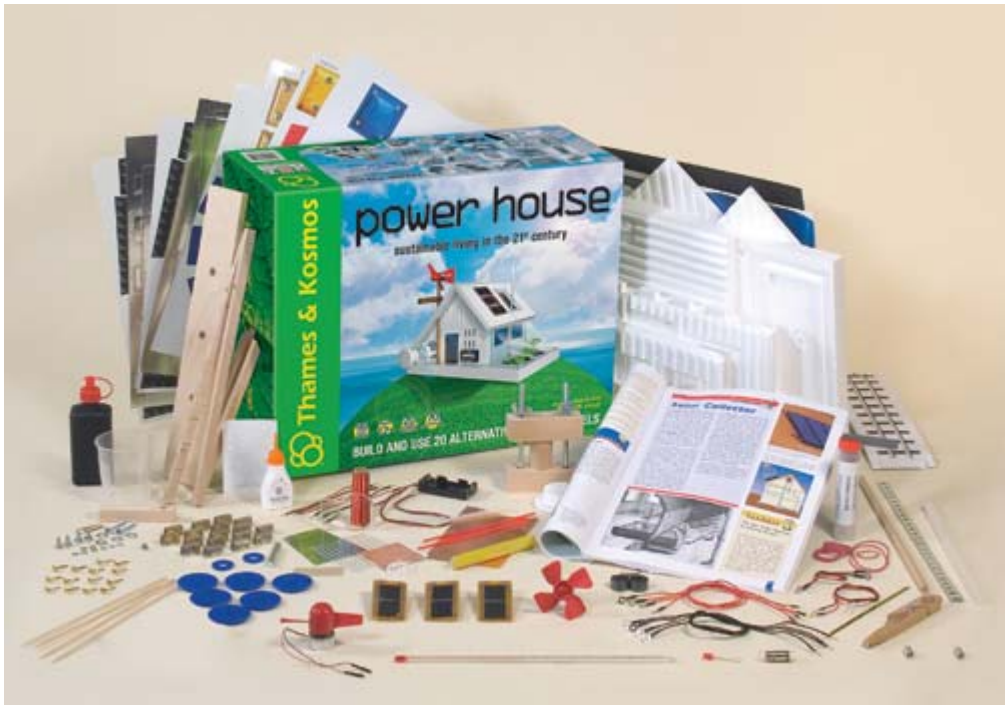
Power House



Consider a future without fossil fuels

Power House provides an engaging introduction to regenerative energy sources while teaching basic concepts and principles in physical science. The kit focuses on the heat and light energy from the sun, the energy from the wind, as well as with electrochemical and plant energy. You will learn how to transform and use these forms of energy.

With the Power House kit you can build a model house complete with solar panels, windmill, greenhouse, and desalination system. You can build and operate an electric train, windmill, solar cooker, solar hot water tank, hygrometer, electric motor, power hoist, sail car, and more! Plant watercress, prepare sauerkraut, and make chewing gum. Learn how plants convert sunlight into energy for your body and your engines.

The thoughtfully designed series of experiments was developed by physicist Uwe Wandrey. Professor Wandrey creatively integrates physical science and technology lessons with the adventure of building a home and living on a remote island. To survive, you must learn how to harness the power of the sun and the wind as well as tap the energy of other physical forces. The storyline follows the experiments in a stepwise fashion. Easy-to-follow activities make it fun to build models and use them for your experiments.

We hope that building small models such as are provided in Power House will inspire you to plan and construct something on a larger scale.

An Adventure in Sustainable Living

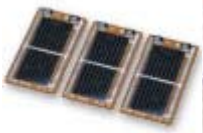
The Power House Experiment Manual is much more than just a set of instructions. The manual is organized around the story of a group of island dwellers who must learn to live sustainably using the resources available to them on their small island. As you read their journal entries and learn of their projects and experiments, you build models of the same projects and conduct the same experiments alongside them.

More than 20 different building projects in one kit!


Power House


Wind-powered Generator


Solar Collector


Solar Power Station


Greenhouse


Current Indicator


Sail Car


Hygrometer


Refrigerator


Electric Motor


Electric Crane


Electric Train


Oil Lamp

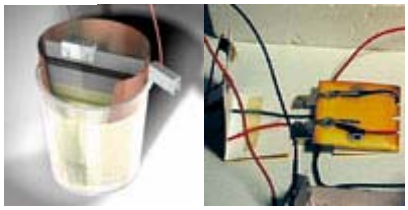

Light Telescope


Rice Cooker


Solar Oven


Oil Press


Thumbtack Scale



Lemon Battery Electric Switch

Experiments

Power House includes a 96-page full color manual with 70 experiments and 20 building projects, organized into these nine chapters:

The Heat Trap: Construct and experiment with a greenhouse.

The Sun Collector: Collect the sun's rays to heat water.

The Sun Burners: Make a solar cooker while learning about the principles of light before you cook rice and bake bread.

The Water Vampire: Desalinate water, plant watercress, produce sauerkraut and make chewing gum.

The Heat Absorbers: Learn how heat of evaporation provides cooling, conduct experiments about air humidity, build a hygrometer and test a refrigerator.

Power Plants: Grow beans, make a potted plant feed a candle, harvest sunflower energy, build an oil press, and assemble an oil lamp.

The Energy Converters: Extract electric current from sunlight and metals in acid, build a light telephone, galvanize a nail and split water into hydrogen and oxygen.

The Forces of Magnetism: Generate electric current with magnetic fields. Build a current indicator, electric and solar motors, a transfer switch, and a crane. Lift pencils with the sun and learn about levers. Build an electric car.

Wings in the Wind: Build a sail car and learn how wings and sails transform energy. Learn to sail with the wind, by the wind, and against the wind and examine a mixed energy vehicle.