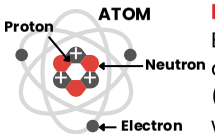
ART BOT STEM KIT

WHAT IS ELECTRICITY?

Electricity is made when tiny particles called electrons move from one place to another. These electrons live in atoms, which are in everything!



HOW DO ELECTRONS MOVE?

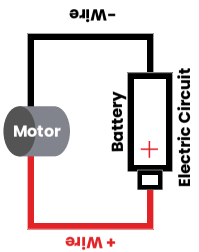
Electrons have a negative (-) charge and they like to move toward positive (+) charges. This movement is what we call electricity.

WHAT'S A CIRCUIT?

A circuit is a path where electricity follows. It needs:

- A battery (to push the electrons)
- Wires (to carry the electrons)
- Something to power (like a light or motor)

When everything is connected in a loop, it's called a closed circuit, and the electricity flows!



STEM CAREER PROFILE

An electrical engineer studies how electricity moves and how to use it to power things we need. They design circuits that make lights turn on, motors spin, and computers run. Electrical engineers test their designs to make sure energy moves safely from one place to another. Their work helps bring power to everything from homes to robots, even your Art Bot.

STEM SUPERSTAR!

Limor Fried is an electrical engineer who loves creating new ways to use electricity and technology. She started a company that makes kits to help people learn how to build electronic projects, like robots, lights, and sensors. Limor designs and tests circuits to show how energy can move to power motors and create motion.

Rosie Riveters STEM CONFIDENCE

INSTRUCTIONS

1. Press the motor shaft (the little pin) into the center of the cork to attach it. Reinforce the wire connections with double sided or electrical tape.
2. Slide open the battery holder by pushing the three lines toward the small line on the side across from the On/Off switch. Make sure the batteries go in the right way by matching the + and - on the batteries with the + and - inside the battery pack.
3. Make sure the switch on the battery pack is turned OFF. Connect the RED wire from the motor to the RED wire from the battery pack. Do the same with the BLACK wires.
4. Cut a piece of double-sided tape in half. Use one piece to stick the flat side of the motor to the bottom edge of the cup. Don't cover the little pin in the center of the motor (that's the motor shaft), and make sure the cork can spin without bumping into the cup.
5. Use the other piece of double-sided tape to stick the battery pack to the side of the cup, across from the motor. Make sure the on/off switch is facing out and down so it's easy to reach.
6. Use double-sided tape to stick the markers to the outside of the cup. Choose spots that help the cup stand up on its own like legs.

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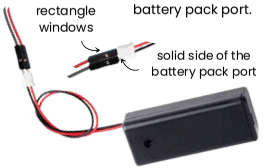

Note: You will want the metal rectangle windows of the motor pins to be facing the solid side of the battery pack port.

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Optional: add mini craft sticks to the cork to adjust balance and stability.