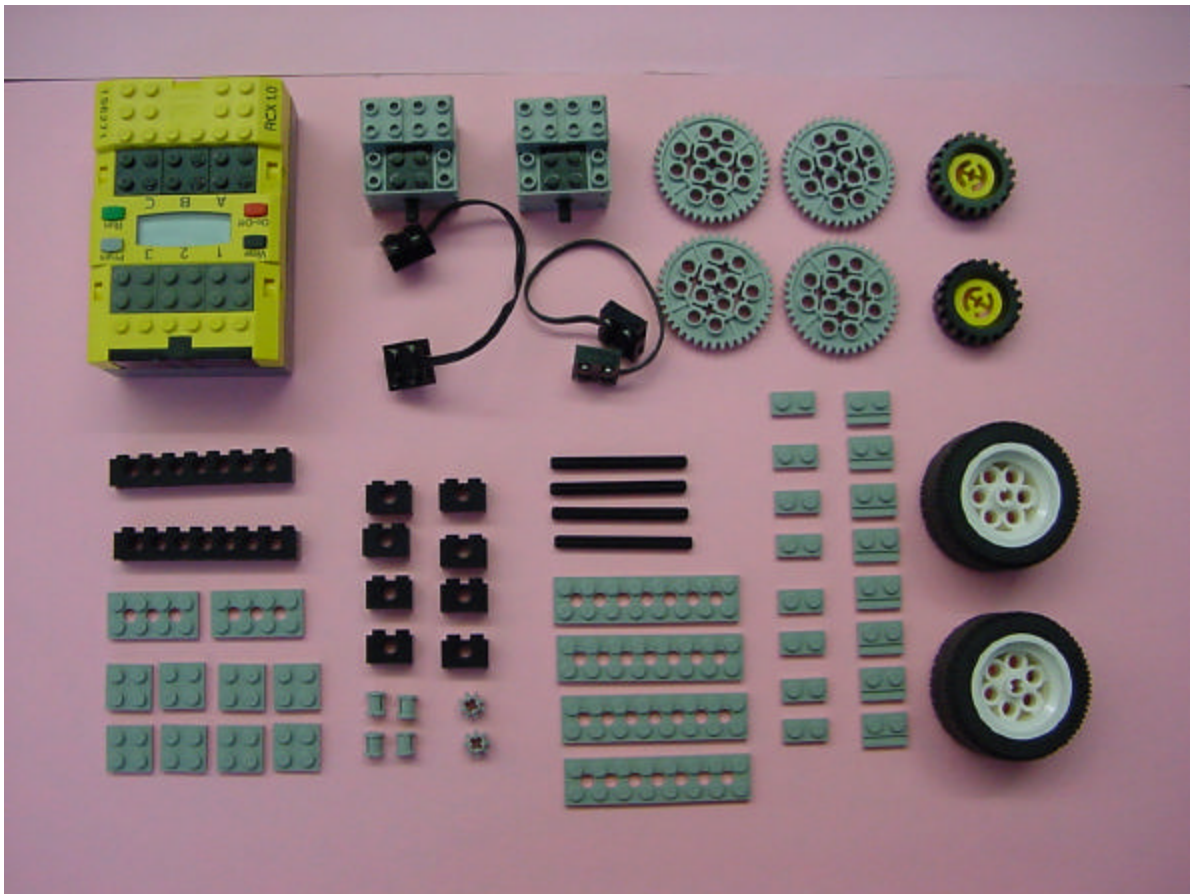


A Basic Robot Chassis

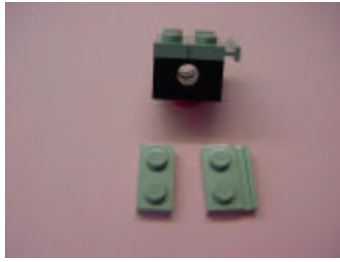


Building Parts List

Step One



Step Two



Step Three



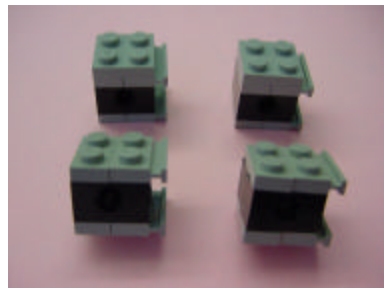
Step Four



Step Five



Step Six



Step Seven



Step Eight



Step Nine



Step Ten



Step Eleven



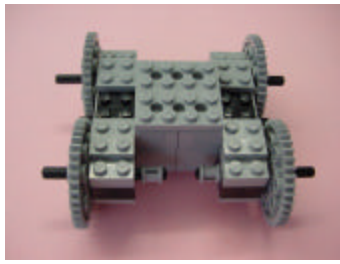
Step Twelve



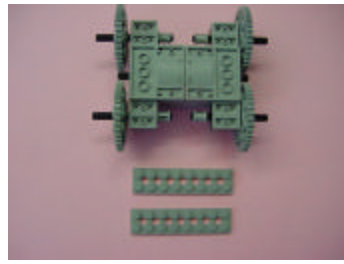
Step Thirteen



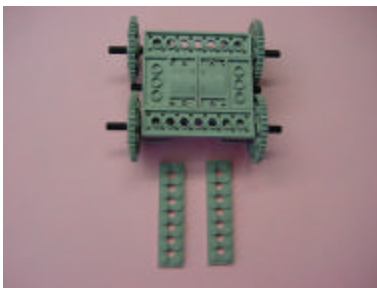
Step Fourteen



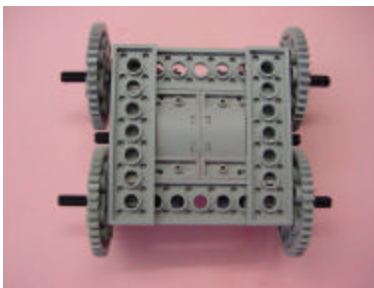
Step Fifteen



Step Sixteen



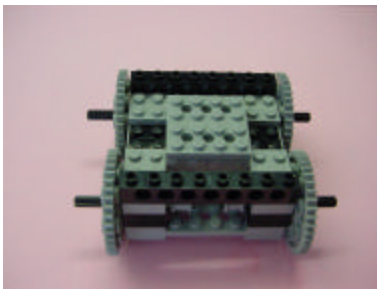
Step Seventeen



Step Eighteen



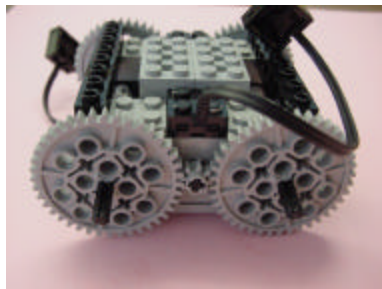
Step Nineteen



Step Twenty



Step Twenty One



Step Twenty Two



Step Twenty Three



Modifiers and Sounds

Power Level Modifiers

Power level modifiers change the power of the robot's motors. If you don't use a power level modifier, the default power level setting is power level 5.


Write a program that turns on both motors for 6 seconds and then stops. Drag the Power level 2 modifier icon from the modifiers sub palette and place it under the motor icon.

Connect the power level icon to the bottom right corner of the motor A icon. Do the same connection to the motor C icon.



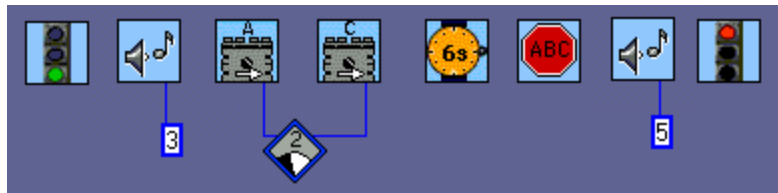
Download this program to your robot. Does it move faster or slower?

Sounds

 The Sound icon is found in the functions palette. Sounds are useful for letting you know what your robot is doing and where it is in your program. Your robot can play 6 different sounds. You can specify which sound to play by attaching a numeric constant modifier to the sound.


- 1) Key click
- 2) Beep, Beep
- 3) Descending sweep
- 4) Rising Sweep
- 5) Buzz
- 6) Fast rising sweep

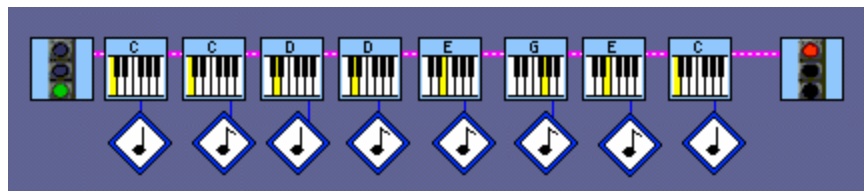
If you do not like the sound you picked, you can change the number in the numeric constant modifier by using the text tool.



Insert a play sound icon from the function palette before the motors turn on and another before they turn off. Drag a different numeric constant modifier below each sound icon.

Download and run your robot. Does your robot play a sound before the motors turn on and after the motors turn off?

 If you are so inclined you can also use the music palette to have your robot play musical notes. This program plays the beginning of Pop goes the weasel.



Name _____ Date _____

Programming Motors and Sounds Worksheet

1. Turn on just motor A in the forward direction for 6 seconds, play a rising sweep sound and then stop. Which direction does the robot turn?
2. Turn on just motor C in the forward direction for 6 seconds, play a descending sweep sound and then stop. Which direction does the robot turn?
3. Make the robot spin by turning on one motor in the forward direction, and the other motor in the reverse direction. Make the robot spin for 6 seconds, play a buzz sound and then stop. Write down which way your robot spins.
4. Turn on motor A in the forward direction for 2 seconds, stop the motor, and beep twice. Then turn on motor C in the reverse direction for 2 seconds, stop the motor, and beep four times.
5. Turn on motor A at power level 5 and motor C at power level 3, both in the forward direction. Have the robot move like this for 8 seconds, then stop. What kind of path does the robot make?

Programming Motors and Sounds Worksheet Solutions

1. Turn on just motor A in the forward direction for 6 seconds, play a rising sweep sound and then stop. Which direction does the robot turn?



The robot turns right

2. Turn on just motor C in the forward direction for 6 seconds, play a descending sweep sound and then stop. Which direction does the robot turn?



The robot turns left

3. Make the robot spin by turning on one motor in the forward direction, and the other motor in the reverse direction. Make the robot spin for 6 seconds, play a buzz sound and then stop. Write down which way your robot spins.



The robot spins right



The robot spins left

4. Turn on motor A in the forward direction for 2 seconds, stop the motor, and beep twice. Then turn on motor C in the reverse direction for 2 seconds, stop the motor, and beep four times.








5. Turn on motor A at power level 5 and motor C at power level 3, both in the forward direction. Have the robot move like this for 8 seconds, then stop. What kind of path does the robot make? **The robot drives in a circle**



Name _____ Hour _____






Motors and Sounds Challenge

Programming Specifications:

-  Make the robot move forward at full power for 3 seconds, then stop for 1 second.
-  Then, have the robot spin to the left for 3 seconds at power level 4 and stop for 2 seconds.
-  Then, have the robot move backward at full power for 3 seconds and stop for 1 second.
-  Finally, have the robot spin to the right for 3 seconds at power level 3 and stop.
-  Before each different move, have the robot beep a different sound.

Motors and Sounds Solution Challenge

Programming Specifications:

-  Make the robot move forward at full power for 3 seconds, then stop for 1 second.
-  Then, have the robot spin to the left for 3 seconds at power level 4 and stop for 2 seconds.
-  Then, have the robot move backward at full power for 3 seconds and stop for 1 second.
-  Finally, have the robot spin to the right for 3 seconds at power level 3 and stop.
-  Before each different move, have the robot beep a different sound.

