

## Activity: Jitter Bug

On SCOPE's Things That... Creep and Crawl episode, you saw Julia make a jitterbug using a toothbrush and an electric motor. Here's how she did it:



### What you need

2 old toothbrushes

Scissors

Blu-tack

3V watch battery

Small electric motor (which you can get from a hobby store or an electronics store)

Things to decorate with

### What to do

1. Using scissors, cut the head off each toothbrush. Young scientists will need help from an adult for this part!
2. Using blu-tack, stick the toothbrush heads together so they are side by side.
3. Test the motor and the battery by placing one side of the battery on the negative terminal of the motor and one side on the positive terminal of the motor. If it works, the pin on the motor should rotate.
4. Put the battery aside.
5. Place a ball of blu-tack on the pin of the motor.
6. Place the motor on top of the toothbrush heads and attach with blu-tack.
7. Decorate your jitterbug with feathers, buttons, sequins or whatever you can find lying around!
8. Re attach the battery to the motor and keep it in place using blu-tack. This part can be very tricky!
9. Watch your jitterbug jitter all over the table!

### What's happening?

By attaching the battery, you complete the circuit and allow an electric current to flow between the battery and the motor. This causes the pin to rotate. The jitterbug vibrates because of the blu tack on the end of the pin. When the pin rotates, the motor will be unbalanced and will therefore vibrate. Mobile phones use the same principle!