

DATABASE

Molecular Pick Ax

Knocking out genes is one way to decipher their function. Another method that's gaining popularity is chemical genomics: using small molecules to tweak biochemical pathways. To help researchers sift candidates for these experiments, the site ChemMine from the University of California, Riverside, profiles more than 2 million compounds from commercial suppliers and public databases such as the National Institutes of Health's PubChem. ChemMine's selling point is its many tools. You can track down molecules by structure, chemical properties, and activity; tease out similar compounds; and cluster the results by similarity.

bioweb.ucr.edu/ChemMine/search.php

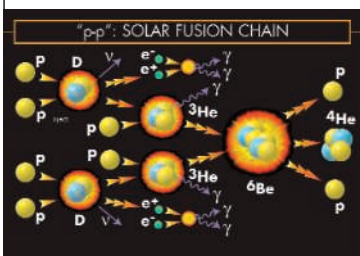
EDUCATION

Fusion Fundamentals

Nuclear fusion could unleash 100 times more energy than nuclear fission and some 10 million times more than burning coal. Scientists haven't yet achieved a sustained fusion reaction, but students who want a quick introduction to this potential power source should check out FusEdWeb from Lawrence Livermore National Laboratory in California. A six-chapter primer explores everything

from the main fusion reactions to different methods for creating the extreme temperatures necessary for atoms to merge. Stars depend on gravity, for example, but earthbound reactor designs use lasers, x-rays, and magnetic chambers. A glossary covers fusion and plasma terms. At left, the proton-proton chain that furnishes the sun's energy.

fusedweb.llnl.gov



WEB PROJECTS

Hearing Test

All societies create music, but styles vary wildly, from Japanese kodo drumming to Tuvan throat singing to heavy metal. The Music Universals Study, composed by two Massachusetts Institute of Technology graduate students in cognitive science and media, aims to find out whether our perceptions of music depend on culture and experience by using the Web to survey people. You can play a part by completing the site's 15-minute test, which asks you to rate the pleasantness of sounds, indicate whether they evoke happiness or sadness, and determine whether the tension in a particular passage rises or falls. The students hope to have results from thousands of participants from different backgrounds and countries within a year.

music.media.mit.edu

Send site suggestions to netwatch@aaas.org. Archive: www.sciencemag.org/netwatch

IMAGES

Under the Volcano

Glowing chunks of lava tumble down the slopes of the Italian volcano Stromboli during a 2003 eruption. Located between Sicily and the Italian mainland, the restive mountain is one of the world's most active volcanoes, spurring debris several times an hour. Take a virtual hike up to the peak and excavate its geology and history at Stromboli Online, hosted by Italian researchers Roberto Carniel and Marco Fulle and Swiss teacher Jürg Alean. A primer traces Stromboli's formation from the time it pushed above the sea some 160,000 years ago. The volcano has been shooting off continually for about 2000 years, and spectacular photos and video record some of its recent blasts. Visitors can also probe the physics of eruptions with a simulator that calculates the trajectories of Stromboli's "bombs," partly molten lava globs.

Once you've scaled Stromboli, venture to other volcanoes around the world with the site's many multimedia tours. You can peer into Ethiopia's Erta Ale, which cradles a seething lava lake, and tour the Caribbean island of Montserrat, which the Soufrière Hills volcano devastated in 1995.

www.swisseduc.ch/stromboli



DATABASE

Spiders Crawl Onto the Web

Arachnologist David Shorthouse of the University of Alberta in Edmonton, Canada, has found a fitting location for the server that houses his Nearctic Spider Database: the basement of his house. Visitors who scuttle over to this new clearinghouse can snare taxonomic and natural history data for about 350 of the roughly 3800 North American species, such as this ground-hunting wolf spider (below; *Pardosa xerampelina*). The accounts, provided by Shorthouse and other researchers, weave in information such as the creatures' distribution, habitat, anatomy, and diet. Shorthouse encourages other experts to add their data to the growing site.

canadianarachnology.webhop.net

