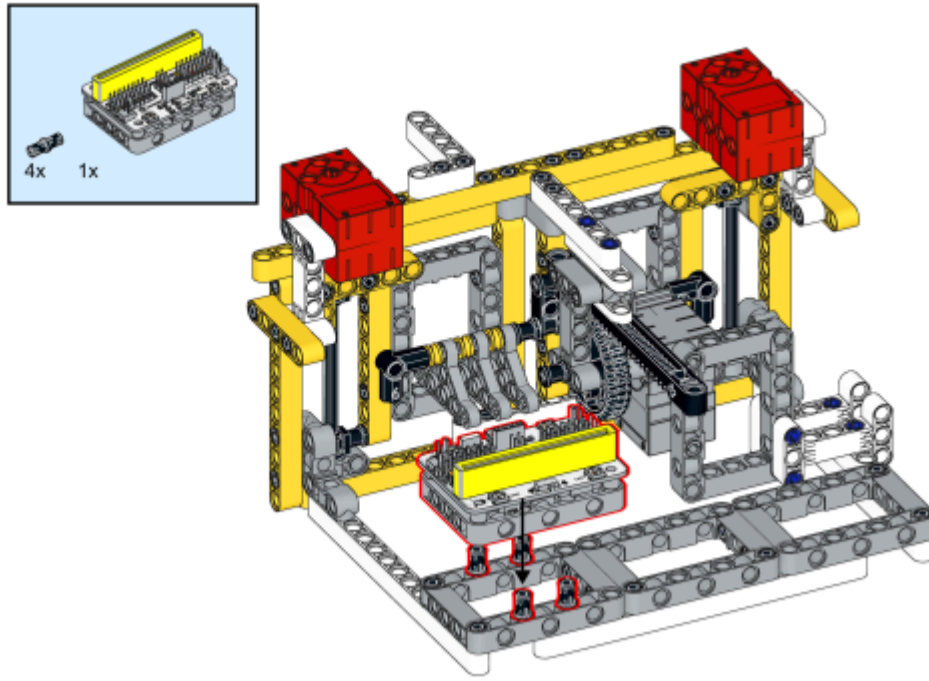
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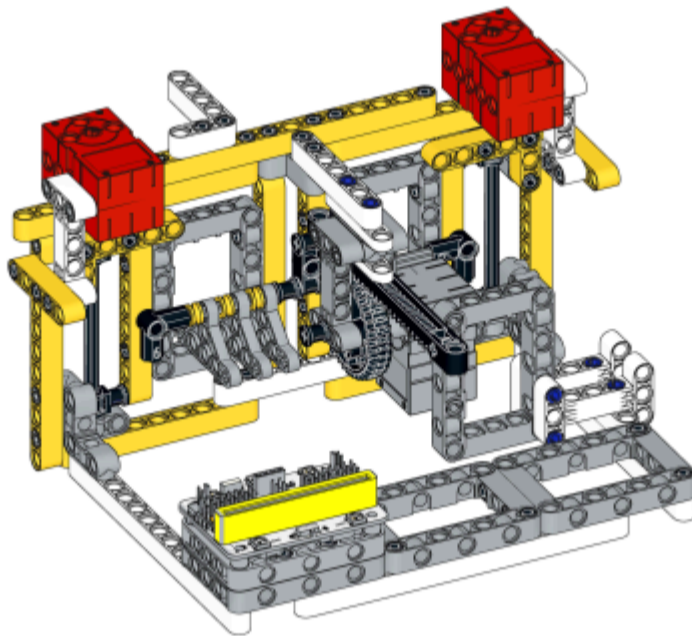
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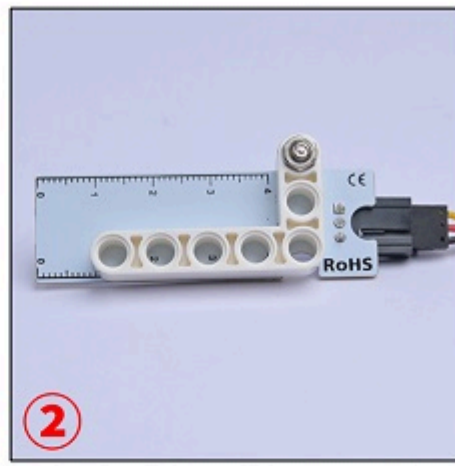
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## 22.5. Installation Mthods of Hardwares

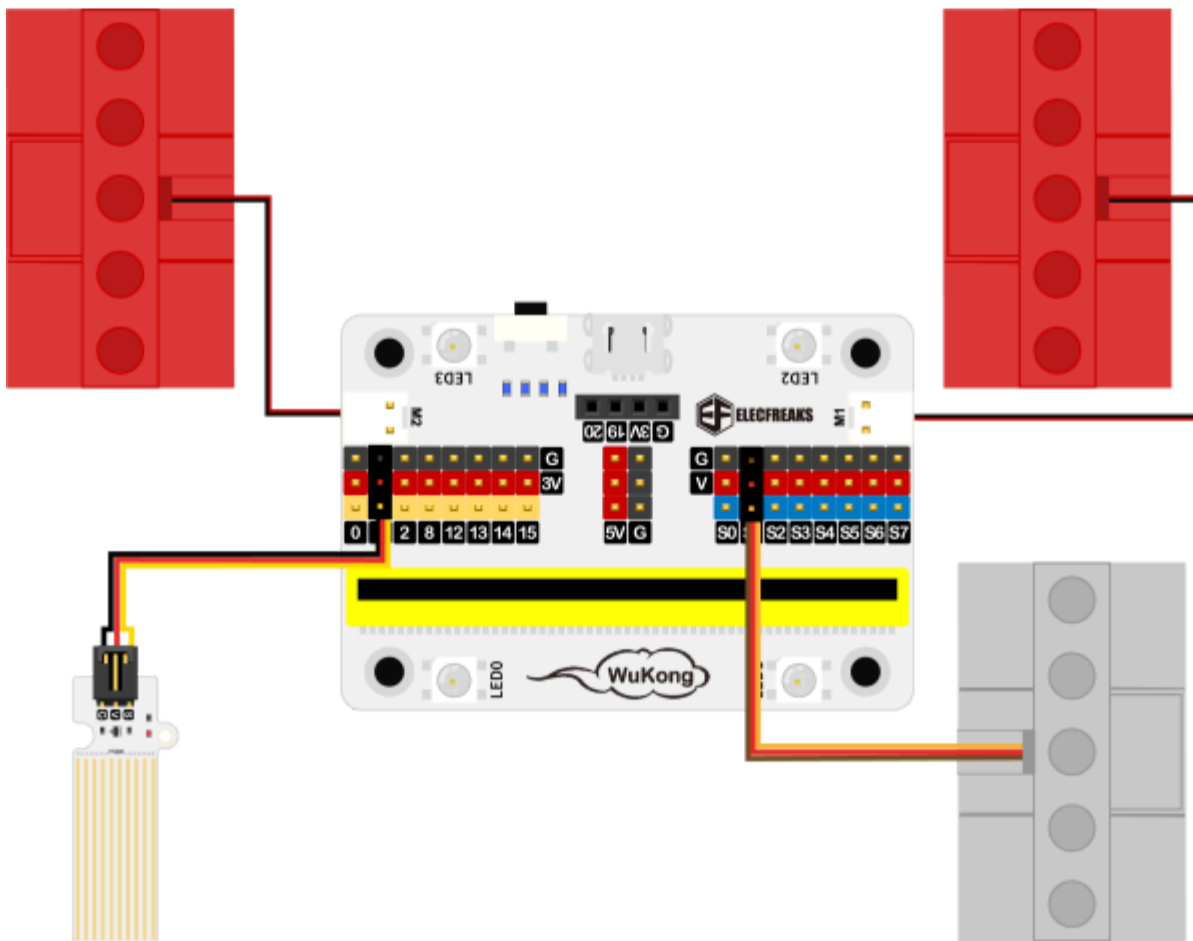
Install the water level sensor with the bricks.

## Sensor Connection Diagram



## 22.6. Hardware Connection

Connect two [motors](#) to M1 and M2, the [servo](#) to S1 and the [water level sensor](#) to P1 ports on [Wukong breakout board](#).



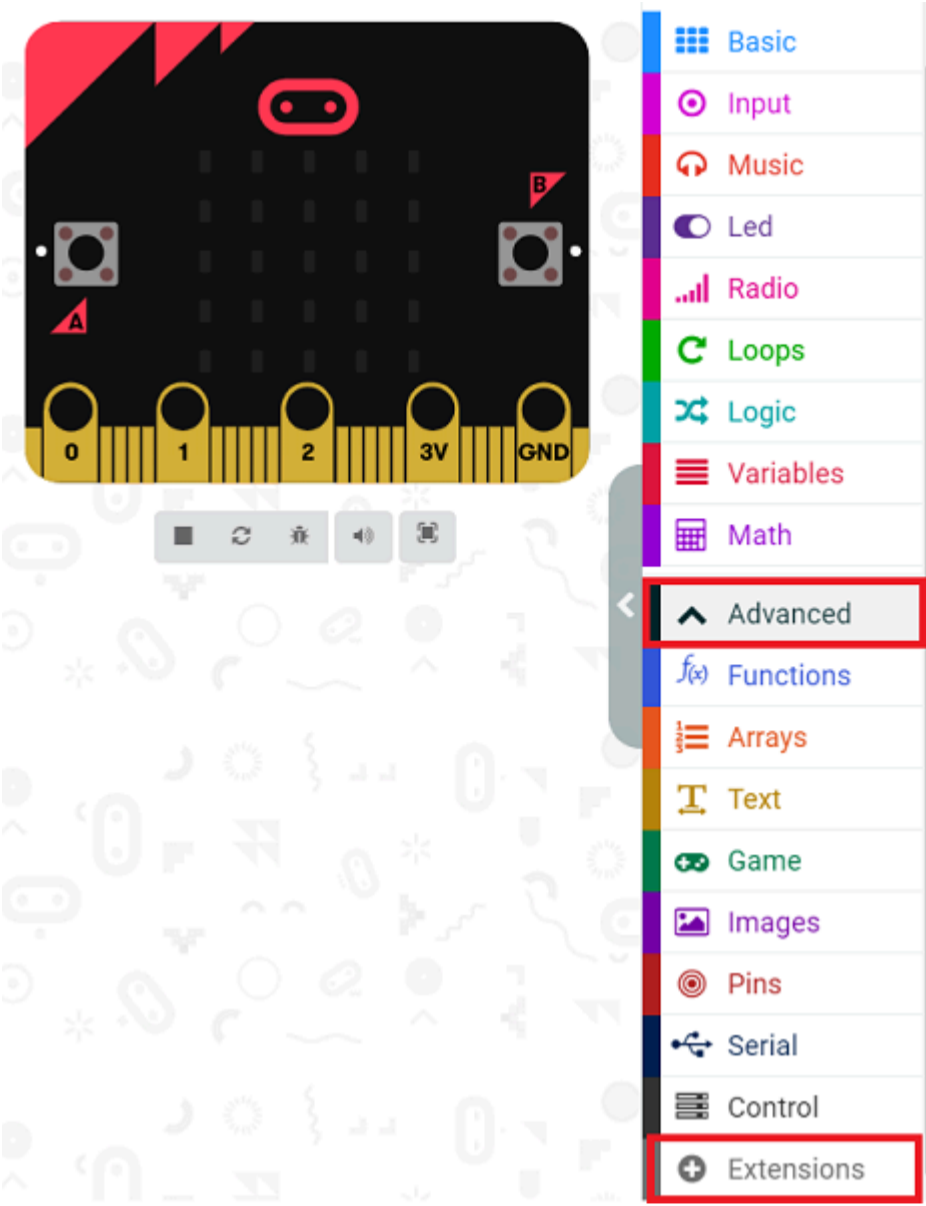
## 22.7. Software Platform

[MakeCode](#)

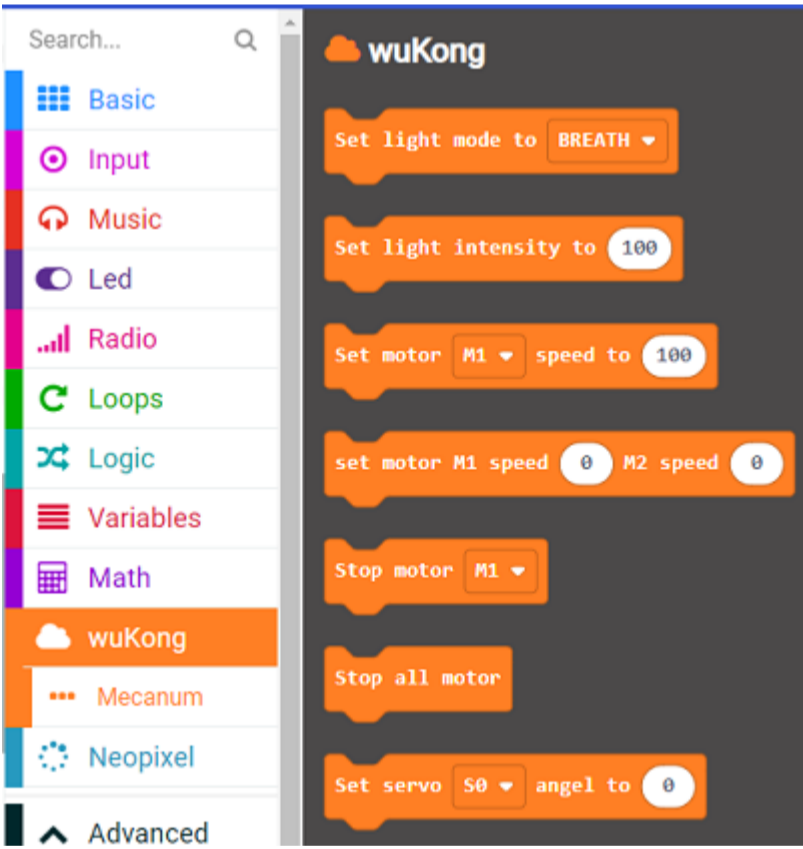
## 22.8. Coding

## Add extensions

Click “Advanced” in the MakeCode to see more choices.



Search with Wukong in the dialogue box to download it.



## Program

```
on start
  set rainwater to false

on button A pressed
  Set motor M1 speed to -50
  Set motor M2 speed to -50
  pause (ms) 500
  Set 360° servo S1 angle to 210
  Stop all motor
  set rainwater to false

on button B pressed
  Set 360° servo S1 angle to 360
  pause (ms) 500
  Set motor M1 speed to 50
  Set motor M2 speed to 50
  pause (ms) 500
  Stop all motor
  set rainwater to true

forever
  if value of water level(0~100) at pin P1 > 10 then
    if rainwater = false then
      Set 360° servo S1 angle to 360
      pause (ms) 500
      Set motor M1 speed to 50
      Set motor M2 speed to 50
      pause (ms) 500
      Stop all motor
      set rainwater to true
    +
  if value of water level(0~100) at pin P1 < 10 then
    if rainwater = true then
      set rainwater to false
    +
```

Link:[https://makecode.microbit.org/\\_diR3FMERAfWE](https://makecode.microbit.org/_diR3FMERAfWE)

## Result

when button A is pressed, the two windows open outward and the airer extends outward. When button B is pressed, the airer retracts inward and the two windows close inward. When button A is pressed, the two windows open outward and the airer extends outward, the water level sensor will detect the current rain value, and when the rain value is greater than 10, the airer will automatically retract and the two windows will automatically close.