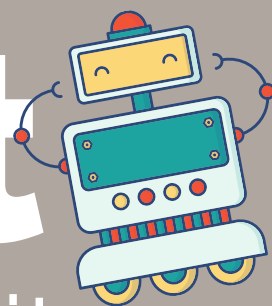




Robot

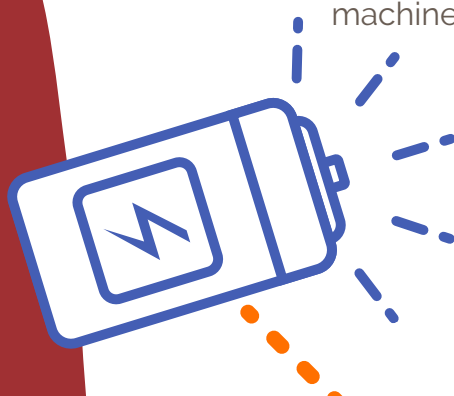
Take & Make Kit

Watch ImagineIF's Ann tutorial:
tinyurl.com/TeenRobot



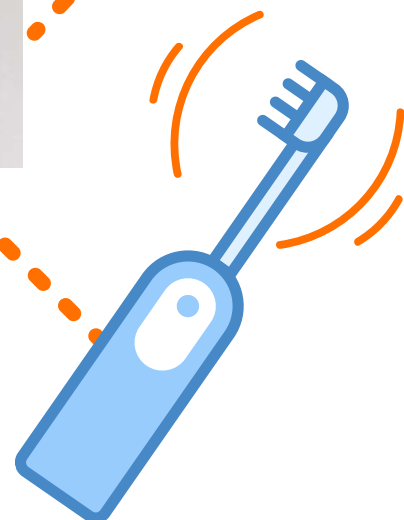
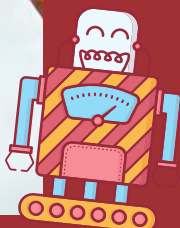
How does it work?

Energy from the **battery** powers the toothbrush's **motor**, which turns a small rotor. This **rotor** causes the toothbrush to **vibrate**. Repurpose these mechanics to make a machine of your own design!



Materials

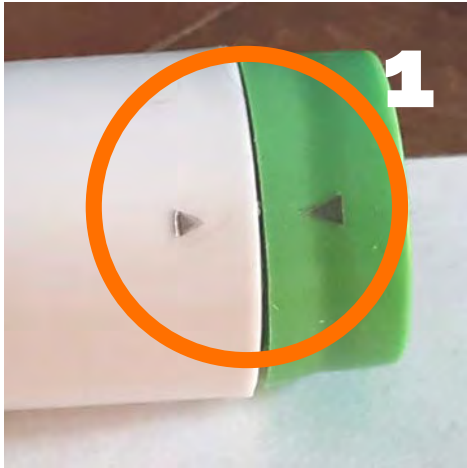
- Electric toothbrush & battery
- Pool noodle segment
- Decorations
- Optional: needle nose pliers, duct tape, rubber bands, markers, colored pencils, and other small parts scavenged from your home



DoodleBot Variation

Rubber band a couple pens or colored pencils to your bot and let your bot's movement make art.

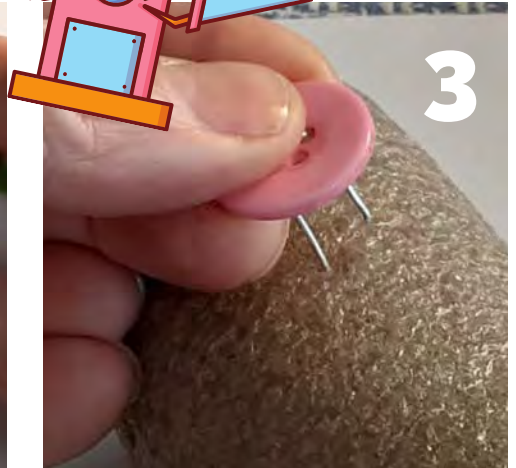
Basic Bot Build



Insert batteries into toothbrush and replace the end cap, lining up the faint arrows at the base. Turn the brush on to check your connections.



Slide toothbrush into the pool noodle segment. Optional: bend the toothbrush head back or cut it off entirely.



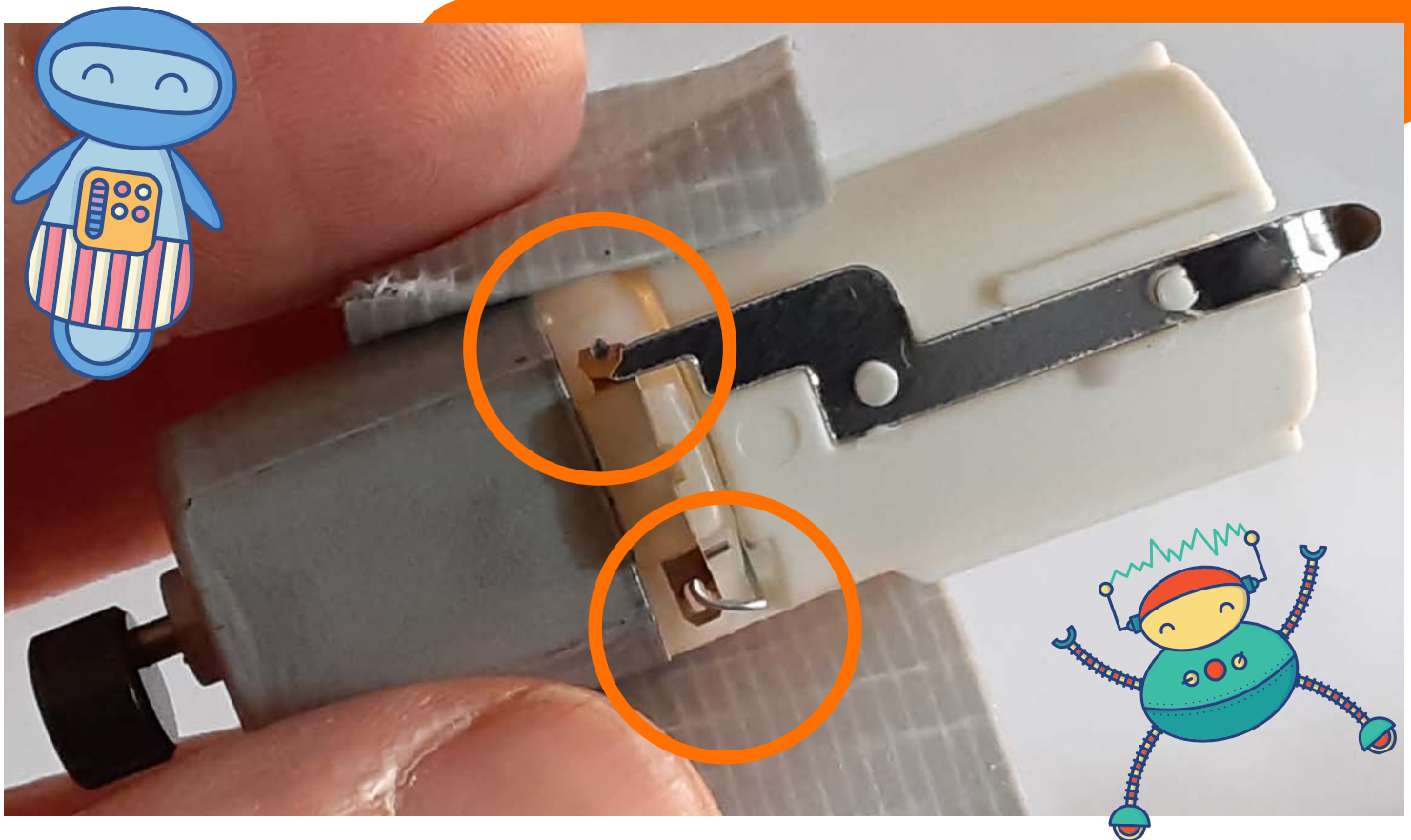
Decorate your robot and play!



Hack your toothbrush even further with this Bristle Bot tutorial from Instructables: [instructables.com/Big-3-Solderless-Bristle-bot](https://www.instructables.com/Big-3-Solderless-Bristle-bot)



Bot Surgery



If you want to see what makes your robot vibrate, **pull the motor out of the plastic handle**. Needle nosed pliers are a handy tool for this operation.

Make sure you connect the two halves of the motor's case to **complete the circuit**. There are two small metal connections that must have contact with each other for the motor to run.

A spring will cause the two halves of the battery case to pop apart. Rubber bands or duct tape work well to **keep the two halves together**.