

ART BOTS

Electricity is a type of energy that makes many of the things we use every day work, like lights, TVs, and phones. It flows through wires in a path called a circuit, which can be open or closed—only a closed circuit lets electricity flow.

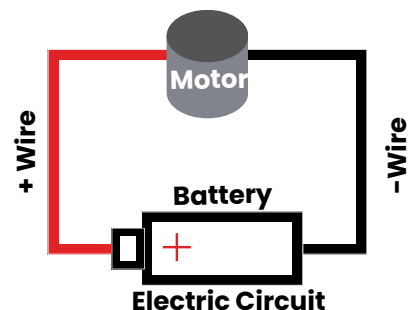
CONDUCTORS



INSULATORS



There are two kinds of electricity: static, like when your hair stands up after rubbing a balloon, and current, which moves through wires. Electricity can come from different sources, like batteries or power plants, and we use special materials, like metals, to carry it because they're good conductors.



MATERIALS

2 AAA Batteries	AAA Battery Pack	3 Volt DC Motor	16oz Plastic Cup
Cork	3M Double Sided Foam Tape	Washable Markers	Electrical Tape

INSTRUCTIONS

1. Secure the cork to the motor by pressing the center of its base onto the motor shaft.
2. Slide open the battery holder by pushing the three lines towards the smallest line on the side opposite the On/Off switch. Be sure the batteries are facing the correct direction by matching the + and - symbols on the batteries to the + and - symbols printed on the inside of the battery pack.
3. Make sure the battery pack is switched to OFF. Connect the RED cable from the motor to the RED cable from the battery pack. Repeat this process with the BLACK wires.
4. Cut a piece of 3M double sided tape in half and use one piece to secure the flat side of the motor to the bottom edge of the cup. Be sure to not cover the motor shaft (small pin in the center of the motor) and make sure that the cork can spin freely without hitting the cup.
5. Use the other piece of 3m double sided tape to attach the battery pack to the side of the cup opposite the motor. Be sure that the on/off switch is facing out and down for ease of access.
6. Secure your choice of markers to the outside of the cup. The goal is for the cup to be able to stand up with the markers supporting the cup as legs. Let your creativity fly!

STEM CAREER PROFILE

Electrical engineers design and develop the technology that powers our world. They work on everything from designing circuits in smartphones to creating systems that deliver electricity to entire cities. These engineers also work on exciting projects like designing robots, creating advanced medical devices, or improving renewable energy systems like solar panels and wind turbines. They use their knowledge of electricity and math to solve complex problems and make sure electrical systems are safe and efficient. It's a career filled with innovation, creativity, and the chance to shape the future of technology!

STEM SUPERSTAR



Yoky Matsuoka is a distinguished electrical engineer and computer scientist known for her pioneering work in robotics and artificial intelligence. She co-founded Google X, Google's

innovative research and development lab, and has held leadership roles at Apple and Nest. Matsuoka's research focuses on neurobotics, combining neuroscience and robotics to develop advanced prosthetics and smart technologies that enhance human capabilities. Her contributions have significantly advanced the integration of technology and human physiology, earning her recognition as a leader in the tech industry.



Rosie Riveters is a non-profit organization that develops girls' - from diverse backgrounds - confidence, problem-solving, and critical thinking skills through our hands-on and interactive STEM (science, technology, engineering, and math) projects.

www.RosieRiveters.org

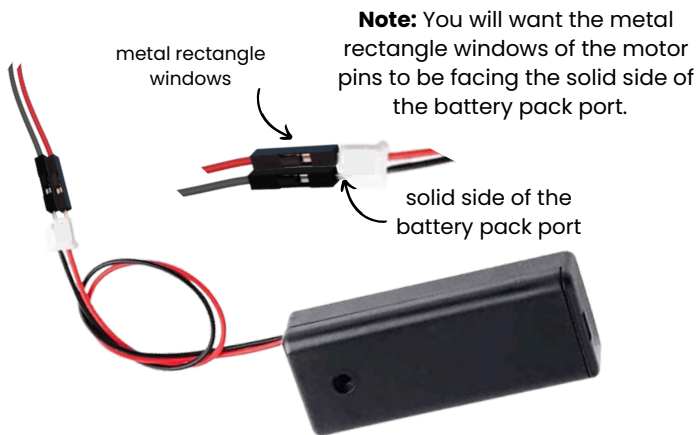
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Secure the cork to the motor by pressing the center of its base onto the motor shaft.

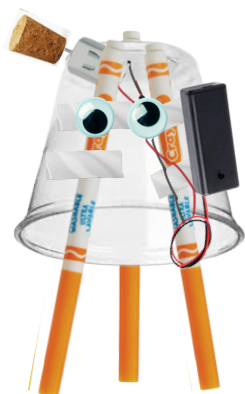


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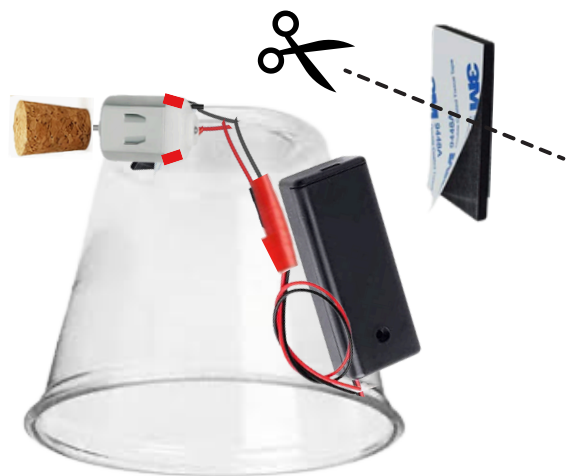


Note: You will want the metal rectangle windows of the motor pins to be facing the solid side of the battery pack port.

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