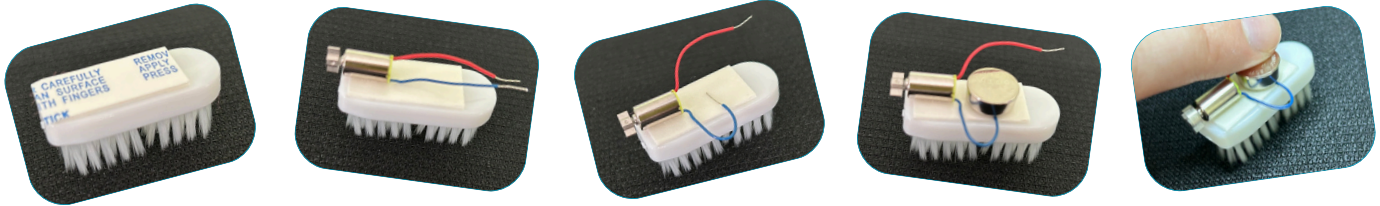


4. Place the battery on top of the wire stuck to the tape with the positive side (+) facing up.
5. Take the free wire and touch it to the top (positive side) of the battery to test the connection. The bristlebot should buzz and the motor should spin freely!
6. Peel the adhesive backing off of the googly eyes and place them on your bristlebot to bring it to life! Then, be creative and use pipe cleaners, markers, and colorful paper to personalize your tiny robot.
7. Finally, tape the free wire so it stays in contact with the positive side of the battery. Place your bristlebot on a smooth, flat surface and watch your little robot move across it!



STEM EXPLANATION:

How was your little robot able to move? Electricity! You created a **circuit** when you connected the wires of the motor to the battery. This allowed electricity to flow from the battery, through the motor, and back to the battery, causing the motor to spin. The spinning motor made the whole toothbrush head vibrate and dance around! What can you add to your little bristlebot to make it move in different directions?

Just like you used a circuit to make the bristlebot move, robotic engineers use similar concepts to build complex robots that assemble products, perform surgeries, and even explore space!

CAREER: ROBOTICIST

Roboticists design and build robots that can move, solve problems, and help people with all types of tasks.



MEET CATIE CUAN!

Catie is a dancer and roboticist who explores the connection between movement and machines. She was inspired to merge dance and robotics after her Dad suffered a stroke and she saw how afraid he was of machines. Catie is currently pursuing her PhD in Mechanical Engineering at Stanford University, and her work has been featured on the PBS NewsHour, CBS, Engadget, Forbes Podcasts, and the cover of Stanford Magazine.



Learn more about Catie!

RESOURCES

www.naturaldeets.com/natural-lip-balm-recipe-in-the-microwave/, www.sciencebuddies.org
www.ifthencollection.org/