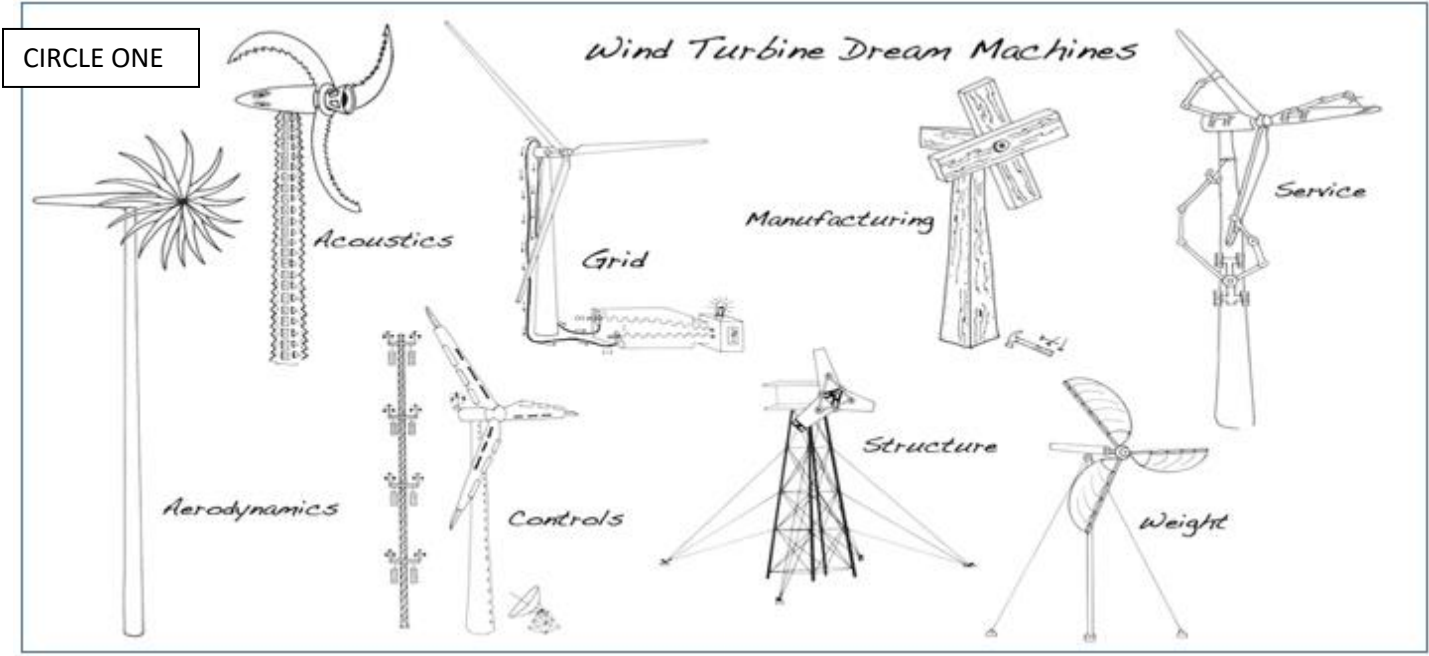


Wind Power - An Alternative Energy Engineering Exercise

Question: How to build a wind turbine? & Which Turbine will produce the most electricity?

Background: Introduction to Wind Power - https://youtu.be/Q3JzgSnW_EE?list=PLDuqM8jICWUiEFKoirat8FXrCtZu7NI4J



Notes:

Engineering Exercise: Consider some of the design ideas above, circle one you think could work for our exercise. You will be tasked with constructing the “**wings or blades**” of a wind turbine out of card stock and then mounting them to a CD. Your design will then be tested here in class to see how much electricity it might potentially produce using a CD motor and volt meter.

1. Design teams 2-3 students
2. Design sketch
3. Build and then test
4. Record peak power output
5. Redesign, retest
6. Record peak power output

List ways to increase the amount of electricity produced?

-	-
-	-
-	-
-	-

Hypothesis: If... then... because... _____

Analyze and conclude: How do you think the blade design worked. Debate and discuss with peers. Make a simple sketch of your design. Then try your improved design. Be sure and label at least one design feature. Ex: full length blades, short blades, curved blades, straight blades, extra tape added

Initial design sketch here: (label design feature)	redesign sketch: (label what you modified)

Build and then **test**. Record your peak power output here. _____ <- FIRST TEST Result
Retest. Record your peak power output here. _____ <- SECOND TEST Result

Wind is a valuable renewable energy source. Limitations like cost and space needed to build make it hard for some wind turbine projects to get off the ground. Hopefully, advancements can be made so that there is a way to store the energy that is produced with wind turbines in the future.

Other video resources:

2. How does wind turbine work(Basic science for kid) - <https://youtu.be/yeKjipwadq>
3. Wind Power NOVA - https://youtu.be/SQpbTTGe_gk
4. Why Do Wind Turbines Have Three Blades? - <https://youtu.be/RNPIRfxUTQ4>
5. How Engineers Are Turning Wind into Protein Powder <https://youtu.be/qSa0rw4s-xE>
6. Five Amazing RENEWABLE ENERGY Ideas & Solutions For The Future <https://youtu.be/JKXnQnaiqI8>
<https://youtu.be/PF22LM8AbII> BERNOULLI'S PRINCIPLE EXPLAINED PROPERLY !