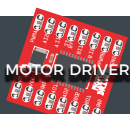


# Circuit 5C: Autonomous Robot

Free the robots! In this circuit, you'll unplug your robot and program it to navigate the world on its own. When the robot senses an object using the distance sensor, it will back up and change course.

## YOU NEED



DISTANCE SENSOR

DUAL LOCK TAPE

BINDER CLIP

2 WHEELS

SCISSORS  
(NOT INCLUDED)

## NEW CONCEPTS

**AUTONOMOUS VEHICLES:** The robot that you will build uses a simple sensor to avoid obstacles. This kind of system is used in Mars rovers, autonomous cars and the bots built for all kinds of robotics competitions. Understanding this example code will set you on the path to building bigger and better autonomous vehicles!

Keep in mind that the ultrasonic distance sensor needs a clear path to avoid unwanted interruptions in your robot's movements. Keep the distance sensor clear of any wires from your circuit.

## ASSEMBLY

### BATTERY HOLDER ATTACHMENT:

If you did not attach the battery pack in Project 4, cut two pieces of Dual Lock, about 1 inch x 1 inch (2.5cm x 2.5cm) each. Remove the adhesive backing, and attach one piece to the back of the battery holder.

Adhere the second piece to the bottom of the baseplate, directly in the middle.

Press the battery holder to the baseplate

## HEADS UP!

Make sure your switch is in the **OFF** position. As soon as the code is finished uploading, your robot will begin driving. Make sure it cannot drive off a table or other high surface and injure itself.



so that the two pieces of Dual Lock snap together. Insert the batteries into the holder if you have not done so already. Remember that batteries are polarized and can only go in one way.

Clip the binder clip back on, and you are ready to roll!