

## Outdoor Family Workshop Series - Electronics & Process Art

# SCRIBBLEBOTS

### Materials

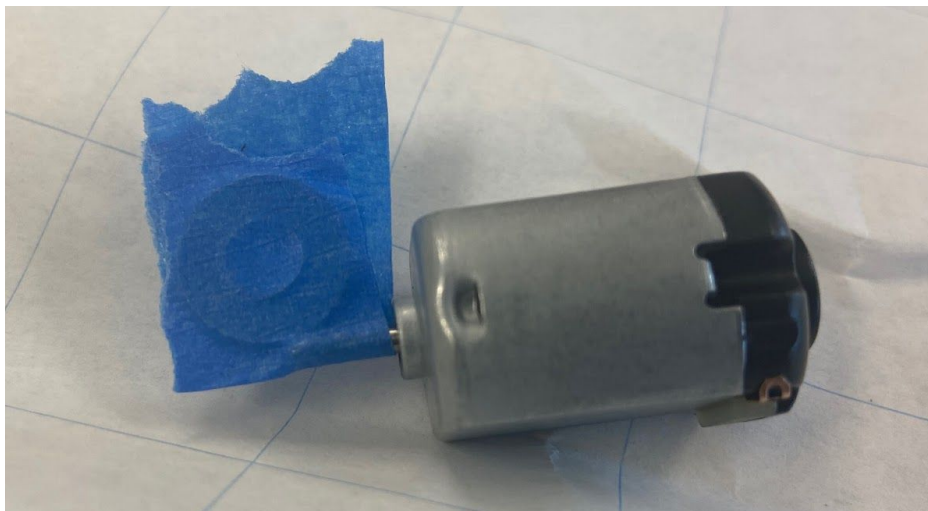
- Plastic Cup
- Marker (x3)
- AA Battery
- Battery Holder
- DC Motor
- Metal Washer
- Tape
- Googly Eyes

### \*TAPE TIPS\*

Crease the tape tightly around any piece you want to attach. Make sure you wrap the tape close to the edges of the markers to keep them secure. The tape on your battery holder should be pushed tight against the inside so you have room for your battery

### Instructions

1. Wrap a piece of tape around your motor shaft like a flag, and sandwich a metal washer between two layers to attach a weight to the motor. This off-center weight will create the vibration for our Scribblebot!



2. Take the black and red wires from your battery holder and thread them through the terminals on your motor (the small flaps that look like ears)

3. Tuck in the wires or twist them around the terminals to make sure they stay secure. You want the wire to stay touching the terminals, even when your robot starts buzzing around!



4. Place your motor on top of the cup with the shaft hanging over the edge so the tape and washer can spin freely.
5. Tape the motor and battery holder to the top of your cup. Make sure you use enough tape to keep things strong, but leave room for your battery and the spinning washer.
6. Tape the markers to the outside of your cup like a 3-legged stool. Make sure each marker is even and the caps are all below the rim of the cup so they can easily be uncapped.
7. Now decorate with googly eyes to give your Scribblebot some personality!
8. Make sure nothing is blocking the rotation of your flag. Then add in the battery with the negative side facing the spring, and watch your Scribblebot come to life!
9. Compare the different patterns your robots draw!

