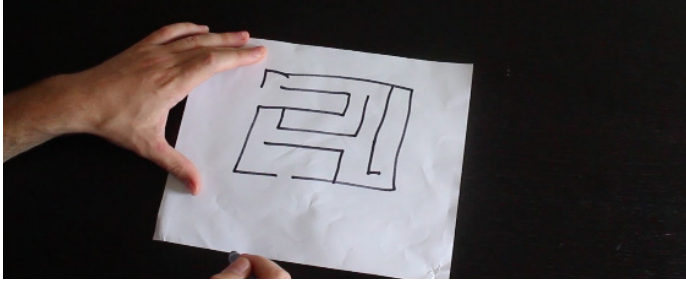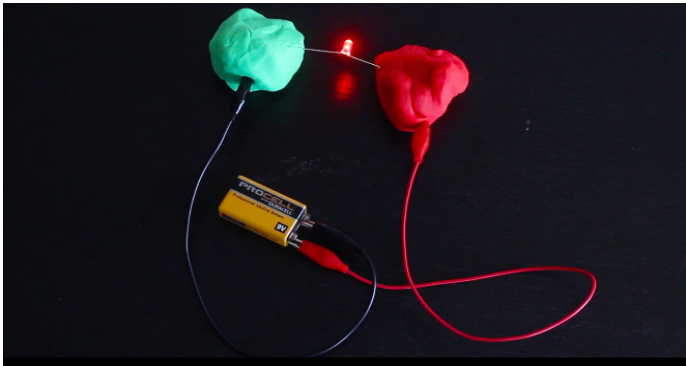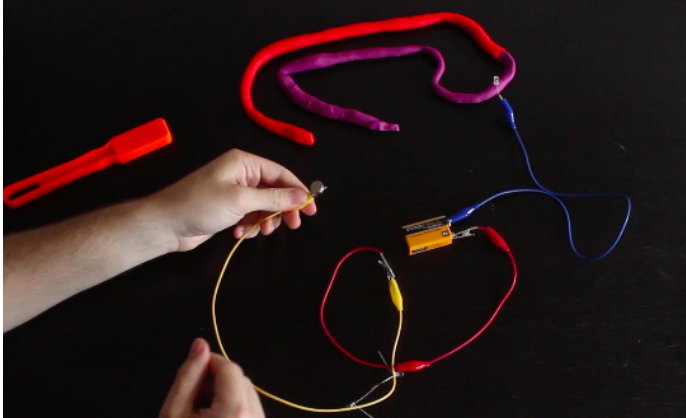# Magnetic Maze

1. Plan out your maze.

Use the pen and paper to design your maze before you build it. » Get creative! Add some dead-ends, narrow passageways, spiral patterns, and more!
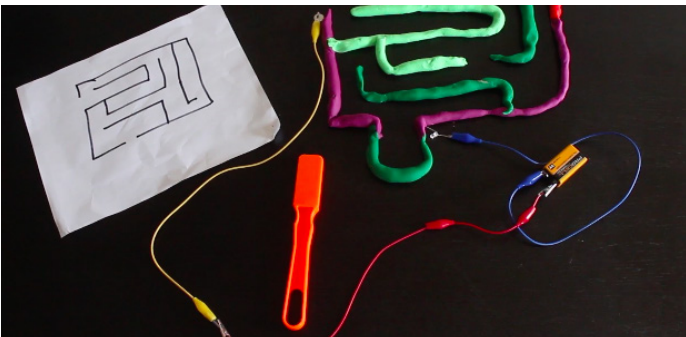
2. Test your LEDs.

Clip one wire onto the positive end of your battery and stick the other end into a piece of clay. » Clip another wire onto the negative end of the battery and stick its other end into a separate piece of clay. » Stick each leg of the LED into the 2 pieces of clay, respectively. » If your LED doesn't light up, try flipping it. The legs are polarized and the longer leg of the LED is the positive one.

3. Start with a simple maze.

Roll the modeling clay out and use it to build the walls of your maze. » Attach two wires to the positive and negative ends of the battery, respectively. » Attach the other end of the negative wire onto the shorter leg of the LED, then stick the longer leg of the LED anywhere into the clay wall. » Attach the other end of the positive wire to the magnet. » Use another magnet underneath the table to move the top magnet through your maze!

4. Now make a more complex maze!

Repeat step three, but this time try a more complex maze configuration. » Use the maze that you drew in step one!

Supplies

Laptop with internet access

Card table or other thin table

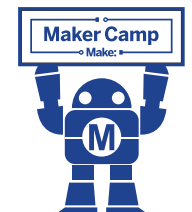MaKey MaKey

Alligator clip wires
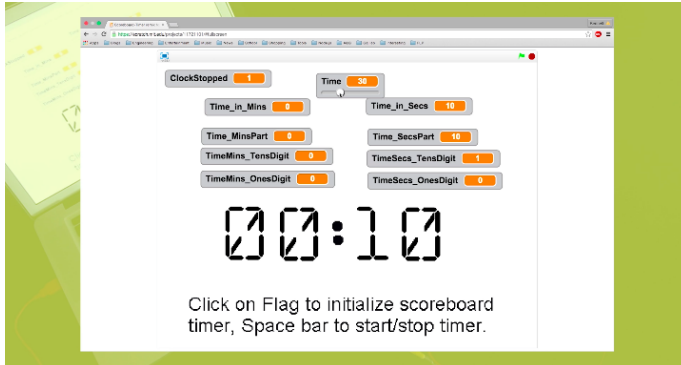
2 magnets

Modeling clay

LEDs

9V battery

Paper

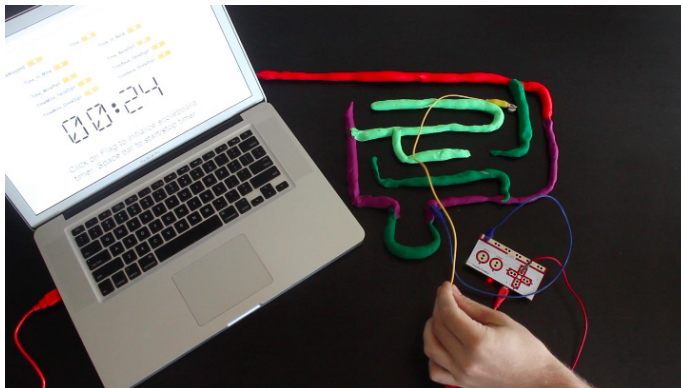Pen/Pencil

Magnetic Maze, continued

Click on Flag to initialize scoreboard timer, Space bar to start/stop timer.

5. Set up your Scratch Sketch.

On your laptop, go to the following url to get to the Scratch Sketch:

https://scratch.mit.edu/projects/11721101/

In this game, you set up how much time you will have to get through the maze, say 60 seconds, and every time you hit a wall, you lose 10 seconds on your timer!

6. Attach the MaKey MaKey.

Remove the wires from the battery and the LED. » Clip the other end of the wire that is attached to the magnet to the down arrow on the MaKey MaKey. » Clip another wire onto the Earth of the MaKey MaKey and stick its opposite end directly into the wall of your maze. » Attach your MaKey MaKey to your laptop and then try to get through your maze before the timer runs out! Good luck!