

Payton Bond
The Wings of Windmills

The purpose of this project was to find out how many blades a windmill blade should have in order to get the most energy. The hypothesis was that Blade A, which has 3 blades, would work the best. This hypothesis was proposed based on the observation that most wind turbines in SE Colorado have three blades.

The project involved following a guide to build a wind turbine body from KidWind. Six different wind turbine designs were tested. Each wind turbine had a different amount of blades. A fan was used as the wind. Then a voltage meter was connected to the wind turbine to see how much energy was collected/created.

The data collected did not support the hypothesis. The wind turbine with four blades made more voltage than any other amount of blades. The second most efficient blade design used 6 blades. The wind turbine with three blades came in third and worked better than the wind turbine with two blades.

These findings show that four blades on a wind turbine will collect a higher voltage. Wind turbines should use four blades instead of three. A continuation of this experiment could examine building materials and the cost of making windmills.