**About the KidWind Challenge**

Elementary School    Grades 1-5  
Middle School    Grades 6 – 8  
High School    Grades 9 – 12  

**Prizes**

Since this is a collaboration, winners will not be announced and prizes will not be awarded. We encourage participating classes to communicate and collaborate about their ideas and designs via e-mail, Skype, etc. The final results and all supporting documents will be posted online (coen.boisestate.edu/windenergy/WfS/KidWind-Collaborative) so students can see how their turbines compare to other designs from across the state.

**Registration**

Teams must register by 3/16/12 to be eligible to participate. To register, click on the “Registration” link on coen.boisestate.edu/windenergy/WfS/KidWind-Collaborative website. Each classroom must register and include the following information for each team:

- School and teacher’s name, grade-level, course, location
- Total number of teams, total number of female and male students participating
- Teacher or class contact info (e-mail and Skype info, if available).
- Authorization to make non-personal contact info available ONLY to other teachers/students also participating in collaborative

Once teachers register their students, they will receive a confirmation e-mail. Contact information for other participating teams will be provided, via e-mail, within one week of registration.

In order to participate, each team must have their own hub and access to a turbine stand, generator, multi-meter, box fan, and wind meter. Teachers should have these materials from a teacher training, or they can order additional materials at www.kidwind.org or purchase select materials locally. It may be possible to check out some of these items at your nearest iSTEM center.
KidWind Challenge Rules

Who can participate?

Any teacher who has attended a KidWind training may be an advisor to a participating team.

There are no restrictions on the number of members in a team, but each team must have at least two students.

Each team must have an advisor (i.e. the teacher). The advisor will be responsible for registering the team for the competition, managing the team’s progress, testing the turbines and submitting final results and supporting documentation.

What are the rules for building/testing a turbine?

Classroom challenges may be as simple or as complicated (i.e. lift, gears, generators, aesthetics, etc.) as desired, but only electricity generation (i.e. max Voltage) can be reported/considered for the collaborative.

Preparation, collaboration and design may take place at any time, but actual turbine testing and results reporting must be conducted between April 1 and May 4, 2012.

A standard box fan no larger than 20” on any one side must be used to power the wind turbine.

A wind meter must be used to verify box fan speed and wind turbine placement during testing. All testing will be conducted at 10mph. The cheapest box fans (~$12-15) will not achieve this wind speed. A “middle grade” box fan (~$20-30) will be required to obtain 10mph for turbine testing.

The test will run for one minute per turbine. The highest voltage achieved during the timeframe will be reported as the test result.

Power must be generated solely by wind from the box fan.

You must use the wind turbine generator provided by KidWind as the sole power generator for your wind turbine.

You may not attach additional items to the generator (gears, supports, bindings, etc.) for the collaboration. As part of the classroom challenge, teachers and students may decide to elaborate the designs by testing lift, gears, building their own generators, and incorporating aesthetics. For the state-wide collaborative, only electricity produced without gears or other add-ons may be reported.

All blades must be constructed from recycled/reusable materials (i.e. paper plates/cups, cardboard, campaign signs, etc.)

Blades may not be constructed from metal, plexi-glass or any other dangerous/sharp materials.
What materials must be submitted, to whom, and when?

Once testing is complete, each team must submit a complete “Kidwind Collaboration Form.doc” and must include:

- School and teacher’s name, grade-level, course, location
- Team name, number of female students and number of male students on team
- Photograph of final design with or without students. *If students are present in a photograph, a signed media release for each student pictured must also be included.*
- Detailed description of iteration process (original design, changes made, final design and why)
- Final test results (i.e. max voltage achieved with final design)
- What improvements can still be made

All results and supporting documents must be e-mailed to TaraSmith1@u.boisestate.edu and SandyCardon@Boisestate.edu no later than midnight, May 6, 2012. All entries submitted after the deadline will not be posted.

All team results and reports will be posted on our website coen.boisestate.edu/windenergy/WfS/KidWind-Collaborative in early May 2012. No teacher or student names will be posted, only team and school names. Follow-up collaboration with other participating schools after-the-fact is encouraged to discuss design iterations, final designs, and possible improvements.

Since this is a collaboration and not a competition, students will be able to see top performers and read other design reports, but there will be no awards given or winners announced.