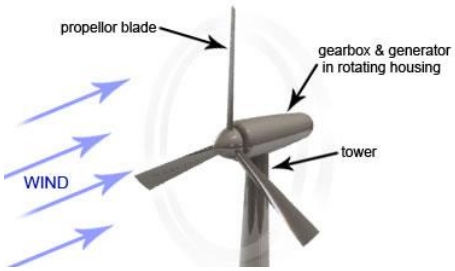
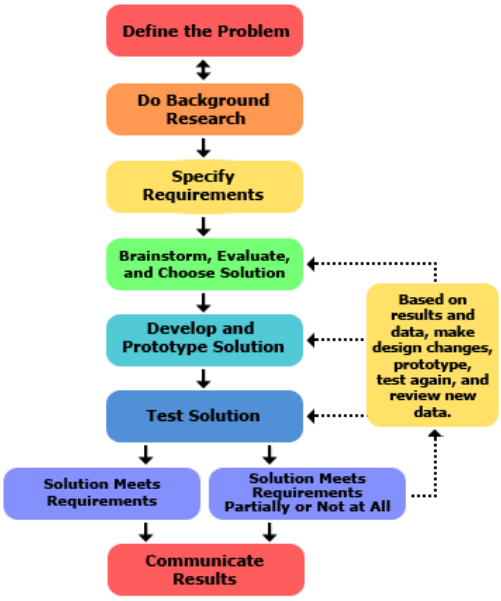
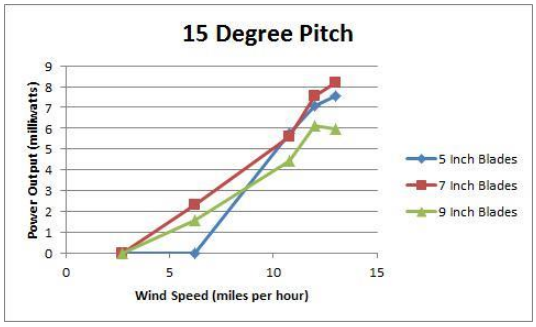


Green Energy, Incorporated has recently been hired by the Town of Auburn, MA to install a wind turbine on Pakachoag Hill to aid Auburn in their quest for more renewable energy solutions. You have recently been added to a team of engineers to help design the turbine blades for this project. The goal is to create the most energy from the one turbine. Your wind turbine blade design has the potential to be patented and used all around the country.

Use the engineering design process below to aid you with your design:





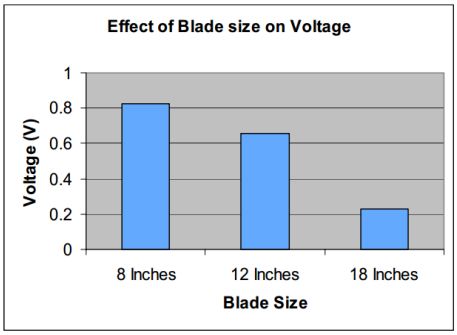
Your assignment:

1.) Brainstorm a design and document at least 3 ideas. Sketch in google draw.
2.) Research wind turbine blades and how they work. Document your research. DO NOT COPY AND PASTE! You should...document your website from google research as discussed in class.
3.) Test your design (s) and document in a data table.
4.) Graph your results!
5.) Write a paragraph about your design and prototype.
6.) Items 1-5 should be displayed on ONE Page document.

ARES Design Team

Turbine Challenge

3 Ideas: (sketch)



Research:
blade pitch= angle of attack
number of blades
aerodynamics

[1]Blade Design

Conclusion

Our group tested the size of the blade made of cardboard. We tested 3, 8 inch, 12 inch, and 16 inch blades. Overall, it was determined that the 8 inch blade produced the most power for the turbine. This is advantageous because it would hopefully not be as large on Pakachoag Hill and therefore, cause less noise and visual disturbance.

Blade Size	Voltage
8 inches	0.8 V
12 inches	0.65V
18 inches	0.23V

1