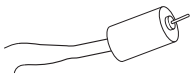
Motor Rod Puppet

http://dwig.lmc.gatech.edu/projects/prototypingpuppets/

Georgia Tech
Digital World Image Group
An NSF AISL Funded Project

Introduction

This puppet is very similar to the light up rod puppet. The main difference is that it uses a mini motor instead of an LED.



mini motor

A motor has a spinning shaft when plugged in.
Things can be attached to this shaft that will also spin.

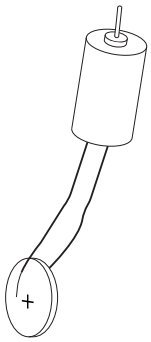
Purchasing

Mini motors can be purchased and found on a variety of sites- ask Michael for this

---

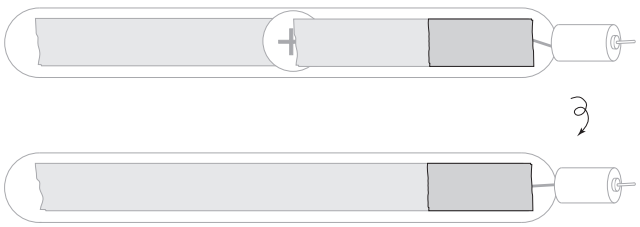
Troubleshooting

If you are having trouble making your puppet work, try following these tips.



Before starting, test that your motor works. It should have two wires coming from it that are insulated. The ends of the wires should have a metal wire part exposed. Make sure there is enough of that showing to make contact with the battery. If there is not, you can gently use scissors to take off some of the insulation.

Generally, a motor can spin in different directions depending on which way it is plugged in.



Step 6: Make sure there is a secure connection between the motor wire and the copper tape below the leeds.

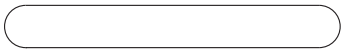
At this step, no noise should be made, because the circuit is not yet complete. To test for a good connection, you can skip ahead to steps 15-17 to complete the circuit.

Motor Rod Puppet

http://dwig.lmc.gatech.edu/projects/prototypingpuppets/

Georgia Tech
Digital World Image Group
An NSF AISL Funded Project

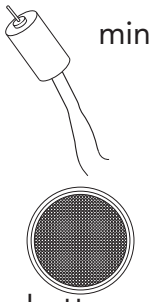
Materials & Tools:


large craft stick

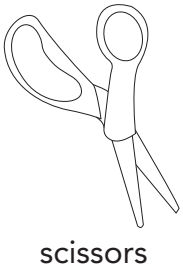

copper tape

clear tape


construction paper

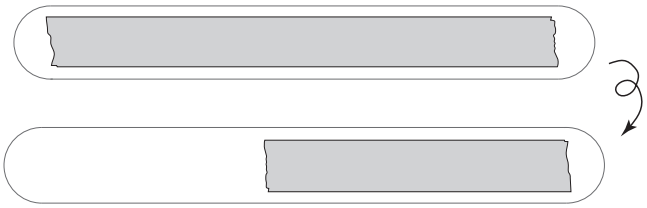



feather


scissors

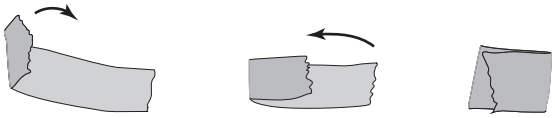
Instructions:

Step 1: *Attach* a strip of **copper tape** on to one side of the **craft stick**. Do not pull off the backing of the tape all at once. Peel it away slowly as you stick it down.

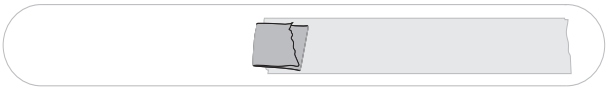


Flip **craft stick** over, and *attach* **copper tape** strip halfway across this side.

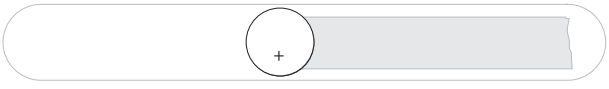
Step 2: *Form* loop with **copper tape**, sticky side facing out.



Attach **copper tape** loop on middle of **craft stick.** This must touch the copper tape that is already on craft stick.

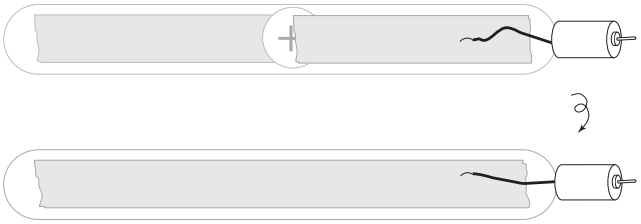


Step 3: *Attach* **battery** on top of **copper tape** with **positive** side facing up.

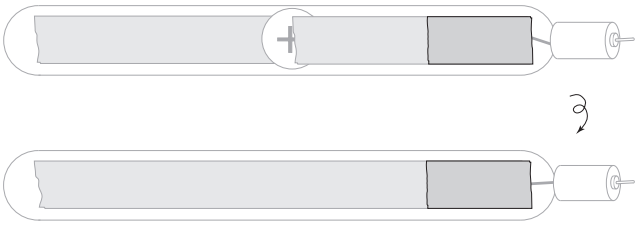


Step 4: *Attach* another piece of **copper tape** over middle of **battery**, extending towards the end.

Step 5: *Place* **mini motor** over **craft stick**, such that one wire is on each side of the craft stick.

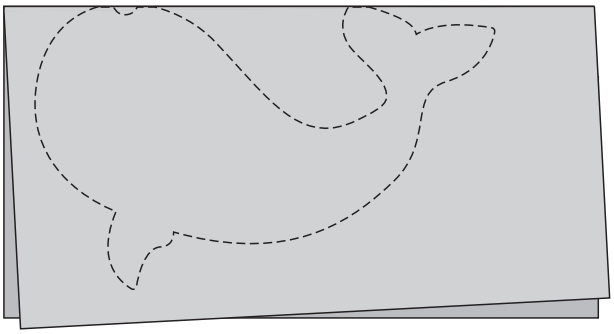


Step 6: *Attach* **copper tape** over wires, *securing* motor in place. Make sure the metal part of the wire is touching the copper tape.

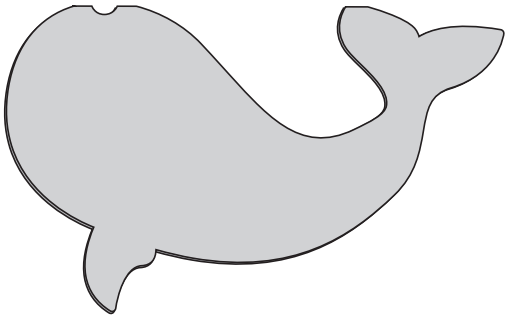


Step 7: *Trace* your puppet design on to **construction paper**.

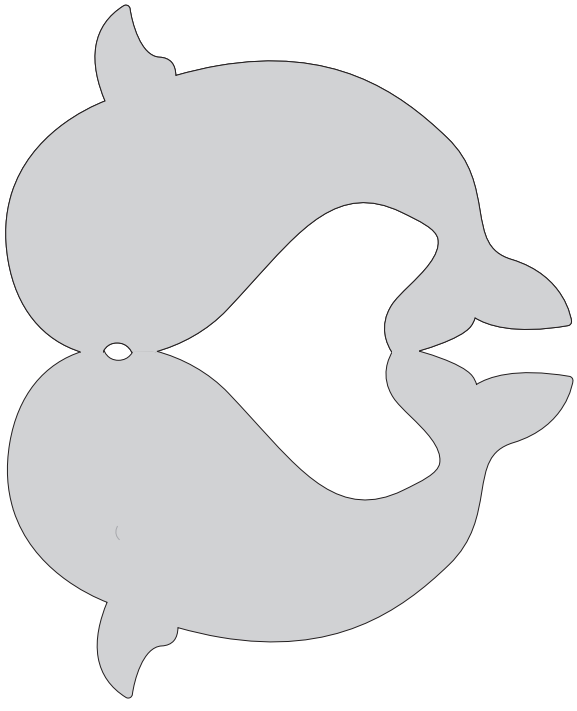
Note: ensure that design *matches* **folded edge** of **construction paper** so that a part of the puppet contains the fold. Also make sure there is a cut out part for motor to stick thorugh.



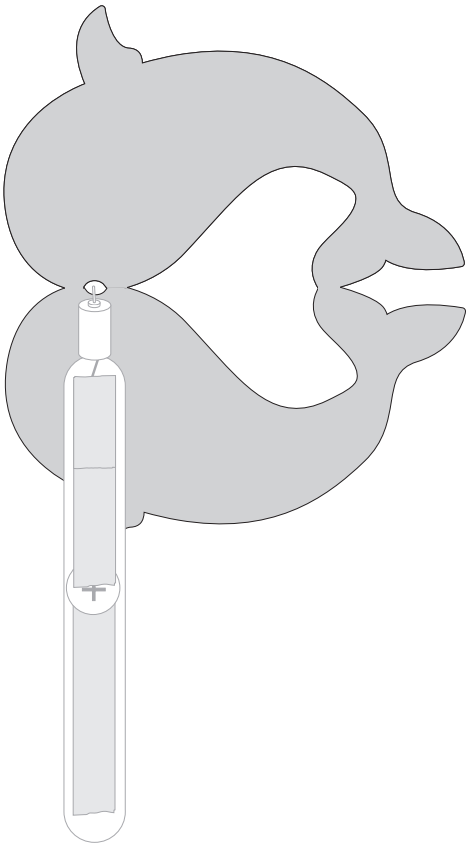
Step 8: *Cut* out design.

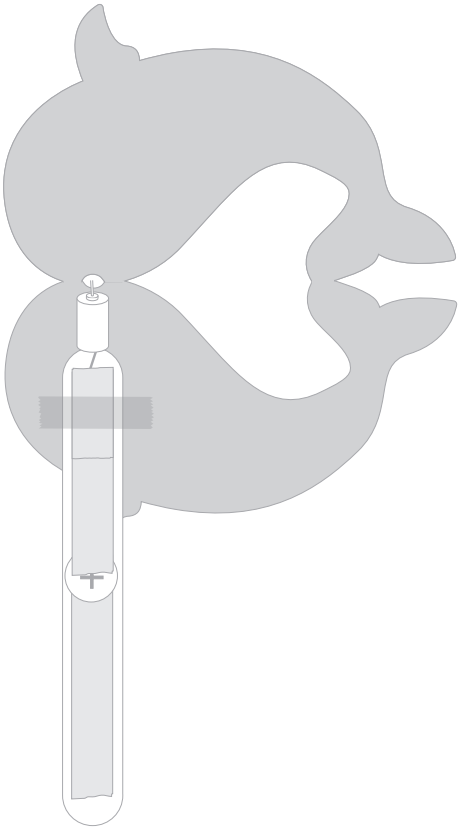


Step 9: *Unfold* your cutout.

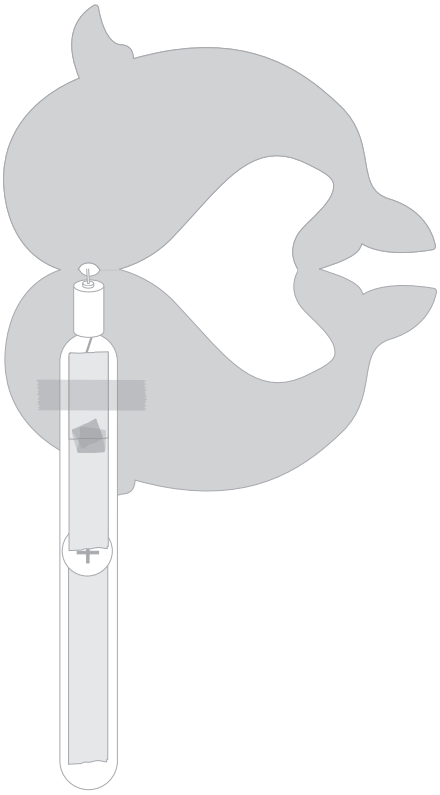


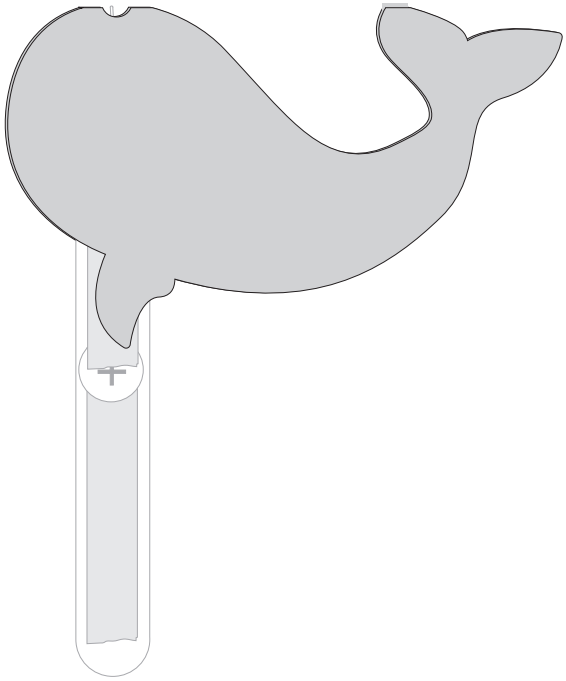
Step 10: Place **craft stick** on top of **cutout**. Attach strip of **clear tape** over **cutout** and **craft stick**.



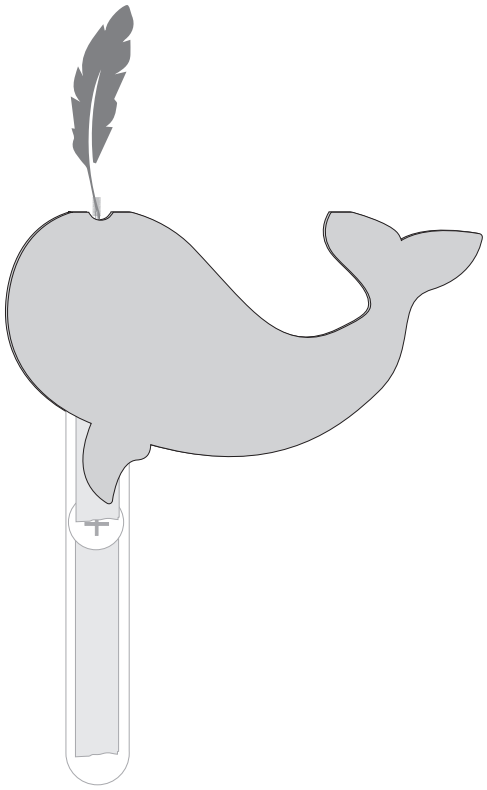


Step 12: *Form* another **clear tape** loop and *place* over **craft stick**. Fold cutout over to line up with other side.



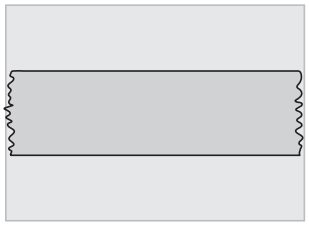


Step 13: *Tape* **feather** onto **shaft of motor**.
Note: This step is very tricky and requires much patience and precision.

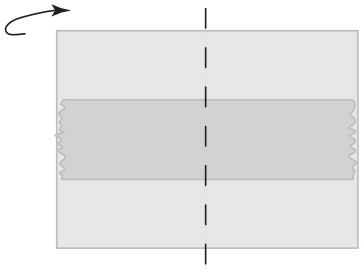


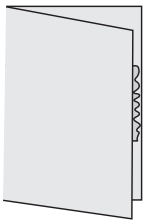
Step 14: *Cut* out piece of **construction paper** to act as your switch.
Actual size

Step 15: *Attach* **copper tape** on to **construction paper**.

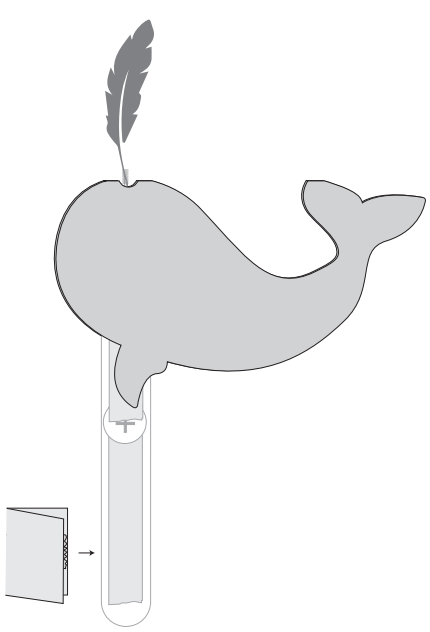


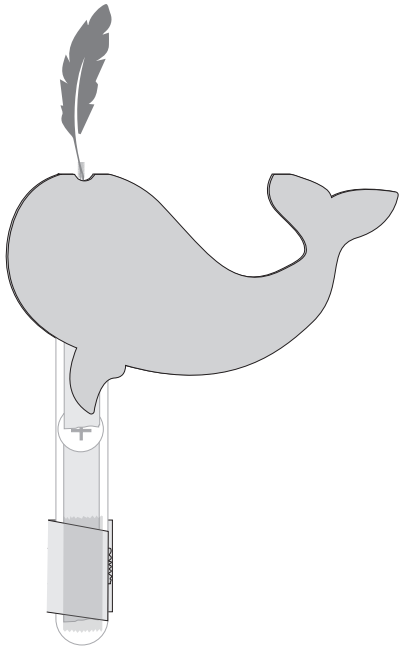
Step 16: *Fold* **construction paper** in half, vertically.





Step 17: *Attach* **folded paper** from step 13 to craft stick. Make sure that **copper tape** on **craft stick** *makes contact* with the **copper tape** on the **construction paper**. With clear tape, *secure* the paper to the stick.





CONGRATULATIONS!
Your puppet is now complete!

To spin, press down **paper flap** on **copper tape.**