A growing number of U.S. corporations are reacting to reports of poor student performance on national and international tests by contributing time and money to efforts aimed at improving math and science education in U.S. schools. To find out what they are doing and how well it’s working, see page 1030.

Photo illustration: Kelly Krause/Science (images: Jupiter Images; Getty)

DEPARTMENTS
1003 Science Online
1005 This Week in Science
1011 Editors’ Choice
1016 Contact Science
1019 Random Samples
1021 Newsmakers
1118 New Products
1119 Science Careers

EDITORIAL
1009 Confidential Review—or Not?
by Donald Kennedy

NEWS OF THE WEEK
Once Shunned, Test for Alzheimer’s Risk Headed to Market 1022
House Panel Berates Science Adviser on 2009 ‘Shortfall’ 1023
Harvard Faculty Votes to Make Open Access Its Default Mode 1025

SCIENCESCOPE
Lawmakers Claim Great Lakes Report Was ‘Suppressed’ 1026
Microbicide Trial Adds to String of HIV Prevention Failures 1026
Tigers in Decline, Indian Survey Finds 1027
AAAS Annual Meeting: How Human Intelligence Evolved—Is It Science or ‘Paleofantasy’? Tracking and Tackling Deprivation’s Toll Ocean CO2 Studies Look Beyond Coral 1028

NEWS FOCUS
A New Bottom Line for School Science From an Idea to a School Money Doesn’t Always Talk 1030
Crossing the Divide 1034
Japan’s Ocean Drilling Vessel Debuts to Rave Reviews 1037

LETTERS
The Legitimacy of Genetic Ancestry Tests
I. Frudakis Response D. A. Bolnick et al.

CORRECTIONS AND CLARIFICATIONS 1042

BOOKS ET AL.
The Biology of Human Longevity Inflammation, Nutrition, and Aging in the Evolution of Lifespans C. E. Finch, reviewed by D. J. Holmes
Did My Neurons Make Me Do It? Philosophical and Neurobiological Perspectives on Moral Responsibility and Free Will N. Murphy and W. S. Brown, reviewed by T. S. Ganson

POLICY FORUM
The Demography of Educational Attainment and Economic Growth W. Lutz, J. C. Cuaresma, W. Sanderson

PERSPECTIVES
The Cutting Edge of Plasma Etching T. Lil and O. Joubert
How to Move an Atom O. Custance and S. Morita >> Report p. 1111
Learning with Regret M. D. Cohen >> Report p. 1111
Bioinspired Structural Materials C. Ortiz and M. C. Boyce >> Report p. 1069
Retrospective: Judah Folkman (1933–2008) D. Hanahan and R. A. Weinberg

www.sciencemag.org SCIENCE VOL 319 22 FEBRUARY 2008 997 Published by AAAS
Molecular Biology
Selective Blockade of MicroRNA Processing by Lin-28
S. R. Viswanathan, G. Q. Daley, R. I. Gregory
A protein necessary for reprogramming skin fibroblasts to pluripotent stem cells is an RNA-binding protein that normally inhibits microRNA processing in embryonic cells.
10.1126/science.1154040

Cell Biology
Video-Rate Far-Field Optical Nanoscopy Dissects Synaptic Vesicle Movement
V. Westphal et al.
Sequential subdiffraction resolution images of fluorescently labeled synaptic vesicles in live cells reveal that they exhibit several distinct movement patterns.
10.1126/science.1154228

Astrophysics
Magnetar-like Emission from the Young Pulsar in Kes 75
F. P. Gavriil et al.
A pulsar exhibits x-ray bursts like that seen only in magnetars, which have ultrahigh magnetic fields, implying that neutron stars exhibit a continuum of magnetic activity.
10.1126/science.1153465

Physics
Energy Gaps and Kohn Anomalies in Elemental Superconductors
P. Aynajian et al.
High-resolution neutron scattering experiments reveal behavior in pure lead and niobium superconductors beyond that described by the standard theoretical framework.
10.1126/science.1154115

Technical Comment Abstracts
Ecology
Comment on "International Conservation Policy Delivers Benefits for Birds in Europe"
R. Rodríguez-Muñoz, A. F. Ojanguren, T. Tregenza
Response to Comment on "International Conservation Policy Delivers Benefits for Birds in Europe"
P. F. Donald et al.

Review
Chemistry
Nuclear Coupling and Polarization in Molecular Transport Junctions: Beyond Tunneling to Function
M. Galperin, M. A. Ratner, A. Nitzan, A. Troisi

Brevia
Developmental Biology
Juvenile Hormone Regulates Butterfly Larval Pattern Switches
R. Futahashi and H. Fujiwara
In swallowtail butterflies, a hormone regulates a dramatic developmental shift as the young caterpillars, which mimic bird droppings, grow into the green cryptic larva.

Reports
Physics
A Photon Turnstile Dynamically Regulated by One Atom
B. Dayan et al.
A single atom interacting with an optical microresonator can convert an influx of photons into a regular output of single photons.

Materials Science
The Force Needed to Move an Atom on a Surface
M. Ternes et al.
An atomic force microscope can be tuned to measure the lateral and vertical forces required to move atoms or molecules on a surface, thus probing the bond strengths.

Materials Science
Bioinspired Design and Assembly of Platelet Reinforced Polymer Films
L. J. Bonderer, A. R. Studart, L. J. Gauckler
In a design borrowed from biomaterials, ceramic plates less than 1 millimeter thick are sequentially deposited between flexible organic layers to yield strong, flexible films.

Materials Science
Atomic-Scale Chemical Imaging of Composition and Bonding by Aberration-Corrected Microscopy
D. A. Muller et al.
Correcting electron optical aberrations to fifth order increases the beam current of an electron microscope enough for atomic-scale mapping of chemical species and bonds.
EMISSIONS have already greatly changed caused by a previously uncharacterized human polyomavirus. A rare, but highly aggressive, form of human skin cancer may be

H. Feng, M. Shuda, Y. Chang, P. S. Moore

Differential Regulation of Dynein and Kinesin Motor Proteins by Tau
R. Dixit, J. L. Ross, Y. E. Goldman, E. L. F. Holzbaur

When molecular motors move along microtubules, they encounter the bound protein tau; the dynein motor then reverses direction, whereas the kinesin motor detaches.

MOLECULAR BIOLOGY
NADP Regulates the Yeast GAL Induction System
P. R. Kumar et al.

The structure of a repressor-activator complex for galactose metabolism shows that its assembly is controlled by the ratio of two cofactors that reflect the cell’s metabolism.

MOLECULAR BIOLOGY
A Shared Docking Motif in TRF1 and TRF2 Used for Differential Recruitment of Telomeric Proteins
Y. Chen et al.

Two similar members of the protein complex that protects the free ends of chromosomes have distinct binding sites for other complex members and accessory proteins.

NEUROSCIENCE
Spine-Type-Specific Recruitment of Newly Synthesized AMPA Receptors with Learning
N. Matsuo, L. Reijmers, M. Mayford

Mushroom-shaped synaptic spines activated during learning preferentially capture newly synthesized glutamate receptors, which may contribute to memory storage.

NEUROSCIENCE
Rapid Neural Coding in the Retina with Relative Spike Latencies
T. Gollisch and M. Meister

In salamanders, ganglion cells, which project from the retina to the brain, use the relative timing of single spikes in each cell to quickly encode a visual scene.

PSYCHOLOGY
Predicting Human Interactive Learning by Regret-Driven Neural Networks
D. Marchiori and M. Warglien

An unexpectedly simple neural network model that includes feedback driven by regret predicts human behavior in strategic games and outperforms existing models of learning. 

>> Perspective p. 1049
Kremen regulates Wnt signaling.

PERSPECTIVE: Context-Dependent Activation or Inhibition of Wnt–β-Catenin Signaling by Kremen
C. S. Cselemyi and E. Lee
The effect of Kremen 2 on Wnt signaling depends on the presence or absence of the Wnt antagonist Dickkopf1.

PERSPECTIVE: A Cytoskeletal Platform for Local Translation in Axons
F. P. G. Van Horck and C. E. Holt
Mutual interactions between the cytoskeleton and local translation may mediate growth cone steering response.

PODCAST
N. R. Gough and J. E. Foley
Listen to a discussion about the signals that generate fat cells.

Warm Sea Urchins on Acid
Rising temperatures and acidity in the ocean cause deformities and death.

A Grand Diversion in Louisiana
Model predicts how much wetlands would benefit from shunting Mississippi River.

Anticipation Fires the Imagination
New research helps explain why finding new love—and other experiences—don’t always meet expectations.

Benefiting from life’s setbacks.

Opportunities: Master of Disaster
P. Fiske
Personal and professional setbacks can open the door to new opportunities.

Mastering Your Ph.D.: Preparing for Your Post-Ph.D. Career
B. Noordam and P. Gosling
Find out how to find a job that suits you, inside or outside academia.

Alone in the Field
E. Pain
Spain’s science funding agency rejected Eduardo Moreno’s idea, but it still won him a grant from the European Research Council.

Science Careers Blog
Science Careers Staff
Get the latest career news, including reports from the AAAS annual meeting in Boston.
Editor's Summary

This copy is for your personal, non-commercial use only.

**Article Tools**  Visit the online version of this article to access the personalization and
article tools:
[http://science.sciencemag.org/content/319/5866](http://science.sciencemag.org/content/319/5866)

**Permissions**  Obtain information about reproducing this article:
[http://www.sciencemag.org/about/permissions.dtl](http://www.sciencemag.org/about/permissions.dtl)