Lesson: Measuring Weather	Name:
Teacher:	Date:

Anemometer Project Guide

Project Overview

Students will work in groups to design and build a simple anemometer to measure wind speed. They will test their model, record data, calculate rotations per minute (RPM), and explain how their device helps measure weather.

Materials

- 4 small paper cups
- 2 drinking straws
- 1 pencil with eraser
- 1 pushpin
- Tape or glue
- Stopwatch
- Fan (optional for controlled wind)

Steps

1. **Create the Cross Frame**
   Tape the two straws together in the center to form a cross.
2. **Attach Cups**
   Tape one paper cup to the end of each straw, making sure all cups face the **same direction**.
3. **Build the Spinner**
   Push the straws into the pencil's eraser using a pushpin.
   Ensure the straws rotate freely.
4. **Test the Anemometer**
   Place it outdoors or in front of a fan.
   Count how many times the **same cup** makes a full rotation in 15 seconds.
5. **Record Data**
   Use a simple table:
   - Trial 1 rotations
   - Trial 2 rotations
   - Trial 3 rotations
   - Calculate RPM (rotations × 4)

6. **Explain the Purpose**
   In your group reflection, explain what an anemometer measures and why it is useful in weather forecasting.

Safety Guidelines

- Use pushpins carefully—teacher supervision recommended.
- Do not place hands or objects near electric fans.
- Conduct outdoor testing away from moving vehicles or hazards.

Accommodations

- Provide pre-labeled diagram of the anemometer for ELL students.
- Allow extended time for construction steps.
- Offer verbal prompting and simplified RPM formula for students needing support.

Anemometer Project Rubric – STEM Scholars Hub (100 Points)

Category	Very Good	Good	Average	Needs Improvement
Construction	Cups aligned, cross balanced, spins smoothly (25 pts)	Minor alignment issues, spins mostly well (20 pts)	Some balance issues, spins inconsistently (15 pts)	Poorly built, does not spin (10 pts)
Functionality	Rotates smoothly and consistently (25 pts)	Minor rotation issues (20 pts)	Spins inconsistently (15 pts)	Non-functional (10 pts)
Data Table	All trials completed, calculations correct (25 pts)	Minor errors (20 pts)	Some trials missing or calculations incorrect (15 pts)	Data incomplete or missing (10 pts)
Explanation	Clear understanding of wind measurement (15 pts)	Mostly clear (12 pts)	Limited understanding (9 pts)	Little or no explanation (6 pts)
Neatness & Effort	Very organized, shows effort (10 pts)	Mostly neat (8 pts)	Somewhat messy (6 pts)	Poor effort or messy (4 pts)

Total: 100 Points