

# AV Reviews

Rachel Hays  
Department Editor

## COMPUTERS

**Computers in your life.** 1985. National Geographic. Washington, D.C. Two sound-filmstrips, 30 minutes. Purchase \$61.95.

An elementary introduction, these filmstrips address two basic questions about computers. The first, "What is a Computer?" introduces the student to the concept of computer languages such as Logo and Basic, to basic terms like program, CPU and microchip, and to various ways to input information and receive output from the computer. The second filmstrip, "What Can Computers Do?" answers the question with more than 20 examples of how computers are used in business, medicine, sports and everyday living.

These programs would be useful for the fourth to sixth grade teacher who needs to introduce a section on computers. The color frames illustrate well the basic ideas being presented. Each idea is briefly introduced and then supported with an example.

Although the filmstrips are an excellent introduction to the world of computers, the teacher's guide is sorely lacking. Rather than present activities that would stimulate thought and ideas on the workings of computers, it is mainly a script of the cassettes. In order for the students to better understand that computers require specific directions in their programs, an example of an activity might have been, "Have the students write specific directions to make a peanut butter sandwich. When they have finished, produce the necessary materials and follow their instructions exactly, as a computer would." Instead, the guide suggests "Students might be encouraged to discuss various ways that information is stored and processed." This suggestion does not seem appropriate for the grade level that the filmstrip addresses. Thus, rather than this being an interdisciplinary tool for the teaching of English, math and science, the filmstrips simply become a substi-

tute for the teacher's explanation of the material.

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## GENETICS

**Healthier babies: the genetic era.** 1984. March of Dimes Birth Defects Foundation, White Plains, NY.  $\frac{3}{4}$ " or  $\frac{1}{2}$ " color videocassette, 20 min., purchase \$45. 16 mm, purchase \$85.

A realistic view is presented of the problems encountered when birth defects occur. Through the use of four case studies, the impact on the child, the family and society is examined. The defects shown are genetic and/or environmentally caused with emphasis on the fact that many genetic diseases are preventable and treatable. The case of a young girl with diet-controlled phenylketonuria (PKU) is used as an example of a treatable genetic disease. A boy permanently retarded, both physically and mentally, graphically depicts fetal alcohol syndrome. The cases of two other children show the effects of Turner's Syndrome (a young girl with only one X chromosome instead of the normal two) and spina bifida. In each case, the parents of the children and health care professionals discuss feelings of guilt and coping methods.

A strong feature of the film is the emphasis on the importance of genetic counseling whenever inherited disease is present or suspected. In addition, the importance of a healthy prenatal environment is stressed. Parents are reminded of the major impact that they may have on the development of their unborn child. Procedures of genetic screening which allow doctors to intervene to prevent the onset of disease are discussed.

The film has a wide potential audience. Although some factual material on genetics is presented, it is not enough to overwhelm high school students at any level. This film would be a valuable addition to a genetics unit in any biology or life science class and would be very appropriate for health classes. The portrayal of prenatal testing (amniocentesis) and the birth of a baby should be taken into consideration when showing the film to a younger age group.

Knowledge about genetic disorders has changed dramatically over the past few years. In a time when young women are becoming mothers at an increasingly younger age, the film is

an effective way of presenting some very realistic and practical considerations for anyone thinking of becoming pregnant. High school students in particular are often unaware of available medical help.

The accompanying user guide is accurate and comprehensive. It emphasizes the fact that responsibility for ensuring the health of newborns belongs to all of us. A list of suggested discussion topics enables the presenter to stress this point. In addition, the guide provides background information and a list of suggested readings. Supplementary materials available from the March of Dimes are described.

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**An introduction to DNA and protein synthesis.** 1984. Carolina Biological. Burlington, NC. Soundfilmstrip. 24 minutes. Purchase \$34.

A broad overview of DNA and protein synthesis is presented. The structure of DNA, the components of DNA, the differences between DNA and RNA, and the process of protein synthesis are included. The level is appropriate for advanced secondary or college.

The program fails in its stated objective to be an introduction. In its extremely broad and genial presentation, many scientific terms and theories are presented without adequately preparing the learner. The explanations fail to follow any logical patterns of development of concept. The program rambles from generalities to specifics of structural design without truly explaining either.

Many biological terms are men-

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tioned without adequate introduction or explanation. The genetic coding system is introduced, but again more explanation is needed. The process of protein synthesis is presented, but the types of RNA are not explained.

This program is a poor teaching program. It does an adequate job as a review prior to testing or at the conclusion of a unit.

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## INSECTS

**The social insects.** 1984. REX Educational Resources Company—Carolina Biological. Burlington, NC. Filmstrip with cassette (51 frames). Purchase: \$36.50.

This filmstrip presents a brief survey of selected examples of semi-social and truly social (eusocial) insects. The insects presented include burying beetles, tent caterpillars, giant wood wasps, ichneumon wasps, paper wasps, honey bees, army ants and termites.

The photographs are good, their colors accurate, and the magnification adequate to present a clear image of the organism being discussed. The pitch of the female narrator is too high for me, but the narration is clear, succinct and generally accurate.

There are some errors, both implicit and explicit. Paragraph #16 in the script: "Each [honey bee] hive contains several thousand individuals of the three castes." This might be misinterpreted to mean each caste represents one-third of the total population. There is normally only one adult queen, relatively few drones, and a huge number of workers.

A clearer example of a factual error is (paragraph #20), "... the old queen and her attendant workers may leave the hive ... set about producing new queens. ..." This implies that after the exit of the old queen, the workers initiate formation of new queens. According to E.O. Wilson (*The Insect Societies*), the pre-queen eggs are laid by the old queen in specially constructed cells. Wilson's book would be an excellent supplement for this filmstrip.

The filmstrip is appropriate for all grade levels from elementary school to introductory college courses. The manual which accompanies the set contains only the script. It would be of greater value to new teachers or those not familiar with the subject if it con-

tained sample lesson plans, a list of discussion questions, and suggestions for preview or followup.

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## MICROBIOLOGY

**Introduction to the protozoa.** 1983. REX Educational Resources Company—Carolina Biological. Burlington, NC. Filmstrip with cassette (51 frames), 20 min. Purchase \$36.50.

This is a collection of excellent scanning electron microscope (SEM) photomicrographs of protozoa. The organization is taxonomic and reflects a traditional system without including Sporozoa. Three major groups of protozoa are described: the Mastigophora (9 frames); Sarcodina (6 frames); and Ciliophora (23 frames). The major morphological characteristics of each

group are given clearly and concisely except that section on the distinctions among the different types of oral cavi- ties in the three types of Ciliophora seems a bit too detailed.

Crisp, clear, uncluttered black and white photographs should stimulate student curiosity and a desire to see the organisms directly. If one were to have a single filmstrip to introduce the protozoa in an introductory biology course, this would be an excellent choice.

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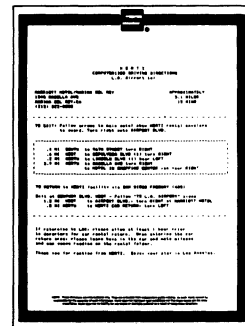
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