

oil and its disposal. For use in junior and senior high classes, the program covers enough areas to stimulate research ideas for students. For the general public, it covers enough areas to lead to discussions about waste oil in the viewing area.

No specific solutions are covered, but the program encourages everyone to work toward saving our "basic finite resource."

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## GENETICS

**Genetic fix.** Agency for Instructional Technology, Bloomington, IN. 1984. 16 mm color/sound film. 30 min. \$300 (\$135 videocassette).

This film focuses on genetic research and its ethical ramifications. It begins by contrasting the gradual genetic changes that have occurred in nature, and those that have been achieved through the years by selective breeding, with the rapid and radical changes made possible by modern genetic engineering.

High school students who are summer interns at Jackson Laboratory in Bar Harbor, Maine, briefly describe their experiences at the laboratory. One major sequence follows an experiment in which a human globin gene, isolated from one student's blood, is prepared and injected in a mouse embryo. Eventually, the researchers hope, such gene surgery will lead to cures for some serious genetic diseases.

Two of the students travel to Washington, D.C., where they meet Alexander Caprow, executive director of the President's Commission for the Study of Ethical Problems in Medicine and Biomedical and Behavioral Research.

Through the use of live film and marvelous graphics the viewer gets an excellent look at the methods of DNA extraction and gene manipulation. Even with the speed that technology is moving, this film is produced in such a manner that it is not likely to be outdated soon. It is a real "inquiry type" film.

A small teacher's guide accompanies the film which helps guide discussion that should follow viewing. One of the main points is the importance for the public at large to understand the issues involved so that ge-

netic research will be properly channeled.

This is one of the best programs in recent years for science and social studies not only for high school, but also for college students and adult groups.

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## MICROBIOLOGY

**Microbiology: imaging a hidden world. The light microscope.** 1984. Coronet Films, Dearfield, IL. 16 mm color/sound film. 15 min. \$395.

As an educational tool to be used during instruction in the use of microscopes, this outstanding film is unsurpassed.

There are only two major complaints I have about the film. The first is its title—it's too wordy. My students always want to know the name of the film they are about to watch, supposedly, "for their notes," but in reality, to know whether or not they should prepare to "tune out" mentally. This title gets them well prepared for that. And, even if you give them only part of the title—like "Microbiology" or "The Light Microscope"—you still get a groan from the best of students. "Imaging a Hidden World" is more interesting, true, but you will spend the next ten minutes repeating and spelling the word "imaging" and "No, it's not a woman's name." After several showings, I decided to use simply "A Hidden World."

My second complaint, and also the complaint of many of my students, is that the film is too short. After 15 minutes of most educational films, half of the class would be either asleep or "tuned out." The film left them screaming for more.

Once the film starts, even the "tuned out" students come alive to the music and pictures on the screen. The opening is colorful and interesting and the music is especially well done. It was designed to build just the correct amount of suspense and then to punctuate key points being made by the narrator.

The photography is excellent in every way. It, alone, could hold the attention of the rowdiest junior high class. The narration is clear and understandable.

Without doubt, however, the film

is of greatest value to high school and college biology classes that have already had some instruction and experience in the use of the microscope.

The film should be followed immediately with an exciting lab . . . try some of the ideas from the film and actually use polarized, colored light, and dark field illumination to observe microorganisms.

The written synopsis is very complete. In addition to a summary and a statement of their instructional design, it lists learning objectives (which I agree with) and suggestions for both before and after viewing. The after viewing questions are quite in-depth. I would suggest showing the film twice: once for the total enjoyment and once for seeking answers to questions.

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## NATURE STUDIES

**The Columbia River gorge: a natural history.** 1983. Northwest Film Study Center, Portland, OR. 16mm color/sound film. 23 min. Rental \$35. Purchase \$350.

This narrative, dedicated to presentation of the environmental diversity located in the gorge, is well targeted for junior and senior high students as well as adults. Clay is used for a dramatic introduction to the ancient geological processes responsible for the current geophysical characteristics of the gorge. These events are sequentially presented first in a two-dimensional, then in a three-dimensional, model. Following this introduction, the authors have canvassed the majority of the gorge's north and south banks to illustrate thoroughly the types of habitats and differences among these habitats due to variation in precipitation, exposure, and substrate composition. Provided with the film is a two-page descriptive summary that has a satisfactory list of references users may cite for further student reading about the gorge.

This quality production by the students at Cleveland High School has only two technical discontinuities. First, depiction of the ice dams, associated dam failure and catastrophic floods leaves the viewer with the idea these dams were located in the gorge itself. The narrator does refer to these dams' location "in northern Idaho"