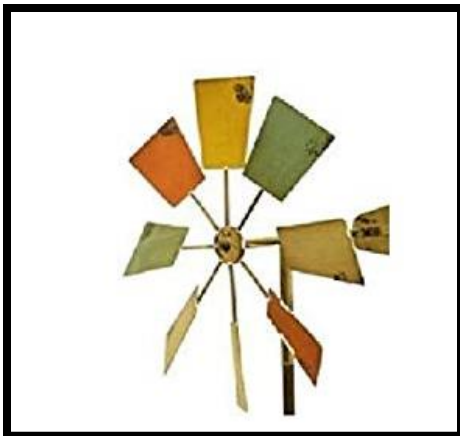


Challenge:

Teams are to design and build a WINDMILL that will wind up 1 meter (approx. 3 feet) of string the fastest.

RULES:

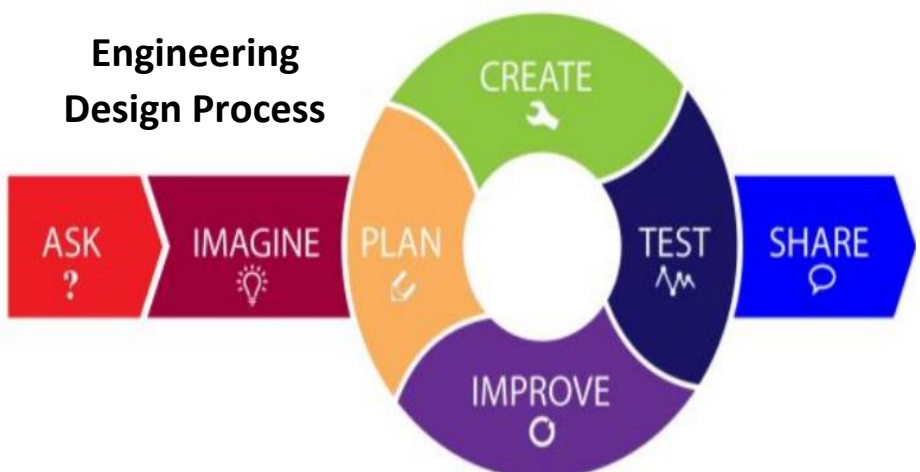
- The maximum height of the device is 1.0 m, there is no minimum height.
- Structures must be free standing and cannot be attached to a table, floor or any other support.
- Team members will not be allowed to stand on chairs, tables, ladders or anything else to construct or operate the device.
- A team member will attach a premeasured string (provided by the event leader to each team) to an axle on the windmill. This can be secured with tape. The string will be slightly longer than the 1 m to allow for taping.
- **Teams will have a maximum of 30 minutes to construct the specified device.**
- **Teams must not modify their device after the construction period has ended.**
- Teams that complete construction early may be judged early.
- When the team is ready to test, they will carry their windmill to the area designated by the event leaders. The students will set up their windmill in front of a standard box fan. The team may position the windmill in any way and at any distance from the fan that they choose as long as no pieces of the windmill will touch the fan
- The event leader will start a timer to allow 3 min for the students to test and adjust their device.
- At the end of 3 min or when the team is ready, whichever comes first, the event leader will turn off the fan and do the official timing run. The event leader will give a countdown and then start the timer as they turn on the fan to the 'high' setting.
- **Timing will stop when the 1 m mark on string touches the axle or after 2 min of the fan being on, whichever comes first.**
- If the string becomes stuck or the device falls over, the students may touch the device in order to get it running again. **A penalty of +2 sec will be applied for every time the device is touched.**



Double Check!

√	Structure is free-standing
√	Maximum height is no greater than 1 meter
√	Measure height to axle and record below (This is used in ties only. Shortest distance from table to axle wins tie breaker)

Group Number	
Group Letter	
Height to axle	
Time:	
Total Penalties	
Total Time	



Note to event leader:

Ten-minutes into the challenge, if you notice a group is struggling to come up with a design idea, show them these photos for inspiration.

