

# Family Fun & Tech

Ages 6-12

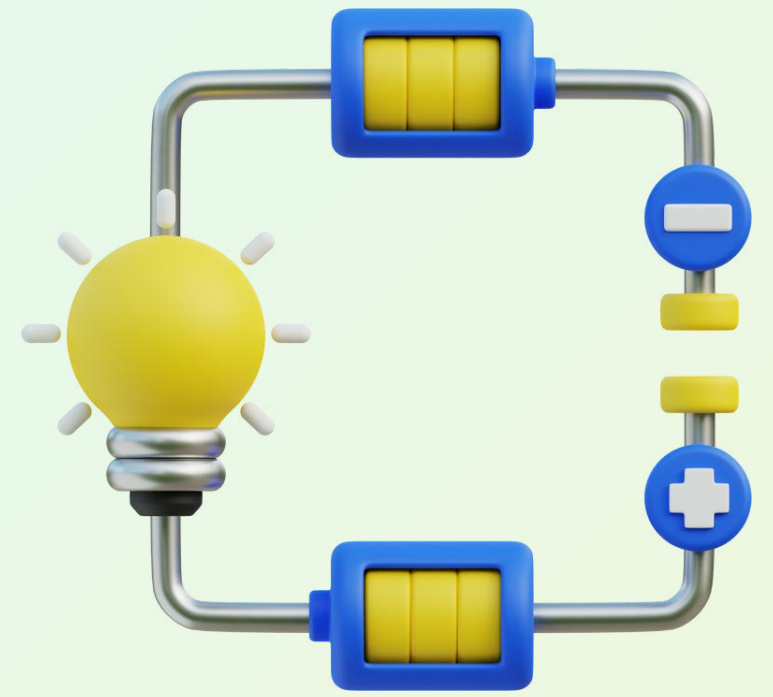
8 Simple Projects  
to Build Together



Looking for a fun and educational way to spend quality time with your child? This e-book brings you 8 simple yet exciting tech projects you can build together at home, using everyday materials.



# Paper Circuit Art



**Light Up Your Imagination**

## Materials Needed:

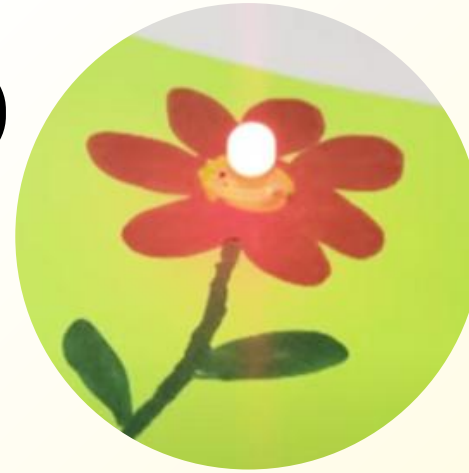
Copper tape, LED lights, coin battery,  
paper, and markers

1



Start by drawing a picture on a piece of paper (like a rocket or a flower)

2



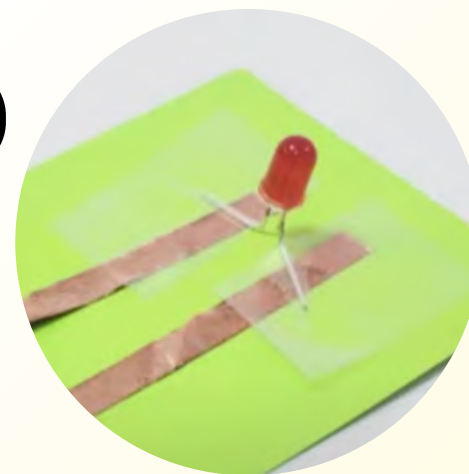
Decide where you want the LED to go on the drawing. This will be your light-up point.

3



On the back of the paper, create a path using copper tape to form a simple circuit. Make sure to leave gaps for the LED legs and the battery.

4



Insert the LED's legs into the circuit and tape them down. Remember, the longer leg of the LED is the positive side.

5



Place the coin battery between the two ends of the copper tape, closing the circuit. Secure the battery with more tape.

6

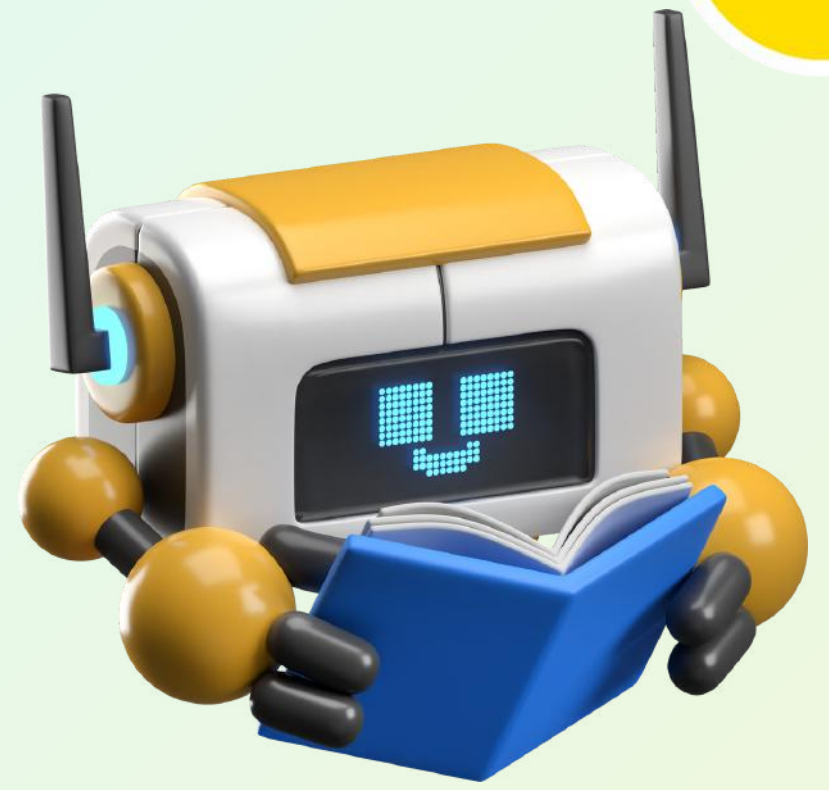


When you press the battery down, your drawing will light up!

# DIY Mini Robot

World's Top Rated  
Ed Tech

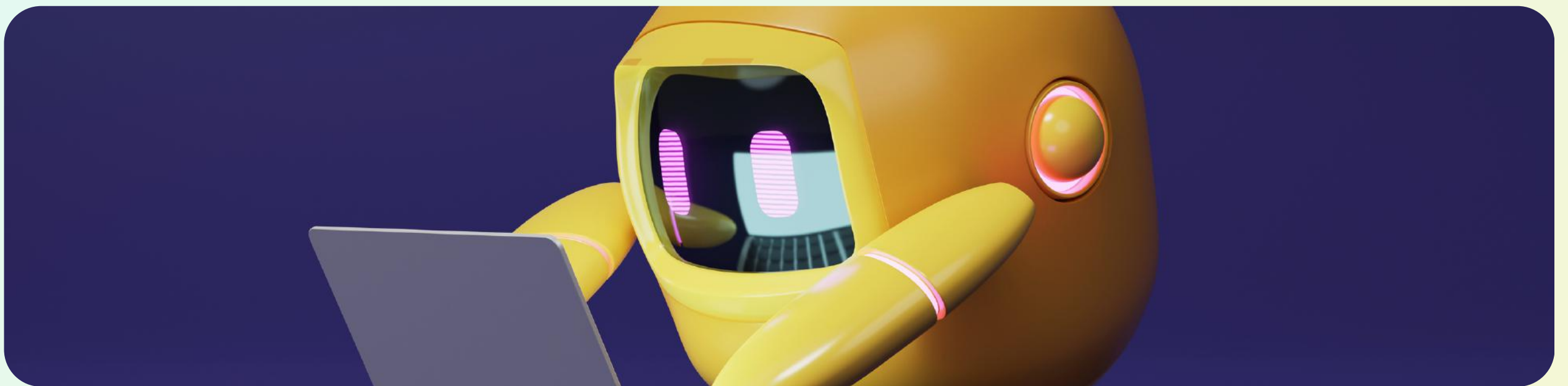
**JET**  
Learn



## Wiggle and Dance

**Materials Needed:**

**Small motor, coin battery, craft materials (googly eyes, pipe cleaners), and a small cup**



1



Attach the small motor to the bottom of a lightweight cup using tape.

2



Connect the motor's wires to a coin battery, making sure the connections are tight and secure.

3



Decorate the cup with googly eyes, pipe cleaners, or any other fun materials you have on hand to give your robot some personality.

4



Once connected, place the cup on a flat surface and watch as your mini robot wiggles and dances!

# Balloon- Powered Car



**Whoosh into the Future**

## Materials Needed:

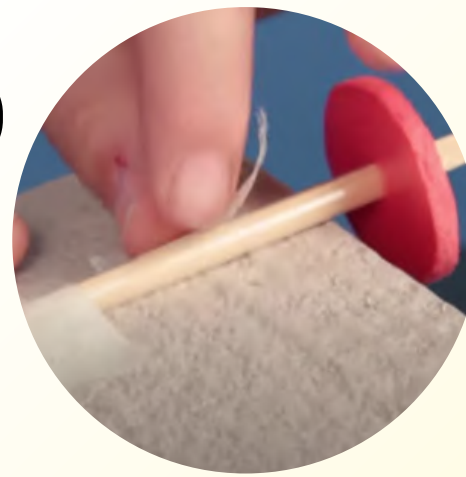
Balloon, straws, bottle caps, rubber bands,  
cardboard.

1



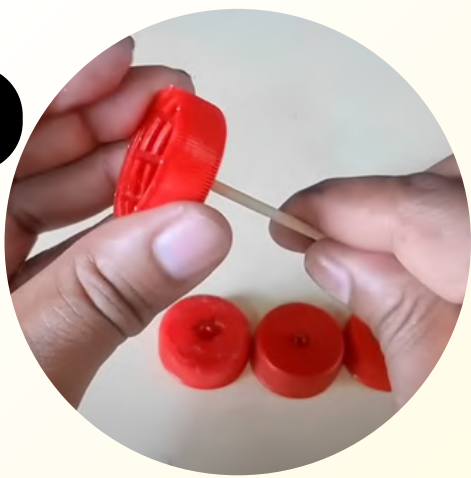
Cut out a rectangular piece of cardboard for the base of your car.

2



Use two straws as axles and attach them to the bottom of the cardboard with tape.

3



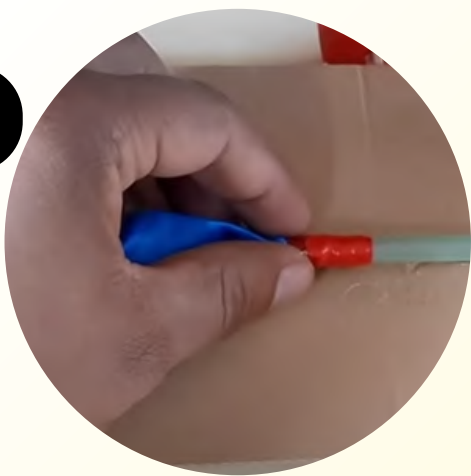
Slide four bottle caps onto the straws to serve as wheels.

4



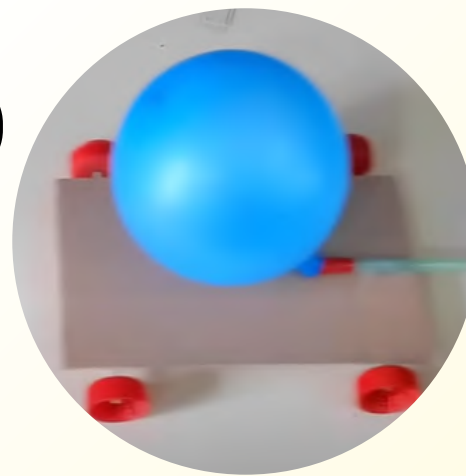
Attach a balloon to one end of a straw using a rubber band (make sure it's sealed tight).

5



Tape the balloon and straw to the top of your car.

6



Blow into the straw to inflate the balloon, then pinch the end to hold the air. Let go and watch your car zoom forward as the balloon deflates!

# Cardboard Maze Game



Maze Your Way to Fun

**Materials  
Needed:**

**Cardboard, scissors, magnets, small metal  
ball (or paper clip rolled up), and tape.**

1



Cut a rectangular piece of cardboard to serve as the base of your maze.

2



Draw your maze design on the cardboard with a pencil. Keep the paths narrow enough to make it challenging.

3



Cut small strips of cardboard and tape them upright along the lines to create walls for your maze.

4

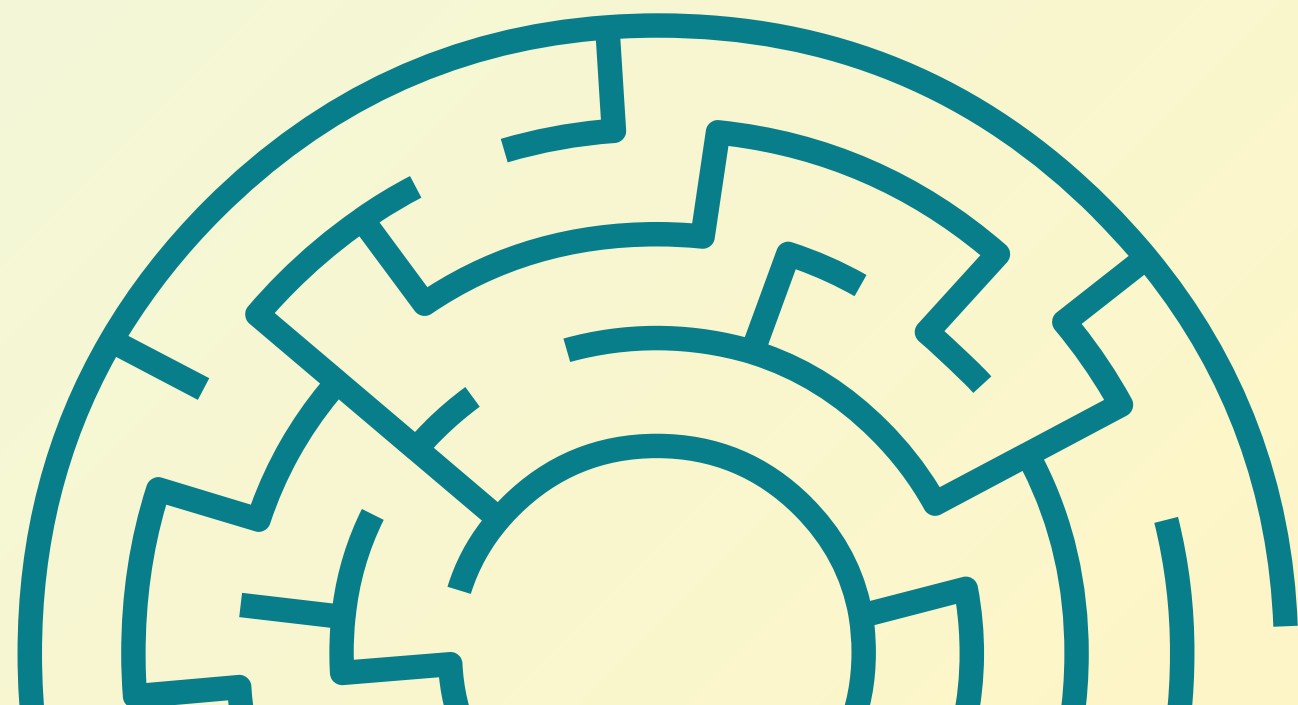


Place a small metal ball (or a rolled-up paper clip) at the start of the maze.

5



Use a magnet underneath the cardboard to guide the ball through the maze by moving the magnet underneath the surface.



# Water Bottle Rocket

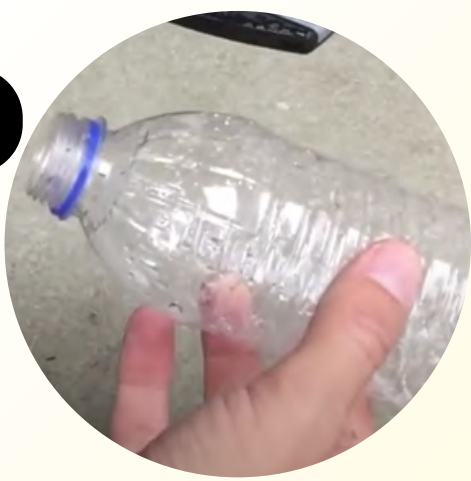


## Blast Off to the Stars

### Materials Needed:

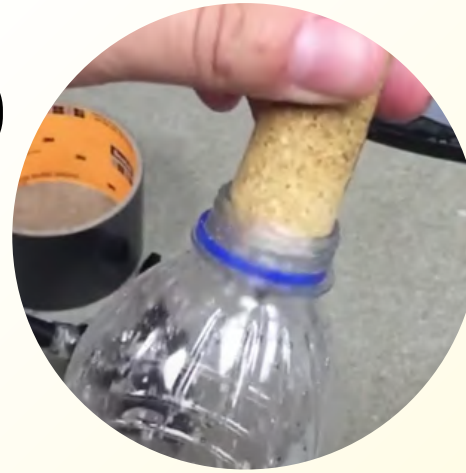
Plastic bottle, cork, water, and a bicycle pump

1



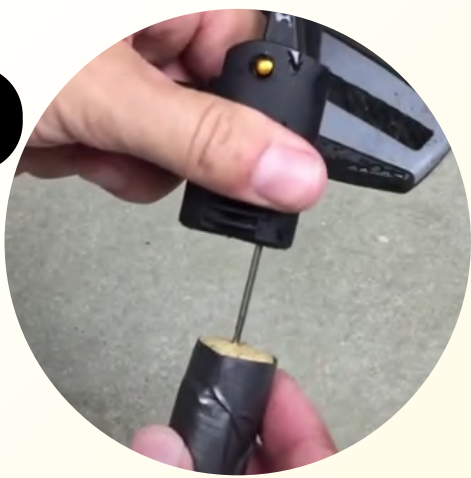
Fill a plastic bottle about one-third full with water.

2



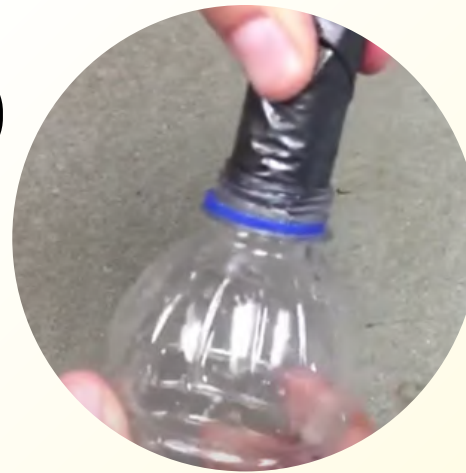
Push a cork firmly into the mouth of the bottle. (Make sure it's a snug fit.)

3



Attach a bicycle pump with a needle nozzle to the cork.

4



Pump air into the bottle until the pressure builds up inside.

5



When the pressure is high enough, the cork will pop, and the water bottle rocket will launch into the air!



# Homemade Solar Oven



**Harness the Power of the Sun**

**Materials  
Needed:**

**Pizza box, aluminium foil, plastic wrap,  
black paper, and s'mores ingredients.**

1



Cut a flap into the lid of the pizza box, leaving one side attached.

2



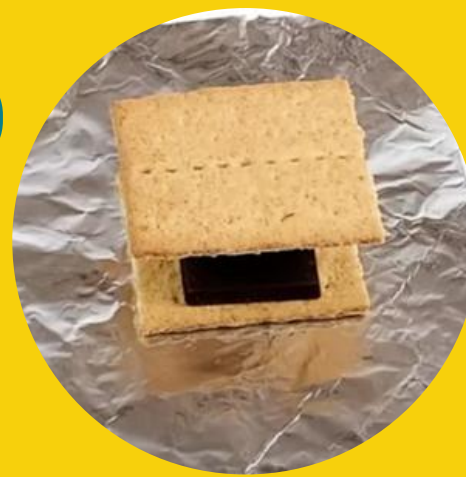
Cover the inside of the flap with aluminium foil, which will reflect sunlight into the box.

3



Line the bottom of the box with black paper (to absorb heat) and cover the opening with clear plastic wrap (to create a mini greenhouse effect).

4



Place your s'mores ingredients inside the box.

5



Angle the flap towards the sun and let the solar oven heat up the s'mores! In about 30 minutes, you'll have delicious, sun-baked treats.



# Homemade Scribble Bot



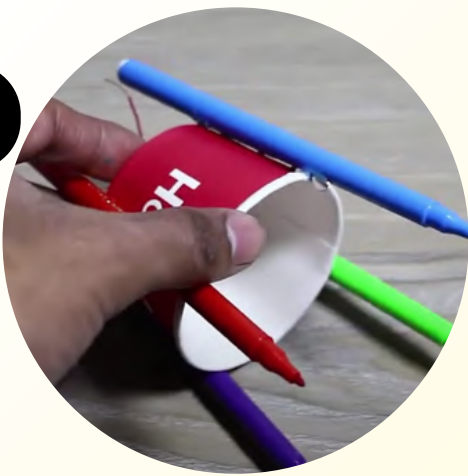
Create Your Own Art Robot

## Materials Needed:

A small motor, coin battery, tape, markers, and a plastic cup.

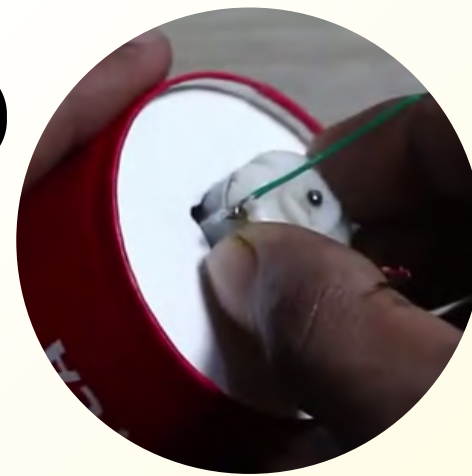


1



Tape 3-4 markers around the edges of an upside-down plastic cup, ensuring the tips of the markers touch the ground.

2



Tape the small motor on top of the cup, and attach the coin battery to the motor.

3



Turn on the motor, and watch as the cup vibrates and scribbles patterns on paper!





# DIY Glowing Night Lamp



Light Up Your Room

**Materials Needed:**

A mason jar, a small LED light, a coin battery, and tissue paper or glow-in-the-dark stickers.



1



Place a small LED light inside a mason jar, securing it with tape at the bottom.

2



Insert the coin battery to power the LED.

3



Decorate the outside of the jar with colourful tissue paper or glow-in-the-dark stickers to give it a soft, magical look.

4



Once done, turn off the lights, and your beautiful DIY night lamp will softly illuminate the room!