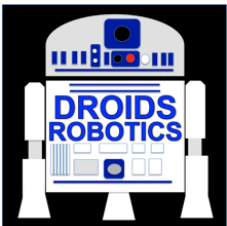# How to Use EV3 Lessons

By: Droids Robotics

IS THERE AN ORDER TO THE LESSONS?

1. **<u>Beginner Lessons</u>:** These lessons will teach you to move and turn the robot, use the sensors, and use loops and switches.

2. **<u>Intermediate Lessons</u>:** These lessons introduce more advanced programming techniques such as My Blocks, variables, parallel beams, calibration and math/logic blocks.

3. **<u>Advanced Lessons</u>:** These lessons assume that you are comfortable using all the blocks in the EV3 environment. The advanced lessons teach you to more sophisticated programs such as menu systems, proportional line followers, line alignment and stall detection techniques.

4. Beginner Lessons are designed to be done in order. Intermediate and Advanced Lessons may be done out of order. Lessons usually mention specific pre-requisites when needed.

INDIVIDUAL LESSON STRUCTURE

1. Each lesson starts with a list of objectives and ends with a challenge

2. A discussion guide is included after the challenge that will help understand the main objectives

3. Many lessons have companion worksheets for students. More will be added over time.

AVAILABLE TOPICS (AS OF MARCH 1, 2015)

Beginner (in recommended order)	Intermediate	Advanced
• Introduction to Brick/Software • Moving Straight • Turning • Displaying Text and Graphics • Touch Sensor • Color Sensor • Loops • Switches • Ultrasonic Sensor • Basic Line Follower • Basic Sequencer • Final Challenge	• My Blocks with Inputs and Outputs • Moving with My Blocks • Turning with My Blocks • Color Line Follower with My Blocks • Debugging • Move Blocks • Reliability • Intermediate Menu System • Color Sensor Calibration • Parallel Beams	• Parallel Beams Sync • Proportional Control • Proportional Line Follower • Gyro • Gyro Turns • Squaring on Lines • Alternative Squaring • Stall Detection • Menu System • NXT Light Sensors in EV3