**🌪️ Wind Turbine Challenge Group Worksheet 🌪️**

**Team Name:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
**Team Members:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**✅ Station Progress Tracker**

**Stations Completed? ✅** **Adult Initials**

|  |  |  |
| --- | --- | --- |
| **Station 1-Base** |  |  |
| **Station 2- Tower** |  |  |
| **Station 3- Nacelle** |  |  |
| **Station 4- Blades** |  |  |
| **Station 5- Rotor** |  |  |
| **Cards** |  |  |

**Write your group answers below for each station.**

**Station 1-BASE Station – Balance & Stability**

**Question:** Why is the base important for real turbines?  
✏️ **Answer:**



**Station 2-TOWER Station– Quick Measurement Math**

**Question:** If your pace is 1 meter, how many steps would you take to walk a tower that is 80 meters tall?  
✏️ **Answer:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 **3. NACELLE Station – Function Match**

**Question:** What is the function of the nacelle?  
✏️ **Answer:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**4. BLADES Station – Movement Simulation**

**Question:** What was your RPM (Revolutions per Minute)?

**Calculate RPM (Revolutions Per Minute) *(use the symbols to help you)***

* The number of Revolutions *(spins)* in 10 secs =\_\_\_\_\_\_\_\_\_\_\_\_\_
* Number of seconds in 1 min.= \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_seconds
* \_\_\_\_\_\_\_\_\_\_\_\_\_*(Revolutions in sec)* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (*# of seconds in a minute)* = \_\_\_\_\_\_\_\_\_\_\_\_(*Revolutions in 1 minute)*
* \_\_\_\_\_\_\_\_\_\_\_\_ *(Revolutions in 1 minute)* by **10** secs

✏️ **Answer:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **RPM** (Revolutions per Minute)

**Bonus Question:** Why do blades spin slower or faster in different wind speeds?  
✏️ **Answer (Bonus):**

**5. ROTOR Station – Word Puzzle**  
✏️ **A Rotor is:**

* ***Don’t forget to underline the 4 or more words you used***

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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**🏁 Final Check**

☐ We earned all 5 cards  
☐ We earned a BONUS card  
☐ We’re ready for the Final Destination Build!