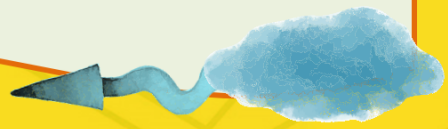
Stop At the Black Line

Target

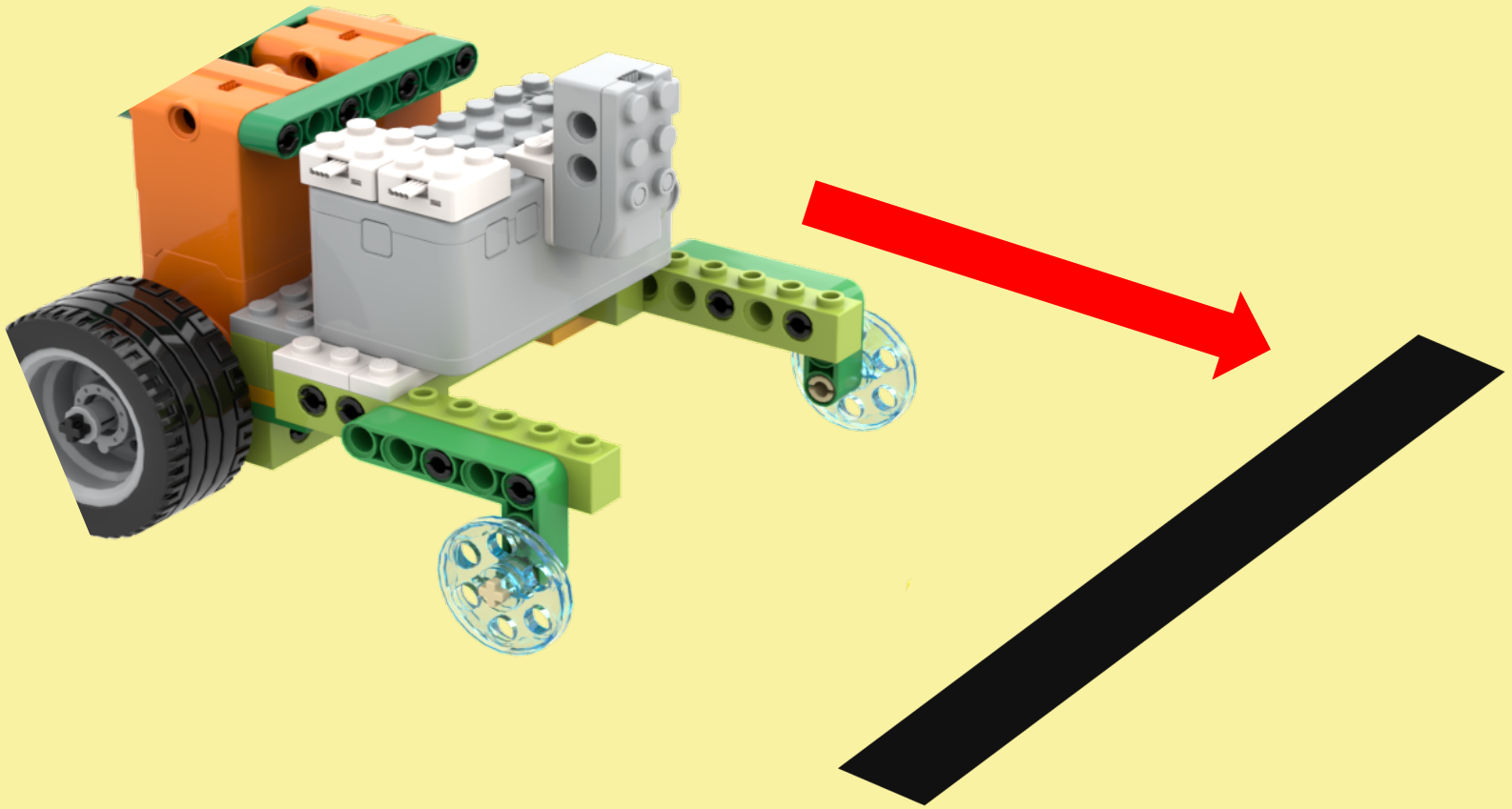
- Learn how to use the grayscale sensor for black line detection.
- Master the task of using the grayscale sensor to complete line-following tasks.
- Become proficient in the requirements for detecting black lines with the sensor.

01 Task



Task

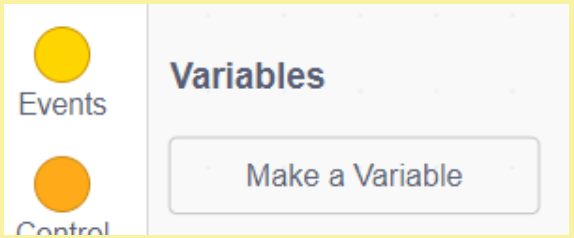
- **Task 1: Stop When the Grayscale Sensor Detects a Black Line**

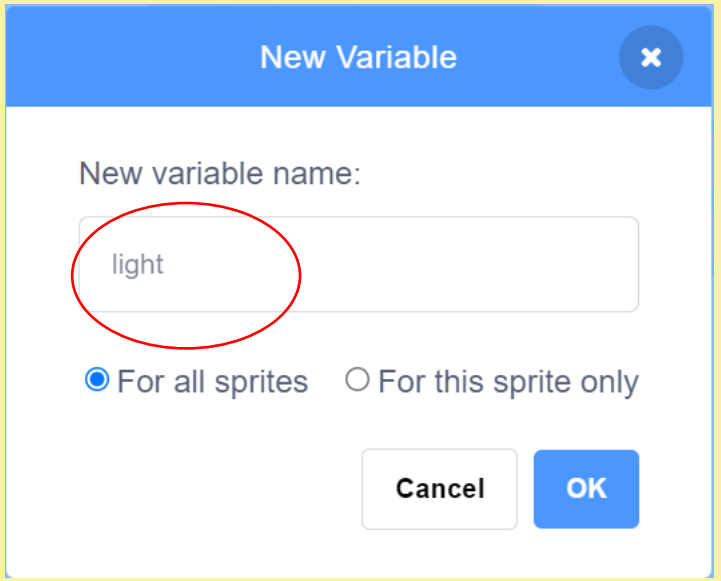


Coding Technique 1

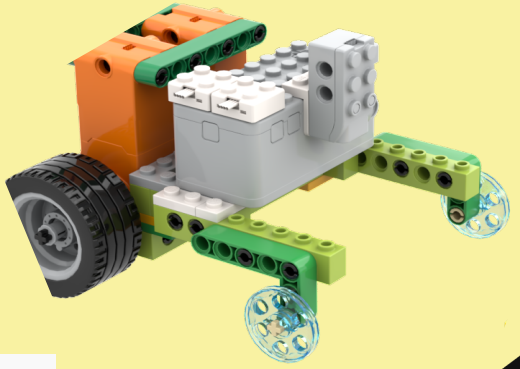
Using Variables and Viewing Sensor Values

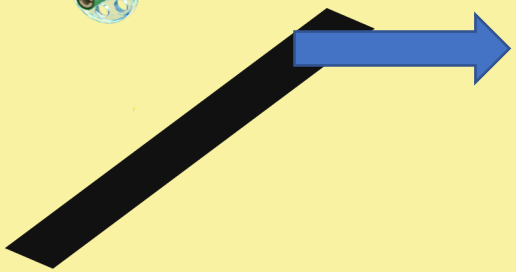
Note: Variable names should use only English letters.





Coding Technique 1

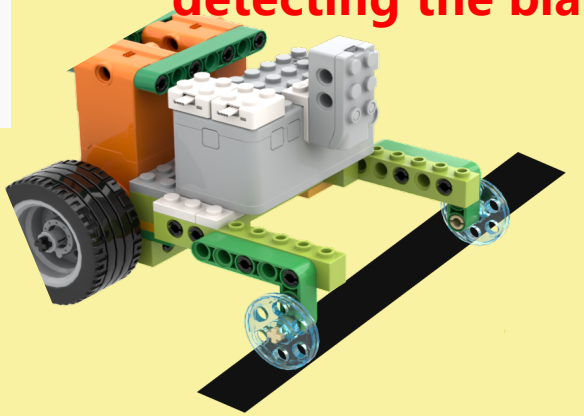




light 18

```
when clicked
forever
  set light to 1# single channel line tracker's value
```

Pay close attention to the difference between detecting the black line and not detecting it.

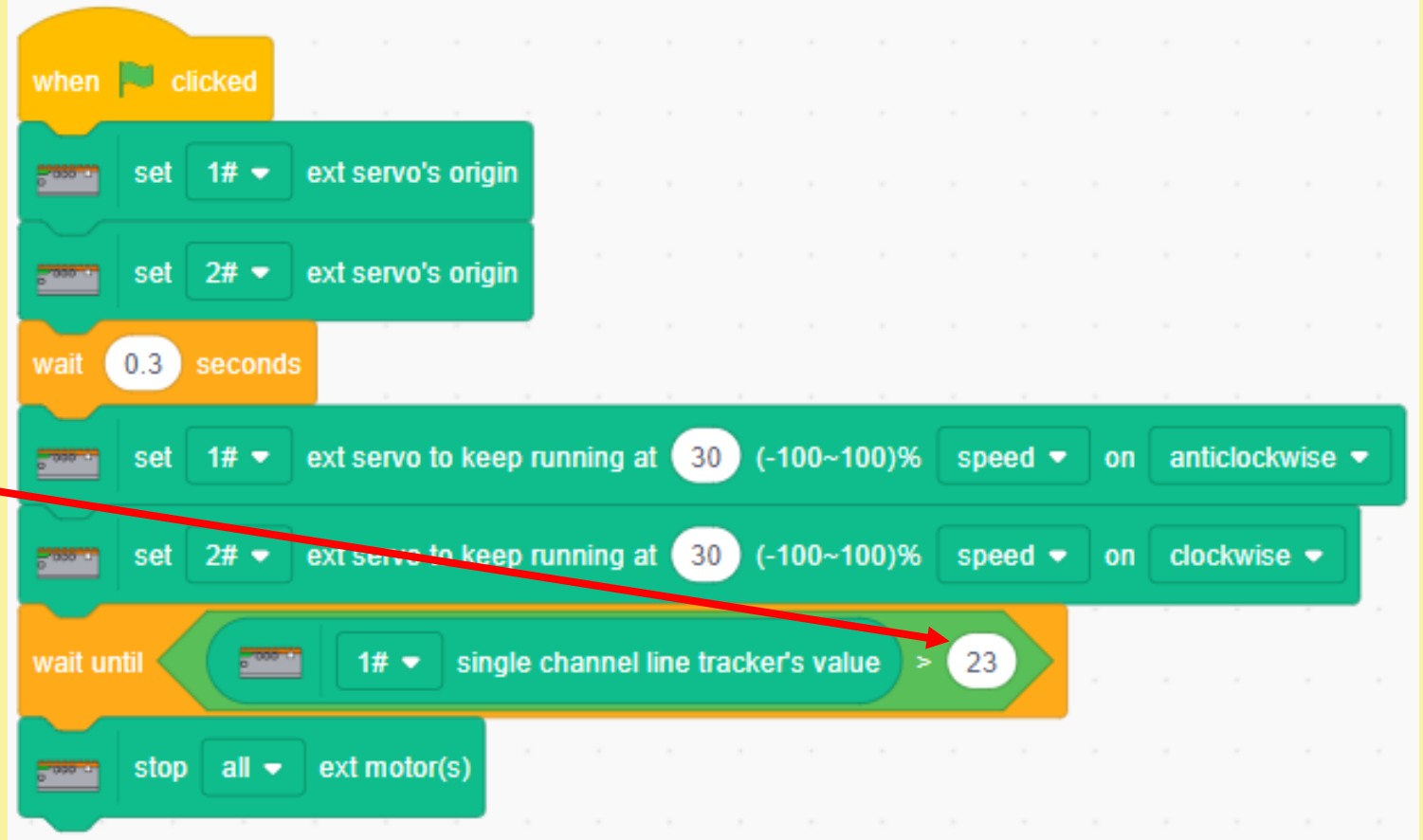


light 29

Task

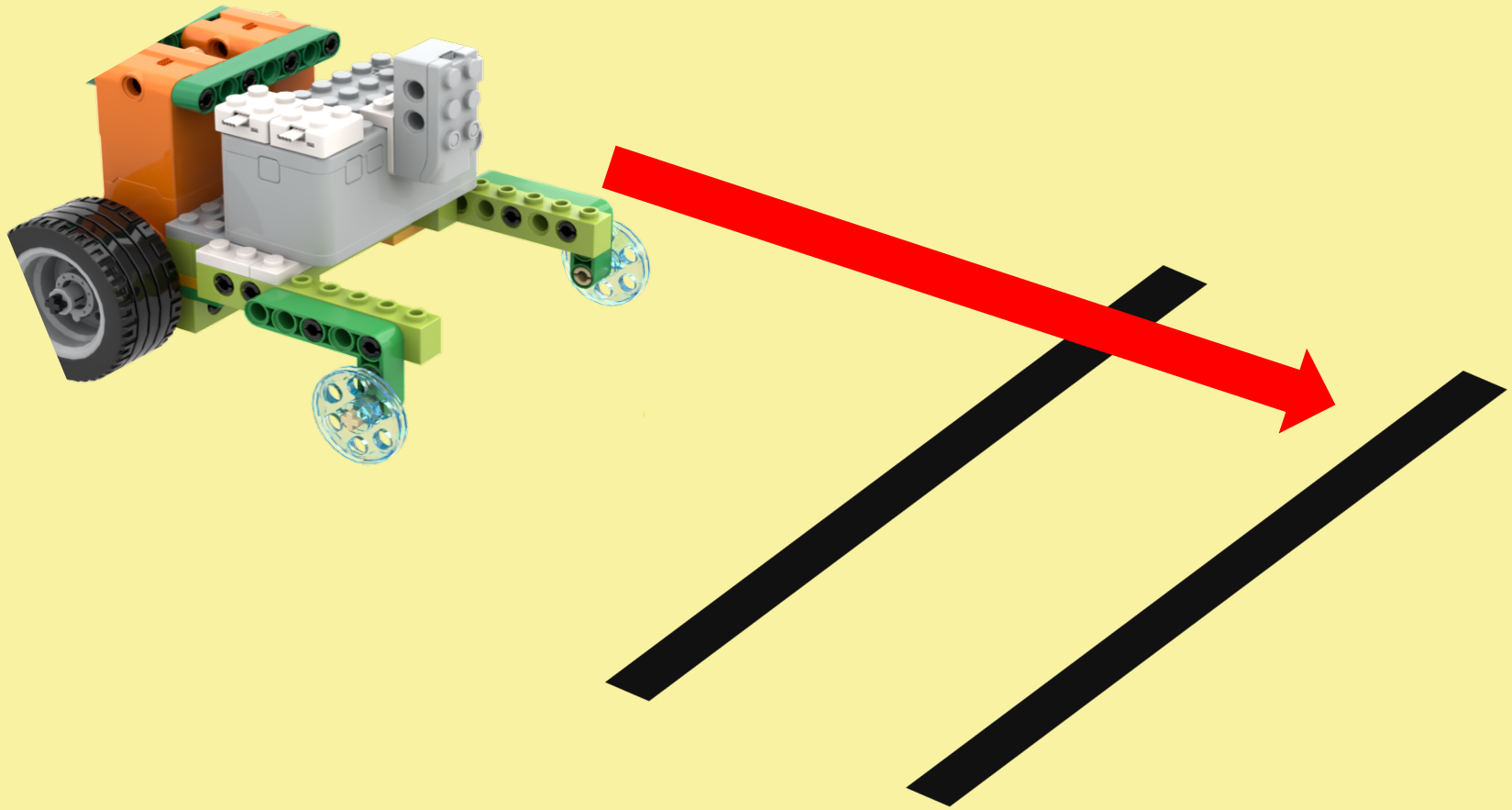
Referrable Program

$$\text{Threshold} = \frac{(black\ line\ value + white\ value)}{2}$$



Task

Task 2: Complete the Task of Stopping at the Second Black Line

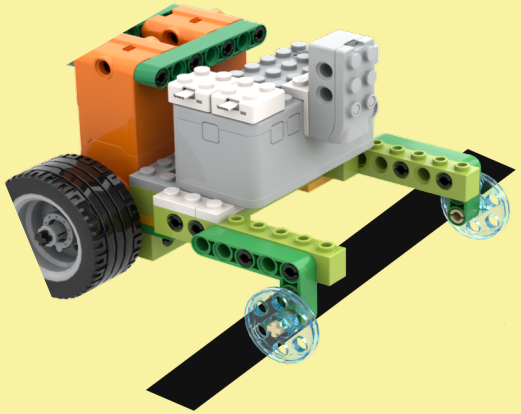


Coding Technique 2

The line-following task should involve two steps to be completed in one go.

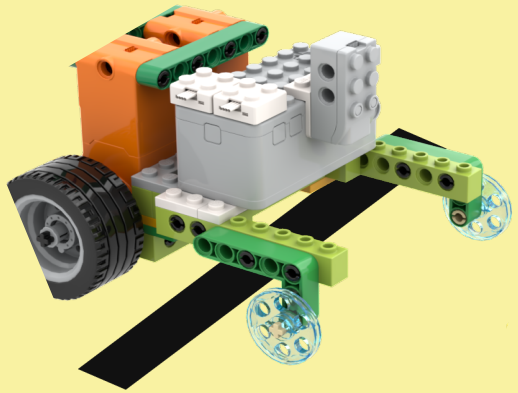
light 29

Detect the black line



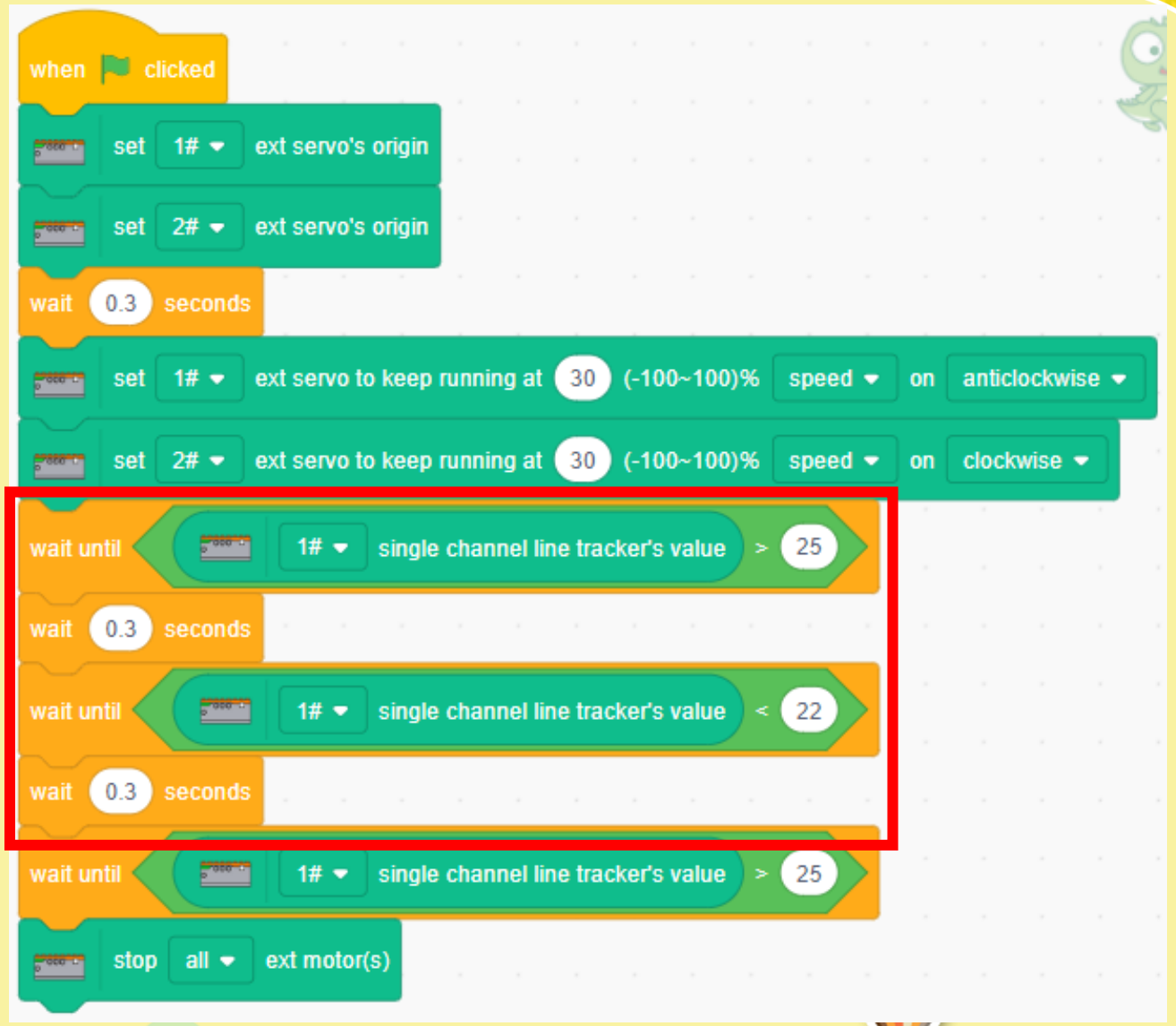
light 18

Leave the black line



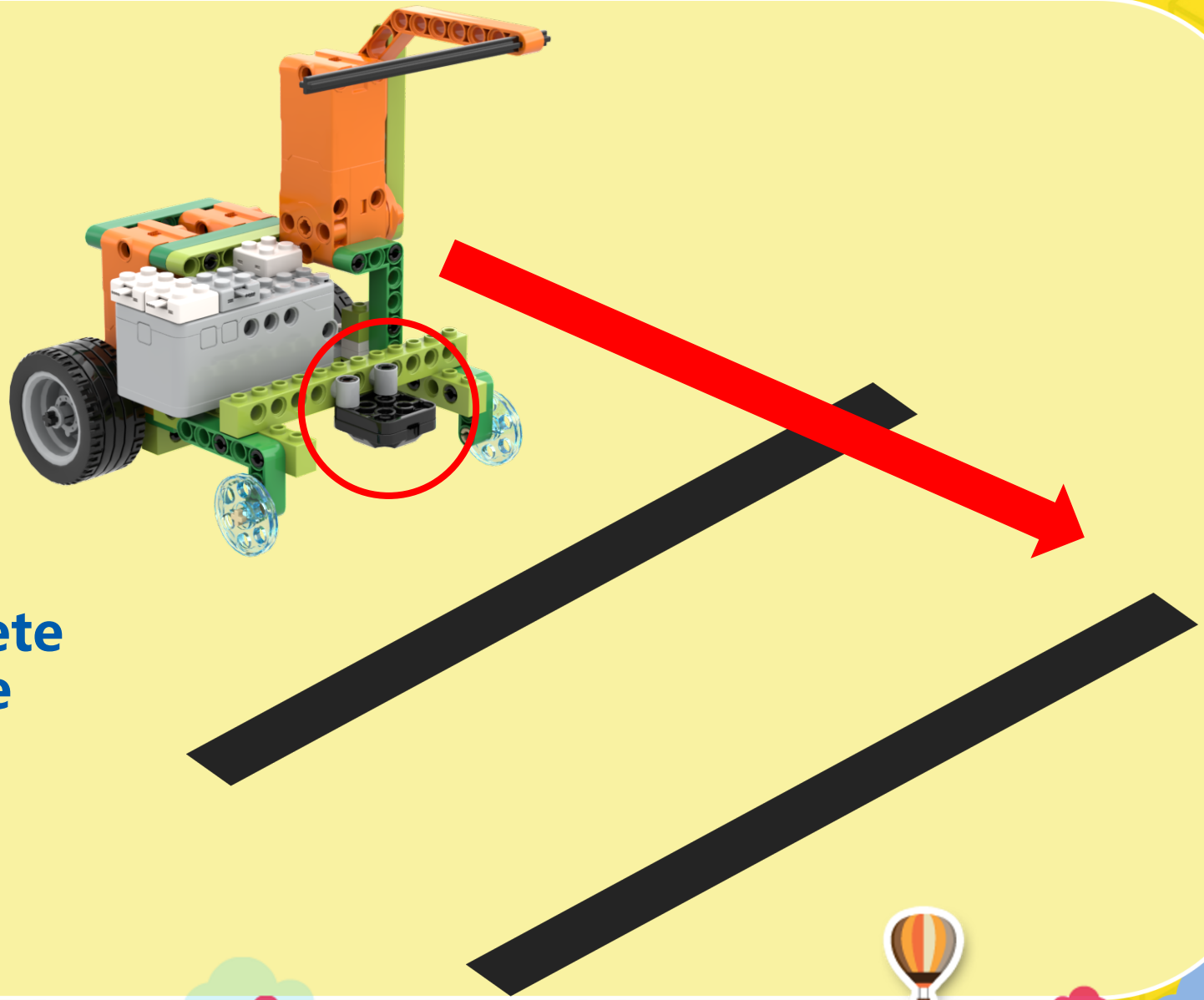
Task

Referrable Program



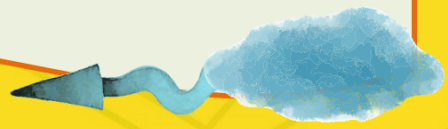
The box outlines the criteria for completing a single line-following task.

Additional Task

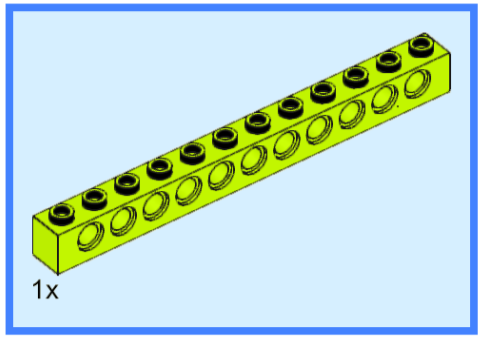


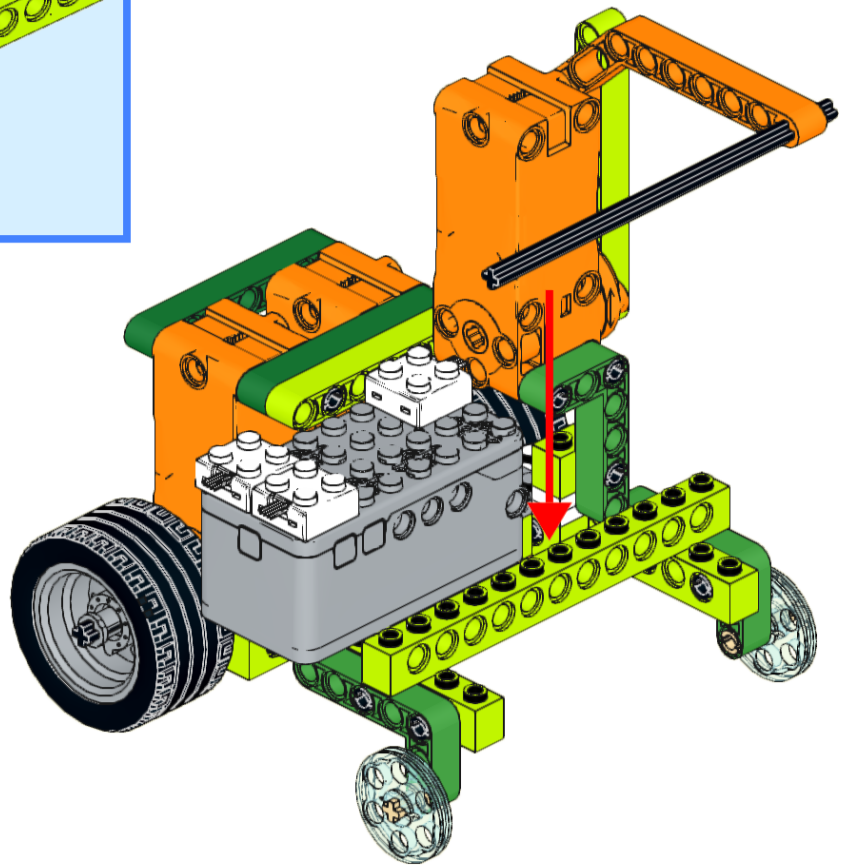
Use the color sensor in reflection mode to complete the task of stopping at the second black line.

02 Assembly

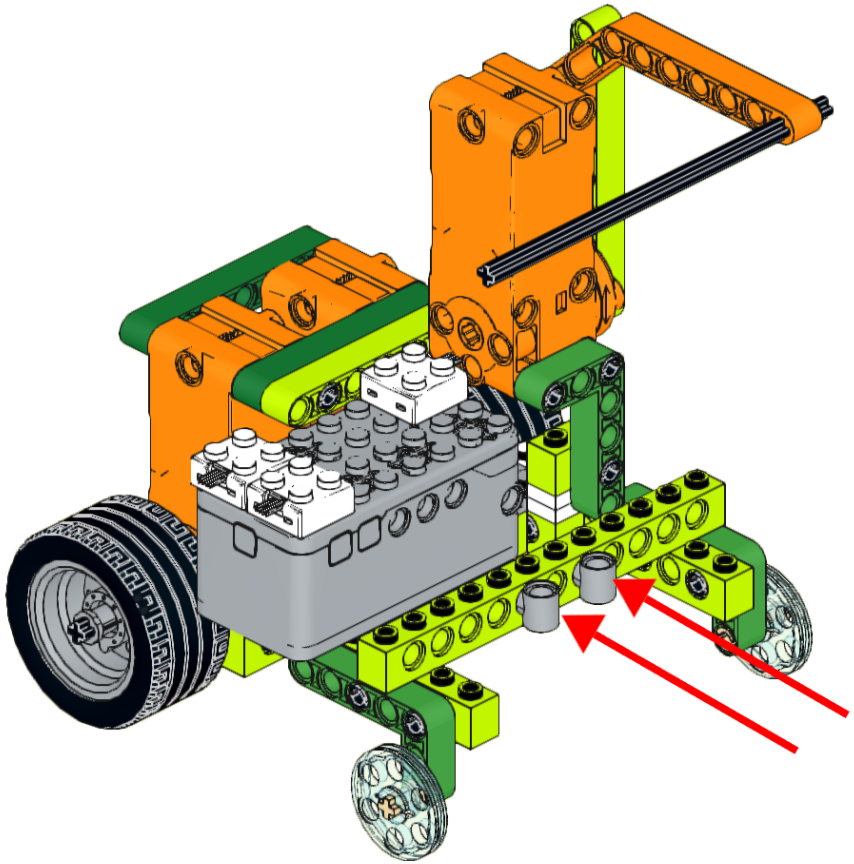


Additional Structure Assembly

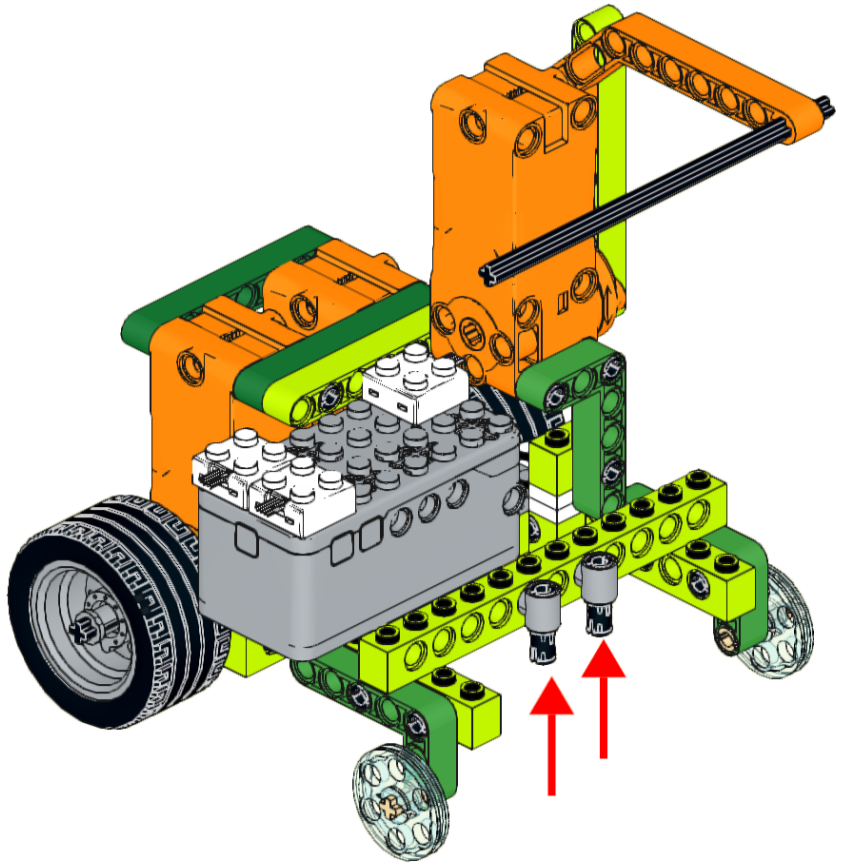




Additional Structure Assembly



Additional Structure Assembly



Additional Structure Assembly