Horizon Fuel Cell Technologies

H-Racer 2.0 IR control
(& Solar Powered Hydrogen Station)

Discover the automotive technologies of the future by building and driving your own hydrogen fuel cell car. The H-racer 2.0 is a scale model fuel cell car construction kit,with remote controlled steering, and light emitting features. The H-racer received many awards including Time Magazine's "Best Inventions", Business Week IDEA, Metropolitan Home "Design 100", ID magazine annual review, and Business 2.0 Bottom Line Design Awards. The product includes a solar cell, hydrogen station, remote control, hydrogen fuel cell car assembly parts, as well as a renewable energy education manual and a fun experiment guide.

HFCJJ23 MSRP $179.99..... **$112.49**

Fuel Cell Car Science Kit
(includes solar cell)

Horizon's Fuel Cell Car Science Kit uses a reversible PEM fuel cell that combines electrolysis and power conversion into one single device. Watch as oxygen and hydrogen gases are formed in two transparent water containers. The car steers independently of the user once in operation: when the car hits a barrier, it will automatically find its way by reversing away 90 degrees. Included in the box is a renewable energy education manual as well as an experiment guide. This fun science kit combines cutting-edge science, education and fun for all!

HFCJJ11 MSRP $99.99..... **$62.99**

Renewable Energy Education Lab

The Renewable Energy Science Education Lab is a modular experiment designed to demonstrate the workings of a complete clean energy technology system on a miniature scale. With this very complete kit, an entire miniature renewable energy system can be constructed for experimentation and demonstration. This set includes a real working miniature wind turbine kit, a solar photovoltic panel, an electrolyzer, a PEM fuel cell, and hydrogen storage system encouraging users to learn the system step by step, configure the system in different ways, and visualize the workings of clean energy principles from start to finish.

HFCJJ27 MSRP $299.99..... **$224.99**

Hydro-Wind Education Kit

Turn Wind Power into Hydrogen Energy!
With this set you have the freedom to invent your own clean energy applications using fuel cells and renewable hydrogen created using wind and water. This new set includes a real wind turbine, an optimal tool for inspiration and education in classrooms, as kids get to develop their own applications using a zero-carbon fuel. This set now includes the Wind Pitch Educational Kit inside-a miniature real-working wind turbine (wind power generator) designed for students to evaluate the pitch of the blades.
The Hydro-Wind Kit also comes with an LED Voltmeter / Music Maker Module to demonstrate the power created from the wind energy in the form of musical sounds and illuminated LED lights.

HFCJJ26 MSRP $239.99..... **$170.99**

Visit our website - www.acsupplyco.com for more Horizon Fuel Cell Technologies from AC Supply!

All new educational material on CD now included FREE in all Horizon kits!

Renewable Energy Education Curriculum

Horizon fuel cell is now introducing a complete set of newly developed experiment manuals, teacher plans and videos, as well as enhanced assembly guides on a CD which will be included FREE OF CHARGE in each of Horizons educational kits. This new addition in learning material for all of their kits incudes the following:

Renewable Energy Education Manual
Horizon Experiment Manual
Flash Animations
New Science Kit Assembly Guides
Technical Support Section with Videos and much more.

Solar Hydrogen Education Set

With this new experiment set you have freedom to invent your own clean energy applications using fuel cells and renewable hydrogen created using solar energy and water. This new set is an optimal tool for inspiration and education in classrooms, as kids get to develop their own applications using a zero-carbon fuel. The kit also comes with a small electric motor and propeller blade as the starting point for motorized applications you can build using your futuristic solar energy storage device.

HFCJJ16 MSRP $89.99..... **$62.99**

Bio-Energy Education Kit

This kit demonstrates the latest in fuel cell technology using ethanol as its fuel source. Currently fuel cells use hydrogen or methanol as fuel. This fuel cell kit directly converts ethanol (alcohol) to electricity silently and without any combustion. The device can run non-stop for hours, providing an amazing demonstration of next-generation bio-fuel cell technology.

HFCJJ22 MSRP $169.99..... **$89.99**

New

PHYSICS BY THAMES AND KOSMOS

MANY MORE THAMES & KOSMOS SETS AVAILABLE ONLINE AT WWW.ACSUPPLYCO.COM !

1. Physics Discovery

2. Physics Workshop

3. Physics Solar Workshop

4. Physics Pro

The kits in the Thames & Kosmos Physics Series teach various aspects of physics through the process of building models and conducting experiments with the models.

The Physics Series begins with Physics Discovery, an introduction to physics. Children ages 8 and up can build 12 models and then conduct experiments with the models to learn about forces and simple machines.
Introduction to Mechanical Physics.

PHYSICS DISCOVERY - Build 12 models and then conduct experiments with the models to learn about forces and simple machines. Each model demonstrates a fundamental idea in mechanical physics. For example, you can build a balance scale to learn about lever arms, a freight elevator to learn about pulleys, a bicycle to learn about wheels, a motion picture machine to learn about centripetal and centrifugal forces, and a transmission to learn about gears. Physics Discovery is a smaller, introductory companion to our best-selling Physics Workshop kit. It contains different building projects and experiments, and uses parts that are compatible with all of the kits in our Physics line. The 32-page book offers illustrated instructions for building projects and experiments. Ages 8 and up.
• build a motor, force meter, catapult, balance scale, freight elevator, inclined planes, bicycle, transmission, motion picture machine, water wheel powered crane, dragster and sail car • learn about simple machines and forces • test yourself with a physics quiz
THA 626914 Physics discovery MSRP $40.95.....$24.95

PHYSICS WORKSHOP - A more thorough starter kit for children ages 8 and up. By building 36 models and conducting subsequent experiments with the models, children can learn the fundamental laws of mechanical physics, including basic equations involving force, mass, motion, and more.
Almost everyone has heard of a chemistry set. But until this kit was introduced, a physics set was almost unheard of. Physics is an essential science for everyone, and this kit provides a comprehensive explanation of mechanical physics. Through building 36 models and conducting subsequent experiments with the models, you will learn the fundamental laws of mechanical physics. Start by building small models, such as a fixed pulley, to learn about basic forces and simple machines. Then, work your way up to more complex machines, such as a pendulum clock, to learn more advanced concepts like work and centripetal force. This hands-on approach is both fun and effective because the principles of physics are demonstrated right in front of you. This kit includes more than 300 building pieces. The 64-page, full-color manual presents assembly instructions, experiments and explanations in a richly-illustrated, easy-to-follow manner. Ages 8 and up.
• build a windmill, two-speed crane, force scale, sail car, mars robot, hammer machine, centrifuge, pinball game, centrifugal switch, ship's lantern, and dozens of other models • experiment with simple machines: gears, levers, screws, inclined planes, pulleys, wheels and axles • learn and understand the most fundamental physics equations • read about amazing real-world applications for physics
THA 625412 Physics Workshop MSRP $82.95.....$49.95

PHYSICS SOLAR WORKSHOP Solar Power Technology in Action
In one way or another, almost every form of energy we use originates as energy from the sun. Solar energy directly powers photovoltaic cells and thermal collectors. Indirectly, we get power from plants grown by the sun, oceans heated by the sun, and Earth's weather systems sustained by the sun. Even the energy stored in fossil fuels originated as energy from the sun, captured by plants and animals millions of years ago. Physics Solar Workshop explores the topic of solar energy, focusing on photovoltaic cells. By building 12 models and conducting 30 experiments, you will learn how solar cells transform light into electrical energy, and how motors and mechanical devices can optimize the work done by this energy. You will build different types of vehicles and machines to demonstrate how gears can convert and transform power for different needs. There are 320 parts, which are also compatible with the other kits in our Physics line. The 64-page book offers illustrated instructions for the projects. Developed with Greenpeace® in Germany. Ages 8 and up.
THA 623715 Physics Solar Workshop MSRP $96.59.....$57.95

PHYSICS PRO Advanced Physics Kit
Physics Pro is the biggest, most advanced physics kit. With this kit, you can continue your study of statics and dynamics from previous lessons and begin your study of more advanced topics in physics, including fluid dynamics, energy, oscillation, hydraulics, and pneumatics.
By adding advanced topics like fluid dynamics to your physics repertoire, you can now build some really spectacular models and devices, such as a wind tunnel, pneumatic shocks, and a hydraulic lift. You will see how physics extends far beyond the classroom, giving us an amazing set of tools that can be applied in the real world to engineer marvelous things.
The main focus of the kit is the behavior of the two most important fluids in our world — water and air — and objects immersed in them. You will investigate how air and water rest and flow, what they can carry and how they move. With experiments and models, you will find out what forces work on them and what kinds of energy they possess. You will learn how ships float and airplanes fly, why a streamlined shape lets a car drive faster and how power plants convert a current of water into electrical current.
The 96-page, full-color experiment manual has two major sections. In the first part, you will enter the physics lab, where you will get to know the properties of air and water and become familiar with currents and energy. There is a series of 17 experiments in which you will start building smaller models. In the second part, you will move on to the workshop, where you will build 14 larger models of complex real-world devices. More than 213 parts are included in this kit, which are compatible with all of our other Physics kits.
Ages 10 and up.
THA 625313 Physics Pro MSRP $129.95.....$79.95

New

INTRODUCTION TO ELECTRONICS BY THAMES AND KOSMOS

Discover the digital world with this unique introduction to electronics. Follow the story of Robert M-3, a young robot in the year 2069, who is beginning his education in electronics with an apprenticeship to Sirius Armstrong, the chief electrical engineer on an enormous space station orbiting Earth. As you read about Robert's lessons in electronics, you will conduct experiments alongside him using your Electronics Workshop console.

Start by assembling simple circuits with blinking LEDs and resistors, as Robert travels from Earth to the space station. Once there, he goes from department to department, fixing electrical systems and devices, while you work alongside him.

In the Mars Department, you attend to tasks in the space station's oxygen-supplying greenhouses, such as building moisture sensors for the planters and a timer for controlling oxygen levels. Here, you learn about current, voltage, and resistance. In the Uranus Department, you repair malfunctioning sensors on robots, build a battery tester to test Robert's power supply, and conduct experiments with his transistors and capacitors.

You continue through six more departments, learning about the space station's security, communications, cleaning, entertainment, and educational systems, while getting increasingly advanced lessons in electronics.

By the end, you and Robert will have earned the rank of Space Electronics Assistant First Class. Electronics Workshop 1 is a captivating combination of reading and science, with fanciful stories that enliven the experiments, making for a fun learning experience. Full-color, 68-page experiment manual. Ages 10 and up.

Ages 10 and up
96-page Manual
148 Experiments

THA 615512 Electronics Workshop MSRP $149.95.....$89.99

Fuel Cell Cars

Experiment with one of the most promising energy sources of the 21st Century! Find out how environmentally friendly fuel cells work! Learn how this unique reversible fuel cell works to both perform electrolysis and serve as the energy source for your car!
Separate water into hydrogen and oxygen to create energy!
Store energy for future use! Conduct more than 30 experiments and demonstrations! (Std fuel cell car only).

Concept • Build & Experiment with a Car that Runs on Water!

This new Thames & Kosmos Fuel Cell Car & Experiment Kit provides a playful introduction to one of the most significant technologies of the 21st Century. With this kit you can build a model car that actually runs on water!

Pour in water and watch it separate into hydrogen and oxygen, forming a gas to power your vehicle across the floor. Now that we have your attention, roll up your sleeves and find out more through experiments and demonstrations you can do on your own, in a classroom or with friends.

Fuel cells are one of the most promising means of producing energy in the future. Some fuel cells, such as this one, do not consume fossil fuels and therefore are considered environmentally friendly. Automobile manufacturers are already experimenting successfully with this technology and it is widely believed that fuel cells will power automobiles and many electronic devices including laptops and cell phones, in the near future.

With this unique kit, you can build your own experimental reversible fuel cell car to learn more about this energy source. With more than 30 experiments and demonstrations, provided either in the kit or on the Thames and Kosmos web site, users will learn how a reversible fuel cell works to perform electrolysis as well as to create energy. The electricity required to activate electrolysis is created with a large solar cell included in the kit. During electrolysis, water is separated into hydrogen and oxygen and the resulting energy is stored as a gas. When needed, the gas is fed into the fuel cell, which then serves as the power source.

Experiments

30 Experiments included: How to build a solar powered car. Effects of direct and indirect radiation. Characteristics of a solar module. Oxy-Hydrogen test. How to construct and load a reversible fuel cell. Decomposition of water in the fuel cell. Qualitative and quantitative analysis of gas in a fuel cell. How efficient is electrolysis? How light influences electrolysis. Fuel cell-powered car. Add your own experiments!

Contents

Kit includes: Complete reversible fuel cell (hydrocycle system) • Wire • Motor • Chassis • Axle • Gas collector • 4 wheels • Solar panel with support • Syringe • Tube • Digital multimeter • Test tube • Protective goggles • Labels • Bag of small parts for fuel cell • Bag of small electronic parts • Comprehensive lab manual with 30 experiments and demonstrations • (Additionally required: 1 quart of distilled water)

THA620318 Thames & Kosmos Fuel Cell 10 Car & Experiment kit MSRP $209.99 ..... $134.95

Fuel Cell X7

In this version, they have altered the kit to make it accessible to more users, both in terms of content and price. They have created a new manual, focused more on building and designing a fuel cell car, rather than the comprehensive lesson on the science of fuel cells and solar cells found in the first version. They have lowered the minimum age and geared the instructions to a younger audience. The kit has been optimized for simplicity and ease of use over thorough experimentation. With its new focus, some parts have become unnecessary and thusly have been removed to reduce the cost. The kit that is right for you or your child will depend on your needs, interest level, and age group.

The full-color, 16-page manual contains easy, step-by-step instructions for assembling and using the car, as well as scientific explanations.

Ages 10 and up.

- assemble a working fuel cell car
- discover how fuel cells work
- use a unique reversible fuel cell
- learn about the potential alternative energies for automobiles
- design your own fuel cell car

THA628777 MSRP159.95 .....$89.95

Power House

- Build an Alternative Energy Model House
- Harness the Power of the Sun and Wind
- Conduct 70 Experiments in Physics, Electricity, Magnetism, and Energy Conservation
- Grow, Cook, and Preserve Food and Desalinate Water

Power House

Concept • Build & Experiment with a Model Alternative-Energy House

Power House: Experiments in Future Technics provides an engaging introduction to regenerative energy sources while learning 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 this *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 engines.

The thoughtfully designed series of experiments were 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 sources. 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: Experiments in Future Technics* will inspire you to plan and construct something on a larger scale.

Experiments • 70 experiments and 20 building projects

The Heat Trap: Construct and experiment with a greenhouse. • **The Sun Furnace**: 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 and 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.

THA626112 Thames & Kosmos Original Power House MSRP $209.99 .....$129.95

Power House

Green Essentials Edition!

New

Learn about alternative energy and sustainable living by conducting thirty of the best experiments and building the ten most important energy-related models from our original Power House kit. The ten building projects include: the power house itself, a greenhouse, a solar cell array, a passive solar collector, a solar oven, an air conditioner, a refrigerator, a hydrometer, a lemon battery, and a wind power generator.

· 64-page, full-color experiment manual
· 30 experiments and 10 building projects
· Ages 10 and up

THA 626114 MSRP **$114.99 ..... 74.99 ea**
3 + ... 69.99 ea

Little Moe

Little Moe is a small, lightweight mousetrap powered racer that is designed for both speed and distance. Little Moe is designed to maximize its mousetrap's energy output over a 75% greater travel distance and increase in efficiency while reducing the overall loss of energy from friction. Little Moe can be assembled in less than 30 minutes for most first time builders and will travel from 15-30 meters. Size : length = 13 inches, width = 6 inches, lever arm = 6 inches.

DF1710 Little Moe — MSRP $12.99 ..... **$8.49**
10+ **$6.89**

The Basic Kit

Basic Kit - The Basic Kit is our top selling mousetrap powered vehicle kit and it has continues to be a favorite among students and teachers around the world since 1996. The Basic Kit is a distance vehicle designed to maximize the mouse trap's energy output over a 200% greater travel distance while reducing the overall loss of energy from friction and increasing the efficiency. The Basic Kit can be assembled in less than 30 minutes and will travel from 25-45 meters for most first time builders. Size : length = 21 inches, width = 6 inches, lever arm = 12 inches

DF1712 The Basic Kit — MSRP $24.99 ..... **$15.50**
10+ **$12.49**
DF171230 The Basic Kit 30 pk W/ How to Book — MSRP $525.00 CLASS PACK **$315.00**

The Basic Kit II

A mouse trap car designed for success. This mouse trap powered car is designed for those who are serious about winning, The Basic Kit II features many enhancements to our top selling Basic Kit I that makes the Basic Kit II a guaranteed winner. The Basic Kit II is designed to maximize the mousetrap's energy output over a 200% greater travel distance while reducing the overall loss of energy because of friction. The Basic Kit II can be assembled in less than one hour and will travel from 35-65 meters for most first time builders. Size : length = 21 inches, width = 6 inches, lever arm = 12 inches.

DF1714 The Basic Kit — MSRP $24.99 ..... **$16.99**
10+ **$15.49**

Can Dew Kit

Carries a full soda can 15 - 20 meters. Can-Dew is designed to carry a full sized soda can over a 15 meters distance. Can-Dew has a special cargo bay that will hold a full sized soda can, egg, large mass, or just about thing you can dream-up. Can-Dew is designed to maximize the mousetrap's energy output over a 75% greater travel distance while reducing the overall loss of energy from friction and increasing the efficiency. Can-Dew's secret to success is the design of its high torque gearing system that generates a tremendous amount of torque and power output capable of caring large loads over great distances. Can-Dew can be assembled in less than 30 minutes and will travel from 15-20 meters with a full soda can for most first time builders. Size : length = 21 inches, width = 6 inches, lever arm = 12 inches.

DF1716 Can Dew Kit — MSRP $22.99 ..... **$14.49**
10+ **$12.99**

Double Trouble

Twin-powered turbo racer. This twin-powered mousetrap racer is turbo charged with two mousetraps for twice the fun and twice the power output. Just like all our kits, Double Trouble is designed to maximize the mousetrap's energy output over a 200% greater travel distance while reducing the overall loss of energy from friction. Double Trouble can be used for any challenge that allow for the use of two mousetraps. Double Trouble will travel from 40-80 meters for most first time builders.
Size : length = 21 inches, width = 6 inches, lever arm = 12 inches.

DF1718 Double Trouble — MSRP $25.99 ..... **$15.99**
10+ **$14.49**

Build your own Kit

You design it and you build it. The Build Your Own Kits is a complete do-it-yourself mousetrap racer kit that includes all the hard-to-find parts for building your very own record setting mousetrap powered racer. The Build Your Own Kit comes with a top-secret construction guide that is filled with tons of performance tips and secrets developed over the years by the pros. You will also get a collection of sample mousetrap vehicle designs to get you started building your own record setting racer right away. All the hard-to-find parts. You could spend all day trying to find all the parts that are in this kit and still probably never find everything. The Build Your Own Kit comes with all the top-secret components that are used on many of Doc Fizzix's own mousetrap racers including the impossible and hard-to-find DVD-Layers that have half the rotational inertia of a normal CD, eight DVD/CD spacers, and a full meter of ultra thin Kevlar string.
Includes the following: balsa wood (1 - 18"x3", 1 - 12"x3") , DVD wheels, DVD/CD spacers, brass axle tubing, brass lever arm, Victor mousetrap, thrust bearings, axle hook, step-by-step plans, kevlar string, and secret performance tips. Tools needed: glue, needle-nose-pliers.

DF1720 Build your own kit — MSRP $16.99 ..... **$10.49**
10+ **$9.99**

DVD Layer Wheel & Axle

The winning edge is DVD layers
Give yourself the winning edge over the rest of the competition. DVD Layers have half the thickness and have half the rotational inertia of a normal CD. Vehicles that use DVD layers require less pulling force and will see an increase in travel distance from 5-15 meters more than with CDs because more of the mousetrap's energy goes into the forward motion of your vehicle instead of the rotational motion of the wheels. Also, DVD layers will have much less air-friction than normal CD wheels. With this set-up you get everything you need to attach your DVD layers to your vehicle including axles, spacers, thrust washers, and step-by-step plans.
Set includes the following: 4-clear DVD layers, 8-DVD/CD spacers, brass axle tubing, 4-thrust bearings, axle hook, kevlar string, and step-by-step plans.

DF1726 DVD Layer Wheel & Axle Set — MSRP $10.99 ..... **$6.89**
10+ **$6.29**

CD/DVD Wheel Spacer Set

A must have part for all mousetrap racers
The CD/DVD wheel spacer is designed to fit perfectly inside the hole of a normal CD/DVD so it can then be attached to a standard sized 3/16 inch brass axle. These CD/DVD spacers are made of flexible rubber and designed for mousetrap powered racers. Not just for wheels, these spacers can also be used to center an axle between the frame of your vehicle in order to cut down on the "side-to-side" movement of an axle. This is a hard to find item and is really a "must have" part for making a mouse trap powered racer. CD/DVD spacers come in a pack of 20 with a complete step-by-step instruction guide.
Includes the following: 20 CD/DVD Spacers and complete instructions.

DF1728 CD/DVD Wheel Spacer Set — MSRP $9.99 ..... **$5.89**
10+ **$5.49**

How To Book

Step-by-step instructions makes it easy and fun The most up-to-date and informative mousetrap powered car manual ever written with all new earth-shattering secrets for 2009. Selected by students and teachers world wide as the best resource available for learning how to build winning mouse trap powered racer. Learn how to build the ultimate speed-trap dragsters, long distance racers, boats and more with easy to follow step-by-step plans written for beginners and seasoned veterans alike. This book is designed to eliminate the guesswork! Mousetrap Cars: The Secrets to Success includes over 159 pages of secret construction tips, instructions, design plans, formulas, experiments, and more. download a sample now
The best selling mousetrap vehicle guide.
Mousetrap cars: the secrets to success was the first publication ever written that was devoted exclusively to building contest winning mouse trap powered cars, boats, and vehicles and has sold more than 82,000 copies worldwide since 1996. There is no other publication that contains the volume or quality of information that is presented in the secrets to success, it is years ahead of the rest.
Great teaching tool for any level of student.
Paging through the book you will quickly see that it is much more than a "how-to-guide," it is the ONLY publication that will teach you the science and the physics behind building a winning mouse trap powered racer. Written by Doc Fizzix for students of any age with hundreds of diagrams for visual learners. Doc Fizzix was the 1996 Science Teacher of the Year.
Topics include: motion, friction, wheels, newtons laws, momentum, center of mass, rotational inertia, hooks law, energy, mechanical advantage, torque, and so much more.

DF1730 How To Book — MSRP $14.95 ..... **$9.49**

MIDWEST PRODUCTS

MOUSETRAP RACER KIT

Each kit comes complete with precut parts and detailed instructions. Now lower grade level students (recommended for 4th grade and up) can participate in mousetrap racing. Teachers across the country have asked for this since we came out with the original mousetrap racer designer assortment.
Grades 4 and up.
MID543 12 pack MSRP $133.99 ..... **$79.99**

MOUSETRAP RACER DESIGNER ASST (NOT PICTURED)

Midwest's Products original mousetrap racer designer assortment is available to those who prefer to challenge their students with a creative problem-solving approach. They offer all the parts necessary to construct a vehicle of the students own design. Because each student receives the same material, the instructor maintains control - the only variable being the effort and creative problem-solving abilities of the student.
Includes:
- Mousetrap (power supply) - Balsa blocks (chassis, wheels, superstructure)
- Plywood discs (wheels)- Dowels (axles)
- String (transmission) - Rubber bands (tires)
- Brass eyelets (bearings) - Suggested rules for competition

Grades 6 -12
MID541 12 pack MSRP $79.99 ..... **$51.95**

AC's RAT RACER KIT

This "AC Rat Racer " provides students with all the necessary materials required to build their own "personalized" mousetrap racer. It is a study in creative problem solving and contains a body, axles, washers, mousetrap, plastic wheels and more. A basic outline for competition is provided with broad guidelines to allow students to customize their racers with any variety of materials.
MST100 MSRP $6.29 ..... **$3.79**

MOUSETRAPS

Victor Brand - The same mousetraps used in all our popular assts.
MST1000 MSRP $81.99 100 per package..... **$49.50**
MST1010 MSRP $15.99 10 PER PK..... **$6.45**

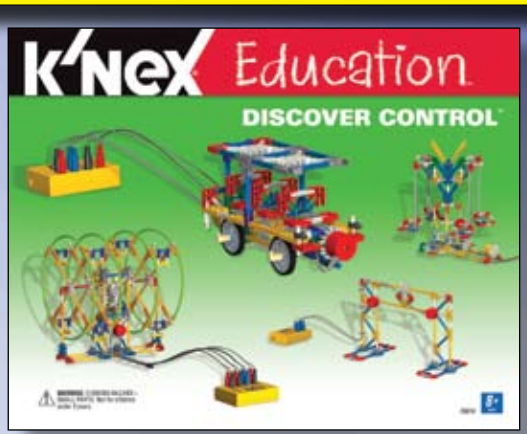
BALLOONS

5" balloons to power your projects
BAL005 5" balloons 144 pcs MSRP $5.99..... **$3.60**

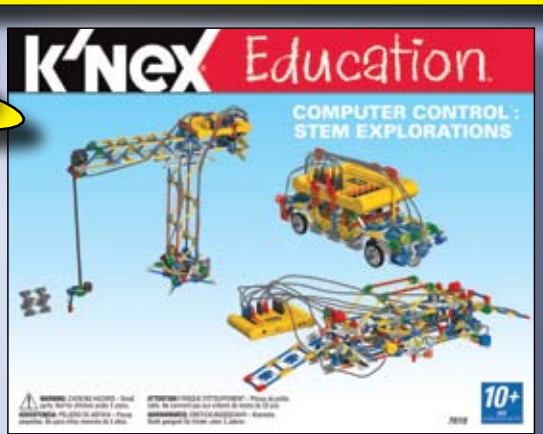
PING PONG BALLS

1 1/2" ping pong balls
PPB100 12 ping pong balls MSRP $3.99 ..... **$2.75**
12 + pks (price per pk) **$2.50**

K'NEX COMPUTER CONTROL - STEM SETS! (MORE ONLINE!)



New for 2013



DISCOVER CONTROL

STEM concepts come to life as students build and control K'NEX models using the K'NEX Discover Control Box.

Build and control K'NEX models without a computer!
- The K'NEX Learn and Go is an intelligent control box that can remember the order and duration in which swtiches are pressed, and the time between the presses, then play back from memory. Stores up to 64 actions and allows for multiple out puts (motors, LEDs, buzzer) to be controlled simultaneously.
- Students can write programs to control on screen models, then build and control the same K'NEX models using the Learn and Go control box.
- Models are fully functioning replicas of real-world machines, including a Swing Ride, Traffic Lights, Amusement Park Ride, Double Ferris Wheel and Multi-Motor Car..
- Compatible with interactive whiteboards.
- Builds 5 K'NEX models, one at a time. Supports 1 - 2 students working as a team.
- Includes 254 K'NEX parts, Learn & Go Control box and software, 2 motors, 2 LEDs, 1 Buzzer, building instructions and student challenges.

Key Concepts
- Linear thinking and programming
- Use logical and sequential thinking to design programs
- Critical Thinking & Problem Solving
- Design and alter machine operations to meet stated needs
- Forces & Motion • Systems and Organization
- Design Process/Engineering Design Process • Troubleshooting
- Patterns and Representations • Order objects and extend patterns
- Optimization • Communicate Mathematical thinking

KNX79014 MSRP $384.99 ..... **$239.99**

COMPUTER CONTROL STEM EXPLORATION

Exciting STEM set for Middle and High School Classrooms
- Students first learn and practice programming skills with 3-D representations of K'NEX models on-screen. The on-screen models respond to commands programmed in the Learning Tasks outlined in the lesson plans.
- Build fully functioning K'NEX models, design computer programs, and use the K'NEX Computer Control Interface to communicate with and operate the models to solve Challenge Activities outlined in the lesson plans.
- Builds 9 models: 3 Cars, Garage, Toll Booth, Swing Bridge, Amusement Park Ride, Programmable Safe, and Hockey Goalie. Up to two models can be built simultaneously.
- PC and Interactive whiteboard compatible.

- Includes 822 K'NEX Parts, K'NEX Computer Control Interface and software, 2 motors, 2 LEDs, 1 buzzer, 2 push buttons, 4 magnets, 2 reed switches, comprehensive teacher's guide with 9 lesson plans and building instructions.
- Aligned to National Science, Technology, Engineering, and Math Standards.

Key Concepts
- Exploratory and Discovery Learning
- Critical Thinking & Problem Solving
- Computer Control Technology
- Energy Transfer and Motion
- Design Process/Engineering Design
- Real-World Mathematics
- Measurement
- Data Presentation and Analysis
- Troubleshooting and Optimization
- Invention and Innovation
- Linear and branched logic
- Rate and Degree
- Evaluation and Redesign
- Cost Analysis

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