

# OSMOSIS AND DIFFUSION

**OsmoBeaker: Computer Labs for Explorations in Osmosis and Diffusion, Version 1.0.** (2004). SimBiotic Software for Teaching and Research, Inc. For ordering and pricing information, please visit <http://www.simbio.com>. Custom packets and discounted packets available.

*Reviewer's Note : This CD-ROM was viewed using a Macintosh PowerPC G4 500mhz computer with 640 mb RAM and a 24x CD-ROM drive running Mac OS X.2.8.*

**OsmoBeaker** is a new CD-ROM designed to enhance the learning of diffusion and osmosis by presenting interactive experimentation to the student. The software provides several computer simulations that take the student through different scenarios with cells that have different concentrations of solutes in them. Using the lab manual, the students are exposed to the concepts of isotonic, hypertonic, and hypotonic cells. They can manipulate those concentrations to see how water moves across the cell membrane. The CD-ROM comes with activities for both diffusion and osmosis.

In terms of content, this CD-ROM presents its material rather simply, which might be good for high school students, but not the college audience for which it is intended. Technically, this CD-ROM needs much improvement. While it is MacOS X native, the controls do not respond to the first click of the mouse, and navigating from one screen to the next took several seconds. Also, the text boxes that ask for information were unresponsive and needed to be clicked on several times before a cursor appeared.

In general, this CD-ROM has potential, but a site license is rather expensive. Considering the perform-

ance of the software, it is recommended that schools save their money and do the old fashioned dialysis tubing/starch/iodine laboratory.

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# BIOLOGY OF SEX AND GENDER

**Biology of Sex & Gender.** (2003). VHS. Produced by Annenberg/CPB. For product and ordering information, call 1-800-LEARNER or visit [www.learner.org](http://www.learner.org). \$295 VHS, \$350 DVD (sold as part of the 13-piece video series **Rediscovering Biology: Molecular to Global Perspectives**). ISBN 1-57680-733-9.

This video would work well in an introductory biology class, a freshman majors biology class, an advanced high school biology class, or a genetics class. Introductory biology students are taught that females have two X chromosomes, while males have one X and one Y. Many textbooks support the hypothesis that the presence of the Y makes a human male. This video goes beyond that hypothesis, discusses all we know about sex determination, and emphasizes the many issues that are still not well understood including the factors that contribute to gender identity. As a poignant example of the importance of this issue, the video discusses the Olympic committee that has tried and failed to reliably ascertain sex in a variety of ways because of a belief that males have an advantage in some Olympic events.

The video includes several examples of studies that have led to our current understanding of sex determination, including discussions of androgen insensitivity,

Klinefelter Syndrome, Turner Syndrome, and failed cases of gender reassignment. The video also emphasizes how sex determination in humans is different from sex determination in other species. Lew Frederick, a dynamic speaker, hosts the whole video series. The video features experts in each of the research fields discussed. I would recommend this video as an engaging addition to normal course material in any biology or genetics class.

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# BIOLOGY SONGS

**Bio-Rhythms III.** (2004). CD. By Dr. Art, The Singing Scientist. 3900 Connecticut Ave. NW, Suite 101F, Washington, DC 20008. \$20.90 (includes shipping).

I was interested in hearing what Dr. Art had to say in his third recording. However, based on feedback from my students, I was disappointed in the work. They were not able to get past his "singing" to listen to the words, which were hard to clearly understand. They surmised that it was not worth the purchase. I even asked if they would enjoy it just for a quick review or before a test, but they were not supportive of my using their time in that manner.

Perhaps your students might react differently and would enjoy this CD. The concept is novel for a classroom and it merits consideration. However, I did not feel that Dr. Art's **Bio-Rhythms III** CD would be a worthwhile expenditure for our institutional needs.

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