Degrees Per Inch/Degrees Per CM (DPI/DPC) Calculator Worksheet

There are multiple ways of figuring out how many degrees your robot moves for a particular distance (in INCHES or CM). Follow the steps below:

1) Each run should be exactly 5 full rotations [1800 degrees]
2) BRAKE at the end and measure from the center of the axle at the start to the center of the axle at the end.

Run = 5 full rotations (1800 degrees)	Distance in inches/centimeters
1	
2	
3	
4	
5	
Total Distance [add all runs together]	**Total Distance =**
Total Distance/5 = Average Distance	**Average Distance =**
Average Distance/5 = 1 Full Rotation	**Full Rotation =**
Full Rotation/360 = Units Moved in 1 Degree	**Units (IN/CM) Moved per degree =**
1/Units Moved Per Degree = Degrees Moved Per Inch (DPI) or Degrees Moved Per Centimeter (DPC)	**DPI or DPC**

Brought to you by the Flying Manatees FLL Team (Canning, Nova Scotia Canada). Modified by Droids Robotics (Pittsburgh, PA, USA)

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What can you do with the number you just calculated?

Now, you can measure the distance your robot needs to travel with a ruler.

Distance to travel X DPI/DPC from Worksheet *= Motor Degrees*

You can create a My Block to automatically take your distance to travel as an input and convert it to degrees. Please see the EV3Lessons.com Intermediate My Blocks Lesson.

This is phase4 convertd into a My Block. We call it Move Inches. It has 2 inputs now = POWER and INCHES. You can double click on any My Block to see what is inside it or make certain changes to it. Move Inches is a My Block that you can use frequently in FLL. When you program, just use a ruler and measure how far you want your robot to move to get to a certain mission model.

Move_Inches

inch

75   10