

## Week 6-Spinning Brushbot

Let's build a robot!

### What You Need:

- Toothbrush...one you can cut apart
- Mini vibrating motor...these can be found inside electric toothbrushes
- Mounting tape
- 3V cell battery
- Googly eyes
- Scissors
- Wire strippers...these are also found towards the handle in wire cutters
- Cutting pliers...something to cut the head off the toothbrush



**Ok, young engineers, do NOT go tearing apart your electric toothbrush until you check with your adults.**

### Directions:

1. Use the cutting tool to detach the head of the toothbrush from the shaft.
2. Use your fingers to spread out the bristles giving you bot a larger base to spin on.
3. Use a wire stripper to expose about  $\frac{1}{4}$ " of wire on each of the wire leads coming out of the mini vibrating motor.
4. Cut a piece of mounting tape slightly smaller than the googly eye.
5. Use the sticky side to attach one of the wires from the motor to the front of the cell battery in the location you'd like to stick the googly eye.
6. Peel off the backing and stick on the googly eye.
7. Repeat the process with the other wire coming off the motor but don't attach it to the cell battery just yet.
8. Then use the mounting tape to place the battery and motor on top of the head of the toothbrush with the bristles positioned to be the base of the brushbot.
9. You may have to experiment with the placement of the motor to keep the brushbot from toppling over.
10. Also, make sure you don't tape down the spinning part of the motor.
11. Use another piece of mounting tape to attach the remaining wire from the motor to the opposite side of the cell battery. The motor is going to start spinning at this point.
12. Place another piece of mounting tape onto the non-spinning end of the toothbrush, peel the backing tape off the back of the battery (the opposite side from the googly eyes) and mount the cell battery to the toothbrush.
13. Put it down and watch it spin!

Take a short video of your Spinning Brushbot in action and upload to social media with the tag **#futurerosies!**

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