

Name _____



Wind Turbine Trial

Directions: Read the passage. Then analyze it for **assumptions, bias, and design limitations.**

A student engineering team tested a new wind turbine blade design to see if it produced more electricity than older blades. The team tested the new blade on one windy Saturday afternoon near their school's football field. They compared the electricity output of the new blade to one older blade that had been stored in the equipment shed for several years. After thirty minutes of testing, the new blade produced more electricity. The team concluded that the new blade design is clearly superior and should replace all older turbine blades.

Bias and Design Analysis Questions

1. What **assumption** does the team make in their final conclusion?

2. Identify one possible **source of bias** in how the test was conducted.

3. What is one important **limitation** of the experimental design?

4. Why might the testing **location and time** affect the results?

5. What is one specific change that would make this experiment **more reliable**?
