

Wind Power Challenge

Title:	Wind Power Challenge
Overview:	Students design a simple wind turbine capable of lifting a cup off the floor up to bench height. The winning team will be the one producing a machine that lifts the most weight.
Length:	1 session
Equipment:	Per team: Scrap card, sticky tape, pencils, scissors, string, plastic / paper cup, masses (gram masses or coins). Hairdryer(s) for testing the turbines.
Activity:	<ol style="list-style-type: none">1. Introduce the activity by discussing how wind has been used throughout history to provide power - http://www.howstuffworks.com/wind-power.htm2. Discuss the variables involved in design.3. Discuss how the turbines will be tested.4. Working in small groups, club members should design, build and test their turbine (using the hairdryer for "wind"), making adjustments to improve turbine performance as they go along.5. Run a competition to see which group's turbine can lift the greatest mass.
Risk assessment suggestions:	Check electrical safety of hairdryer. Safe use of scissors required (check they work on the materials you are providing)
Additional resources:	Teacher's instruction sheet: http://practicalaction.org/docs/education/renewable_energy_windpowerchallenge.pdf Visit Practical Action UK's website for other resources related to the Wind Power Challenge: www.practicalaction.org.uk/education/renewable-energy-resources
Possible extensions:	This activity can be extended in to a more detailed project. It could be suitable for a CREST Award - http://www.britishtscienceassociation.org/CREST
With thanks:	Practical Action UK: www.practicalaction.org.uk/education