

AV & Software Reviews

ENVIRONMENTAL ISSUES

Interactive Explorations. (2000). Holt, Rinehart and Winston, Technical Support Center, 1120 South Capital of Texas Highway, Austin, TX 78746-6487, 800-323-9239, <http://www.hrwtchsupport.com>. CD-ROM \$37.47. ISBN# 0-03-053914-5.

System Requirements

Macintosh Compatible

- 68030 CPU running at 25MHz or higher
- Color display capable of 256 colors at 640 x 480
- System 7.1 or higher
- 2x speed CD-ROM Drive
- 5MB RAM
- 30-40 MB RAM if you wish to install individual Explorations
- Printer: Laser printer, ink-jet, or 24-pin dot matrix

IBM Compatible

- 80386 DX running at 25MHz or higher
- Color display capable of 256 colors at 640 x 480

JOSÉ VÁZQUEZ is a Professor of Science in the General Studies Program at New York University. He holds an undergraduate degree from the University of Puerto Rico and a graduate degree from the University of Pennsylvania. His teaching experience ranges from elementary school to college level. His predominant passion in education is teaching science (particularly genetics) to gifted students. His address is: Shimkin Hall 327, NYU, 50 W. 4th St., New York, NY 10012; e-mail: jrv2@nyu.edu.

- Windows 3.1 or Windows 95
- 5 MB RAM available for application
- 30-40 MB RAM if you wish to install individual Explorations
- Soundblaster™ compatible sound card

Interactive Explorations, created by the technical support personnel of Holt, Rinehart and Winston, is a teacher's dream. Suitable for students in grades 8 through 10, any science educator who aspires to teach scientific methods with a focus on environmental issues would find this software an asset to the program. Simply put, this software provides students with a virtual laboratory that abounds with vivid graphics, captivating scenarios, and striking realism.

The CD-ROM contains eight engaging laboratory simulations that allow students to select and test numerous variables, make note of their findings, deduce a solution to the presented problem, and submit results. The first simulation offers a scenario in which students are asked to determine why African Cichlid fish in a pet store aquarium are not thriving. Students must find out if lack of food, too much light, high temperature, or pieces of ornamental wood in the tank is the culprit causing the fish's struggle.

In a second scenario, Dr. Mike Roe asks students to first identify several microorganisms and then conduct further research to find out which one of them is causing his patients discomfort. The students click on prepared slides and drag them to

a microscope, which gives them a closer view of the microorganisms and allows them to match the sample slides with those the doctor sent. Once this is accomplished, they conduct research from a virtual computer provided at the back of the lab to pinpoint the trouble-causing microbe.

A third scenario enables students to find out why deep-sea creatures are difficult to keep in captivity. The simulation guides students in manipulating variables such as feeding, water temperature and pressure, water conditioners, and seawater composition until they can get a colony of tubeworms to thrive in an aquarium. As in all the lab simulations, they must then send the aquarium manager their formula for success.

An investigation of the effects of building a dam across a river is next. Students provide a town council member with information on the long-term effects of a dam, as she prepares for an important town meeting to decide whether or not the dam should be built. Using a simulated stream, students adjust water flow and take notes on visible changes seen in the system. They then provide the town council member accurate information about the effects of a newly constructed dam. Earth Science concepts such as water velocity, erosion, and silt deposition are the key concepts dealt with in *Flood Bank*.

In *Moose Malady*, Hans Oleson wants to find out why the moose in his area are becoming sick and dying. Students run simulated chemical tests to find

out which of several elements found in the rainwater and two food sources is causing their demise. Environmental pollution and heavy metal contamination are the major concepts presented here.

Hydrangea plants are the focus of the sixth activity on the CD-ROM. Students are asked to find out why a previously blue-flowering hydrangea suddenly sprouts pink blooms. The students must adjust the soil conditions, hours of light, and amount of food given the plant to determine the cause. As in the rest of the plant growth simulations, *How's It Growing* includes a control group with which students can make comparisons and pinpoint the single variable that is causing the changes.

The Venus Flytrap must be saved from plant poachers in *Shut Your Trap*. In this simulation, students must determine the optimal growing conditions for this plant in captivity by adjusting humidity, hours of light exposure, and fertiliz-


er additions. The only way to stop the illegal removal of these plants from the wild is to determine how nurseries can grow them from seed, flood the market, and put the poachers out of business. Students are motivated to send their results back to the nursery in a noble attempt to thwart the poaching effort.

Energy conservation is the name of the game in *The Generation Gap*. Students must determine if a new wind turbine, known as the Electroprop, is a cost effective means of energy generation in the San Francisco Bay area. A simulated wind tunnel is provided in a lab to carry out electrical output efficiency trials as students adjust wind velocity. People who are constructing cabins in the area are readily awaiting a cost analysis because the turbine is quite expensive. Students must calculate how many years it will take for the Electroprop to pay for itself through the energy it generates from this region's prevailing winds.

Throughout this CD-ROM, students take on the role of a lab scientist in the truest sense. Each simulation begins with a faxed communiqué from an organization that needs assistance in solving a pressing issue. The student-turned-scientist must use the given information, critical thinking skills and careful observations to solve the problem accurately. Following their analysis, students must write the organization to reveal their findings and offer a solution to the problem.

One of the most noteworthy features of the software is that students receive instant feedback from the program as to whether their lab data were correct or not. Moreover, a student can proceed at his or her own pace and retry any simulation until they achieve success. Dr. Labcoat, a talking lab supervisor, cordially invites students to begin each exercise and also provides encouragement along the way. The only potential drawback encountered was that the first three


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simulations could be accomplished very quickly. Teachers should plan ahead and have students tackle two or three of the provided simulations within a single class period.

We would highly recommend this software to other science teachers. The interaction capability, sound effects, and graphics are beyond compare. The manual contains outstanding background information, student worksheets, and answer keys. As a special feature, students can click on pictures of famous scientists and read about that person's historical accomplishments. Moreover, a simulated computer research station and calculator are at the student's fingertips to aid investigations. This software would be best utilized within a computer lab where the teacher can carefully monitor student progress and ensure students are keeping detailed notes. They must return accurate data to the organization that sent it in order to effectively complete the exercise. This software pays for itself in short order as the rich experiences students receive from interacting with it far outweigh its initial cost.

Matthew J. Turner
Spanaway Lake High School
Spanaway, WA 98387-5906

José M. Rios
University of Washington, Tacoma
Tacoma, WA 98402-3100

MIDDLE SCHOOL ANATOMY & PHYSIOLOGY

Science Is Elementary: What's Inside Your Body? 2001. SVE & Churchill Media (6677 North Northwest Highway, Chicago, IL 60631). 1-800-829-1900. www.SVEmedia.com. DVD-ROM \$94.95.

System Requirements

- Any DVD-compatible player

What's Inside Your Body? is an

exciting and engaging introduction to human anatomy and physiology. As part of SVE's *Science Is Elementary* series, these DVDs explore six of the major body systems. When the disc is first placed into the machine it starts automatically, a very nice feature. The screen then presents a menu where the viewer can select from the systems covered on the disc, or can select the "see full program" option to view the entire film. About 20 minutes each, these DVDs give a short yet fairly intense overview of each body system.

The hosts of this journey through the human body are Lori Laboratory and her two assistants, Charlie and Jesse. These live-action characters describe the aspects of each system through a collection of witty conversation, video clips, and computer-generated animations. The first stop on the *Heart & Blood/Digestion & Respiration* disc was in the *Circulatory System*. Here, Lori and friends tell the importance of the heart, blood, and blood vessels, and the path the blood takes on its journey through the heart. The viewer is then brought to the respiratory system, where she/he learns about the differences between external and internal respiration, and the anatomy of the upper and lower respiratory systems. Lori then decides to present the anatomy and physiology of the digestive system. She discusses the gastrointestinal tract and the accessory organs and enzymes involved with digestion. Finally, Lori describes how all three of these systems are related, bringing a logical close to the film.

The other disc in the **What's Inside Your Body?** series covers the *Skeletal, Muscle, and Nervous Systems*. Lori and her assistants start off with a discussion of the basic organization of life. From here, they describe the main functions of the skeletal system and identify some of the 206 different bones that exist in the human body. Then, they go on to recognize the two divisions of the skeletal system and finish with the types of

joints in the body and how they assist in movement. From here, the discussion shifts into the muscle system and the three types of muscle. Finally, they introduce the nervous system, discussing the importance of the brain and spinal cord, as well as the differences between the central and peripheral nervous systems.

The series is an excellent collection of information appropriate for grades 5 through 8. The Teacher's Manual that comes with each DVD indicates grades 3 through 6 but because of the difficulty of the vocabulary and ideas presented, younger children would have a very difficult time understanding the concepts introduced. However, the Teacher's Manual does include a complete transcript of the DVD and a list of vocabulary words and a glossary, as well as a couple of worksheets for reinforcement. Each of the discs also contains an on-screen glossary to look up difficult terms. With the brevity of the segments and the presentation of the material the DVDs in the **What's Inside Your Body?** series provide an excellent way to introduce students to the systems of the human body.

Jeff Sack
Valley Regional High School
Deep River, CT 06417

Web Site Review

SCIENCE & TECHNOLOGY EXPLORATION SITE

The Flying Turtle Company, LLC.
PO Box 45179, Boise, ID 83711-5179.
<http://www.ftexploring.com>.
Contact information: flyingturtle@flyingturtle.org.

Operating under the premise "to discover how the same basic principles influence and control how