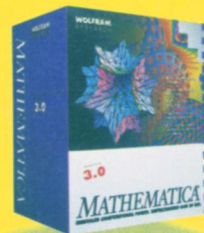


The Weekly Newsmagazine of Science

SCIENCE NEWS

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Epidemics Down Under



“What WOLFRAM RESEARCH
Mathematica® 3.0 is
 has done with
AMAZING!”

—Martin McClain
 Professor of Chemistry in Molecular Physics

A Million Users and Growing

Breathtaking Computational Power

$$\int \frac{1}{1-x^2} dx$$

$$\frac{1}{3} \sqrt{\frac{1}{2}(5-\sqrt{3})} \tan^{-1} \left[2 \sqrt{\frac{2}{5-\sqrt{3}}} \left(\frac{1}{4}(-1-\sqrt{3})+i \right) \right] +$$

$$\frac{1}{3} \sqrt{\frac{1}{2}(5+\sqrt{3})} \tan^{-1} \left[2 \sqrt{\frac{2}{5+\sqrt{3}}} \left(\frac{1}{4}(-1+\sqrt{3})+i \right) \right] +$$

$$\int \frac{1}{x} dx = \ln|x+1| - \frac{1}{20} (1-\sqrt{3}) \log \left(x^2 - \frac{1}{2}(1-\sqrt{3})x + 1 \right) -$$

$$\sum_{n=1}^{\infty} \prod_{k=1}^n \frac{1}{(1+\sqrt{3}) \log \left(x^2 - \frac{1}{2}(1+\sqrt{3})x + 1 \right)}$$

New Generation Interactive Documents

- Structure Programmable
- Fully Active
- Optimized for Screen or Print

Table 1: Presentation Form

| | | | |
|--------------------|----------------------|--------------------|----------------------------|
| $\alpha^2 - \beta$ | $(\alpha - \beta)$ | $(\alpha + \beta)$ | $\alpha^2 - \beta^2$ |
| $\alpha^3 - \beta$ | $\alpha^3 - \beta^2$ | $(\alpha - \beta)$ | $(\alpha^2 + \alpha\beta)$ |

Table 1: Printout Form

| | | |
|--------------------|------------------------------------|--|
| $\alpha^2 - \beta$ | $(\alpha - \beta)(\alpha + \beta)$ | $\alpha^2 - \beta^2$ |
| $\alpha^3 - \beta$ | $\alpha^3 - \beta^2$ | $(\alpha - \beta)(\alpha^2 + \alpha\beta)$ |

Totally Easy Interface

- Access the power of Mathematica just by pushing buttons
- Build up any interface you want
- Use Mathematica's uniquely powerful built-in programming language
- Use MathLink for easy interfaces to external programs

WOLFRAM
RESEARCH

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Mathematica is the world's only fully integrated system for technical computing, and is currently used by over a million technical professionals and students. Mathematica 3.0 is the result of five years of intensive R&D, and introduces major new concepts in computation and presentation, unprecedented ease of use, and a revolutionary symbolic document interface.



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Lightweight, measures only 5" long. Ideal for lecturers, educators, instructors, sales meetings and slide show presentations.

Project a brilliant red laser dot to focus attention to slide presentations, charts and sales meetings at distances up to 150 feet. Compact pen style class IIIa laser pointer is manufactured in Belarus at the IDX optical factory, this pen-style laser pointer is an excellent value. Features heavy-duty construction, baked enamel grey finish and pen clip-on switch. 6-8 hours continuous battery life, uses 2 "AAA" batteries (included). Solidly-built, yet weighs only 1.6 oz. Rated output: 5mW at 670nm.



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Digital Thermometer Shows BOTH Indoor AND Outdoor Temperature, Memory For The Day's High AND Low!

Now, you'll know at a glance how cold it is, with large, easy-to-read LED read-out numbers, both the outside and inside temperature. Thermometer also records high and low readings. F° or C° selectable -40°F to +122°F. Modern Hi-Tech case measures 7 x 3 1/4 x 1/4". Easy to mount. Uses 2 "AA" batteries (not incl.). Completes with 10 ft. outdoor probe sensor cord. **On SALE Reg. \$46 PDS3,038 \$32.00**

Fun And Intriguing! You'll Play For Hours With These Colorful Magnetic Magic Marbles.

Build a mountain or odd geometric patterns with these fascinating, high impact plastic marbles. Each marble has both a negative and positive pole. A challenge to your imagination. Fun for youngsters, adults too!

PD34,968 (Pkg. of 20) @ \$4.25 Ea.
(5 Pkg. or more) @ \$3.80 Ea.
(10 Pkg. or more) @ \$3.25 Ea.
PD37,623 (50 Marbles incl. bag) @ \$12.95 Ea.

Have You Ever Seen The Inside Of Your Eye?

Eyescopes are an optical device for looking at the inside of your eye. It's a specially designed diffuser incorporating a parabolic mirror and lens light. Safe and easy to use. A booklet included, describes the various features inside the normal eye, how the iris works, kinds of floaters and fixed objects, how to inspect contacts.

PD33,538 \$31.95

Authentic Russian KGB Micro Binoculars.

Originally designed as KGB restricted issue binoculars by the Lytcorino Optical Factory (the former Soviet Union's most secretive military optics factory). These 2.5 power micro binoculars feature 17.5mm coated objective lens and individual focusing eyepieces. Lightweight, compact folding design weighs only 2 1/2 oz.

PD53,014 \$24.95

Build A Working V-8 Engine That's Visible.

What better way to learn how an internal combustion engine works than to be able to see all of the parts move! As you turn the crank at your own speed, each of the parts move - just like the real thing. You can actually watch the crank shaft rotate; valves open and close and the rods and pistons move up and down. This 1/4 scale realistic model is powered by a hand crank - no batteries required. V-8 engine rests on a black stand, which may be painted.

Model skill level 3. Glue not included. **PDS2,854 \$45.95**

Meet The Giant Talking Frog - Ribbet... Ribbet...

Giant motion activated talking frog acts as a friendly greeter or sound alert system. Announces guests, clients and students with a friendly Ribbet! Ribbet! This green frog sensory is 12" long with realistic "bumps" and bulging eyes. Just place the Adopt-A-Frog in your entrance way and the photo-electronic motion detector will automatically detect movement within 12 feet from its mouth area, causing it to loudly sound out Ribbet! Ribbet! Ideal alarm for child's room, pet companion or refrigerator alarm. Powered by 2 "AA" batteries (not included).

PD53,723 \$19.95

Russian Mini Monocular Night Vision Scope... Ideal For Navigation, Camping, Security And Wildlife Observation.

- Palm-Sized Image Intensifier
- Built-in Illuminator for Total Darkness
- Focus-Free Objective, Adjustable Eyepiece Diopter

The newest in Russian night vision equipment, this pocket-sized scope is designed to fit into the palm of your hand. Compact, lightweight unit allows for easy extended use. This portable scope can be carried in your pocket, briefcase or purse. The built-in infrared illuminator lights up your field of view for totally dark viewing environments, but at wavelengths invisible to the human eye. Objective lens of the scope is pre-focused, only the eyepiece diopter requires adjustment for a clear, sharp image.

PD53,328 \$359.00

Forecast Weather Accurately With The Electronic Weather Station.

Weather Forecaster/Clock/Calendar:

- Four weather forecast indications - SUNNY, SLIGHTLY CLOUDY, CLOUDY, RAINY.
- WET, DRY & COMFORT indicators for indoor relative humidity.
- Bar graph displays barometric trend shows present time & previous 1, 3, 6, 12 & 24 hrs.
- 24 hour history of pressure readings.
- Bar graph displays barometric trend shows present time & previous 1, 3, 6, 12 & 24 hrs.

Elegantly designed, this desktop weather station provides a wealth of information and up to the minute weather forecast. A 6 line LCD read-out continuously displays indoor temperature and relative humidity, weather forecast, current barometric pressure, bar graph and current time/date. High tech grey finish, F/C° selectable, low-battery indicator, 0 to 3500 meter altitude compensation, 12/24 hr. selectable, time alarm, requires 4 "AAA" batteries (not incl.). **PDS2,552 \$115.00**

UNIT SIZE: 7.20"L x 5.24"W x 1.06"H UNIT WEIGHT: 9.98 oz.

Radiometer... A Solar Engine.

It's fascinating to watch the delicate vanes within this 5" precision-made sphere spin faster and faster illustrating the basic principles of solar heating. When light strikes the vanes it transfers heat and the vanes begin to move. Four vane rotor spins continuously at up to 3000 RPM. Works from artificial or direct sunlight. An attractive conversation piece. **Plain Glass Radiometer PD60,082 \$7.95**
Silvered Radiometer PD60,529 \$14.95

Build Your Own 2000° Solar Furnace With This Fresnel Lens And Harness The Sun's Rays!

Use this precision lens as a solar cooker for heating food, as a kiln for pottery - and even to melt metal or for other solar experiments. Lens has 50 lines per inch and measures 11" x 11" 1/4" thick. Unmounted lens comes with instructions on how to build the 360° stand and frame shown. **Caution: Adult supervision required.**

PD52,833 \$22.95

Miniature Water Pump For Science Fair Projects, Photo Darkrooms, Water Displays.

This tiny pump can pump a pint per minute with a 12" high flow. Ideal for temperature control and circulation of darkroom chemicals, table fountains, model waterfalls, water filtration etc. Can be used in either direction and is self-priming. Operates on 2 "AA" batteries (not incl.), runs up to 48 hrs. before battery change is required. 4" tube incl.

PD50,345 \$8.25 ea. 3-19 pumps \$7.25 ea. 20 or More \$6.25 ea.

Solar Powered Pump Project.

Build a solar powered water fountain. Contains 4 solar cells (4"x4") each rated at 0.45V 2 Amps and our famous miniature water pump (featured above) plus 12' of plastic tubing. **PDS2,120 \$26.95**

Our Amazing Happy Bird Never Stops Drinking! Yes, I'm Back At ES!

Fascinating to watch the Drinking Bird, it never stops drinking. Simply dunk the bird's head and release it, the Drinking Bird will bob back and forth while periodically taking a drink. May be used as a relative humidity indicator. **Ideal Science Project Aid.** Learn the science behind it! Drinking Bird's body is a glass vial filled with Freon-11 and red dye. May stain if broken. Lens supports and hat are plastic.

Package of Two **PDS3,617 \$7.95**

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Package of 3 Boards **PDS2,383 \$14.95**

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Check your vision with our self-screening vision tester. It's easy to check your distance and reading vision power. Unit consists of a sliding target, a 10 1/2" long scale and a built-in viewing lens. Now you can check and monitor your eyesight in conjunction with your eyecare professional.

PD38,624 \$15.95

Add Spectacular Color To Your Home With A Rainbow Light Display.

Our equilateral prism mounted in an attractive high tech positioning base catches the sunlight from your window and projects the ever-changing rainbow patterns over your walls, ceiling and floor. It's almost like being inside a multi-faceted diamond. Glass equilateral prism is 2" (50mm) long with 1" (25mm) faces. Black plastic mount is 3" x 1 1/4" x 1 1/4".

PD38,400 \$8.95

Solar Powered Flying Dragonfly Kit Makes A Great Science Project.

Easy to assemble kit comes complete with two ABS resin molded dragonfly bodies and realistic patterned transparent wings that really move. Both dragonflies are powered by a Solar Battery Panel (Tamiya 0.5 volt 1200 mA) and Solar Motor (Tamiya 02 Type). All components mount onto a stationary plastic stand. Dimensions: 4 1/2" x 3.1" W x 10" H.

PDS2,608 \$64.95

SCIENCE DISCOVERY!

Why Does This Amazing Space Pet or Cell Always Spin In A Counter Clockwise Direction?

Originally called "Cells" because their curious properties were first discovered by archeologists studying prehistoric axes and adzes called Cells. These rocks had a preferred direction of rotation. Spin the space pet the other way and it will stop, rock up and down on the long axis, and then reverse its spin. Hint: The round edge is an ellipsoid, with its axis aligned at an angle of about 5° to 10° from the main axis of the stone. Angular momentum is conserved, but it doesn't look it. Made of injection molded acrylic. Size: 3 1/4" x 1 1/4" x 1/4".

Package of 7 **PDS3,912 \$21.95**

Build A Genuine Working Clock Made From Recycled Paper With The All Paper Clock™ Kit... And It Really Works!

Attractive clock is pre-painted and each working piece is line-perforated for easy removal. Requires perseverance (48 to 60 hours) and you'll have a real working clock which keeps accurate time. All working parts are visible and it has an authentic "tick-tock" pendulum movement. Clock face measures 14 1/2" in diameter and the entire body is 6 1/2" deep. A challenging project for individuals or groups.

PDS3,775 \$39.95

Flash Rocks.

Strike them together and see amazing flashes inside the rocks! The source of light is a miniature "lightning flash" that occurs in the quartz material within the rocks. It's nature's Pizeo effect.

Package of 3 bags (6 rocks) **PD37,474 \$8.95**

Revolution™... A Floating/Spinning Phenomena!

Learn the science behind this fascinating near-perpetual motion device. The Revolution™ demonstrates many scientific phenomena of physics. Just place the pointed end against the glass inset and gently twirl with your fingers, let go and watch it spin and float.

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