

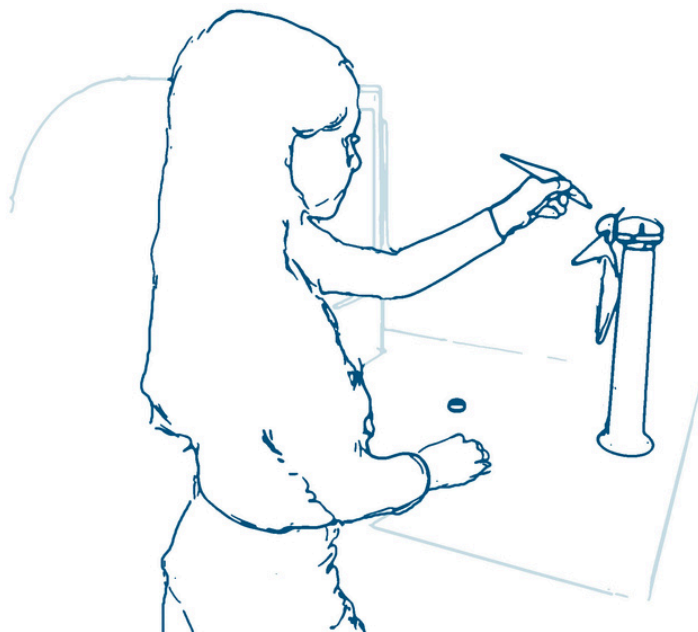
WIND TURBINE



How does wind become electricity?

What to do

- Attach one or more blades to the rotor.
- Press the button to start the fan.
- Change the number and orientation of the blades—what happens?



IF YOU WANT TO KNOW MORE



What Do You Notice?

Even with the same wind speed, the blades rotate at different speeds depending on how many there are and how they're positioned. The faster they spin, the more electricity flows, lighting up the LEDs.



The Science Behind It

The airflow hits the angled blades and exerts a force on them, causing the rotor to turn. The shape and angle of the blades determine how efficiently wind energy is used. As the rotor turns, a generator converts its kinetic energy into electrical energy. The faster the turbine spins, the more electricity it generates and the brighter the LEDs shine. Speed is not the only factor: too many blades, or blades positioned incorrectly, can slow the airflow and reduce rotation. This exhibit shows how important the combination of blade shape, angle, and number is for generating energy, just as it is in real wind turbines.