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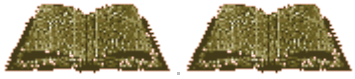
Software/Multimedia Review Section





AN EXCELLENT WAY TO REINFORCE YOUR BASIC CONCEPTS OF BIOLOGY

Understand! Biology: Molecules, Cells & Genes, Version 1.1 *by* William K. Purves, Emeritus, Harvey Mudd College

Sinauer Associates Inc., Sinauer Associates Inc., 23 Plumtree Road, Sunderland, MA 01375, Publication date: 1998, 1 CD-ROM in number with a case. Email: custserv@sinauer.com; http://www.sinauer.com/. , ISBN: 0-9659432-1-6. Price $ 29.95

System Requirements: Windows 95, 98, Windows Me, Windows NT, Windows 2000 operating system; Pentium processor or better; 32 MB of internal memory (depending on configuration and operating system); 10 MB free space on hard disk; super-VGA monitor in HiColor or TrueColor mode (800x600 or 1024x768 resolution is recommended); CD-ROM disk drive; mouse. For Macintosh computers, a PC emulator, such as Connectix Virtual PC, is required.

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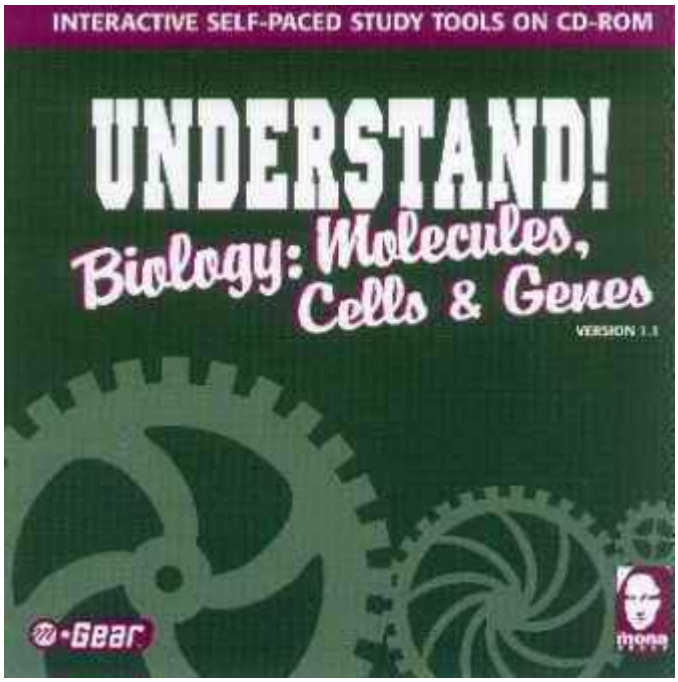

Do you enjoy learning through audiovisual interaction rather than through reading? Are you a biology buff and are you looking for a source which can give you a quick, basic and hands-on revision of your biology concepts? If yes, there is finally a very good product for you - "Understand! Biology: Molecules, Cells & Genes", Version 1.1 produced by the Mona Group and marketed by Sinauer Associates.

View this book on Amazon

This excellent CD covers all basic information about cell biology, molecular biology, and genetics in 41 minicourses. The CD-ROM features over 1,700 topics, over 100 animated sequences; 800 original pieces of art, 17 video microscopy sequences, over 125 micrographs, classic experiments, terminology, development, cancer, and more. There are interactive self-quizzes, a vast library of spoken pronunciations for terms, an index function, and an advanced hypertext navigation.

Once you load this CD- ROM you reach the "Main menu" the control panel of this software. From here you can begin your exciting journey of the amazing learning process. The main sites to explore are minicourses, textbook and thought provocating sections. A helpful and thorough index is there to guide you in case you get lost.

Minicourses are classified according to subject areas such as chemistry and biochemistry, cellular architecture, the cell cycle and inheritance, molecular biology and a very interesting pictorial miscellany. You can begin any subject area according to your choice and go through it with your own pace any number of times. Each subject area is divided into many sub sections which deal with a particular concept using pictures, movies, text and a link button which link the related words, concepts appearing in other sections in various subject areas. This helps to grasp the subject in its totality. The screen of minicourse is divided into areas for picture and movies, explanations for the pictures, concept explanation, related words and a middle dividing strip of button menu which at relevant times make appear a question and answer session related to the concept in the course. The button menu also has a reference button, and a link button for detailed explanation for advanced learners.

There is one "speak button" which will recite the difficult or unfamiliar word which will be very helpful in pronunciation for the new gentry.

The course begins with very basic concepts which you had learned in your high school and beautifully takes you deep inside the concepts which will help you to explore further in your subject area.

The CD is full of a number of animations such as this. This one explains the process of Apoptosis or programmed cell death.

I found the video sections (animated sequences) of this CD particularly interesting. There are almost 100 of these in this CD, and you could spend hours looking at them. Younger generation would find them particularly appealing. Take for example the animated sequence, which explains the division of living beings into kingdom, phylum, class, order, family, genus and species. It has been explained with a very interesting analogy. The sequence begins (with an interesting background music all through) with a joy ride to a hypothetical planet called "Taxon", which looks very much like our own planet earth. As we zero in closer, we begin to see the "continents" on this planet, which are nothing but various kingdoms (plantae, animalia, protista). Our spaceship "closes in" to one of these continents - the kingdom animalia, and we begin to see various countries, which are nothing but various phyla. We see countries (phyla) named gastrotricha, sipuncula, echiuria, annelida, brachiopoda, chordata and so on. Our spaceship now closes on to one of these countries (phyla) - Chordata. As we approach closer, we begin to see outline of various cities (Classes). For instance, we get to see cities (classes) called reptilia, amphibia, chondrichthyes, Aves and so on. We begin to approach one of these "cities" - Aves, and soon begin to see "highways" - the orders. The signboards are interesting. The first "highway" is called Columbiformes. From the signboard we come to know there are 2,660 species in this order. Other highways we get to see are Galliformes (864 species), Podicipediformes (406 species) and Passeriformes (5,160 species). Soon we begin to see individual buildings - the families. Among the several buildings that we are taken to are family Certhiidae and family Parulidae. We enter the latter building and take an elevator. As the elevator goes up, instead of showing floor numbers it shows us names of various genuses. We get to see genuses such as Seiurus, Geothlypis, Icteria, Oporornis, Wilsonia, Limnothlypis, Helmitheros, Vermivora, Parula, Protonotaria and Dendroica. We get down at the "floor" Dendroica. The various rooms in this building are the "species". We are shown several "rooms" such as *Dendroica canadensis*, *Dendroica virens*, *Dendroica striata*, *Dendroica discolor*, *Dendroica coronata* and *Dendroica negrescens*. We finally enter the room Dendroica striata, where we see the bird happily prancing about! The whole sequence lasted 1 minute and 52 seconds (yes, I actually timed it with my watch!). It was fun watching it. So engrossing was it that I played it over and over again. I found most of the other videos equally engrossing.

The other interesting section in this software is the textbook section. Here you have a feel like an "ALL IN ONE" package. You will enjoy the benefit of the best books in biology which would be a desired collection for those ardent bio lovers. This section gives you the opportunity to go through the Gold standard books in biology like Campbell biology, Gould/Keeton, Madder series, Starr biology and many similar big shots. By just a click of your mouse button you start exploring these knowledge mines which are systemically divided into many subsections according to the various topics. This section again follows the same "Minicourse" style and here begin a new joy ride again!!

By going through this amazing CDROM one thing is sure and that is you will not be forgetting your biology concepts and would wish your other subjects also had such a platform.

-Neeraj Gupta
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Dr. Neeraj Gupta is currently pursuing his MD in biochemistry from Maulana Azad Medical College, New Delhi, India. He is a lover of beauty which, according to him, is a thing of joy for ever. He is interested in a wide variety of subjects including Hollywood movies, astrology, numerology, photography, gardening and story telling. He is an avid reader of books on all subjects and loves to transform complexity into simplicity. His favorite words are "Brainchild, "Access denied" and "Access granted". He can be contacted at neeraj7gupta@rediffmail.com

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