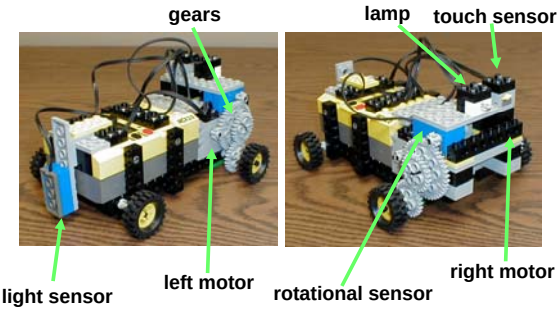
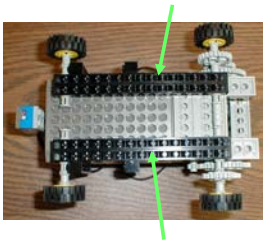
Robot Design



RCX Securely Attached

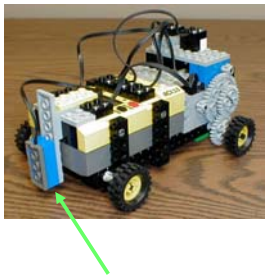
Use cross braces to securely attach the RCX to the robot's body.

RCX Securely Attached



Use double beams on the underside for a better grip on the bottom of the RCX.

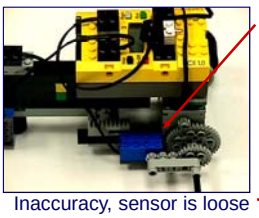
Light Sensor Low



If you use a light sensor be sure its low as possible to the ground so different room lighting conditions wouldn't affect it.

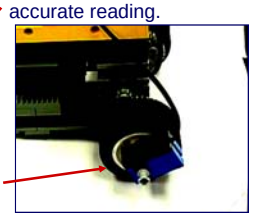
Increased Accuracy by securing your sensors

Reduced Gear Ratio

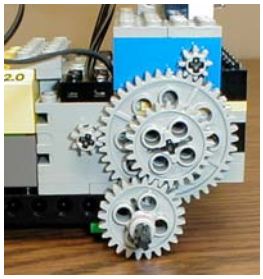


Inaccuracy, sensor is loose

A fixed sensor(one that doesn't move) gives an accurate reading.



Gears

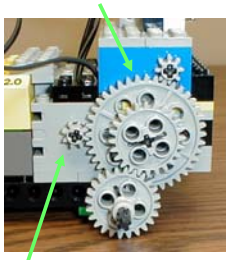


Use gears to slow down your robot.

Gears also give your robot more strength (torque).

The wheel spins 5 times slower than the motor.

Some Math - Gear Ratios

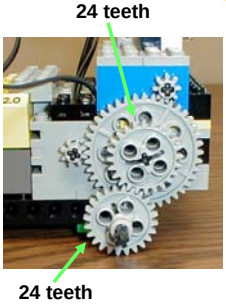


It takes 5 revolutions of the 8 tooth gear to make the 40 tooth gear go around once.

40 / 8 = 5.

The gear ratio is 5 to 1.

Some Math - Gear Ratios



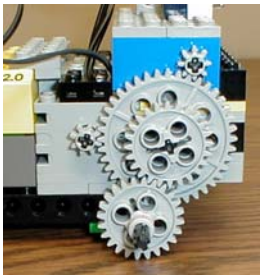
The 40 tooth gear is on the same axle as the 24 tooth gear.

It is meshed with another 24 tooth gear.

Gear ratio =

24 /24 = 1 to 1.

Some Math - Gear Ratios



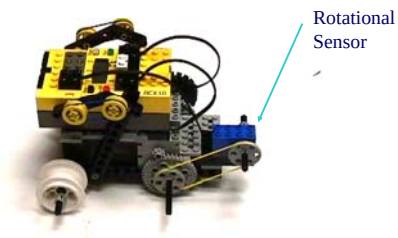
The total gear ratio is...

(5 / 1) x (1 / 1) =

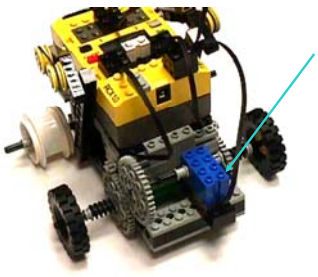
5 to 1.

The wheel spins 5 times slower than the motor and has 5 times the torque (strength).

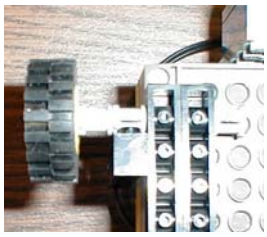
Using a pulley



Using an idler gear



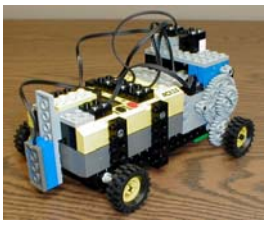
Friction = BAD



Make sure all of your wheels can spin freely.

Make sure the bushings or gears aren't pressed to tightly against the beams.

Didn't Drive Straight



Because one side of this robot had slightly more friction than the other when it would move, it would drift slightly to one side.

Touch sensors