

edited by Mitch Leslie

DATABASE

Standardizing the Spectrum

Astronomers clock speeding galaxies and spinning stars with spectrographs, which dissect light coming from the distant object. Spectral Atlas Central provides astronomers, physicists, and other spectrograph mavens with the data to calibrate their instruments. The 4-year-old site from the National Optical Astronomy Observatories in Tucson, Arizona, holds standardized spectra for three kinds of lamps commonly used for calibration: thorium-argon, iron-argon, and helium-neon-argon. For a particular range of wavelengths, the site marks the location of major peaks so users can know where they should appear on their own equipment during calibrations.

www.noao.edu/kpno/specatlas

RESOURCES

Handle With Care

Formaldehyde, which is used to preserve biological specimens, is flammable and can cause allergies, burns, and possibly cancer. Many scientific jobs involve exposure to potentially hazardous chemicals. For a quick run-down on chemical safety, try this collection of data sheets from the National Safety Council in Itasca, Illinois. The site profiles more than 80 chemicals, from toxic metals such as mercury to caustics such as sulfuric acid to organic solvents. Each sheet explains the chemical's properties and uses, describes health effects, and provides data on exposure limits. The sheets also list laws and regulations that control use and release

of the chemical, as well as national statistics on emissions into the environment.

www.nsc.org/library/chemical/chemical.htm

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



EXHIBITS

Peddling Lead

An estimated 890,000 U.S. children have unhealthy levels of lead in their blood, mainly from living in old housing. Children who ingest chips or dust from lead-containing paint can suffer brain damage and learning disabilities. The eye-opening History of Lead Advertising chronicles decades of effort by the lead-paint industry to touch up its product's image. The online exhibit from the Cincinnati Children's Hospital Environmental Health Center is based on a 2002 book and a 2000 exposé in the *American Journal of Public Health*.

The evidence that lead paint could poison children was strong enough by the 1930s that a host of countries banned or restricted its use for interiors. In the United States, however, the industry responded by pushing lead paints for homes, schools, and other public buildings and launching an advertising campaign to reassure the public, according to the site. The more than 40 ads displayed on the site are particularly disturbing, featuring happy children such as the iconic Dutch Boy of the National Lead Company (above). Even after lead's baneful effects were undeniable, the industry fought safety warnings on labels, the site notes. And lead was not banned from paints in the United States until 1978.

www.cincinnatichildrens.org/leadadvertising/

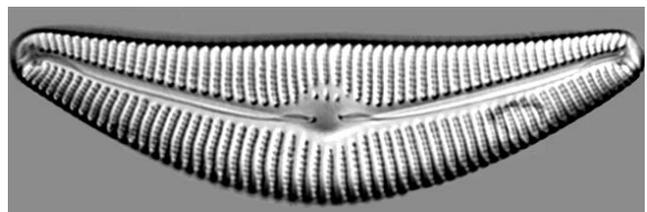
IMAGES

Diatoms on Demand

Diatoms, such as this *Cymbella cistula* (below) from Washington state, live within a pair of interlocking silica boxes as delicate and ornate as fine crystal. Diatoms are more than just photogenic; the abundance of particular species in a water sample can indicate nutrient levels and other environmental conditions. To help taxonomists identify specimens, phycologist Donald Charles and colleagues at the Academy of Natural Sciences in Philadelphia created this huge gallery* of American freshwater species. You can browse images of more than 50 genera from 27 drainages.

Researchers using diatoms to detect changes in water chemistry or temperature can find plenty of ecological and environmental data at this academy site.† The database records the number of individuals of each species in surface-water and sediment-core samples from more than 700 lakes and ponds in North America. The data, collected over the last 20 years, come from unpublished work by

academy researchers and from the literature.



* diatom.acnatsci.org/AlgaeImage
† diatom.acnatsci.org/dpdc

CREDITS: (TOP TO BOTTOM) CINCINNATI CHILDREN'S HOSPITAL MEDICAL CENTER; DIGITAL VISION; DONALD CHARLES/ACADEMY OF NATURAL SCIENCES, PHILADELPHIA

Downloaded from <http://science.sciencemag.org/> on November 30, 2020

IMAGES: Diatoms on Demand

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