

## **Build your own BLINKY BUG**

### 1. Introduction

### 2. What is a Blinky Bug?

### 3. Build your Blinky Bug!

- Understand Electricity
- Build the eyes
- Build the Antennae
- Build the body

----- BREAK -----

- Adjust your Blinky Bug (make his antennae more sensitive? less sensitive?)
- Get creative!

### 4. Caring for your Blinky Bug

- How to travel with your bug
- Ideas for your bug (make a pin! make a magnet!...)

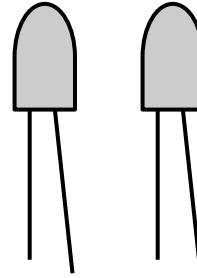
# Parts of a Blinky Bug

(each bag should have these items, except for the battery)

3.3 Volt Battery



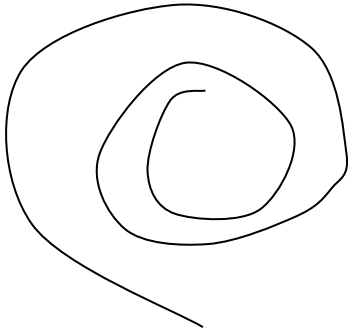
2 LED's (the same color)



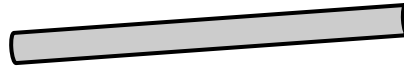
1 piece of aluminum



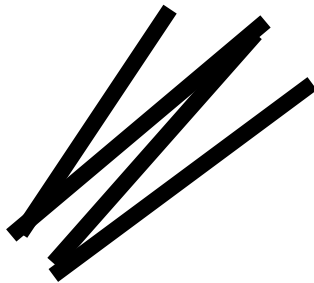
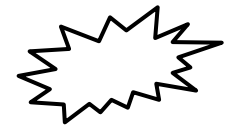
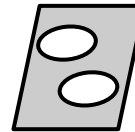
1 guitar string



1 copper tube



2 sticky pads



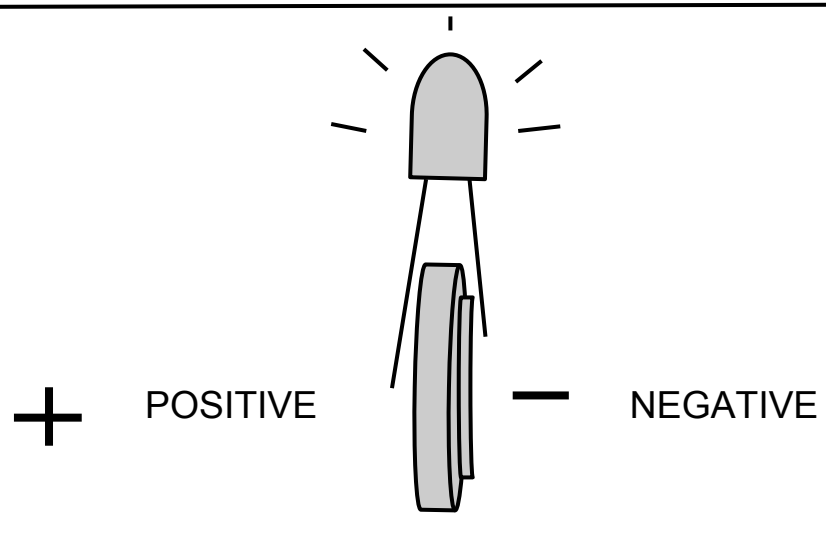
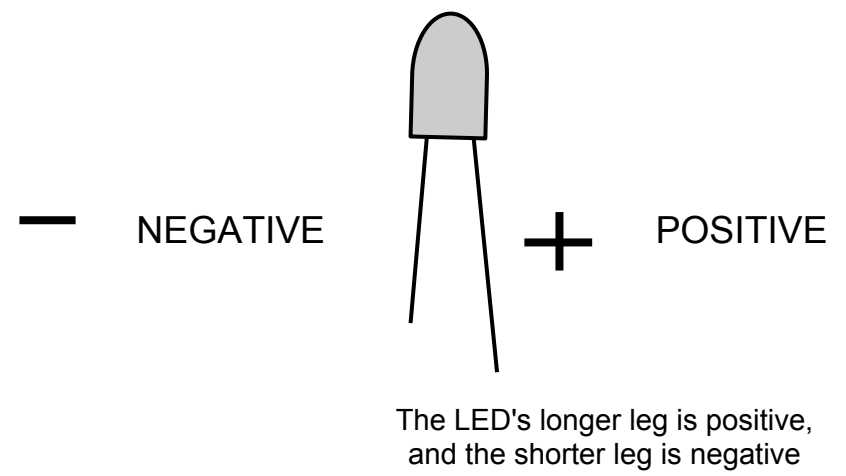
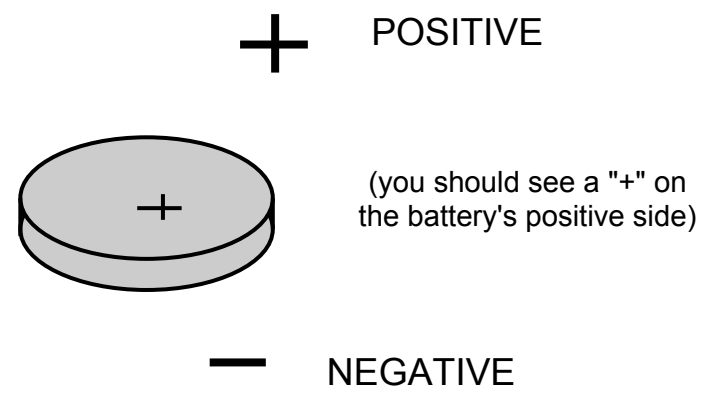
1 pipe cleaner

& decoration!!



# Understanding the battery

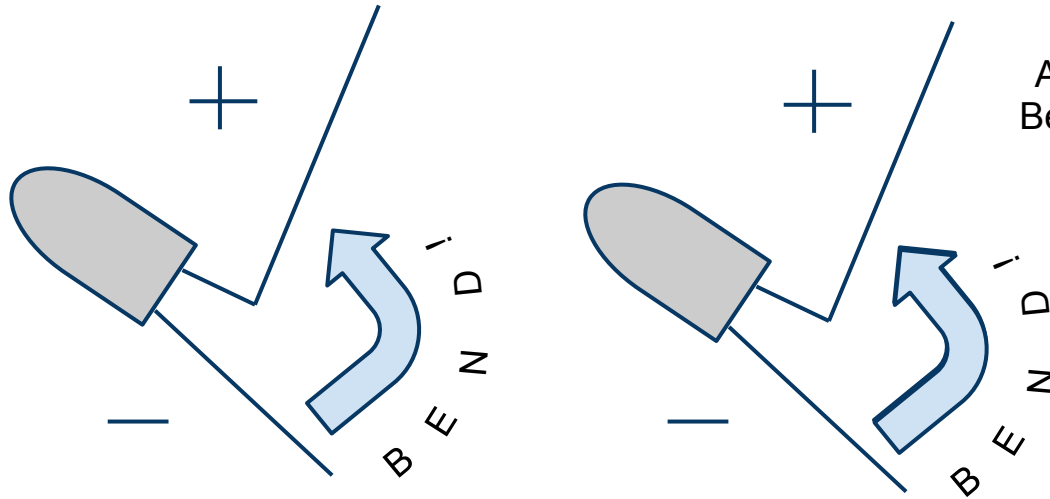
Both the LED and the Battery have a positive (+) and negative (-) side



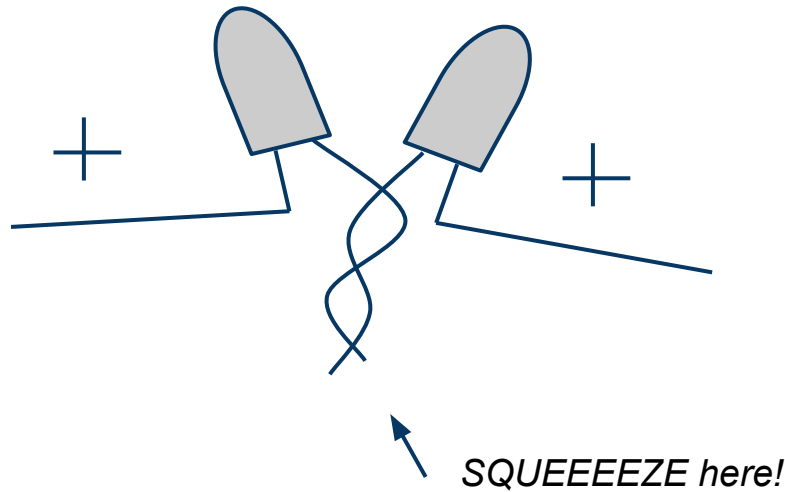
Touch the Positive leg of the LED to the Positive side of the battery, and the negative leg of the LED to the negative side of the battery

**LIGHT!**

# Step 1. Prepare the eyes!



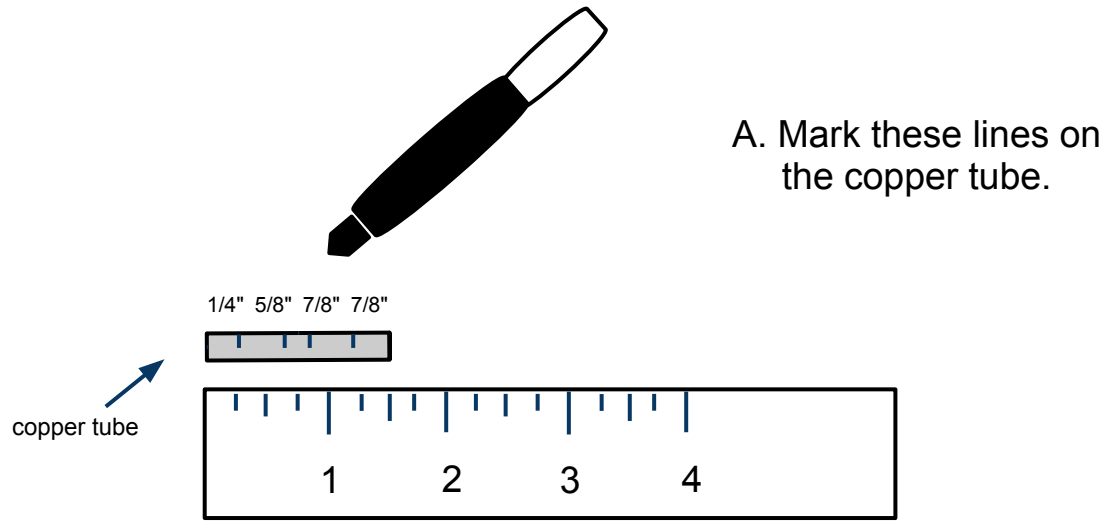
A. Take two LED's of the same color. Bend the LONG (positive) leg at a right angle (as shown).



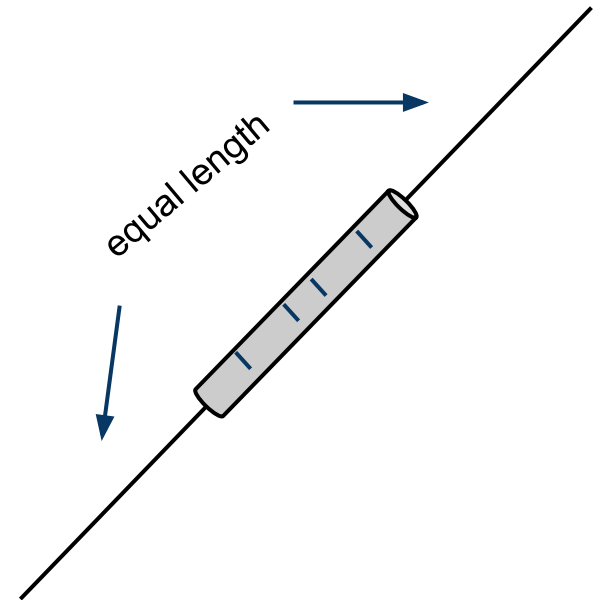
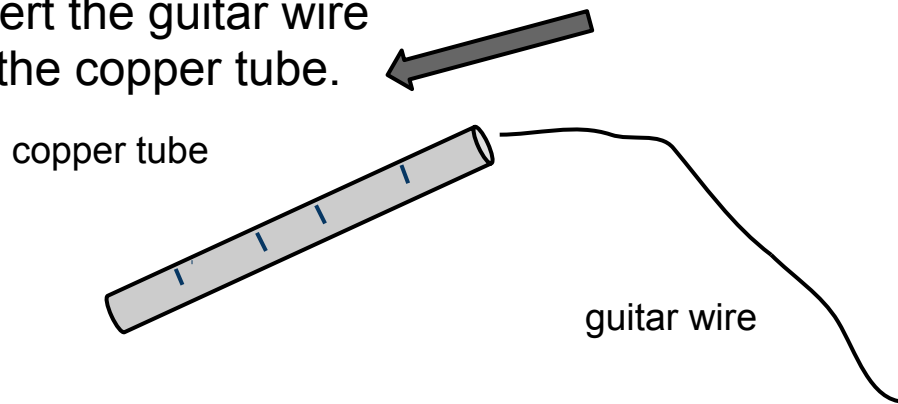
B. Twist the SHORT (negative) legs together.

Use a pliers to squeeze them tightly together.

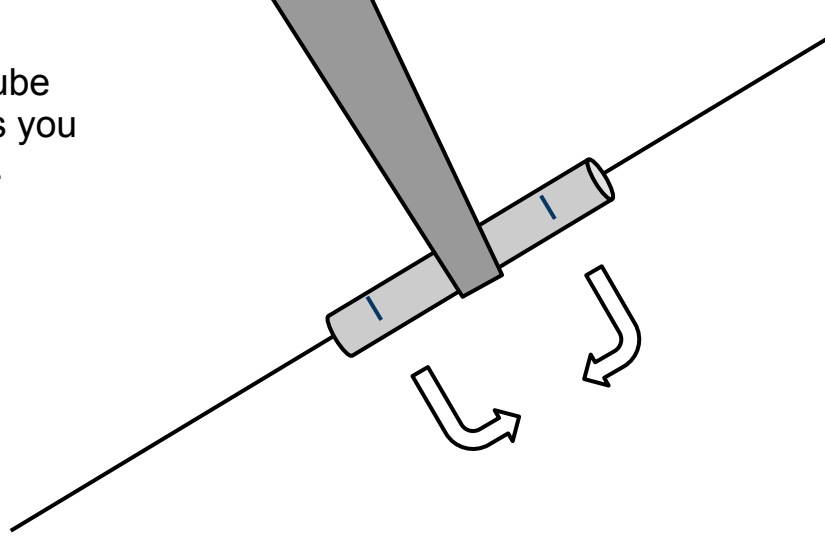
## Step 2. Make the Antennae



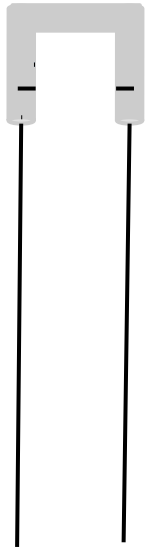
B. Insert the guitar wire into the copper tube.



C. Grab the copper tube between the two marks you drew in the center.

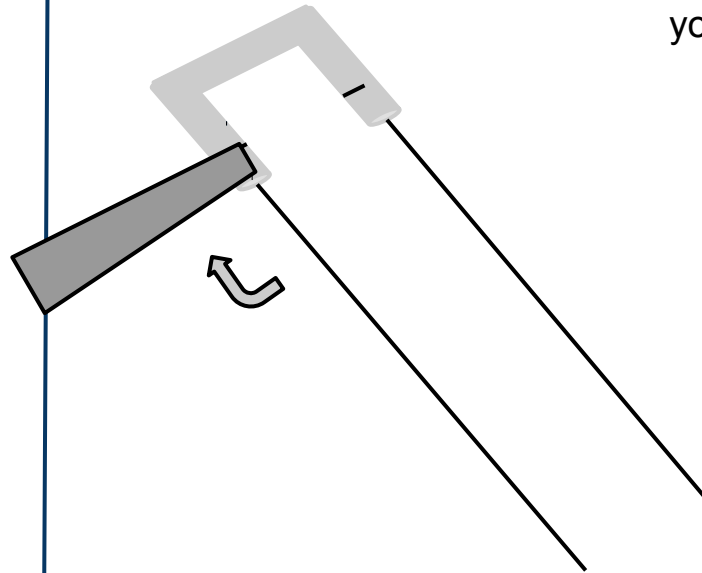


Bend both sides of the tube up with your thumb

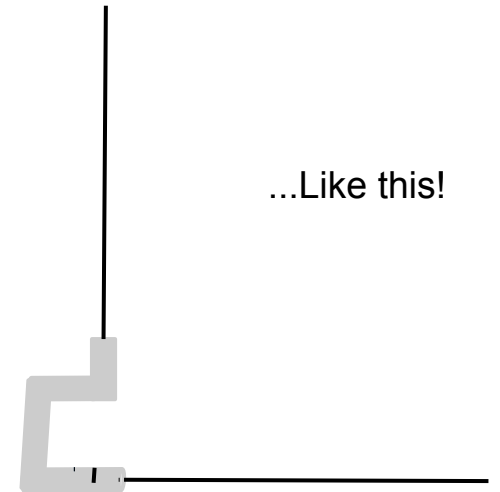


...so it looks like this!

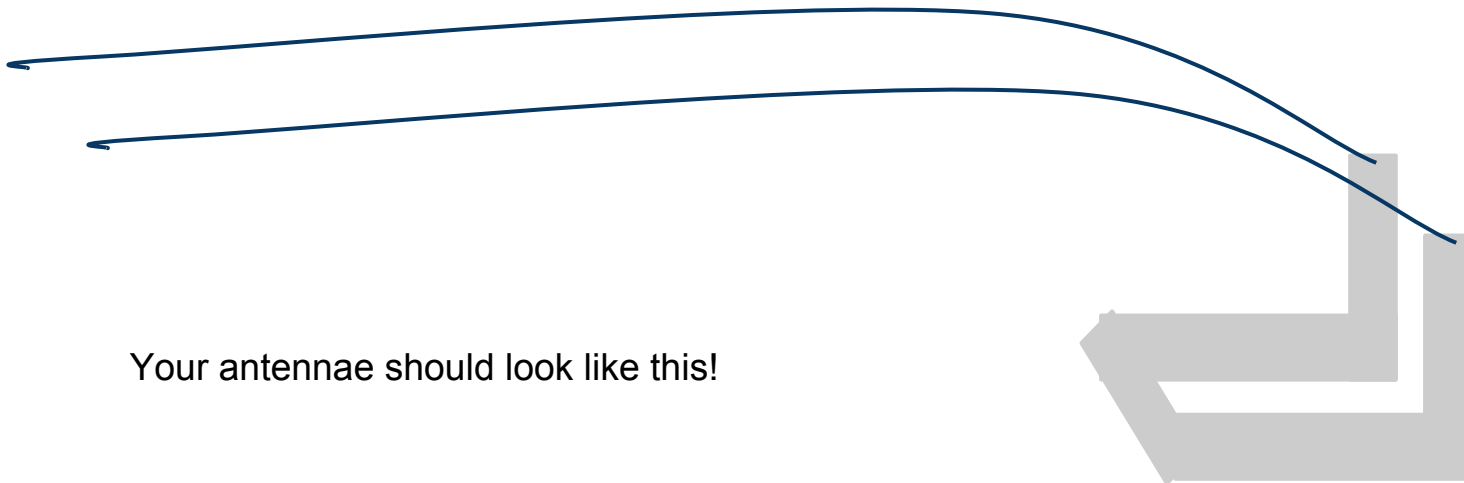
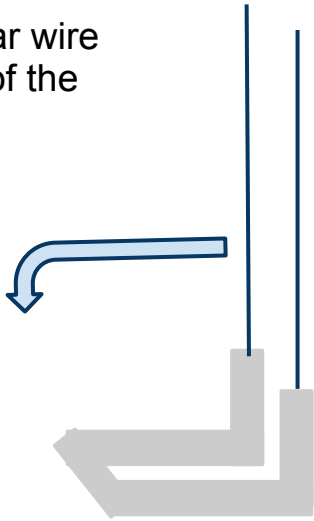
D. Grab the copper tube where you made the mark at one of the ends. Bend it up!



...Like this!



E. Bend back the guitar wire where it comes out of the copper tube.

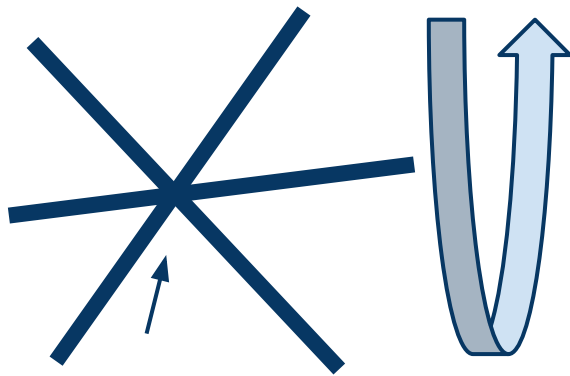


Your antennae should look like this!

Step 3. Prepare the Legs.



A. Cut the pipe cleaners into three pieces (on the fold)



(The Cross)

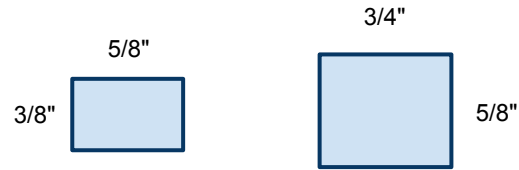
B. Arrange them in a star shape.

Take three legs in each hand and twist at the cross.

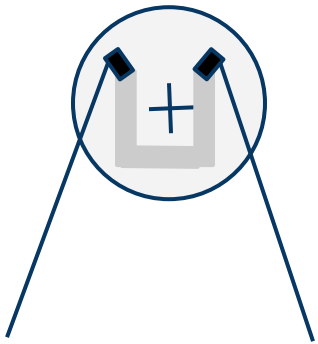


## Step 4. Attaching the Antennae.

A. Cut out two squares of foil in the sizes shown :

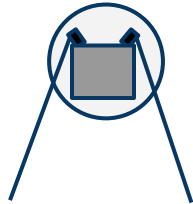


B. Place the antennae on the positive side of the battery.

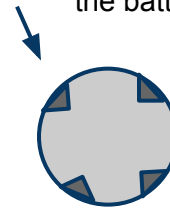


C. Peel the backing off the larger piece of foil and attach the antennae to the battery as shown, by placing the sticky side on top of the copper tube

(don't touch the sticky side of the foil or it won't be sticky anymore!)

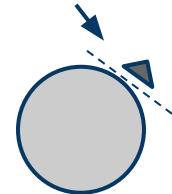


Warning: don't wrap the foil around the edge of the battery!

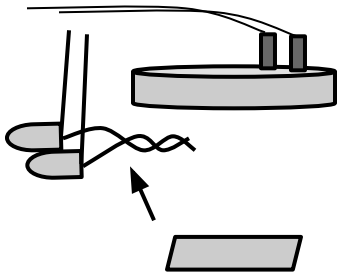


(it will create a short circuit!)

Instead, use the scissors to trim off the excess foil.



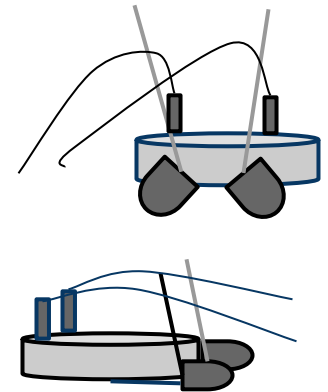
## Step 5. Attach the Eyes.



A. Peel the back off the smaller piece of foil

B. Place the foil where the twisted legs form a "Y" (see the left image).

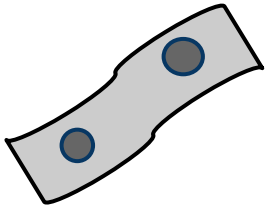
Note: Press down the foil. but make sure it does not touch the edge of the battery! Trim with scissors if necessary



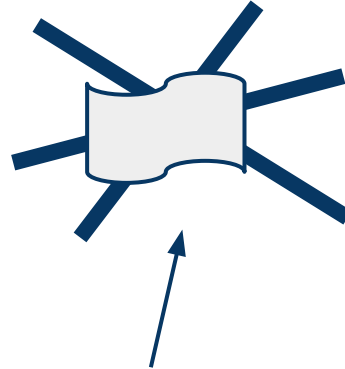
You should have something like this!

Step 5. Put it together!

A. Peel back one side of the paper holding the GLUE DOT.



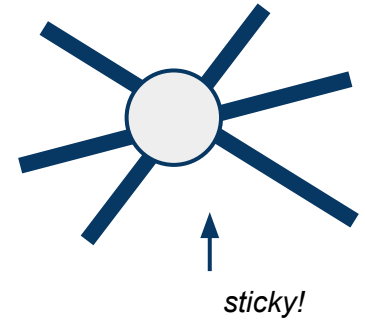
B. Touch the glue to the legs as illustrated:



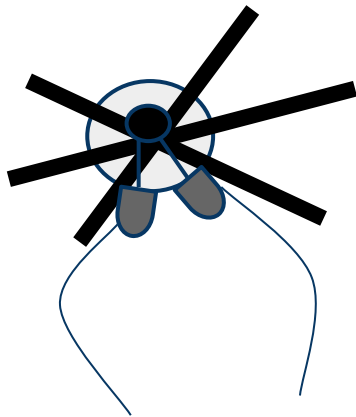
C. Peel back the paper away from the glue dot...

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(leaving the glue stuck to the legs).



D. Stick the legs to your blinkybug's belly!



Now get creative!

