# Assembling & Programming Your EV3
## Grade Sheet - 40 pts.

## First: Parts Check
I will give you a handout showing all the parts that should be in each tray. Please circle and notify me of any missing parts – there are a number of features that you will not be able to create unless you have all the parts.  Circle the parts that are missing – and initial the handout. I will get the part for you. <u>After this class, you will be held responsible for any missing parts.</u>

| Student checked and reported any missing parts. | 5pts. |
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## Step #1: Build Your Robot
Open your box and find the step-by-step guide that will show you how to assemble your "EV3." The instructions are color-coded – you will find them simple and clear.

- First: Assemble the Cuboid
- Second: Assemble the EV3

## Step #2: Program Your Robot
The base structure of your robot is complete. You will now learn how to program your robot. There are two ways that you will code your EV3. First is to hand code the Brick directly. Second is to eventually code it with your computer. Let's start by learning how to hand code the actual robot. Click on this link to access Brick Programming Tutorials: https://elearning.legoeducation.com/lessons/introducing-the-ev3-brick-menus

Watch the following videos...and complete the steps as the gentleman explains how to program your robot:
1. **EV3 Brick and Menu Intro**
   - Turn on the brick.
   - Learn the 4 Menus.
2. **On -Brick Port View** (Explore)
3. **On -Brick Programming**
   - Image, Sound & Timing.
4. **Create an On-Brick Program**

| The EV3 successfully Drive forward 1 second. Turn Around and Drive back to start. | 5pts. |
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5. **How to Program**

| **Touch Sensor** The EV3's will drive forward, when trigger is touched, it will turn right 2 seconds then back to straight again (loop). | 5pts. |
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# Now Apply The Skills You Learned Above To The Following Sensors:

(These programs and images can be found in your Lego Assembly Manual and on the class website.)

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| **Ultrasonic Sensor** (p.47)<br>The EV3 moved forward and stopped when its ultrasonic sensor came within a few inches of the cube. | 5pts. |

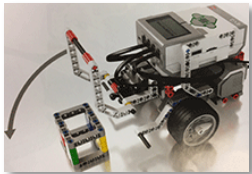| | |
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| **Gyro Sensor** (p.53)<br>The EV3 moved forward for a few seconds and then turned 45 degrees and moved forward for another few seconds. | 5pts. |

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| **Install Front Arm Lift** (p. 68)<br>The EV3's front arm lift closed down over the cube and then dragged it backwards for a few seconds. | **5pts.** |

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| **Color Sensor**<br>Down: The EV3's came to a stop when the color sensor crossed a color line. (p.72) | **5pts.** |
| Forward: The EV3's move for a few seconds when the blue portion of the cube was placed in front of the color sensor. (p.76) | **5pts.** |