

# Windmill Blade Design - Rules and Regulations

## **Experiment Set-up:**

Each individual competitor will get two paper plates to design and create fan blades. Paper straws will be taped to the inside of the blades and secured in a provided blade holder. The blade holder will be placed on the windmill stand, a box fan will be turned on and blow towards the stand, and a multimeter will be set up to measure generated voltage. The student with the highest voltage will be declared the winner.

## **Experiment Instructions:**

Students will design their fan blades and cut them out using scissors. They will then tape the paper straws to the back of the blades. They will then put the blades on the windmills and we will turn on the box fan to begin generating power. The person with the highest voltage will be determined as the winner.

## **Materials**

- 2 paper plates
- Paper straws
- Scissors
- Tape

## **During the Experiment:**

Students will not be allowed to look up designs on their devices. Students must also not change the settings on the box fan or their entry will be removed.

## **Prize:**

Gift card