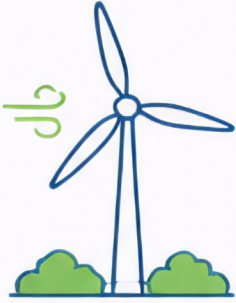


BUILDING A SIMPLE WIND TURBINE



Engineer a turbine that uses wind to make electricity.

Name: _____

Date: _____



OBJECTIVE

Build a working wind turbine that spins a generator to light an LED.



MATERIALS

- 3–4 paper or plastic cups (for blades)
- 1 small DC motor (3–6V)
- 1 LED
- 2 alligator clip wires
- 1 pencil or wooden dowel (for tower)
- Cardboard (base)
- Tape
- Scissors
- Ruler
- Fan (for wind source)

(Materials can be adjusted based on availability.)



SAFETY FIRST

- Ask an adult for help when using scissors.
- Do not touch the fan while it is running.
- Keep small parts away from young children.



THINK ABOUT IT

- Where do we see wind turbines used?
- How does wind get turned into electricity?
- What designs might make your turbine spin faster?



PROCEDURE

- Build the Blades**
Cut and shape 3–4 cups into blades.
Tape them evenly around the center hub of the motor.
- Build the Tower**
Attach the motor to the top of a pencil or dowel.
Secure the tower to a cardboard base.
- Connect the Circuit**
Attach one alligator clip from the motor to the LED's long leg (positive). Attach the other clip from the motor to the LED's short leg (negative).
- Test It**
Place your turbine in front of a fan.
Turn on the fan and watch your turbine spin.
Does the LED light up?
- Improve It**
Try changing your blade shape, angle, or number.
Test again and see what works best!



DATA & OBSERVATIONS

Record your results below. Use the fan on the same setting each time.

Blade Design (e.g. shape, number, angle)	Does the LED Light Up? (Yes / No)	Notes (What did you observe?)



REFLECTION

1. What worked well with your design? _____
2. What would you change next time? _____
3. What did you learn about how wind turbines work? _____



CHALLENGE!

Can you power something else with your turbine, like a small buzzer or a second LED?

