 Activity

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|  | At a Distance Use the Distance Sensor to avoid cubes! |

# Step by Step

1. [Build the BaseBot](http://link.vex.com/iq/builds/basebot/iq-2nd-gen-basebot) and attach a Distance Sensor to the front plate. Open VEXcode IQ, open the BaseBot (Drivetrain 2-motor) template, and configure the Distance Sensor. Set up the Field by using Connector Pins to secure 2 cubes to the Tiles as shown in the above image.
2. Build the code shown in the image to get started.
3. The Distance Sensor reports the numbered distance between an object and the Sensor. When an object is closer to the Distance Sensor, the reading will be a smaller number. In order to stop driving before an object, the BaseBot must wait until the Distance Sensor reading is less than a designated amount. Add the parameters in the <Less than> block to stop driving before touching the cube.
4. Start by having the BaseBot face a cube on the Field, as shown in the above image. Download and run the project to test.
5. Add additional [Drive] and [Turn for] blocks to continue driving to the second cube and stop before touching the cube.

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| ‘LEVEL UP’  * **Swerving -**  Pin more cubes to the Field Tiles. Can you drive while avoiding them? | Pro Tips  * Printing the Distance Sensor reading using the [Print] block may help you better understand what values the sensor is reporting. |

**Standard:** CSTA ( 2-AP-11) Algorithms and Programming- Create clearly named variables that represent different data types and perform operations on their values.