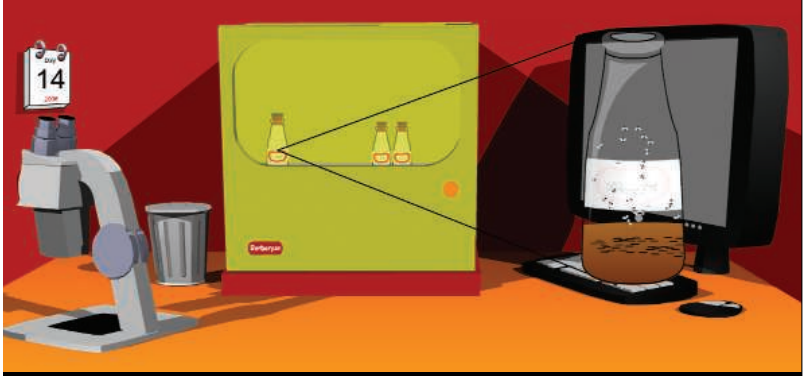
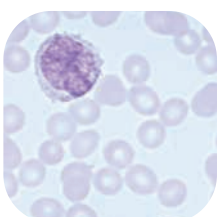


EDUCATION

VIRTUAL FRUIT FLY LAB

Introductory genetics can be more interesting than laboriously working through crosses and filling in Punnett squares. At this online *Drosophila* lab, high school and beginning college students get the chance to run virtual experiments and test hypotheses about the inheritance of fly traits. The latest offering from the Virtual Courseware project at California State University, Los Angeles (NetWatch, 1 April 2005, p. 29), the site lets users pair up e-flies that vary in characteristics such as wing shape, eye color, and type of bristles on the thorax. After incubating and sorting the offspring, students statistically analyze the results of the crosses. >> www.sciencecourseware.org/vcise/drosophila/Drosophila.php



WEB TEXT

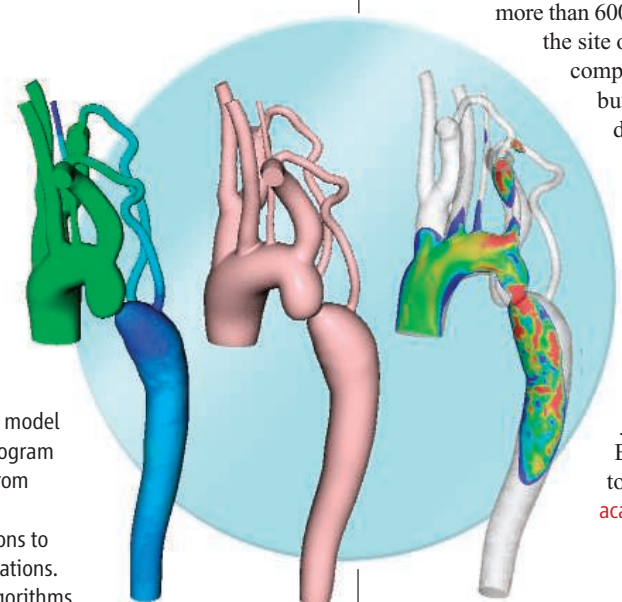
Blood Basics

Looking for a synopsis of the genes that control early development of the thymus, the gland in the neck where T cells grow up? Need a rundown on the different kinds of anemia? Page through Molecular Hematology from M.D. researcher Daniele Focosi of the University of Pisa in Italy. The outline-style primer teems with information on the layout of the circulatory system and the workings of its cells. You can bore into a lymph node, for example, or browse a chart summarizing the major blood enzymes. Or read up on leukemia and other diseases in which blood cells go awry. >> www.blood.interhealth.info

TOOLS

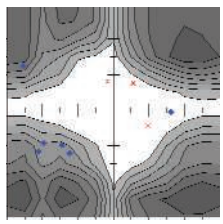
Bodily Functions >>

Don't fret if you can't get your simulation of aortic blood flow to work. Download one of the models available at SimTK. The site, hosted by researchers at Stanford University, is part of a project to devise and share "physics-based" models and software that emulate how force and motion affect a range of biological processes. Visitors can take home code that mimics RNA folding, blood dynamics, and ions jostling a large molecule. Plenty more projects are under way, including a model of the colon lining and SimBody, a dynamics program that can help researchers studying everything from molecular shape to walking. The site also offers modules that you can plug into your own creations to perform tasks such as rapidly solving linear equations. Researchers can contribute their models and algorithms to the site. At right, a simulation to gauge blood pressure and velocity in coarctation of the aorta, a congenital narrowing of the vessel. >> simtk.org



DATABASE

Pinning Down RNA



RNA is a slippery character that can trick software that deduces molecular architecture from crystallography and nuclear magnetic resonance data. As a result, RNA structures in public databases often contain errors. RNABase can help researchers identify these mistakes and find more likely conformations. Developed and curated by molecular biophysicist Venkatesh Murthy of Washington University School of Medicine in St. Louis, Missouri, the site automatically collects and analyzes every RNA structure in the Protein Data Bank and the Nucleic Acid Database—more than 800 molecules so far. Entries in RNABase include a list of "outliers," or errors in the published structure, along with contour maps (above) that indicate which positions are possible and impossible for each nucleotide in the molecule. >> www.rnabase.org

TOOLS

Google Scholar, Look Out

Microsoft has debuted its answer to the literature search engine Google Scholar (NetWatch, 3 December 2004, p. 1661). Released last month as a beta version, Windows Live Academic ferrets out articles and abstracts from more than 6000 journals and conferences. So far, the site only covers electrical engineering, computer science, and physics, but Microsoft plans to add more disciplines. Unlike Google Scholar, Windows Live Academic doesn't factor the number of citations into its rankings of articles, relying instead on each paper's quality and how closely it matches your search criteria. Microsoft's engine also offers more options for displaying the results, which you can sort by date, journal, author, or conference. But you'll still need subscriptions to access many of the articles. >> academic.live.com

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

CREDITS (TOP TO BOTTOM): VIRTUAL COURSEWARE PROJECT; VENKATESH MURTHY; DANIELE FOCOSI/UNIVERSITY OF PISA; CHARLES TAYLOR/STANFORD UNIVERSITY

TOOLS: Google Scholar, Look Out
(May 5, 2006)
Science **312** (5774), 665. [doi: 10.1126/science.312.5774.665e]

Editor's Summary

Science (print ISSN 0036-8075; online ISSN 1095-9203) is published weekly, except the last week in December, by the American Association for the Advancement of Science, 1200 New York Avenue NW, Washington, DC 20005.