



Solar Power Cooling

Use light energy to do work!

Activity Guide

*Use a photovoltaic cell to convert light energy into electricity that powers this fan!
Can you feel the effects of the work?*

Try This!

Step 1: Find a sunny window or set up the light source

Step 2: Connect the fan to the motor

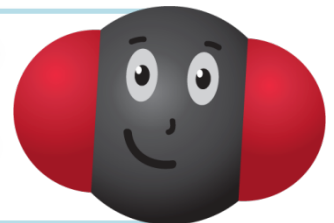
Step 3: Adjust the angle of the light on the solar panel to spin the blades of the fan.

Does the angle of the light source or distance from the solar panel effect how fast the blades spin?

Climate Connection

Solar technologies such as PV cells have an enormous potential to address our energy needs. In one year more solar energy will reach the surface of the planet than will ever be obtained from all of the Earth's non-renewable resources combined.

Many homes use solar panels to heat water! Solar panels collect the sun's energy to heat hot water tanks. The system sends the hot water to sinks, tubs, showers, and appliances. It can even be used to heat the floor.




Turn the page over to learn more!

What's Happening?

The sun is an enormous ball of hydrogen and helium gas that produces massive amounts of energy. Using **photovoltaic technology** we can capture some of this energy to do work for us. Consider the ways that we transferred energy in the experiment you just completed.

First the light source (in our case it may have come from a light bulb, but ideally from the Sun) shines heat, into the photovoltaic cell, or PV cell. The PV cell then converts the light energy directly into electricity that powers the motor and turns the fan. PV cells are made of two layers that create an electric field between them. When the light energy shines onto the cells, their electrons move and create electricity.


Solar technology, such as PV cells, has an enormous potential to address our energy needs. In one year more solar energy will reach the surface of the planet than will ever be obtained from all of the Earth's non-renewable resources of coal, oil, natural gas, and mined uranium combined!



Photovoltaic technology that is used in solar technology converts energy from the sun, or solar radiation, into direct current electricity.

Climate Detective Challenge

In one year, how much solar energy will reach the surface of the planet?



Find the answer to this question on the Activity Map!