

anko

Build Your Own Solar Windmill

PHYSICS

- > build your own eco-solar science
- > perfect to play under the sunlight
- > build your own colourful windmill
- > see the amazing windmill in action
- > battery free

6+ years

STEM

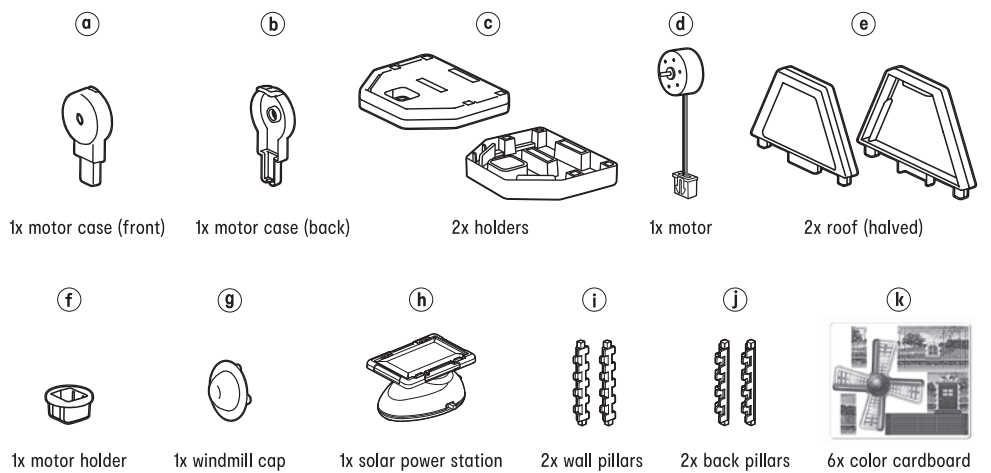
SCIENCE
TECHNOLOGY
ENGINEERING
MATHS



Solar Windmill

Convert sunlight into electricity! See the Windmill powered up by the sun!

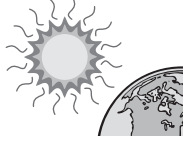
Components



Warning: You may use a 100W light bulb at about 5cm away from the solar panel for testing purpose. This way you can see that it will operate like under ordinary sunlight. However this is for testing purpose of short period only and not for normal use. Placing the light bulb close to the solar panel for long may melt the plastics or damage the solar panel under the large amount of heat.

Warning : Overheating hazards. Do not touch the solar panel.

Educational Hints

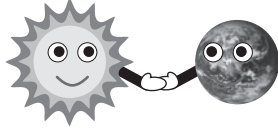


Solar energy

The sunlight we see everyday carries energy. If you stand under the sun for a while, you can feel the heat carried by sunlight. The sun shines and provides warmth and heat to us. It is also an energy provider to form wind, to support plant growth, to provide warm and hot temperatures....etc. This light energy from the sun is called "solar energy" as a general term.

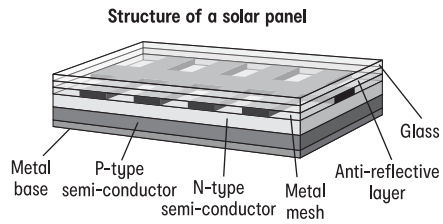
Why solar energy is said to be environmentally friendly:

As a power source, sunlight does not create pollutants. Solar energy which comes from the sun is an ever continuous power source. It will not exhaust and is therefore a kind of "renewable" energy. In generating electricity, unlike a traditional power plant, solar power is more environmentally friendly because it will not produce pollution. To convert sunlight into electricity directly, a solar panel is required.



Solar panel

A solar panel is a device which can convert sunlight into electricity. The key components are layers of semi-conductors to form a solar cell. When light falls on a specific arrangement of semi-conducting material, some photons of sunlight will "kick" electrons to flow and form currents. Then electricity is created. This way light energy is converted to electrical energy. No pollutant is created in this process. As technology advances, different combinations of semi-conducting materials are created, which have different efficiency and costs. Therefore we can see more and more solar power products in our daily appliances. Some examples are:



Have you ever wondered if solar power to generate electricity is that good, why is it not used everywhere?

The reason is that solar cells are costly compared to the electricity that they can produce. The cost-effectiveness issue is a major concern for many companies. Therefore people still stick to a traditional power plant. Maybe as technology advance, we will see lots more devices using solar energy!



PRODUCT MAY VARY SLIGHTLY FROM IMAGES SHOWN. PLEASE KEEP PACKAGING FOR FUTURE REFERENCE.

WARNING: CONTAINS LEAD WITH FUNCTIONAL SHARP POINT.

WARNING: CHOKING HAZARD - SMALL PARTS. NOT SUITABLE FOR CHILDREN UNDER 3 YEARS.

WARNING: FOR SAFETY REASONS, REMOVE ALL TAGS, LABELS AND PLASTIC FASTENERS BEFORE GIVING THIS TOY TO YOUR CHILD.

WARNING: HAIR ENTANGLEMENT MAY OCCUR IF THE CHILD'S HEAD IS TOO CLOSE TO THE MOTORISED UNIT OF THIS TOY. ADULT SUPERVISION AND ASSISTANCE IS REQUIRED.

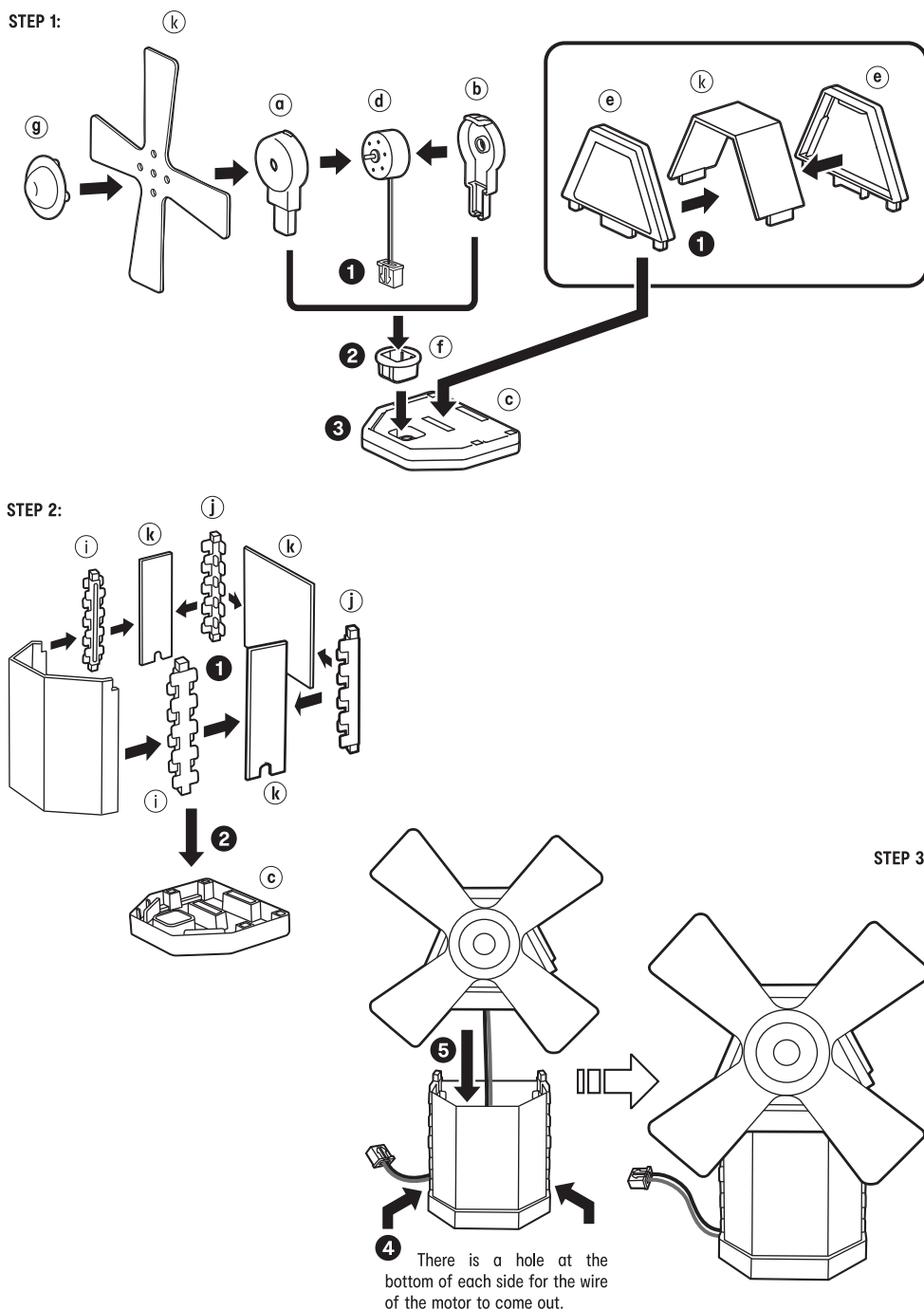
FOR BEST RESULTS USE OUTSIDE IN DIRECT SUNLIGHT.

THIS PRODUCT WILL NOT WORK IN CLOUDY LOCATIONS OR UNDER FLUORESCENT LIGHTS.

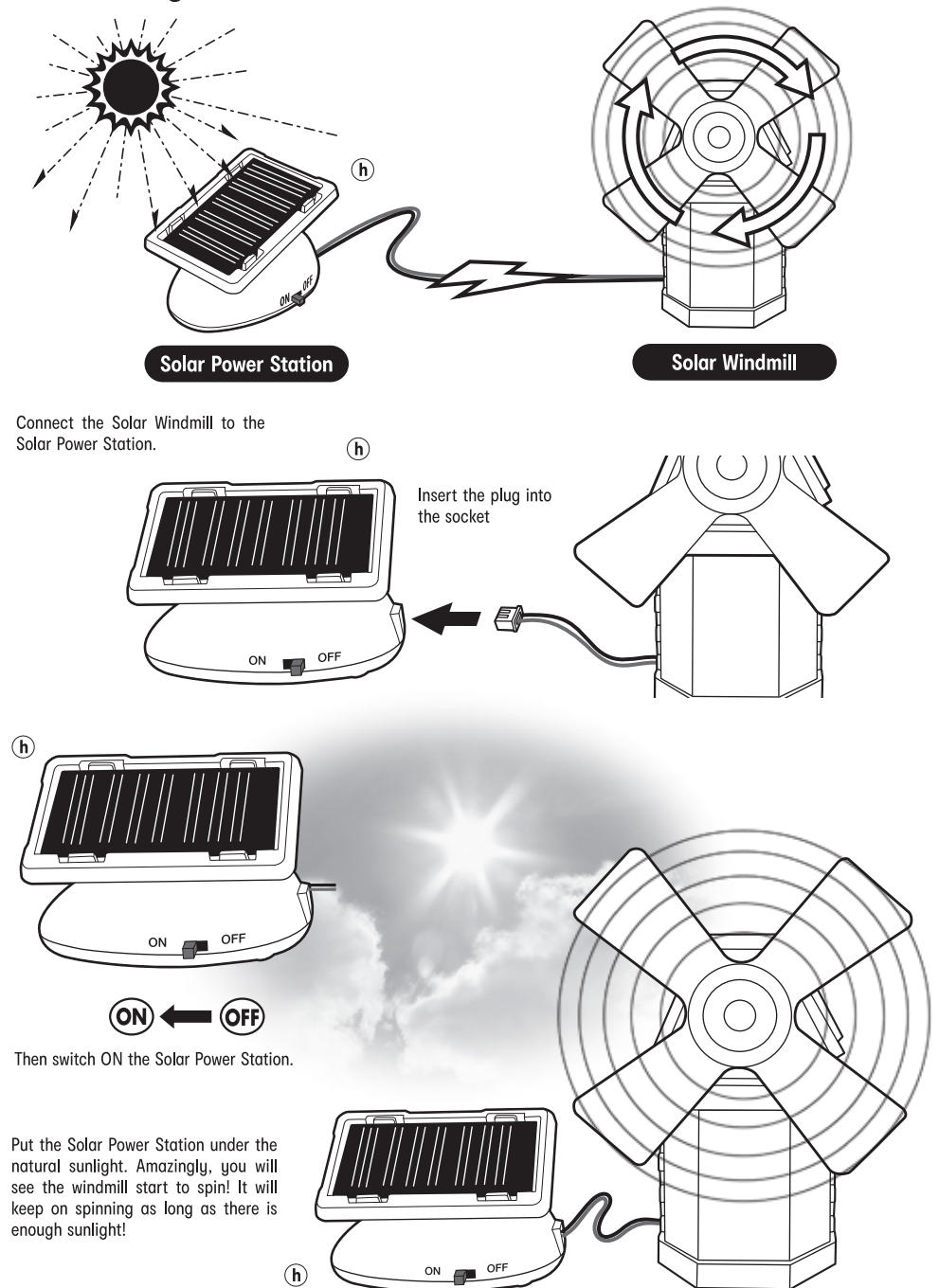
If at any time in the future you should need to dispose of this product please note that waste electrical products should not be disposed of with household waste. Please recycle where facilities exist. Check with your local authority or retailer for recycling advice. (Waste Electrical and Electronic Equipment Directive) 43-032-280

COLOURS AND CONTENTS MAY VARY
MADE IN CHINA
FOR AU / NZ: IMPORTED FOR KMART
STORES IN AUSTRALIA AND NEW ZEALAND.

How to Assemble



How to Play



Suggestion
You may put the Solar Power Station on the windowsill to see the colorful Solar Windmill automatically spins during every sunny day! It makes fabulous decoration and is battery free too!