

The immune system. 1986. Educational Dimensions Group. Stamford, CT. 2 Sound-filmstrips. 19 min and 14 min. Purchase \$77.

Part I, *How It Works*, provides a background to the immune response, covers the formation and activities of B cells and T cells, and includes a general discussion of both the humoral and cell mediated immune systems. In addition to being too fast-paced, incorrect narration referring to antibody production by T cells, "infections produced by B-lymphocytes," and overly broad generalization cause concern. More than half of the 72 frames are of line drawings that are too simple to convey the concepts clearly.

Part II, *The System in Action*, contains a review of species immunity and the body's natural and artificial acquired immune systems. Blood typing and tissue rejection aspects of immunity are covered, and there is a brief discussion of immunodeficiencies. The pace is much better and the sequence of topics is well developed. If both filmstrips are to be used sequentially, I recommend using part two first.

These filmstrips provide an overview of the immune system and could be used as a review for students in college non-majors' microbiology classes.

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Biorhythms 1—human biology and Biorhythms 2—general biology. 1984. Learn Through Music Ltd., Philadelphia, PA. 78 p. softcover book with audio cassette. \$17.95 each.

These songs are designed to help senior high students understand basic principles of human and general biology. Topics in Human Biology include: biorhythms; the skeleton; circulation; digestion of carbohydrates; digestion of fats, and aerobic metabolism. The General Biology includes: plant kingdom; animal kingdom; carbon cycle; nitrogen cycle; photosynthesis; fruits and seeds; the cell and its organelles; genetics, and evolution. Original pop music is written for each of the topics.

The biology is accurate and succinctly states the processes in terms which laypeople can understand. Each topic has the words to the song, sheet music and "explanatory notes" with diagrams, which add greater description to the lyrics. The music is catchy and a welcome idea.

The accompanying text should be used when the songs are first heard. The soprano voices and English accents of the singers make the lyrics hard to understand, especially for a middle-aged university professor. However, teenagers would decode the lyrics quickly.

Harold Baum must be a humorous, fun-loving, knowledgeable individual. His text commentary and choice of lyrics are amusing. His science is accurate.

This series is a welcome supplement to the high school biology class. Students can use the tapes on their own or the songs might be played for an entire class. Given permission to photocopy the lyrics for all students, the use in a class would be most appropriate.

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The living body: water! 1984. Films for the Humanities Inc., Princeton, NJ. Film/Video. 23 min. Purchase \$495 film, \$199 ¾ in. video, \$149 ½ in. video.

The importance of water to the human body is explored in this film, using the themes of thirst, waste removal and water balance. The first half addresses how the body maintains the necessary amount of water. Thirst is related to increased salt concentration. Salt concentration is related to activities that either increase water loss or increase salt intake.

The remainder of the film deals with water loss as it specifically relates to the removal of wastes through the urinary system. The function of the nephron is shown through animated graphics. Collection and removal of urine is shown with internal photography of the kidney, ureter, bladder and urethra.

The photography in this film is superb. The sequences of the inside of the urinary system are outstanding as are views inside the digestive system and of a hemorrhaging blood vessel. The growth of "beautiful urine crystals" was, indeed, beautiful.

The narration follows a father and his daughter on a jeep trip in the California desert and at times detracts from the message of the film. In addition, some viewers may object to the contrived symbolism like the use of kidney beans rinsed in a sieve and kidney-shaped swimming pools. On the other hand, the story line and the symbols may provide some students

with "mental hooks" for hanging the more important information.

Some teachers will be disappointed with the lack of precise terminology in this film. I was surprised to hear a description of nephron function without hearing the terms active transport, osmosis and diffusion. However, this apparent weakness can be a strength as the basis for further discussion.

The film is well suited for use as an advance organizer in a high school biology class or as a supplement to a middle school discussion of the urinary system. The avoidance of new terminology combined with excellent photography makes the urinary system "come alive." Two warnings are in order. First, the father in the story is shown drinking beer and then driving his jeep. The skillful teacher should be able to use this sequence as a basis for further discussion. Secondly, when you decide to show this film forego that second cup of coffee. All that talk about water will result in discomfort for heavy coffee drinkers.

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INDEX TO ADVERTISERS

| | |
|---|---------|
| American Society of Zoologists | 368 |
| William C. Brown Publishers | 329 |
| Carolina Biological Supply Co. | cover 4 |
| COMPRESS | 383 |
| Connecticut Valley Biological Supply Co. | 334 |
| Cross Educational Software | 371 |
| Educational Materials & Equipment Co. | 374 |
| D.C. Heath and Co. | cover 2 |
| Kendall/Hunt Publishers | 323 |
| Lafayette Instrument Co. | 383 |
| Lane Science Equipment | 325 |
| Media Design Associates | 331 |
| Charles E. Merrill Publishing Co. | cover 3 |
| Percival Manufacturing Co. | 384 |
| Preferred Educational Software | 383 |
| RCR Scientific, Inc. | 365 |
| President's Commission on the Handicapped | 351 |
| Scott, Foresman & Co. | 327 |
| St. Jude's Hospital | 366 |
| Swift Instruments | 353 |
| University Microfilms | 330 |