Views You Can Use

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We are two-thirds of the way to meeting our goal of 15,000 participants for our National Essential Skills Study (NESS). I encourage you to take it if you have not done so. The study will help to determine on a national scale what is most important for students to learn. Taking the study is an opportunity for you to contribute to American education. Visit leadered.com and click on NESS National Essential Skills Study.

Sincerely,
Bill Daggett

Education Trends

Time for Learning

Some educators believe that economically at-risk and minority students benefit from extended school time. Washington, D.C., district charter schools offer nine-hour school days, Saturday classes, and mandatory three-week summer school. The district also has proposed year-round classes at five low-achieving schools to eliminate summer vacation learning gaps. A $6.5 million Massachusetts program has extended the school day by 30% in 10 schools. Since 1999, 20 schools in Fairfax County, Va., have added two hours to the school week and altered vacation schedules so that no break lasts longer than three weeks. Many proponents agree, however, that extended time is not sufficient – schools also must maximize the amount of instruction time included in the longer schedules. One Chicago study showed that schools delivered less than 240 minutes of instruction each day, despite a state mandate of 300 minutes.

Source: www.washingtonpost.com

Information Technology Trends

Unplugged

Scientists at Massachusetts Institute of Technology have devised a way to "beam" power across a room into a light bulb or laptop computer battery without cords, wires, or cables. The technology, called "WiTricity," sends electrical current to a coil of copper wire hidden in the ceiling of a room, creating a magnetic field, which sends power to any WiTricity-enabled device in the room, such as a light bulb or TV. Other objects in the room — people, pets, desks, and carpets — are unaffected, according to the researchers. So far, WiTricity only works over distances under 9 feet, but eventually could eliminate the tangle of cables, plugs, and battery chargers that clutter modern homes and offices.

Source: www.dailymail.co.uk

Wiki Info

Wikipedia, the free online encyclopedia that "anyone can edit," is cited four times as often as Encyclopedia Britannica in judicial opinions. Other “wikis,” or shared information sites, are springing up, too. The CIA has a top-secret Intellipedia with 28,000-plus pages of information aimed at reducing the risk of intelligence failures. NASA uses a wiki site to collect ideas about programming improvements to its software. Businesses such as Google, Eli Lilly, and Microsoft use wikis to anticipate consumer demand for new products and to predict “market-events,” such as elections. Relying on the collective choices of multiple independent decision makers mirrors free market economics: the knowledge of individuals, taken as a whole, is far greater than that of even the most “expert” regulatory group.

Source: www.washingtonpost.com

Watch Out

Wrist watches gained popularity in the early 1900s, but today nearly two-thirds of teenagers say they never wear one. Americans overall spent 17% less on watches in 2006 than in 1999. Luxury watches remain popular but more as a fashion statement than for functionality. More people are relying on hand-held electronic devices that also tell time, whether a phone, iPod, or BlackBerry. Some watchmakers are trying to lure back consumers by adding new features to their watches such as heart rate monitors and GPS trackers.

Source: www.sfgate.com

Biotechnology Trends

Turning the (Pep)Tides on Alzheimer’s

Researchers at Rensselaer Polytechnic Institute have discovered that an imbalance of two common peptides, Aβ42 and Aβ40, may cause Alzheimer’s disease, a form of dementia that affects more than five million Americans. Using advanced nuclear magnetic resonance machines to study the three-dimensional structure and dynamics of the molecules, the scientists monitored the formation of harmful Aβ42 peptides in the presence of different levels of Aβ40. The researchers say that enhancing the amount of Aβ40 in Alzheimer’s patients could stop the development of the disease.

Source: http://news.rpi.edu/update.do

Repairing Circuits in the Brain

Neurosurgeons traditionally have treated brain diseases using interventions targeted directly at affected sites in the brain, such as the speech-production area. More recently, however, focus has shifted to the brain’s “circuits,” the minuscule electrical and chemical pathways between parts of the brain that process activities such as vision, movement, heart rate, and mood. If these circuits are disrupted or fail altogether, they trigger a series of bad connections that can lead to epileptic seizures, mood disorders, or Parkinson’s disease. An emerging technique called deep brain stimulation surgery involves implanting electrodes in selected areas of the brain and connecting them to a neurostimulator device placed on the lower body. The device acts like a heart pacemaker, adjusting electrical impulses to correct the circuits.

Source: www.dana.org:80/events/detail.aspx?id=4932

Nanotechnology Trends

Losing Weight

Later this year, Queensland University of Technology in Australia will unveil a microgravity tower, a structure that will allow scientists to study diverse phenomena in nanoscience. The tower, one of only a few in the world, works by placing experimental material inside a "drop capsule" that, when released from the top of the tower, puts the experiment in free fall (zero gravity) for two seconds, enough time for scientists to make crucial observations. Reduced-gravity testing could provide insights into phenomena not observable in Earth's normal gravity range. For example, the formation of certain silica nanomaterials is greatly enhanced in reduced gravity, an advantage that could lead to the development of better materials. Without microgravity towers, researchers who need access to zero gravity environments send their experiments into space on a space shuttle or use a "vomit comet," a NASA jet that changes altitude rapidly to negate gravity's effects.

Source: www.physorg.com/news100432209.html

Small Comfort

Nanofibers are only about 1/250,000th of an inch across, but they could be a big help in such diverse areas as national security, factory safety, and aerospace construction. As a result of their fluorescent properties, nanofibers can, among other things, detect a minuscule amount of explosive material, such as TNT. They are more sensitive than current detection systems and also have fewer false positive tests.

Source: www.semissourian.com/story/1215846.html

Economic Trends By the Numbers

The Generational Wealth Gap

The wealthiest generation in American history is the generation of 67 million people ages 55 and older. Older people have always been wealthier than younger ones, but what is different today is the growing disparity between the generations.
Nearly all additional wealth created in the U.S. since 1989 has gone to people 55 and older.

- Wealth has doubled since 1989 in households headed by older Americans.
- Households headed by people in their 20s, 30s, and 40s have barely kept up with inflation or have fallen behind during the same period.
- Americans' annual incomes typically peak at age 57 and wealth tops out at 63.
- Wealth for the median household (assets minus debts) for ages 55-59 rose 97% over 15 years to $249,700 in 2004. Median income rose 52%. For ages 35-39, median household net worth fell 28% to $48,940. Median income fell 10%.
- Baby boomers — the 79 million people born from 1946 to 1964 — are entering their years of greatest wealth and maximum government benefits.
- Most people over 60 have no mortgage debt, no credit card debt and no car loans.
- Mortgage debt peaks for people in their late 30s, the same time they have the most children at home. About 11% are at least 60 days behind paying on some debt.
- Wealth and income have declined for college-educated people in their late 30s and have risen only slightly for college grads in their early 40s.
- From 1995 to 2005, median income soared among Hispanics, income inequality among Hispanics declined, and many younger Hispanics are prospering compared to where their parents started.

- The top-earning 1% of taxpayers (more than $310,000 annual income) collected 17% of total income in 2005, up from 13% in 1989 and 8% in 1975.

Source: www.usatoday.com/news/nation/2007-05-20-cover-generation-wealth_N.htm