# **SOLAR HYDROGEN SCIENCE KIT**



FCJJ-16



The Solar Hydrogen Science Kit lets students invent their own clean energy applications using fuel cells and renewable hydrogen created using solar energy and water. The kit also comes with a small electric motor and propeller blade as the starting point for the motorized applications you can build using your futuristic solar energy storage device. The set comes with a complete curriculum on renewable energy with easy to follow experiment manual, assembly guide, flash animations, and background history on the technology.

### **FEATURES**

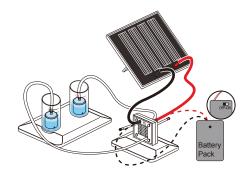


- ✓ Turn Solar Energy Into Hydrogen Energy!
- ✓ Includes Horizon's complete curriculum on renewable energy on CD-ROM
- ✓ Lessons on solar energy, hydrogen fuel cells, electrolysis, and basic electronics
- ✓ Build your own solar powered inventions using a fuel cell

## **LANGUAGE PACK**

- ✓ CD Experiment Manual:
- ✓ Assembly Guide:
- √ Technical Support Guide:

### **EXPERIMENTS & ACTIVITIES**



#### √ Solar energy experiments

- 1. The effect of heat and cooling on solar panels
- 2. The effect of shade on solar panels
- 3. The effect of tilt angle on solar panels
- 4. Finding the solar panel's maximum power point

#### √ Hydrogen energy experiments

- 1. Electrolysis mode: generating hydrogen and oxygen from water
- 2. Fuel cell mode: generating electricity from hydrogen and oxygen
- 3. Determining the minimum voltage for water decomposition
- 4. Polarization states for hydrogen fuel cells

# **SOLAR HYDROGEN SCIENCE KIT**





- ✓ Reversible PEM fuel cell
- √ Reversible PEM fuel cell base
- √ Hydrogen and oxygen tanks
- ✓ Inner gas containers
- √ Water/gas tank module base
- √ Transparent silicon tubing
- √ Flexible 2mm banana connecting leads
- ✓ Plastic plug pins for fuel cell
- ✓ Battery pack with connecting leads
- ✓ Syringe
- ✓ Motor and fan with propeller blade
- √ 1 Watt solar panel
- √ Assembly instructions
- ✓ CD with curriculum manuals

# **CERTIFICATION**

ROhS, EN71:PART1;PART2;PART3, EN62115, PHTH-EU, ASTMF963, CPSIA-LEAD, CPSIA-LEAD, CPSIA-PHTHALATES, REACH, EMC.

## **PACKING INFORMATION**

Case Pack Quantity (units):	1		
Master Pack Quantity (units):	24		
Packaging Type:	cardboard		
20' Container (units):	65500		
40 Container (units):	13355		
Unit Box Length	21	/	8.27
(cm/in): Unit Box Width	1.5	/	5.01
(cm/in):	15	1	5.91
Unit Box Height (cm/in):	10	/	3.94
Unit Volume (Litres/Cubic Meters):	3.2	/	0.003
Unit Box Weight (kg/lbs):	0.56	/	1.23
Case Pack Length (cm/in):	63	/	24.80
Case Pack Width (cm/in):	44	/	17.32
Case Pack Height (cm/in):	35	/	13.78
Case Pack Volume Litres/Cubic Meters):	97.0	/	0.097
Case Pack Weight (kg/lbs):	16.1	/	35.49

<sup>\*</sup>The cartons' size may vary between +1-2 cm

# **LOGISTICS INFORMATION**

Item UPC-Code:	6942503401028
Item HS-Code:	-
Manufactured in:	Shanghai, China
Local Warehouse	Prague, Czech Republic
FOB Harbor:	Los Angeles, USA
First Ship Date:	available now
Minimum Order:	1