EV3 Programming Sensors

Sensors add environmental feedback and using switch blocks allows the robot

to make responsive decisions about its next course of action.

There are also many other sensors available at an additional cost.

Each of these sensors can lead your inquiry into many different areas of science

allowing you to tailor your planning to the Program of Studies.

The touch sensor reacts to contact similar to an on-off button.

The light sensor both emits and detects light and colours. (how much the sensor rotates).

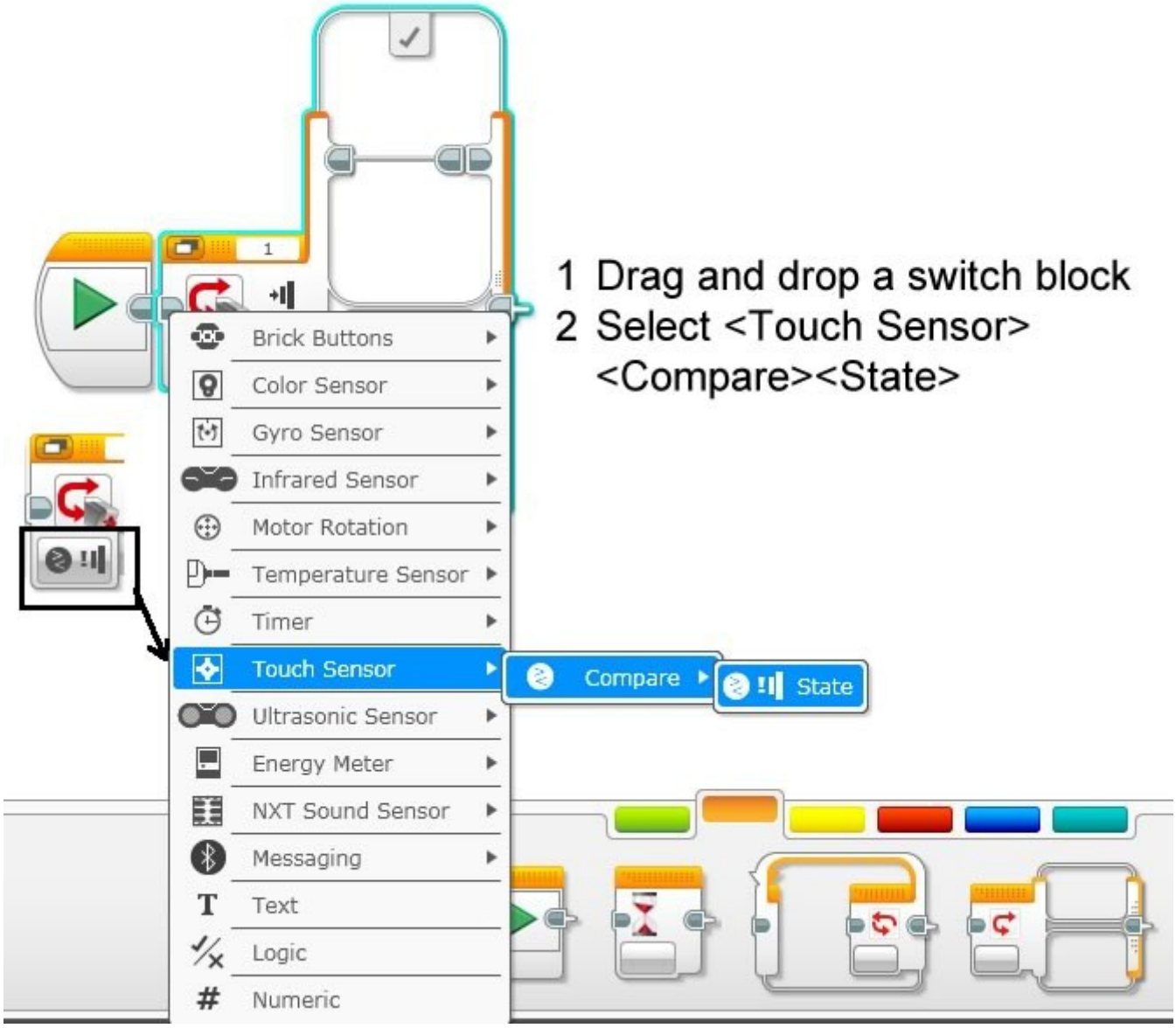
Sensor Task 1:

This first Sensor Task does not involve any robot movement.

1. Ask students to add the touch sensor to their robot. Children can add the sensor themselves
2. Program the robot to change the display screen when the touch sensor is touched.
3. This means that when the touch sensor is touched it will run one chain of commands.
4. When the touch sensor is not touched it will run another chain of commands.
5. This can be done with a switch programming block.

First, drag and drop a switch block from the orange tab on the lower menu.

Select <Touch Sensor><Compare><State> from the switch options.

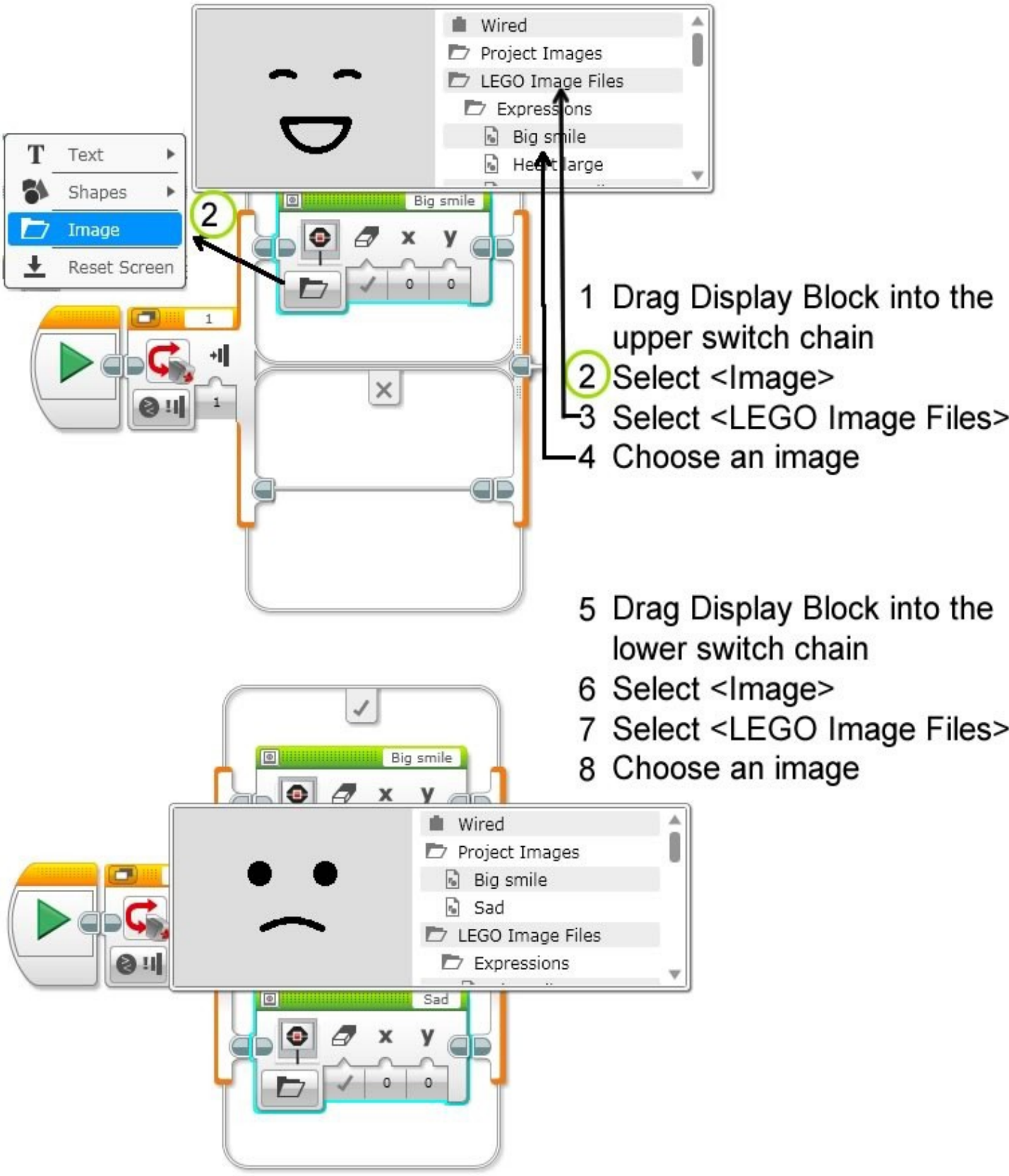


Drag and drop a Display Block from the green tab on the lower menu into the upper switch chain.

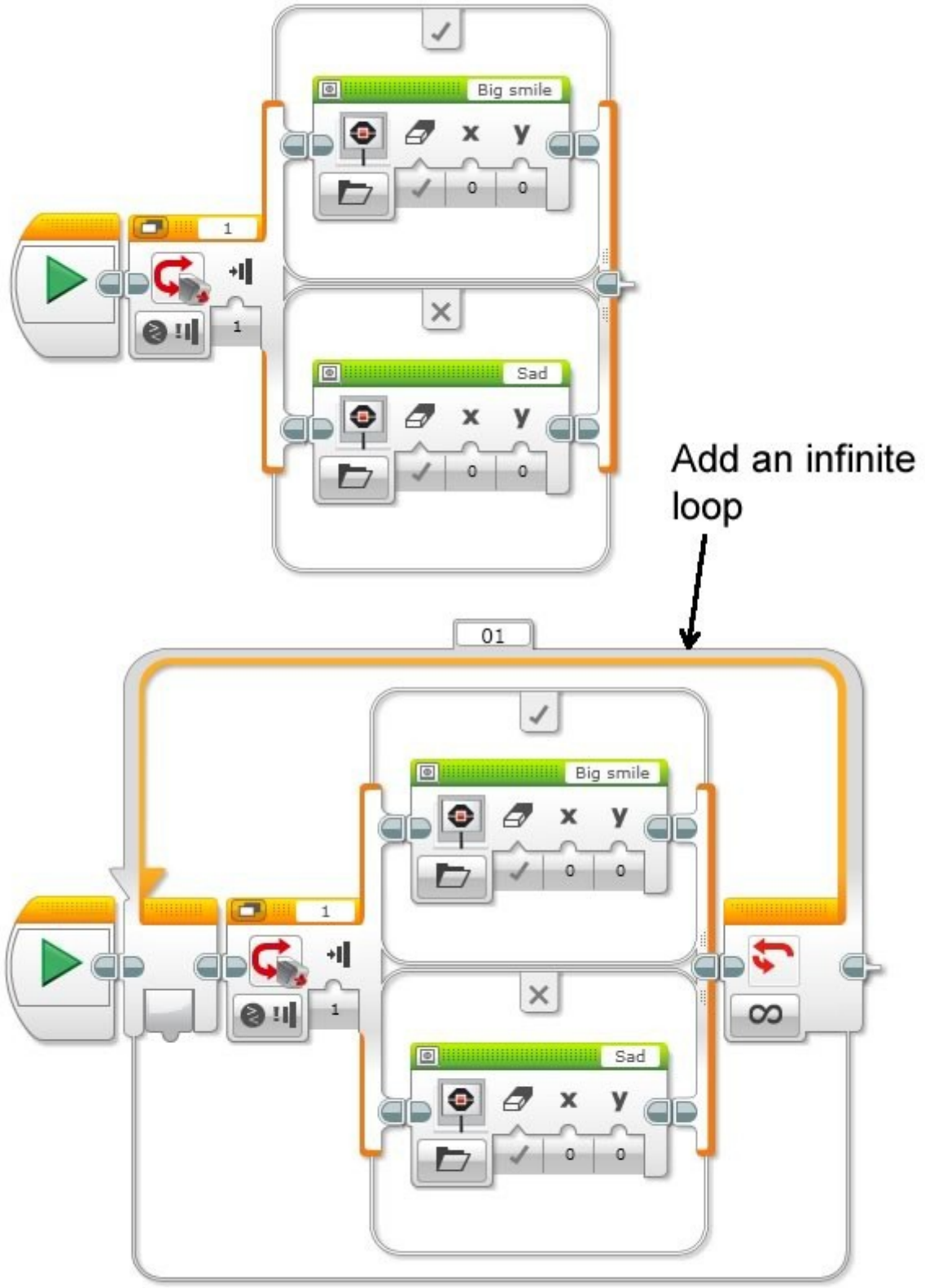
The upper switch chain will run if the touch sensor is pushed.

We chose a happy social robot that smiles when touched form the “Lego Image Files.”

Then add a Display Block to the lower switch chain. Choose a different image.



An infinite loop block needs to be added.Otherwise the switch will evaluate once.



Plug your robot in and press play to download.

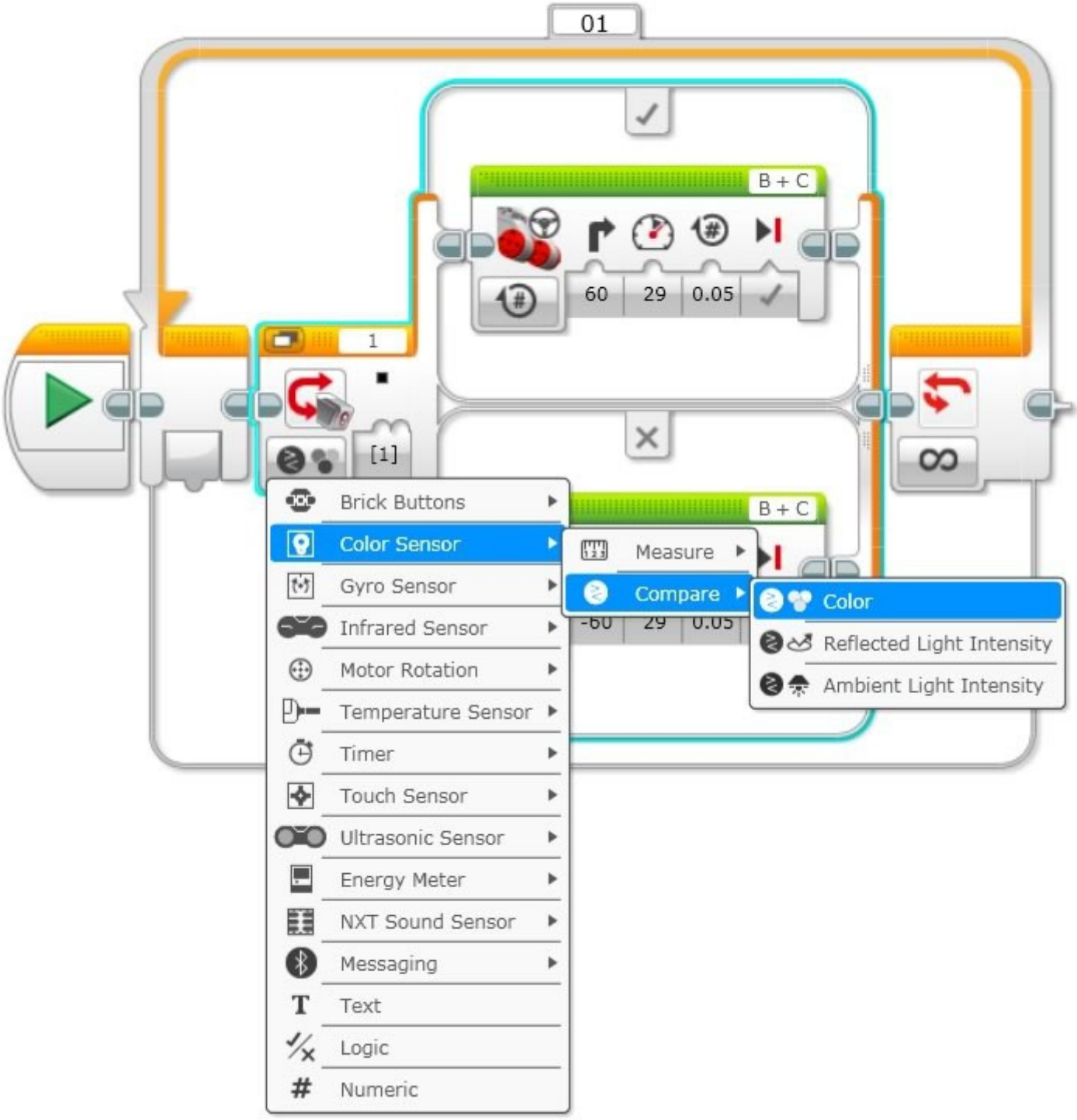
Light Sensor

Moving along a black line

First put a Switch Block inside a Loop Block.

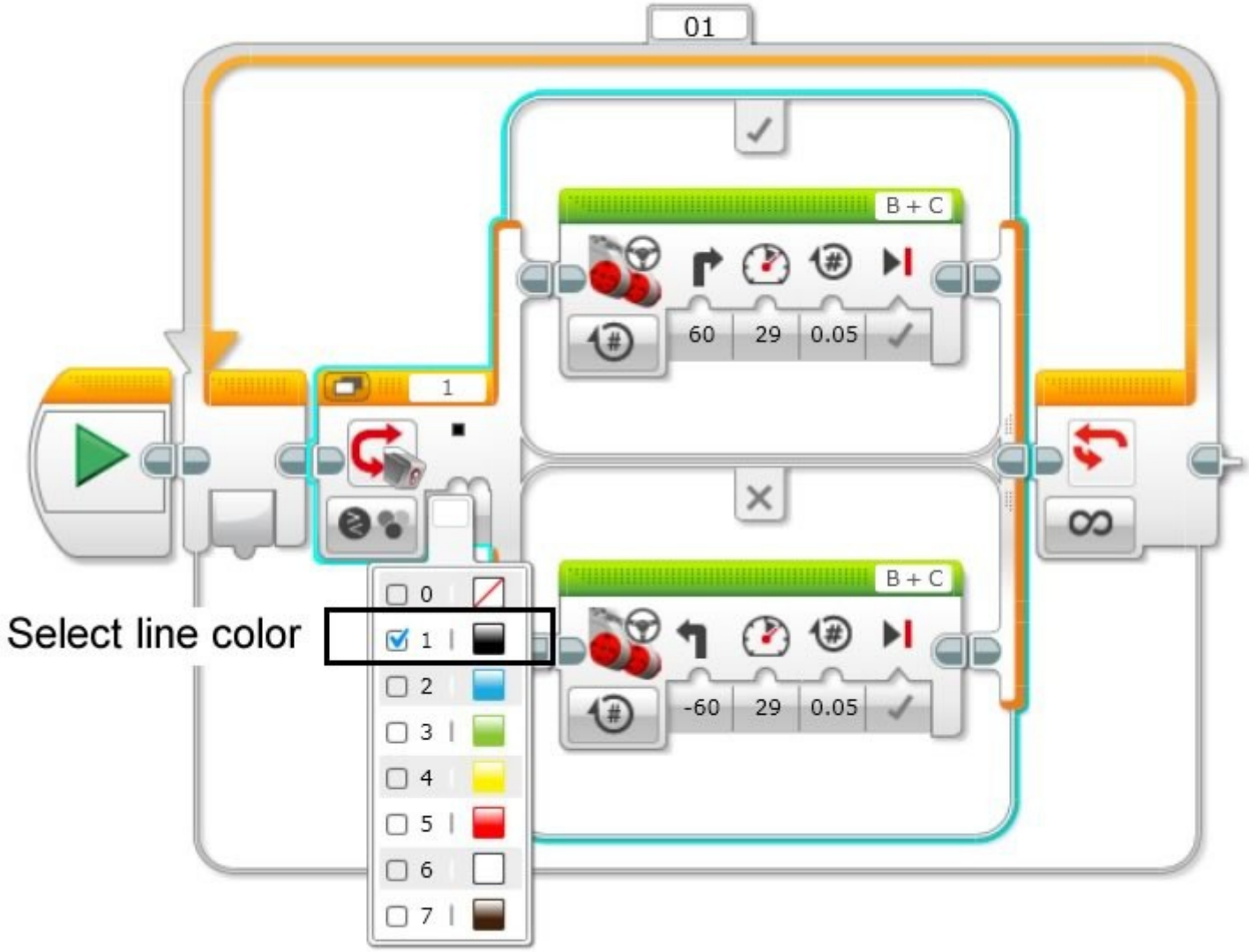
Add two Move Steering Blocks.

Set the switch block for the <Color Sensor> to <Compare> <Color>. See figure below



Next select the colour of the line you wish to follow.

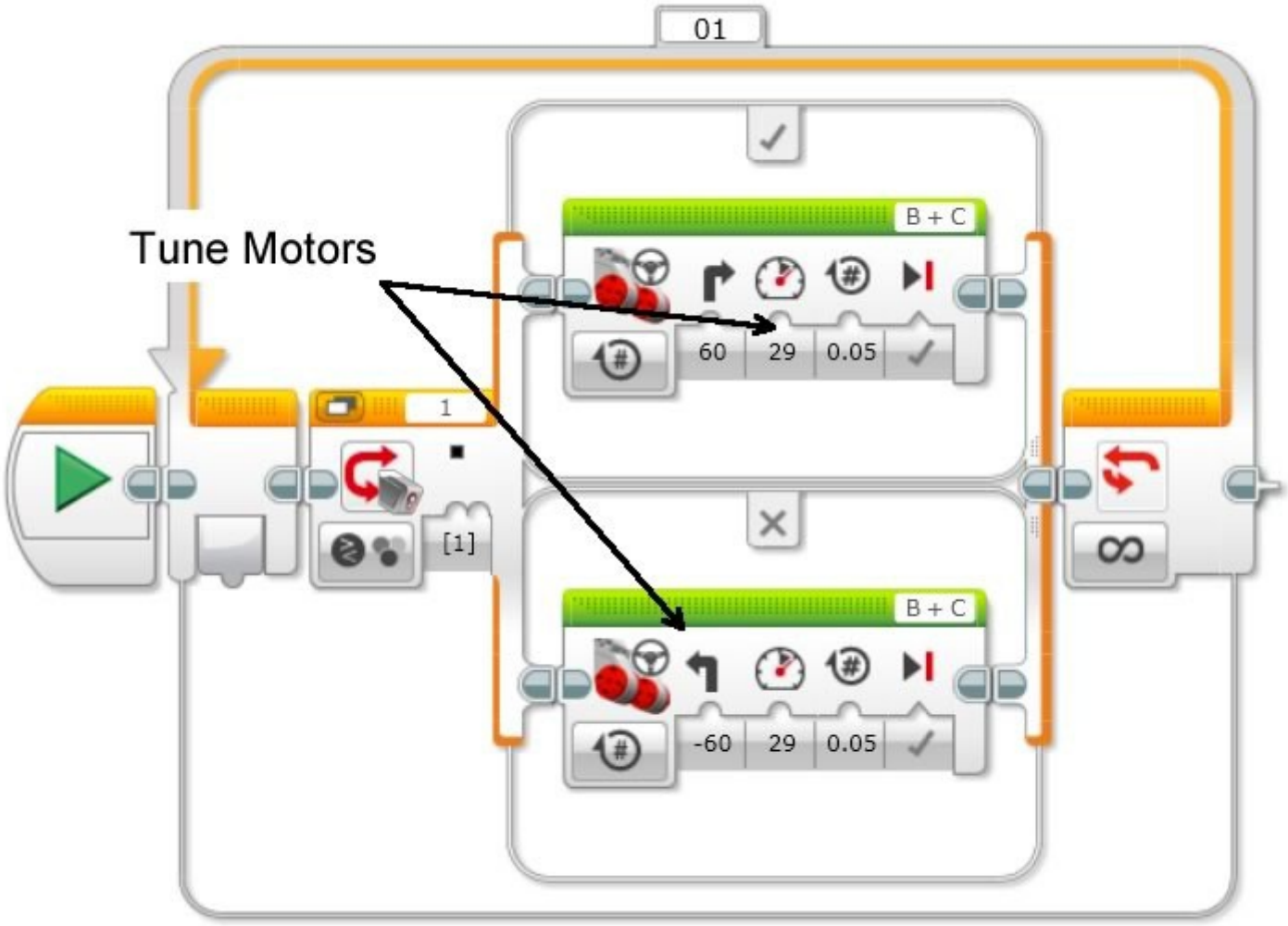
Make sure only the colour you want is selected.



Then, fine-tune the motors' steering, rotations,

and strength until the robot moves along the line as desired.

Note this is contextual and may take a couple of adjustments for the robot to follow the line.


01
Tune Motors
B + C
60
29
0.05
1
[1]
B + C
-60
29
0.05