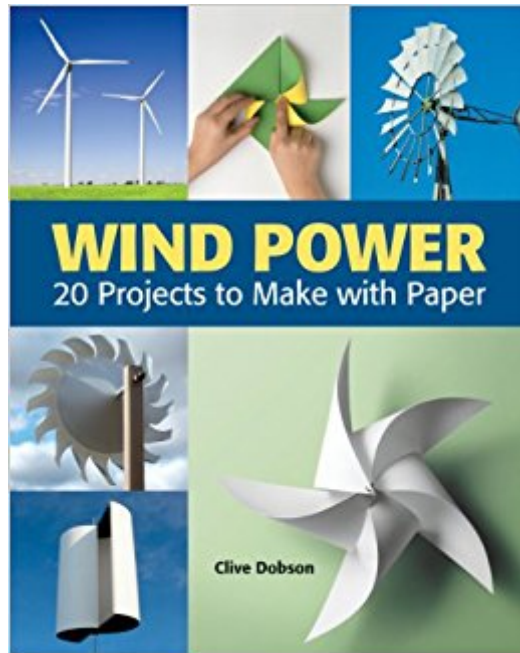


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Wind Power: 20 Projects To Make With Paper



Synopsis

A beginner's guide to wind power and an invitation to experiment with wind and its potential as an energy source. Wind-powered generators are now used worldwide as a reliable source of "green" energy. How does wind create power? What is wind? What scientific characteristics make pinwheels, windmills and wind turbines spin? What makes them turn faster and more efficiently? Will we ever see a day when every home is powered by its own wind generator? This new book answers these critical questions and many more in clear, non-technical language. Wind Power provides 20 unique projects for youth that use, adapt and illustrate the power of the wind. Artist Clive Dobson provides a basic scientific understanding of wind power and the ways in which it can be harnessed for vital tasks that require energy. The book encourages young readers to experiment with wind so they can experience the properties of moving air on various windmill shapes and discover through trial and error what makes them effective for toys, artwork, kinetic power and even for generating electricity. This ideal beginner's guide to the power of the wind offers: Real-life examples of wind power from history and current everyday uses 20 projects for all ages and skill levels, from a simple two-blade pinwheel to a sophisticated six-sail windmill to a modern turbine with airfoil blades Clear illustrations and photographs that complement the step-by-step construction instructions Hands-on experience that provides a clear understanding of scientific principles Inspiration for beginners to experiment with wind Reflections on the modern use of wind power in building a sustainable future The creative challenges in this compact book of projects will inspire future generations to become more self-sufficient.

Book Information

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Customer Reviews

Grade 6-10 • Dense verbal descriptions of how wind power works from when it was first used to propel boats down the Nile to modern-day wind farms might challenge all but the most dedicated readers, but those who stick with them will get a general idea of the theory behind windmills, their detriments and benefits. Vivid color photographs and illustrations appear on each spread to depict the history of windmills and illuminate the concepts described. These include Bernoulli's Principle, Betz's Law, and explanations of turbulence and vibration in relation to size. A full spread is dedicated to the Beaufort Wind Force Scale. Descriptions and projects resemble pinwheels, but demonstrate horizontal and vertical axis wind turbines. Dobson explains that it is testing that will teach readers the most, so he diminishes the project steps to encourage more trials. Model materials include those as simple as watercolor paper, pushpins, and beads and that require tools such as scissors, rulers, X-Acto knives, and compasses. Others involve steel rods, wood, wire, bearings, and cap nuts and tools such as drill presses, handsaws, and French curves. Documented with clean photography and geometric illustration, these projects have great potential to inspire experimentation, especially for students skilled in geometry and graphic arts. All but one of the additional print resources are adult materials; the websites, including Wikipedia, are uneven. While not specifically science-project oriented, this volume could serve as support material for wind energy projects. —Janet S. Thompson, Chicago Public Library (c) Copyright 2011. —Library Journals LLC, a wholly owned subsidiary of Media Source, Inc. No redistribution permitted. --This text refers to the Hardcover edition.

This book was written for kids, but teachers will find it a valuable resource for science projects and units about wind and wind power. It begins with an introduction to the science of wind and a short history of wind power—including sailboats, windmills and turbines--and a discussion about the basic principles of using wind to do work. The rest of the book describes how to build pinwheels, windmills and turbines using paper and a few other basic materials. A "What You Need" list and step-by-step instructions with sequential diagrams are provided for 20 different projects, beginning with simple pinwheels and progressing to more complex turbines. Students will have fun while they gain understanding of how wind can be harnessed with these hands-on projects. The range of complexity of projects will allow teachers to plan or assign different activities according to the abilities of their students.... With the increasing interest in wind power today, this is a timely resource to educate and inspire future scientists to find ways to meet our energy needs. (Gillian Richardson Canadian Teacher Magazine)With uncomplicated but interesting language, simple steps, and

diagrams, the projects in this book will appeal to readers with an interest in this valuable renewable resource. (Dawn Talbott VOYA 2011-04-01) Highly Recommended. (Barbara McMillan CM 2011-03-18) Kids aged 10 and up can discover renewable energy by constructing, for example, a six-blade vertical-axis turbine. That's right: No lame paper airplanes here. (Cottage Life 2011-04-30) While this reviewer is perhaps more known for his extensive use of hot air balloons as opposed to propelled air, he is nevertheless prepared to give this book a strong buy recommendation for the elementary and middle school library. It will serve as a very interesting and useful resource for students wishing to learn more and/or engaged in projects related to wind power.... The author's carefully sequenced projects are quite clearly explained, and they encourage a developing awareness of all the factors going into effective design in order to capture the power of the wind. Perhaps best of all, they spark curiosity and encourage experimentation through trial and error. ... Well done, Clive Dobson! (Grant Limney Council of Outdoor Educators of Ontario 2011-01-02) First [Dobson] gives us a short history of wind power, some basic principles of wind and its limitations, then gets right down to showing you how to make experimental windmills and sunflower turbines. Get the kids off the video games and into the workshop. (Bill Robertson Halifax Star Phoenix 2010-12-18) Author Clive Dobson includes 20 projects, all made with paper, to experiment with wind and the possibilities of producing wind power, which he hopes will produce more interest and experimentation in developing small wind turbines. The text is much more than a hands-on science manual and includes a wealth of knowledge on the subject of wind.... Experimental projects begin with simple pinwheels, but can be done in any order depending on the ability and interest of the student/experimenter... Opening with a spectacular photograph of old-style windmills lining a frozen canal, the book is filled with appealing and informative photos, pertinent diagrams, and drawings. Written in lyrical style, the information is clearly presented, with reading level appropriate for advanced grade 5 students and up. A table of contents, an index and a list of resources (both books and websites) are included. This text is highly recommended and should be a useful addition to both an elementary and high school library collection. (Carolyn Cutt Resource Links) Dobson provides a detailed and attention-grabbing short history of wind power.... Before telling his audience about the 20 designs and needed materials, he provides the scientific data needed to understand harnessing the power of the wind and discusses both vertical and horizontal axis turbines and their most obvious differences. It is the reason that he researched and wrote this book... 'to help further an interest in the development of small wind devices' that might be used in homes. He then proceeds to give directions for building thirteen horizontal and seven vertical axis turbines that will produce wind power. There are even directions for three other windmills that help readers understand the

difficulties faced by design engineers. The directions are clear, the illustrations most helpful and interested young scientists will be thrilled with the opportunity to create something that may impact a move toward a more sustainable lifestyle. (Sal's Fiction Addiction (blog) 2011-03-16) Documented with clean photography and geometric illustration, these projects have great potential to inspire experimentation, especially for students skilled in geometry and graphic arts.... While not specifically science-project oriented, this volume could serve as support material for wind energy projects. (Janet S. Thompson, Chicago Public Library School Library Journal 2011-01-01) Wind Power: 20 Projects to Make With Paper by Ontario visual artist Clive Dobson encourages readers to experiment with wind while learning the basic scientific principles of wind power. How does wind create power? What is wind? What characteristics make pinwheels, windmills and wind turbines spin, and how can they be made more efficient? Will we ever see a day when every home is powered by its own wind generator? These critical questions and more are answered in clear non-technical language. The projects cover a range of age and skill levels, from a simple two blade pinwheel to a sophisticated six-blade variable pitch windmill, with step-by- step instructions and clear photographs illustrating every stage of construction. (North Bay Nugget 2014-04-19)

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