



# fuel cell

## car and experiment kit

A fuel cell is an environmentally friendly energy production device that holds great promise for the future. With this award-winning science kit, you can build a model car that runs on water and sunlight using a unique reversible hydrogen fuel cell. Best of all, you can run your car on water without any fossil fuels.

First, use solar energy to separate water into hydrogen and oxygen gas. Then, plug the motor into the fuel cell and use these gases to produce electricity that powers the car across the floor or table. The only by-product is clean water.

Build on your discovery with fuel cell-related fuel cells, solar cells, and electrolysis through 20 experiments and demonstrations you can do on your own. In a classroom, for a science fair project, or with friends. Using the included digital multimeter, you can measure electric currents and voltage to further explore the operation and efficiency of a fuel cell. Some fuel cells, such as this one, do not consume any fossil fuels and therefore are considered environmentally friendly.

The full color 96-page experiment manual is a comprehensive lesson in solar cells and fuel cells, as well as the physical concepts underlying the modern technology.

### Discover how fuel cells work

- Learn how solar cells turn sunlight into electricity
- Perform experiments with electrolysis
- Learn how to use a multimeter
- Read about how solar cells are made
- Calculate the efficiency of the solar cell and fuel cell
- Use a unique reversible Proton Exchange Membrane fuel cell
- Determine the fuel cell's power output

96  
AGES  
12+

COMPLETE  
COURSE  
MANUAL INCLUDED



CONTENTS



96-PAGE  
EXPERIMENT MANUAL

### Also Needed

You will need one flat (about one square of distilled water) for most of the experiments. Tap water, filtered water, deionized water, and spring water will damage the fuel cell. Distilled water can be purchased at supermarkets and pharmacies.

To use the car without external weight, you will need a stick (long with a 1/2" hole) or light (available for light bulbs) to power the gear joint.

### Warnings!

This kit is only for persons 12 years of age and older. Children should use this kit only under supervision of adults who have read and understood all the safety instructions outlined in the manual. When doing the experiments, keep small children and animals away. Keep the kit out of reach of small children.

Inside the fuel cell, small amounts of hydrogen gas are produced. Before you start the experiments, read the manual. Follow all instructions. Keep the manual handy for reference.



**WARNING:**  
CHOKING HAZARD - Small parts.  
Not for children under 3 years.

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