



FIRST LEGO LEAGUE - Ontario

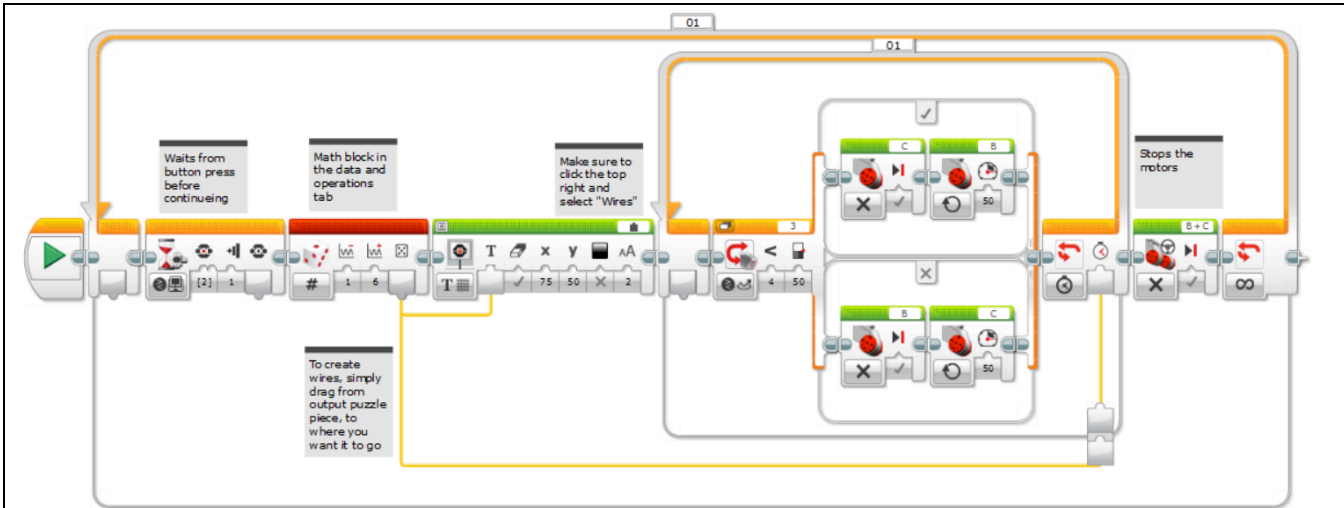
Activity Sheet	
Gr 6 - Lesson #8	Board Game Summary
Date:	Name(s):

Check That I'm Done <input checked="" type="checkbox"/>
<input type="checkbox"/> Lessons 1-7 or <input type="checkbox"/> experienced with sensors, loops, switches and wait blocks

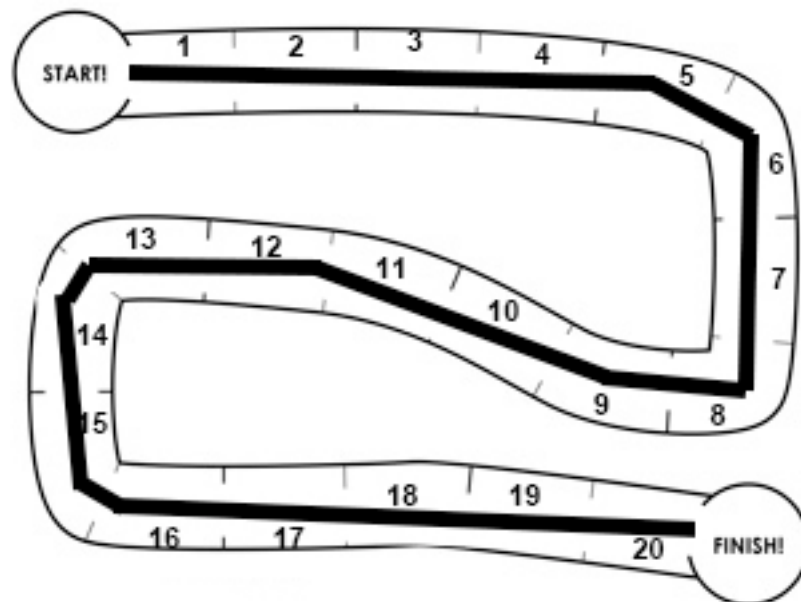
Learn
Fluency in coding comes from being able to apply concepts to different situations. It's usually not a race, but a time crunch can be good motivation!

Predict and Plan
<p>The code below will turn your robot into a real life game piece. It will choose a random number (from 1-6), and then use that number to display it on the screen, and also follow the line for that amount of time before stopping; just like rolling a die. Pressing the middle button allows you to "roll again" without restarting the program. Copy it exactly and make sure it is working properly.</p> <p>The wires you see connecting the blocks are drawn by dragging the puzzle piece inputs, to the puzzle piece outputs of different blocks.</p>

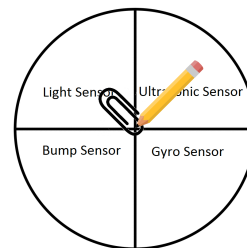
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Create the following game board below (or one very similar) using chart paper.



Attached to this worksheet is a spinner you will also use in your board game. Use something like a paperclip and a pencil in the middle as the spinner arrow.



FIRST LEGO LEAGUE - Ontario

Demonstrate/Design/Discover

- ✓ It's a race, and your opponents can over take you. Here's how you win!
- ✓ Each turn you 'roll the dice' by pressing the centre button on your robot. The number it chooses is the seconds it drives, this may not be how many squares it passes over (which is fine).
- ✓ Then you spin the "Wheel of Sensors" to see which sensor will accompany your programming challenge.
- ✓ Each turn you will need to complete a programming challenge dictated by the number you're on, and the sensor you rolled. The chart below explains the meaning of the numbers.

#	Meaning	#	Meaning
1	Stop using (sensor)	11	Drive in a spiral (no sensor needed)
2	Grab and move the cuboid using (sensor)	12	Create a program that avoids obstacles using the ultrasonic sensor
3	Rotate exactly 45 ⁰ using (sensor)	13	Stop using (sensor)
4	Drive in a square where turns are triggered by (sensor)	14	Grab and move the cuboid using (sensor)
5	Drive in a spiral (no sensor	15	Rotate exactly 45 ⁰ using (sensor)

FIRST LEGO LEAGUE - Ontario

	needed)		
6	Create a program that avoids obstacles using the ultrasonic sensor	16	Drive in a square where turns are triggered by (sensor)
7	Stop using (sensor)	17	Drive in a spiral (no sensor needed)
8	Grab and move the cuboid using (sensor)	18	Create a program that avoids obstacles using the ultrasonic sensor
9	Rotate exactly 45 ⁰ using (sensor)	19	Create a program that lowers the robots arm until it hits the bump sensor (you will need to add a piece to the arm).
10	Drive in a square where turns are triggered by (sensor)	20	Follow along a wall (not a line) using (sensor) *if gyro spin again

- ✓ So for example if you landed on “3” and “ultrasonic sensor” you must use books or whatever else is handy, and the ultrasonic sensor to control your robot so it rotates 45°. Ask your teacher before modifying your robot, but that can also make things easier.
 - ✓ If you land on a section you have already completed you simply demonstrate your program again and move on. All programs must use the sensors indicated to control them. You do not need to wait for your opponent(s) to finish their turn before ‘rolling again’, it is a race to the finish! (Make sure to move out the way when being passed).
- ✓ Tips: Loops and switches will make creating your programs faster.



FIRST LEGO LEAGUE - Ontario

Record

Number of challenges successfully competed ____



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