

# Beeping Rod Puppet

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

Georgia Tech  
Digital World Image Group  
An NSF AISL Funded Project

## Materials & Tools:



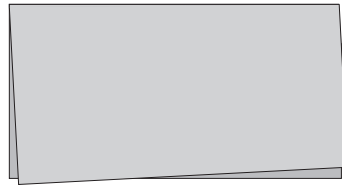
large craft stick



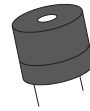
copper tape



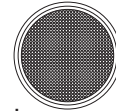
clear tape



construction paper



piezo speaker



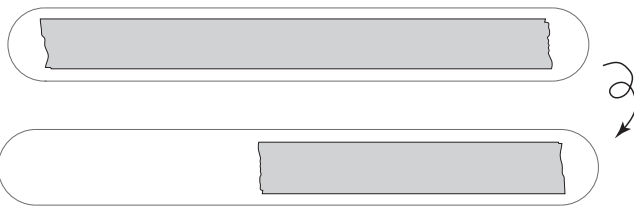
battery



scissors

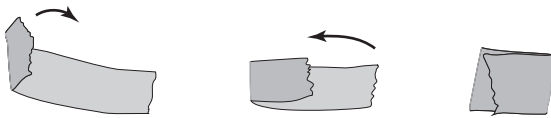
## Instructions:

**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.



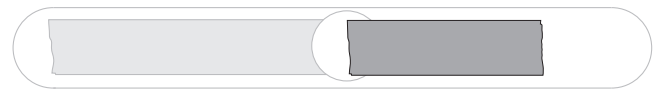
*Attach* **copper tape** loop on middle of **craft stick**. This must touch the copper tape that is already on craft stick.



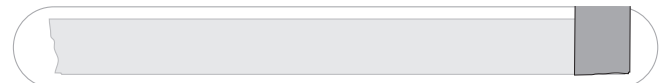
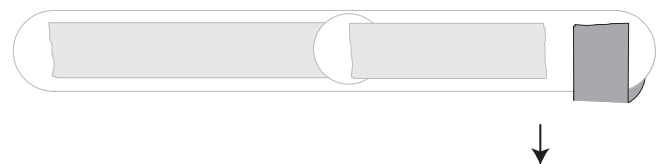
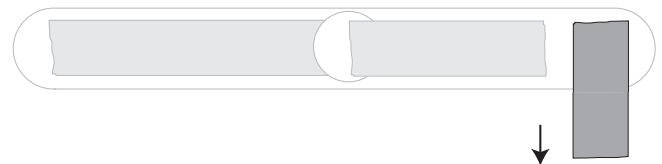
**Step 3:** *Attach* **battery** on top of **copper tape** with **positive** side facing up.



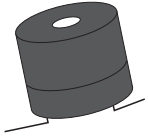
**Step 4:** *Attach* another piece of **copper tape** over middle of **battery**, extending towards the end, leaving a gap as shown.



**Step 5:** *Attach* another piece of **copper tape** over end, *making sure* it does not touch any copper tape on battery side. Fold tape over edge of craft stick, connecting it to copper tape on other side.



**Step 6:** *Bend* the **leads** of the **piezo speaker** so that they are pointing away from each other.



**Step 7:** *Place* the piezo speaker on top of the copper tape so that one leg is on one piece of copper tape, and the other leg is on top of the other.

Note: A piezo speaker has polarity, so connect the proper leads to the proper side of the battery.

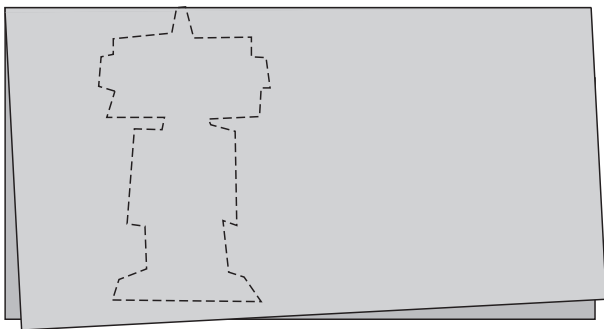


**Step 8:** Use **copper tape** to *tape over* the **leads** to connect them to the copper tape underneath, while *securing* the piezo in place.

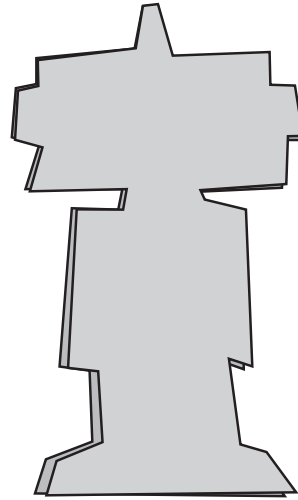


**Step 9:** *Trace* your puppet design on to **construction paper**.

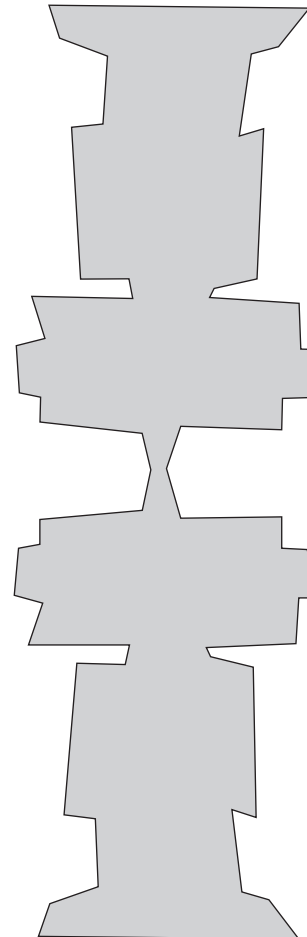
Note: ensure that design *matches folded edge* of **construction paper** so that a part of the puppet contains the fold.



**Step 10:** *Cut* out design.

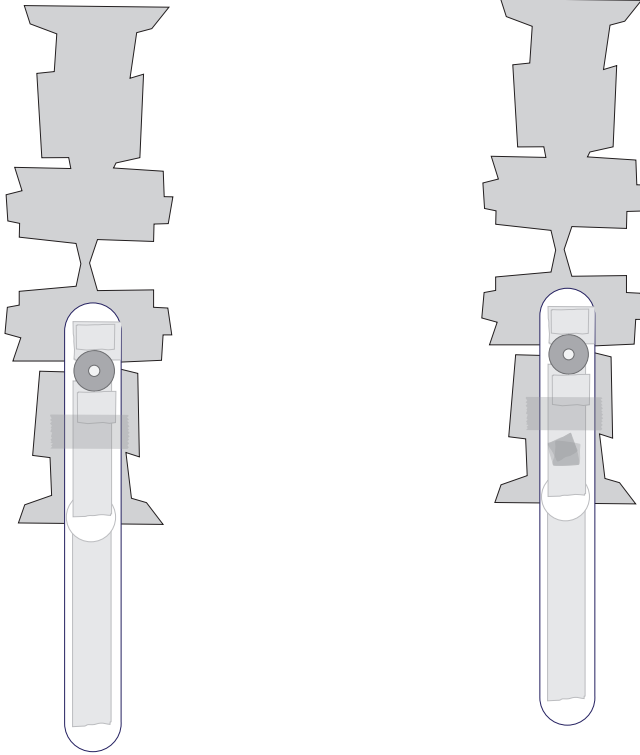


**Step 11:** *Unfold* your cutout.

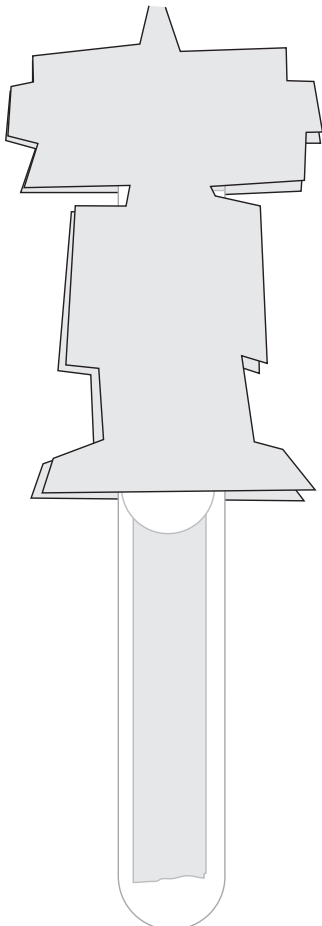


**Step 12:** Place **craft stick** on top of **cutout**.

Attach strip of **clear tape** over **cutout** and **craft stick**. Form another **clear tape** loop and place over **craft stick**.



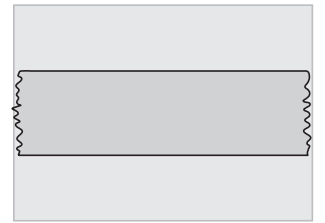
**Step 13:** Fold **cutout** over to line up with other side.



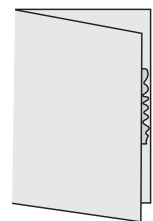
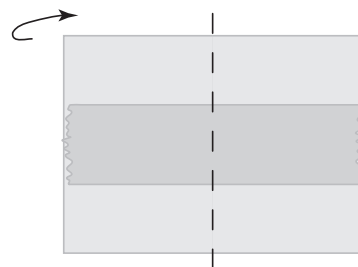
**Step 14:** Cut out piece of **construction paper** to act as your switch.  
\*Actual size\*



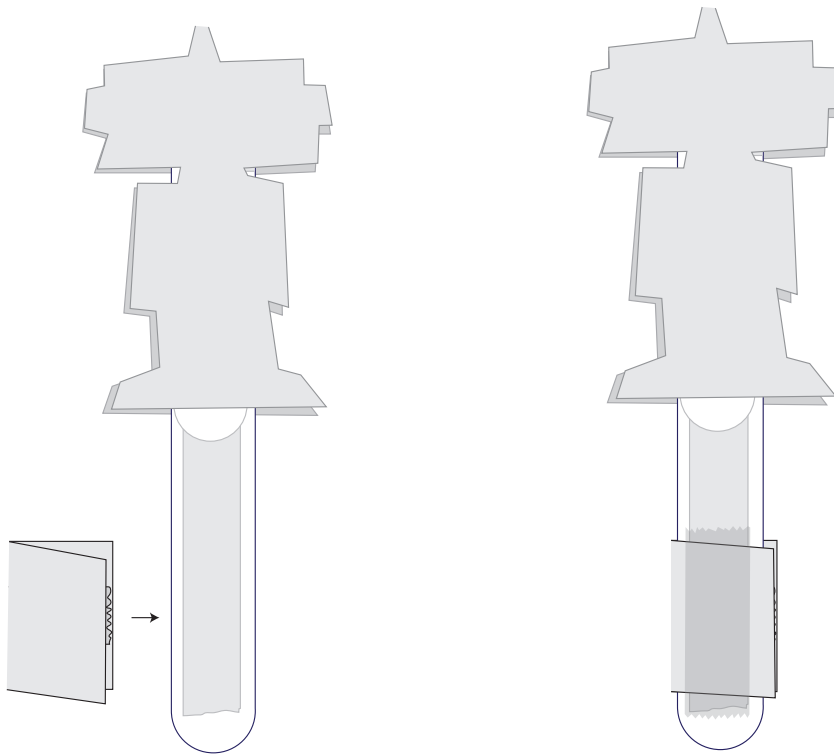
**Step 15:** Attach **copper tape** on to **construction paper**.



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



**Step 16:** *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 beep, *press down* **paper flap** on **copper tape**.

