

# Follow the Line

## Mission:

The robot will use a light sensor facing down to follow the dark line on the practice pad indefinitely until stopped.

## Equipment:

White table top or playing field.

Practice pad oval that came with the kit or blue or green painter's tape to make an oval.

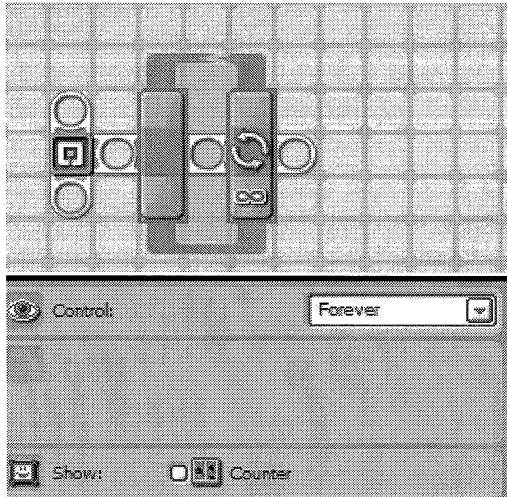
## Sensors:

Light

## Directions:

Attach the light sensor so it is at least two pennies above the surface.

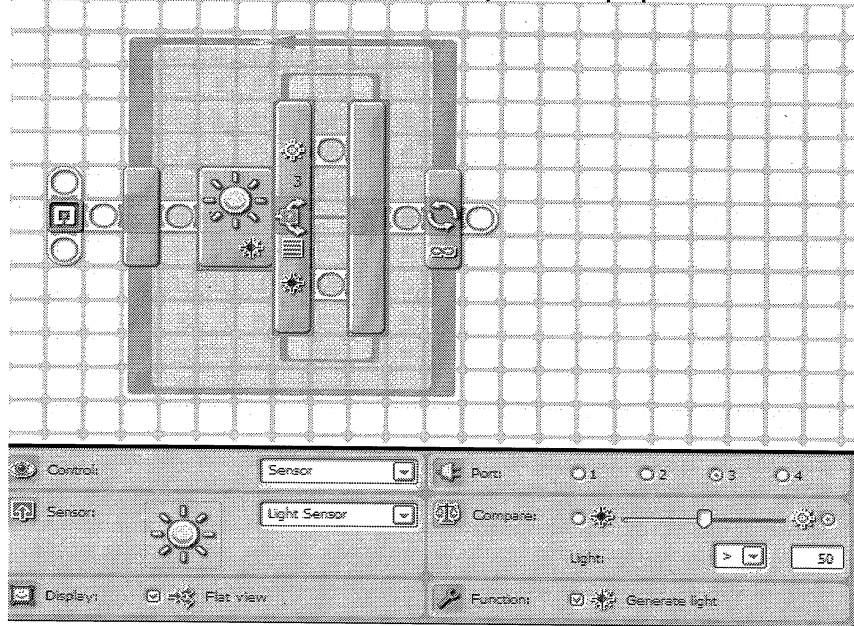
1. Get a Loop block and place it at the start.



*The loop makes the program inside the loop repeat over and over.*

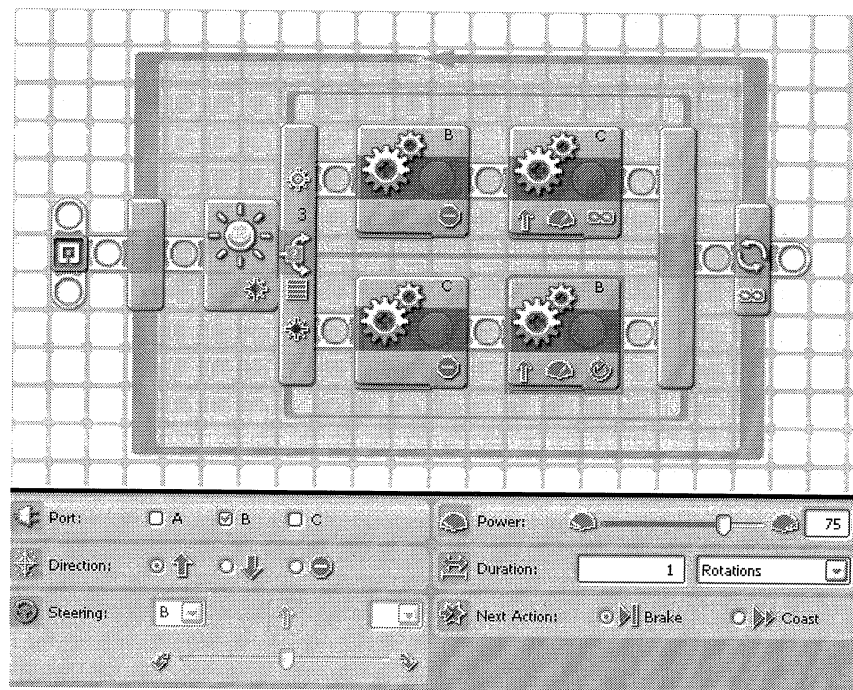
2. Get a switch block and put it in the loop.

3. Change the Touch Switch to a Light Switch. Set the sensitivity to be about 5 points less than your light sensor reading of the white piece of paper.



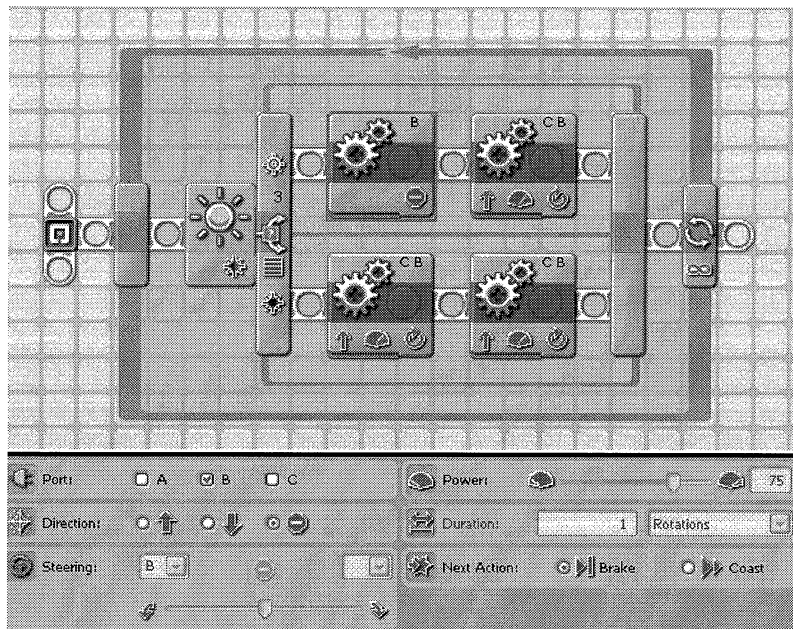
*Making the light setting 4 or 5 point lower than the white reading makes the switch change when the light sensor is only part way on the black line.*

4. Put two Move blocks on each line.



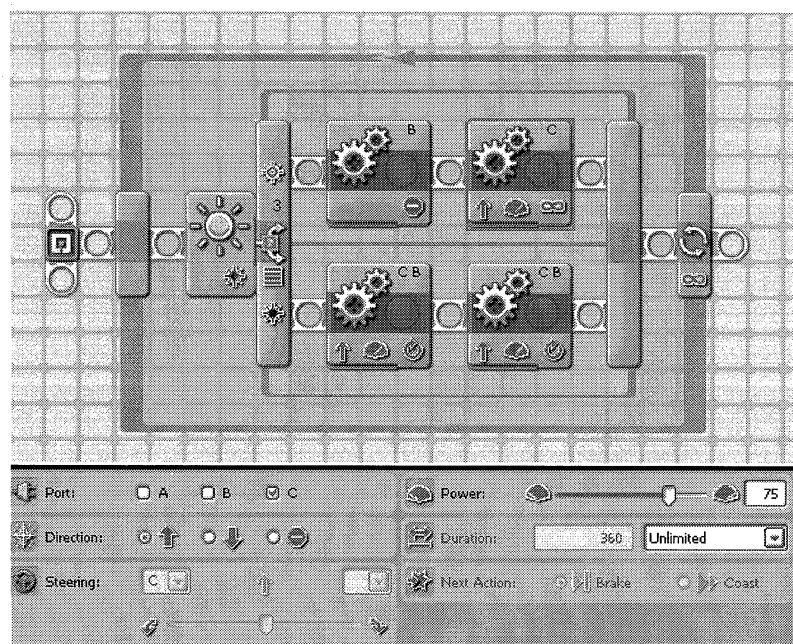
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5. On the top line and in the first block set to Port B and to stop.



*This makes wheel B stop.*

6. Still on the top line, set the second block to Port C and make it unlimited.

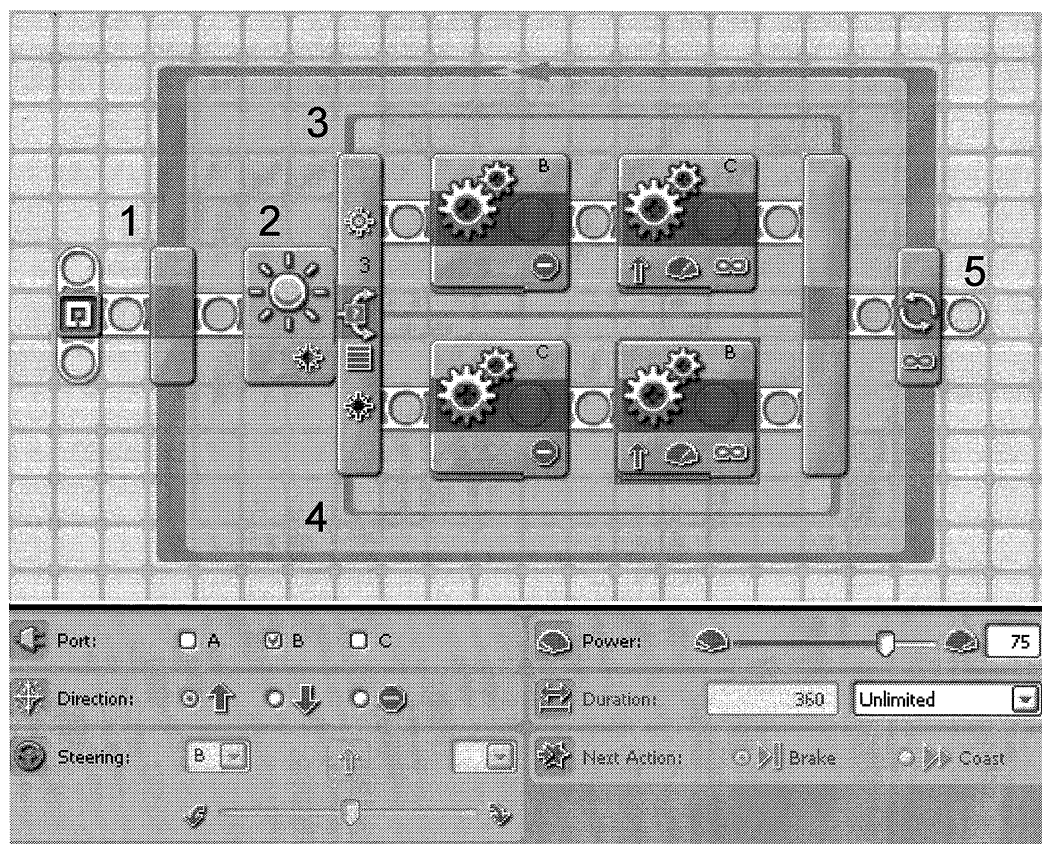


*This makes wheel C keep moving until the switch changes.*

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To review,

1. The loop makes everything happen over and over.
2. The switch decides if the brightness of the light is bright enough to say yes, it is brighter than the level you set or no it is not.
3. If it is brighter, the program goes to the top level and stops the wheel connected to port B and makes the wheel connected to motor C keep going until something changes.
4. If the answer is no, it is not brighter than the level you set, the program takes the lower line of the switch and stops the wheel connected to port C and makes the wheel connected to port B keep going until something changes.
5. The loop repeats everything forever until the program is stopped.



**Secret of success:** You may need to adjust the sensitivity of the switch block higher or lower to make it respond to the dark line but not respond to slight changes in the lighting. Also, keep the robot moving at  $\frac{1}{2}$  to  $\frac{3}{4}$  speed so the sensor will not move to the other side of the black line before the robot has a chance to turn away from the line.

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