

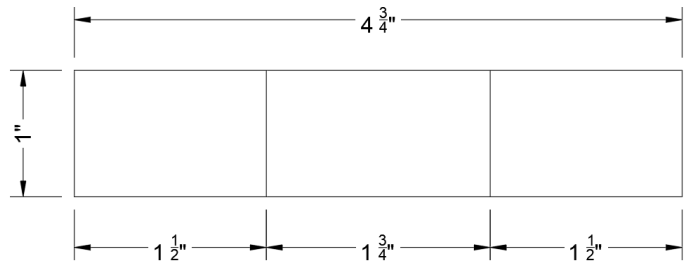
The Beetlebot

The beetlebot is a very basic robot, but what is a robot? At the most basic level, a robot needs to be able to take in information (sense), use that information to make a decision (think), and do something based on that decision (act).

So what makes the beetlebot a robot? The two microswitches on the front act as sensors. They tell the bot when it hits a wall. Now the bot needs to decide what to do, should it turn left, right, or go straight backwards. If only one switch is pressed, the bot knows it needs to turn and if both switches are pressed, the bot decides to go backwards.

Step 1:

Using the metal shear, cut a piece of metal so it is **4" by 1"**. Be careful! The sheet metal will be sharp when cut. Use sandpaper to dull the edges.



Step 2:

Measure 1 1/4" from each end and draw a line. Use the metal break to bend your piece at the lines

Step 3:

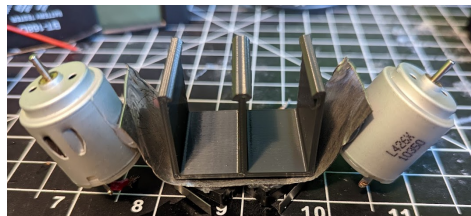
Use hot glue to attach the DC motors to the metal. Make sure the leads of the motors are facing in opposite directions. If you need to, bend the metal more so both drive shafts touch the ground.

Step 4:

Use hot glue to attach the microswitches to the metal. The leads in the middle should be touching each other.

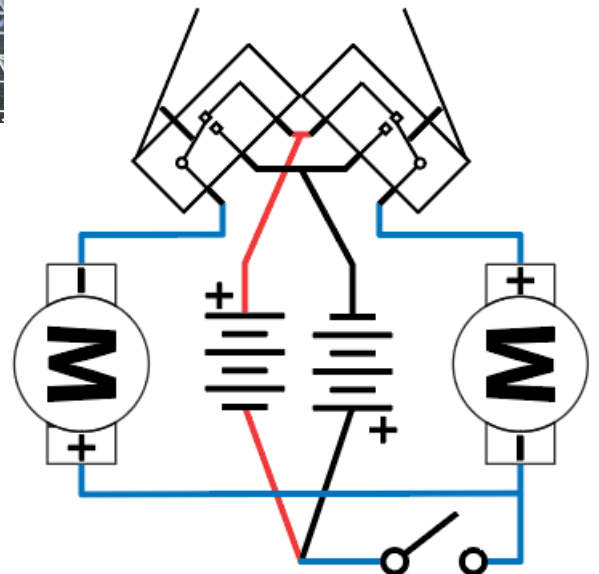
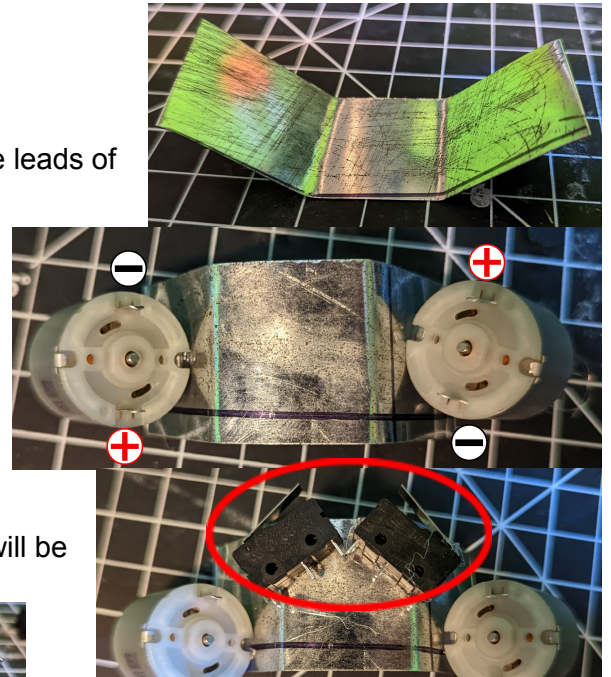
Step 5:

Use hot glue to attach the battery holder to the bottom of the metal. Also hot glue the power switch to the body somewhere it will be easy to reach from the bottom.



Step 6:

Now it's time to wire everything up. Use the diagram as a guide, but also feel free to look at Mr. Strang's example bot.



Name: _____

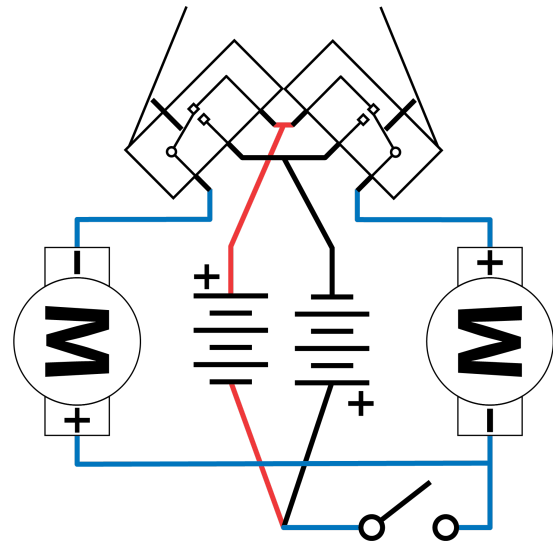
The Beetlebot Reflection Assignment

What part of the project did you find to be the most challenging? (2 Marks)

How did you overcome this challenge? (2 Marks)

What did you enjoy most when working on this project? (2 Marks)

Explain how the beetlebot circuit works. Take a look at the diagram if you need to. (4 Marks)



Total __/10

Name: _____

The Beetlebot Evaluation Rubric

Student				
	3	2	1	0
Preparedness and Time Management	Time was used very efficiently. Student was consistently on time and prepared for class	There was some procrastination but the project was completed on time	The project was late but was still completed. Student was consistently unprepared for class	The project was not completed
Safety Practices	All safety rules were followed	Student followed most safety rules	Student failed to follow a significant number of safety rules	Student was not safe enough to participate in class
Project				
	3	2	1	0
Bot Construction	The bot works perfectly.	The bot works but could be improved (ex. could drive straighter)	The bot	The bot does not work
Shell Design	The shell design was unique and original. The shell fit perfectly on the bot	The shell design was somewhat original and fit well enough on the bot	The shell design was not very original and did not fit well on the bot	The shell was not completed

Total __/12