

Imagine the Possibilities

***Wind Power
E-Day High School Competition
Herff College of Engineering
The University of Memphis
16 November 2007***

The competition is designed to test the ingenuity of the team in designing a system to gather energy from an air flow.

The winning team will have \$200 donated to their sponsoring school or class. The second place team will get \$100 donated to their sponsoring school or class and the third place team will get \$50 donated to their sponsoring school or class.

To register your team and to get event times, please visit the web site at

www.engr.memphis.edu/EDAY2007

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Friday, November 16, 2007
9 a.m. until 6 p.m.
Engineering Administration Bldg.

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Wind Power

Power generation will be made by the conversion of wind energy to electrical energy using a small motor (Radio Shack 273-258 Metal Gear 1.5-3 VDC) with some device (possibly a propellor) attached to the motor to capture the wind energy.

The motor will be attached at the end of a dowel or ruler using a rubber band.

A positive and negative wire will be attached to the motor and run along the ruler or dowel and taped to the other end.

A wind vane (propellor) system of your own design will be used to capture the wind energy.

The vanes of your device should be constructed out of thin cardboard, folderboard or some other stiff light paper.

A cork will be attached to the motor over the gear to provide a platform for your wind vane.

Your blades will be attached to the cork using paper clips.

One end of the paper clip will be straightened and inserted into the cork while the other end will hold each of your vanes. Each vane will have its own paper clip.

Please send any questions about the competition to
Dr. William Janna
wsjanna@memphis.edu

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Testing:

1. Your wind machine (motor with cork and blades attached) will be tested to determine its power output. The ruler or dowel will be clamped to a surface such that the shaft of the motor is horizontal.
2. A window fan will be turned on, and aimed at your wind machine.
3. A voltmeter/ammeter will be attached to the motor wires to measure the power output of your motor.
4. The output power of your motor will be related to the blade design.
5. All contestants will have the same motor, and the only difference between competing designs is in the blades.
6. Good luck!

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