

Name(s) _____

Per. _____

Energy Conversion

Problem: Using the wind produced by a fan, construct a device that uses a DC motor to generate electricity.

Contest: The device which will produce the most electricity will be the winner :

Limitations: Your device must be constructed of at least 75% recycled materials.
You may only use one DC motor (provided).

Questions

1. What is the problem?

2a. What is the goal or objective(s) of the problem?

2b. What is the criteria of evaluation?

3a. List possible solutions to the problem (brainstorming):

3b. Complete sketches of possible solutions on separate sheet.

4a. Which solution is the best (circle solution chosen)?

4b. Complete an orthographic drawing of your solution in CAD.

5. Construct your device.

6a. Test your wind device to determine how much electricity it can produce. Chart the test results of your wind device.

	Power Produced
Test #1	
Test #2	
Test #3	
Test #4	

6b. Make any modifications to try to increase its lifting power and electricity produced.

6c. Complete “desired outcomes” worksheet.

6d. Compete with class.

7. Complete “actual results” worksheet.

Desired Outcomes

1. What is the desired result of this activity?
2. Describe the command inputs in this activity.
3. List possible outputs.
4. Identify a method to monitor the output.
5. Describe ways of adjusting the system outputs.

Actual results

1. How did your wind device perform?

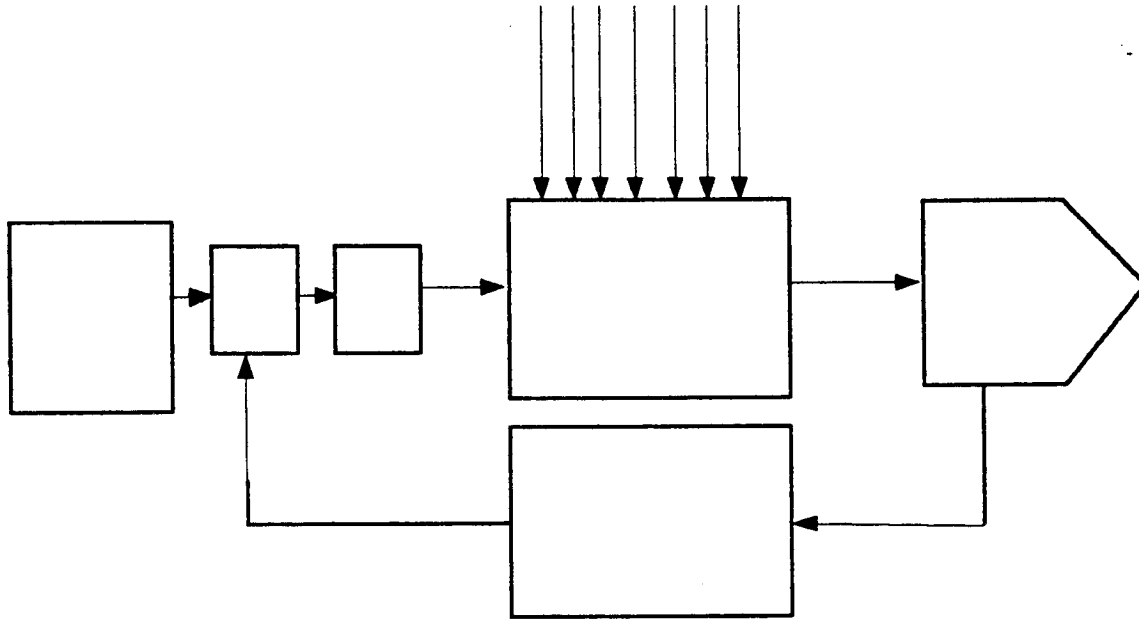
A. How much electricity did it produce? _____

2. Explain why you think your wind device did or did not perform well (feedback) and what you did to improve the way your device works. Could you do anything more to improve your performance?

3. Explain the energy conversion used in this project.

4. Why is it important to continue to develop alternative energy systems?

5. Label this systems model describing this activity.



6. Overall comments.