

3.2 Supplemental Information Material (Continued)

<u>Name/Address</u>	<u>Grade Level</u>	<u>Contents</u>	<u>Cost</u>
<u>Guidelines for School Earthquake Safety Planning</u> Southern California Earthquake Preparedness Project 1110 E. Green St., Suite 300 Pasadena, CA 91106	Guide to assist schools in planning for a damaging earthquake.	The document outlines policies which must be determined to initiate a safety program. It recommends a framework for planning, including suggested committees and information needed for planning. The areas covered include communications, hazard assessment, supplies, evacuation, and training. Also available: <u>Earthquake Preparedness Checklist for Schools</u> : highlights important questions and activities that should be addressed and undertaken as part of a school safety and preparedness program as referred to in the California Education Code, 35295, 35296, 35297, and Hands-On Earthquake <u>Learning Package (HELP)</u> (For grades K-12): designed to teach students about nature, causes and effects of earthquakes, and to provide information on how to prepare. The curriculum contains an instructor's guide and can be used in non-science classes. The guide is made up of information and instructional activities. It is illustrated throughout and has an earthquake vocabulary section and scripted slide presentation. There is also a "recipe book" for building hands-on teaching materials. The activities are not sequential, allowing the instructor to select the activity he or she desires.	\$2.35 for <u>Guidelines</u> , \$.40 for <u>Preparedness Checklist</u> , and \$13.65 for <u>HELP</u> .
"An Instrument for the Study of Earthquakes" by Gerald J. Shea Center for Earthquake Research and Information Memphis State University Memphis, Tennessee 38152		This 11 page handout provides directions to construct a homemade seismograph. Also available, "The Amateur Scientist" by Jearl Walker, a 6 page handout that describes how to build a simple seismograph to record earthquake waves at home. Some of the other handouts available from this Center are: "Earthquake Education Project Film Review," "Earthquake Education Project Book Review," "A Major Earthquake Zone on the Mississippi" by Arch C. Johnston, which is a reprint of a <u>Scientific American</u> article on the New Madrid seismic zone, and "New Madrid Seismic Zone Epicentral Map 1974-1981."	Single copies are available without charge.

* Copies available for viewing at NCEER

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<u>Living With Our Faults</u> (Hundreds of Ways to Reduce Your Risks in the Next Earthquake)* Quake Safe 700 State Dr. Los Angeles, CA 90037 (213) 744-2008	Junior High School - College or for younger children to share with parents.	Includes a home hazard hunt, supplies and utilities - do's and don'ts, lists of materials that should be in emergency kits in various locations, survival tips, shopping lists for emergency supplies, a calendar that can be copied and used for writing a list of preparedness tasks on, and cut-out emergency cards. Other services from Quake Safe: newsletter published 4 times in the school year; a reference library providing school disaster planners access to state-of-the-art resources; "Let's Make the Earth Shake" - a specially designed program for children in grades 3-6; "It's Our Fault" - a 45 minute slide presentation ideal for junior and senior high school assemblies, parent and teacher meetings, neighborhood and civic presentations, and office training sessions. Programs are presented throughout the greater Los Angeles area on a cost-recovery basis. There is a travel charge of 25¢/mile beyond a 15-mile radius of the juncture of the 10 and 405 freeways.	\$5.00/copy \$6.00 by mail \$3.00/copy wholesale \$30 - \$99 memberships receive a year's subscription to the newsletter and a copy of "Living with Our Faults." Newsletter alone is \$15/year.
*Myths and Realities of Natural Disasters** Pan American Health Organization 525 Twenty-Third St. Washington, DC 20037	Adults involved in disaster planning in schools.	This explains the differences between the general perceptions of disasters (widespread myths) and what studies have proven to be true. This video attempts to explain why people might believe that there are always certain results such as plagues and mass hunger. It also outlines what should and should not be used in the aftermath of a disaster. Real life situations are used in this video to stress the importance of appropriate responses.	\$25.00 Available in English, Spanish, French, Portuguese, or Japanese, on either 3/4" U-matic, VHS, or Beta. For Japanese version contact: Dr. T. Ukai, Senri Critical Care Medical Center, 1-1 Tsukunodai, Suite 565, Osaka.

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"Officer Ollie's Earthquake Show" Emergency Management Division City of Irvine, California P.O. Box 19575 Irvine, CA 92713 (714) 724-7149	Pre-school, elementary grades	This is a 5 minute VHS video for children containing earthquake safety tips using puppets of Irvine Police Officer, child and raccoon. Also available: <u>Zoo Friends Earthquake Safety Tips</u> , a 12 page picture booklet of earthquake tips designed to be read by an adult to a pre-reader.	\$7.50 for videotape \$3.50 for picture booklet
The Official Tommy Tsunami (Soo-Nah-Mee) and Ernie Earthquake Coloring Book* Alaska Division of Emergency Services 3501 East Bogard Road Wasilla, Alaska 99687	K - 3	Contains large, clear drawings and gives preparedness tips for earthquakes as well as what to do during and after an earthquake. Gives signs of an upcoming tsunami.	Single copies free; can be reproduced.

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"Overview of Loma Prieta Earthquake of October 1989" Earthquake Engineering Research Institute 6431 Fairmount Avenue, Suite 7 El Cerrito, CA 94530-3624 Phone: (415) 525-3668 FAX: (415) 525-1815	Highschool - adults	This 10 minute videotape is an edited version of the 57 minute Loma Prieta videotape also available from EERI. Designed for classroom use and non-technical audiences, the tape uses live footage to explain the earthquake and the range of impacts. Excellent visual aid for earthquake preparedness education. VHS format, color. Also available: • "Loma Prieta Earthquake of October 1989" - a 57-minute videotape featuring presentations by EERI and NAS reconnaissance team members on seismology, geotechnical issues, lifelines, building performance, and emergency response. Original slides and footage. Discussions of lessons for design and practice. VHS format, color. International tape conversion (PAL) available for \$55 (members \$50). • "Armenia Earthquake of December 1988" - a 60-minute videotape of the EERI briefing on the devastating Soviet Earthquake. Ten members of the U.S. Investigation Team present slides and live footage. The presentations address seismology, geotechnical issues, lifelines, structural performance, search and rescue, emergency response, industrial building performance, and policy issues. Produced by EERI with funding provided by the National Science Foundation. VHS format, color. International tape conversion (PAL) available for \$50 (members \$45).	\$15 - Request an Audio Visual and Publications Catalog and use order form at the back. \$45 (members \$40) \$40 (members \$35) All orders must be prepaid in U.S. dollars drawn on a U.S. bank, or charged to VISA or MasterCard. Make checks payable to EERI. <u>Within the United States:</u> Prices for all videotapes include first-class postage. California residents add 7% sales tax. Allow 4 to 6 weeks delivery time. <u>Outside the United States:</u> For orders of videotapes add \$6 for air postage. Videotapes are not shipped by surface mail.

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3.2 Supplemental Information Material (Continued)

<u>Name/Address</u>	<u>Grade Level</u>	<u>Contents</u>	<u>Cost</u>
<u>Pre-School Earthquake Preparedness Guidebook*</u> Southern California Earthquake Preparedness Project 1110 E. Green St., Suite 300 Pasadena, CA 91106 (818) 795-9055	Designed to assist pre-school owners, administrators, teachers and parents on how to develop an earthquake preparedness program.	Information in the Guidebook is divided into five categories: "User's Guide," "Pre-School Planning," "Pre-School Hazard Mitigation," "Pre-School Education/Counseling," and "Pre-School Resources." Information focuses on addressing four major objectives: reducing the threat to life and property from a damaging earthquake, developing self-sufficiency in responding to a damaging earthquake, providing care and safety to staff and children under the center's care, and returning to normal operation as quickly as possible. Includes a list of items to put in an Earthquake Emergency Kit, list of "Emergency 'Do's and Don'ts' for Parents," activities to help explain earthquakes to small children, sample emergency card, and sample form for authorization for treatment of a minor.	\$20.00
<u>Quake, Rattle and Roll*</u> by Ruth Decry Scholar Dollar Press 3148 Laurel Road Longview, WA 98632 (206) 423-4658	3 - 7	This 25 page book contains classroom activities for earthquake preparedness. Safety searches, dramatizations, simulations, picture study and consideration of community resources are followed by a brief exploration of mythological and scientific explanations of earthquakes. Activities also illustrate tsunamis, landslides, and liquefaction. Includes a seismic map of Washington state, a current risk map of the area affected by the New Madrid fault, and an overall risk map of the United States.	\$5.00 ppd. (1-9 copies) \$4.50 ppd (10-99 copies) \$4.00 ppd. (100-up) Washington residents add 7.6% sales tax.
<u>Quake Safe Patch Program*</u> Girl Scouts of Santa Clara County 1310 S. Bascom Ave San Jose, CA 95128-4502	Designed for Brownie - Senior Scouts	This program includes a Leader's Guide, a patch, an Earthquake Game and Puzzle Book, and a copy of a comic book featuring Yogi, the Be-Prepared Bear in <u>Earthquake Preparedness for Children</u> . The leader's guide contains requirements for each level of scouting, information about earthquakes, a script to simulate a quake, preparedness tips, a list of resources, and sections on what to do before and after an earthquake. There is also a section on "Understanding the Effects of Earthquakes on Children." The game and puzzle book contain activities for younger primary level children.	Single copies free.

• Copies available for viewing at NCEER

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"Ready Teddy" and "Shimmie, Shimmie, Shake" song scripts.* State of Arkansas Office of Emergency Services P.O. Box 758 Conway, Arkansas 72032	K - 3	Contains a cassette tape that can be used with a talking bear. The tape talks about earthquake awareness and has a song called "Shimmie, Shimmie, Shake." Can also obtain "Rumble Tumble Ready" buttons and certificates and "Shimmie, Shimmie, Shake" song scripts. The song is sung to the tune of "Old McDonald's Farm." First verse: "Rumble, rockin, shakin ground - shimmie-shimmie-shake! Whoops! it's hard not to fall down - shimmie-shimmie-shake! With a rattle rattle here and a rumble tumble there Here a rattle - there a rumble Everywhere a rumble tumble, Rumble, rockin, shakin ground - shimmie-shimmie-shake!" Adapted from Sylvia Herndon	No charge for single copies; audiotapes, certificates and scripts can be copied. Can also obtain information about materials adapted for the visually impaired.
"Reducing Non Structural Earthquake Damage -- A Practical Guide for Schools" Bay Area Regional Earthquake Preparedness Project Metro Center, #152 101 8th Street Oakland, CA 94607 or Marilyn MacCabe FEMA - Earthquake Ed. (625) Washington, DC 20472 (202) 646-2812		This 13 minute video tape identifies major non-structural hazards in the school site and suggests ways to reduce these hazards.	Available in 1/2" or 3/4" VHS from: Final Cut 1000 Atlantic Ave. Suite 103 Alameda, CA 94501 (415) 522-5169 \$35, including postage, within the United States. From FEMA, video available for loan: Broadcast quality on 3/4" tape or standard 1/2" VHS.

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3.2 Supplemental Information Material (Continued)

<u>Name/Address</u>	<u>Grade Level</u>	<u>Contents</u>	<u>Cost</u>
<u>School Preparedness Supplies</u> <u>and Student Emergency</u> <u>Comfort Kits*</u> Emergency Management Division City of Irvine, California P.O. Box 19575 Irvine, CA 92713 (714) 724-7149	General	This is a 3-page article written by Dr. Frances E. Winslow, Emergency Management Coordinator, City of Irvine, California, based upon preparedness measures in that City. Also available: <u>Emergency Communications: Irvine Alternatives</u> , a two page article written by Dr. Frances E. Winslow, based upon emergency communications plans made in that City.	\$2.50 each
<u>Seismic Considerations:</u> <u>Elementary and Secondary</u> <u>Schools - FEMA 149</u> Marilyn MacCabe FEMA - Earthquake Ed. (625) Washington, DC 20472 (202) 646-2812	School staff, PTA	This 102-page (including appendices) guidebook was prepared by the Building Seismic Safety Council. The guide discusses the cost and benefits of applying seismic design in the construction of new school facilities. It also explains how school buildings are damaged by earthquakes, and how damage occurs to nonstructural components and building contents.	One free copy/school while supplies last. Send single copy requests on school letterhead.

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Ward's Horizontal Seismograph Ward's Natural Science Establishment, Inc. 5100 West Henrietta Rd. P.O. Box 92912 Rochester, NY 14692-9012 Toll free: (800) 962-2660	Working seismograph for classroom use.	This consists of a 40" x 22" seismometer base with an adjustable weighted boom and coil/magnet arrangement that transmits a seismic wave signal through a pre-amp into a power amplifier and strip chart recorder. The power amplifier (120 VAC, 60Hz, 44W) features separate offset and gain controls, along with 50 feet of connecting cable. The recorder (120VAC, 60 Hz, 6W) has a detachable power cord. The recorder maintains a constant chart speed of 12 inches per hour, with automatic time markings every five minutes. The Seismograph also features a damping fluid reservoir, damping fin and 8 oz. bottle of damping fluid. The damping fluid ensures that the pendulum action of the boom remains steady until seismic activity occurs. After an activity occurs, the damping fluid reduces the oscillation and returns the boom to its neutral position. Wards includes a 30-day supply of 3" printed grid chart paper and a package of 5 disposable pen cartridges, along with all mounting and assembly hardware. To completely explain how to set up the seismograph and start it running, a clearly written User's Manual with step-by-step instructions and student activities is included. Also included is a 36-page, full-color reference book <u>Earthquakes</u>. As an added benefit, you can register your seismograph in the Ward's Seismograph Network. You'll receive special mailings several times each year updating lists of fellow Ward's Seismograph users. That way, you and your class can communicate directly with other seismograph stations to compare data and triangulate results (13Y4100).	Introductory price: \$1,795.00.
"While There's Still Time" UCLA Extension P.O. Box 24901 Department K Los Angeles, CA 90024-0901	Is intended for adult and mature teen audiences. The subject matter is not suitable for viewing by younger children.	"While There's Still Time," a videotape, is designed to promote earthquake preparedness in schools in California and other earthquake-prone areas. This videotape is copyrighted, 1990, by the Regents of the University of California and cannot be duplicated without the express written consent of the Regents of the University of California. A planning guide focuses on creative solutions to common problems. Also available: "Before It's Too Late," a 17-minute videotape to help promote school earthquake safety and facilitate disaster planning at your site. A comprehensive guide provides content, discussion questions, resources, and worksheets to facilitate planning.	Copies of: "While There's Still Time" (HA 006) - \$50/copy. "Before It's Too Late" (HA 003) - \$50/copy. Make checks payable to: The Regents of the University of California. California residents add local sales tax.

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3.2 Supplemental Informational Material (Continued)

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<u>Windows on Earth Science</u> <u>Earth Science</u> Optical Data Corporation 30 Technology Drive Box 4919 Warren, NJ 07060	The <u>Windows on</u> <u>Earth</u> <u>Science is</u> for elementary and middle school. <u>Earth</u> <u>Science is</u> for Junior Highschool to College.	This is a laser videodisc program which provides visual data with instantaneous retrieval of information. Includes slides, films, diagrams and maps. Topics include (but are not limited to) earthquakes, plate tectonics, and volcanoes. It can accompany any earth science curriculum. "Windows" program does not have a software component. <u>Earth Science</u> can be used with or without a computer. In the learning station mode, would use either Apple Macintosh or 2 GS.	Would need to have a videodisc player. The LDV 2200 model can be purchased for \$845. "Windows" program is \$595 and "Earth Science" program is \$895.

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3.3 Magazines for Children

<u>Subscription Address</u>	<u>Subscription Cost</u>	<u>Reprint Policy *</u>	<u>Recent Articles Related to Earthquakes, Volcanoes, Tsunami **</u>
BOYS' LIFE Subscription Service 1325 West Walnut Hill Lane P.O. Box 152079 Irving, TX 75015-2079	A one-year subscription to BOYS' LIFE costs \$15.60; add \$7.20 postage for subscriptions sent outside USA. For Boy Scout members, one-year subscription is \$7.80.	The reprint program has been discontinued, but readers may still purchase single copies of BOYS' LIFE within the last 12 months at \$1.75 per copy.	"Earthquake! Hurricane!" by S.C. Lin, March, 1990. "Big Waves in the Harbors" by D.M. Souza, July, 1988. "Climbing the Killer Volcano" by S. Stuckey, June, 1988. "Volcanoes of Science and Legend" by S. Curtis, June, 1987. "Earthquake" by C. Mercer, October, 1986.
CHICKADEE P.O. Box 11314 Des Moines, IA 50340	A one-year subscription to CHICKADEE (10 issues) costs \$14.95. Two years costs \$24.95.	Back issues are \$4.00 per issue, and are subject to availability.	"Volcano Visit" by C. Wakeman Evans, May, 1988. "Volcanoes, Did you know that...," May, 1988.

* Copies of articles can also be obtained through Interlibrary Loan. If you are affiliated with a school, contact the school librarian. If you are not associated with a school, go to the reference desk at your public library and request the article. Allow at least 2 weeks to obtain an article through Interlibrary Loan.

** This is not intended to be a complete list, just a sampling of articles.

3.3 Magazines for Children (Continued)

<u>Subscription Address</u>	<u>Subscription Cost</u>	<u>Reprint Policy *</u>	<u>Recent Articles Related to Earthquakes, Volcanoes, Tsunami **</u>
COBBLESTONE 30 Grove Street Peterborough, NH 03458	A one-year subscription to COBBLESTONE (12 issues) costs \$22.95; \$8.00 additional outside U.S.; no APO or Foreign Air Mail.	Back issues are available upon request at \$3.95 per issue, plus 10% for shipping and handling.	"Nature's Violent Side" by C. Blohm, April, 1986. "Prepare for Disaster" by I. Abrams, April, 1986. "The New Madrid Earthquake: 1811" by P. and C. Roop, April, 1986. "The San Francisco Earthquake and Fire" by P. and C. Roop, April, 1986. "Charles Richter: 'Earthquake Man' " biography by C. Plude, April, 1986. "The Richter Scale" by C. Plude, April, 1986. "Tsunamis: When the Ocean Roars" by P. Barnes-Svarney, April, 1986. "Mount St. Helens: An American Volcano," May, 1981. "Mount St. Helens: A Geologist's Point of View" by J. Rasmussen, May, 1981. "Aftershock: Rescue and Rebuilding" by S. Macy, May, 1981.
FACES 30 Grove Street Peterborough, NH 03458	A one-year subscription to FACES (10 issues) costs \$21.95; \$6.00 additional outside U.S.	Back issues are available upon request at \$3.95 per issue, plus 10% for shipping and handling.	"The Island that blew up" by Margaret Cooper, January, 1986.

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Recent Articles Related to
Earthquakes, Volcanoes, Tsunami **

Reprint Policy *

Subscription Cost

Subscription Address

"The News from Neptune" by John Mood, June 1990.
 "What Happened to the Dinosaurs?" by Jack Myers, September 1990.
 "Surtsey is Born" by J. Kabourek, May 1989.
 "The Changing Look of Mount St. Helens" by L. Peters, May 1986.
 "Mount St. Helens," December (Resource), 1981.
 "Earthquake Prediction," March 1980.
 "A Journey to the Center of the Earth," May 1971.
 "Our Quaking Earth," March 1971.
 "What's New in the World?" February (Resource) 1971.
 "Volcanoes: Windows in the Earth," May 1968.

A copy of a single issue of HIGHLIGHTS costs \$2.95. Copies of back issues can be obtained by writing the Customer Service Department.

A one-year subscription (11 issues) costs \$19.95.

HIGHLIGHTS FOR
 CHILDREN
 Customer Service Dept.
 2300 West Fifth Avenue
 P.O. Box 269
 Columbus, OH 43216-0269

"Earthquake!" March, 1990.

Single copy cost: \$1.60, United States; \$2.25 in U.S. funds, Canada; for all other countries, \$2.60.

A one-year subscription (12 monthly issue) for U.S., \$12.95; for Canada \$17.95 (U.S. funds); for all other countries; \$20.75.

NATIONAL GEOGRAPHIC
 WORLD
 Post Office Box 2330
 Washington, DC 20077-9955

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OWL P.O. Box 11314 Des Moines, IA 50340	A one-year subscription (10 issues) costs \$14.95. Two years costs \$24.95.	Back issues are \$4.00 per issue, and are subject to availability.	"Why Are There Volcanoes on Earth?" April, 1981.
RANGER RICK National Wildlife Federation 1400 Sixteenth Street, NW Washington, DC 20077-9964	One year membership dues are \$15.00; includes 12 issues of RANGER RICK. An additional fee of \$8.00 is required outside the U.S.	Ranger Rick is reproduced on "Talking Books" by the Library of Congress and distributed free by regional libraries.	"Great Shakes: It's Doctor Quake!" by C. Wakeman Evans, May, 1990. "Meet a Real Quake Watcher" by C. Duckworth, May, 1990. "It Shakes. It Roars. It Throws Melted Rock into the Sky: It's a VOLCANO!" by C. Wakeman Evans, June 1988.
SCIENCE WORLD Scholastic, Inc. 2931 East McCarty Street P.O. Box 3710 Jefferson City, MO 65102-9957	Eighteen issues (bi-weekly during the school year) cost \$5.95 for 10 or more subscriptions to the same address; 1-9 subscriptions each \$9.50 per student; \$20 teachers edition.	Back issues can be obtained by writing: Customer Service Scholastic, Inc. 2931 East McCarty Street Jefferson, MO 65101 Back issues cost \$2.50 for teachers editions and \$1.25 for student editions; subject to availability.	"Deep Heat" by J. Fishman, January 25, 1991. "Quakes from Man-Made Lakes" by H. Brennan and B. Goodman, April, 1989. "Tectonic Terror" by K. Heller and J. Brune, April, 1989. "Armenia: Scientists Survey the Damage" by H. Brennan, March, 1989. "Quake Up, Sleepyhead" by J. Brune, March, 1989.

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SUPERSCIENCE BLUE Scholastic, Inc. P.O. Box 3710 2931 East McCarty Street Jefferson City, MO 65102-9957	Eight issues during the school year, \$5.75/year 10 or more subscriptions to the same address. 1-9 subscriptions, each \$11.50. \$20.00 Teachers' Edition, per school year. Each Teachers' Edition subscription includes a copy of the student edition.	Single copies: \$1.25 student; \$2.50 Teachers' Edition. Teachers can write for permission to reproduce selected articles for use in workshops or with their class.	"Earthquake Power" in October, 1990 issue. Includes articles on the following: "Science and Society: Earthquake!", "Shaking Predictions," "Bracing for the Big One," and "SuperGraph: Predict a Quake."

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3.4 Selected Software

<u>Program Name</u>	<u>Available From: *</u>	<u>Grades</u>	<u>Computer</u>	<u>Program Information</u>
"Continental Drift"	Ward's Natural Science Establishment, Inc. 5100 West Henrietta Road P.O. Box 92912 Rochester, NY 14692-9012 (800) 962-2660 (716) 359-2502	9-12	Apple II+/Ile 48K Disk Minimum DOS required: 3.3	Explores concepts behind continental drift. Program's questions and content can be modified by the teacher using Mentor Master.
"Continental Drift"- part of <u>Earth Science</u> series.	Prentice-Hall Sylvan Avenue Englewood Cliffs, NJ 07632 (800) 848-9500 (201) 592-2540	6-12	Apple Series, IBM PC, PC jr, Tandy 1000; Requires DOS 2.1, double-sided disk drive, RGB color monitor, and color graphic adapter.	Students can journey back in time to look at and map the earth's surface as it appeared at various times in its past.
"The Earth and Its Composition"	Right on Programs 755 New York Ave. Huntington, NY 11743 (516) 424-7777	Grade 3	Apple Series Commodore 64, 128	This two-part program first introduces the student to the basic components that make up the earth on which we live. Water, mountains, air, and <u>volcanoes</u> are explained. The second part of the program is a game to test the knowledge and retention of the student. Right answers are rewarded and incorrect answers are corrected without penalty. This comes with a reproducible Activity Packet and Teacher's Guide.

* Sources listed include publishers and/or dealers who have the software noted. It is not meant to be an all-inclusive listing of sources but a beginning resource list for teachers.

3.4 Selected Software (Continued)

<u>Program Name</u>	<u>Available From: *</u>	<u>Grades</u>	<u>Computer</u>	<u>Program Information</u>
"Earth: The Inside Story"	Educational Activities, Inc. Dept. 88 P.O. Box 392 Freeport, NY 11520 (800) 645-3739 (516) 223-4666	4-9	Apple, 48K IBM, PC Jr. and MS-DOS compatibles, 128K Tandy 1000 and Tandy 2000	This tutorial program with attractive color graphics teaches students about: the earth's layers, volcanism, the Continental Drift theory, plate tectonics, the seismology, earthquakes, the Ring of Fire, 4 types of mountain building and the formation of the three different types of rock. Students also learn about the operations of seismographs and the meaning and use of the Richter Scale. Includes reproducible activity Masters.
"Earthquake"	Micro-ED, Inc. P.O. Box 24750 Edina, MN 55424 (612) 929-2242	6-9	Commodore 64 (64K) Apple IIE	Given shock waves, find the epicenter.

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<u>Program Name</u>	<u>Available From: *</u>	<u>Grades</u>	<u>Computer</u>	<u>Program Information</u>
"Earthquake Simulator"	Focus Media 839 Stewart Ave. P.O. Box 865 Garden City, NY 11530 (800) 645-8989 (516) 794-8900	7-12	Apple series, color monitor recommended; Disk	This is one in a series of earth science computer programs. Provides a simulation, tutorial and review. Graphically demonstrates earthquake waves, faults, folding. Students observe anticlines and synclines, faults, and future movement of the San Andreas fault. Each of the program's modules is supported with the Student Workbook containing worksheets which can be completed by students either at the computer or back at their desks.
	Also available from: Cambridge Development Laboratory, Inc.	7-12	Apple	

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3.4 Selected Software (Continued)

<u>Program Name</u>	<u>Available From: *</u>	<u>Grades</u>	<u>Computer</u>	<u>Program Information</u>
"The Earthquake Simulator"	Ward's Natural Science Establishment, Inc. 5100 West Henrietta Road P.O. Box 92912 Rochester, NY 14692-9012 (800) 962-2660 (716) 359-2502	7-12	Apple II Series	Put yourself in control of beautifully animated color simulations of the Earth's crustal movement. Demonstrate plate movement, including subduction zones and ridge development. Observe and compare earthquake waves, and locate epicenters. Utilize the programs to demonstrate various types of faults, as well as anticlines and synclines. Each of the program's modules is supported with the Student Workbook containing worksheets for activities. Program includes: 1 Teacher's Lesson Planner, 1 Student Workbook, 1 double-sided disk and backup. Additional Student Workbooks available in sets of 10.
"Earthquakes"	Cambridge Development Laboratory, Inc. 214 Third Ave. Waltham, MA 02154 (800) 637-0047 (617) 890-4640	5-9	Apple Screen displays can be reproduced on a printer.	Provides hands-on experience plotting real earthquakes and volcanoes on a world map. Data comes from USGS and National Earthquake Information Service. After plotting earthquakes, can superimpose tectonic plate boundaries. Note: Is no longer listed in the catalog, but is still available.

* Sources listed include publishers and/or dealers who have the software noted. It is not meant to be an all-inclusive listing of sources but a beginning resource list for teachers.

<u>Program Name</u>	<u>Available From:</u> *	<u>Grades</u>	<u>Computer</u>	<u>Program Information</u>
"Earthquakes"	Science Kit and Boreal Laboratories 777 East Park Drive Tonawanda, NY 14150-6782 (800) 828-7777 (716) 874-6020 Also available from: Cambridge Development Laboratory, Inc.		Apple II+ 48K Disk	Will plot epicenters of all earthquakes with magnitude greater than 5.0 on the Richter scale.
"Earthquakes"- part of <u>Earth Science</u> series	Prentice-Hall Sylvan Ave. Englewood Cliffs, NJ 07632 (800) 848-9500 (201) 592-2540	6-12	Apple Series, IBM PC, PC jr, Tandy 1000 Requires DOS 2.1, double-sided disk drive, RGB monitor, and color graphic adapter	Students discover patterns in locations of earthquake origination points, and observe and control factors that cause earthquakes. They then use seismographs to record seismic waves and interpret resulting seismograms. Students use devices such as tiltmeters in earthquake prediction situations.
"Earthquakes/ Latitude-Longitude"	Ward's Natural Science Establishment, Inc. 5100 West Henrietta Road P.O. Box 92912 Rochester, NY 14692-9012 (800) 962-2660 (716) 359-2502	General Program effective at all levels: 6-12	Apple II+/Ile 48K Disk Minimum DOS required: 3.3	Gives hands-on experience plotting earthquakes and latitude-longitude lines. Includes a detailed Teacher's Guide with instructions for modifying the program to include new seismic data.

* Sources listed include publishers and/or dealers who have the software noted. It is not meant to be an all-inclusive listing of sources but a beginning resource list for teachers.

3.4 Selected Software (Continued)

<u>Program Name</u>	<u>Available From: *</u>	<u>Grades</u>	<u>Computer</u>	<u>Program Information</u>
"Earthquakes" Picture File	Ward's Natural Science Establishment, Inc. 5100 West Henrietta Road P.O. Box 92912 Rochester, NY 14692-9012 (800) 962-2660 (716) 359-2502 Also available from: Cambridge Development Laboratory, Inc.	General Program effective at all levels: 6-12	Apple II+/Ile 48K Disk Minimum DOS required: 3.3	This is not a problem-solving program but a source of high-resolution, color diagrams that can be used as an electronic blackboard or in conjunction with any compatible authoring program, i.e. Mentor Master. This one includes: seismograph, wave speed, locating a quake, worldwide distribution, shadow zones, wave propagation, and earthquake disasters chart.
"The Earth Moves" A Simulation Program	Aquarius Instructional P.O. Box 128 Indian Rocks Beach, FL 34635-0128	For Life Science, Earth Science and Physical Science classes	2 Disk Set Apple	This contains two programs: "Folds and Faults" and "Earthquakes." "Folds and Faults" allows students to watch geological processes change the landscape. Students are able to select folds, faults, erosion, deposition or intrusions in any sequence to see how the earth moves. Includes teacher's guide with reproducible skill sheets. "Earthquakes" gives students hands-on experience plotting earthquakes and latitude/longitude lines. Includes reproducible plotting map.

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<u>Program Name</u>	<u>Available From: *</u>	<u>Grades</u>	<u>Computer</u>	<u>Program Information</u>
"Earth Science"	Nasco West, Inc. P.O. Box 3837 Modesto, California 95352 (800) 558-9595 (209) 529-6957	Upper elementary- junior high	Atari 400/800	Helps students determine an earthquake's epicenter and learn to identify minerals in different sections of this program.
"Geology" Picture File	Ward's Natural Science Establishment, Inc. 5100 West Henrietta Road P.O. Box 92912 Rochester, NY 14692-9012 (800) 962-2660 (716) 359-2502 Also available from: Cambridge Development Laboratory, Inc.	General Program effective at all levels: 6-12	Apple II+//Ile 48K Disk Minimum DOS required: 3.3	This is not a problem-solving program but a source of high-resolution, color diagrams that can be used as an electronic blackboard or in conjunction with any compatible authoring program, i.e. Mentor Master. Includes: glaciers, river maturation, rock cycle, water cycle, <u>earth's cross section</u> , <u>volcanoes</u> , <u>earthquakes</u> , <u>tectonic plates</u> , <u>tectonic plates cross section</u> , <u>island chain cross section</u> , mountain types, relative age, igneous intrusions, types of wells.

* Sources listed include publishers and/or dealers who have the software noted. It is not meant to be an all-inclusive listing of sources but a beginning resource list for teachers.

3.4 Selected Software (Continued)

<u>Program Name</u>	<u>Available From: *</u>	<u>Grades</u>	<u>Computer</u>	<u>Program Information</u>
Geology in Action: Experiments and Puzzles	Cambridge Development Laboratory, Inc. 214 Third Ave. Waltham, MA 02154 (800) 637-0047 (617) 890-4640	6-12	Apple	Allows students to experiment with different variables that teach them about the evolution of landscapes while learning basic geological concepts. Problems can be set for students or the program can be used to demonstrate basic geological processes such as faulting, sedimentation, volcanoes, and erosion. Includes Teaching Guide and backup.
Macmillan Earth Science Scienceprobe	Cambridge Development Laboratory, Inc. 214 Third Ave. Waltham, MA 02154 (800) 637-0047 (617) 890-4640	6-9	Apple	This package lets students apply science concepts to solve challenging problems. Each activity includes: a specific problem to solve, scientific data to be used in problem solving, immediate evaluation of solution, and an automatic manager that stores that student's scores. Includes seismology, meteorology, hydrology and paleontology.

* Sources listed include publishers and/or dealers who have the software noted. It is not meant to be an all-inclusive listing of sources but a beginning resource list for teachers.

<u>Program Name</u>	<u>Available From: *</u>	<u>Grades</u>	<u>Computer</u>	<u>Program Information</u>
"Plate Tectonics" - part of <u>Earth Science</u> series.	Prentice-Hall Sylvan Ave. Englewood Cliffs, NJ 07632 (800) 848-9500 (201) 592-2540	6-12	Apple Series, IBM PC, PC Jr., Tandy 1000, 2 disk drives	Uses graphics, text, questions to demonstrate how earth's crust is divided into plates and how volcanoes, mountains, earthquakes relate to plate movement. Reviewed: <u>Science and Children</u> , Feb. 1987.
"The Restless Earth"	Cambridge Development Laboratory, Inc. 214 Third Ave. Walham, MA 02154 (800) 637-0047 (617) 890-4640	9-12	Apple	Provides highly graphic tutorial with many student options for review and remediation.
<u>Science ToolKit</u> <u>Module 2:</u> "Earthquake Lab"	Broderbund Software, Inc. 17 Paul Drive San Rafael, CA 94903-2101 (415) 492-3200 (415) 479-1700 Also available from: Cambridge Development Laboratory, Inc. (Apple and IBM)	4-12	Apple II + IIe/IIc and Apple II GS with at least 64K memory. One or two disk drives, printer (optional). To use an Apple II+ an adapter is needed for the game port.	This is both a software and hardware package that requires Science ToolKit Master Module. It is used to detect and record earthquake waves with the included "seismoscope." The "seismoscope," made of cardboard and plastic, is an optional lever type seismograph with a claimed magnification of 2000. It can detect hammer blows and books dropped at a range of up to 20 feet. The software draws a strip chart graph of the detected data.

* Sources listed include publishers and/or dealers who have the software noted. It is not meant to be an all-inclusive listing of sources but a beginning resource list for teachers.

3.4 Selected Software (Continued)

<u>Program Name</u>	<u>Available From: *</u>	<u>Grades</u>	<u>Computer</u>	<u>Program Information</u>
"Volcanoes"	Ward's Natural Science Establishment, Inc. 5100 West Henrietta Rd. P.O. Box 92912 Rochester, NY 14692-9012 (800) 962-2660 (716) 359-2502	Advanced high school (9-12), college	Apple II/IIe, 48K, Disk Minimum DOS required: 3.3	Simulates behavior of different active and dormant volcanoes and teaches the use of cartesian coordinates, simple mapping, volcanic terminology, seismic studies etc. Includes master copies of maps suitable for reproduction.
"Volcanoes" - part of <u>Earth Science</u> series	Prentice-Hall Sylvan Ave. Englewood Cliffs, NJ 07632 (800) 848-9500 (201) 592-2540	6-12	Apple Series, IBM PC, PC jr., Tandy 1000, 2 disk drives.	Students discover geographical patterns in volcano activity and plate interactions, compare the basic types of volcanoes with the subsurface activity and the composition of magma involved, and investigate the harmful and beneficial effects of volcanic eruption.
"Volcanoes Deluxe" "Volcanoes" Apple II series	Earthware Computer Services P.O. Box 30039 Eugene, OR 97403 Also available from: Cambridge Development Laboratory	5-12	For the PC and Apple II GS. Deluxe PC requires CGA; Apple II GS requires 1.2 Meg RAM, Networkable. Color monitor recommended, Disk	Students investigate simulated volcanic situations and predict eruptions. Teaches deductive reasoning, map reading skills and cooperation. Used in applied physics, geology, and geography courses. "Volcanoes" is a less graphic version of Volcanoes Deluxe. This is a simulation game where students study and learn how to predict earthquakes. Reviewed: <u>Science and Children</u> , May 1987.

* Sources listed include publishers and/or dealers who have the software noted. It is not meant to be an all-inclusive listing of sources but a beginning resource list for teachers.

3.5 Selected List of Resource Organizations

Organization:

American National Red Cross
Disaster Services
18th and E Street N.W.
Washington, D.C. 20006

Arkansas Office of Emergency Services
P.O. Box 758
Conway, AR 72032
(501) 329-5601

Bay Area Regional Earthquake
Preparedness Project (BAREPP)
MetroCenter 101 8th Street, Suite 152
Oakland, CA 94607
(415) 540-2713

California Earthquake Education Project
Lawrence Hall of Science
University of California
Berkeley, CA 94720
(415) 327-6017

Center for Earthquake Research and Information
Memphis State University
Memphis, TN 38152
(901) 687-2007

Center for Earthquake Studies
Southeast Missouri State University
One University Plaza
Cape Girardeau, MO 63701-4799

Earthquake Education Center
Charleston Southern University
9200 University Blvd.,
P.O. Box 10087
Charleston, SC 29411
(803) 797-4208 or (803) 797-4207

Source For:

Variety of disaster materials

"Ready Teddy" tape,
"Rumble, Tumble Ready"
buttons, (K-3)
Braille translations of FEMA
Documents

Earthquake Planning and
Preparedness Activities
for Childcare Providers

CALEEP materials including
"Earthquake Hazards Around
the Home" coloring book

Reprints of articles related
to seismographs, the Earth-
quake Education Project and
New Madrid Seismic Zone

New Madrid Earthquake
Fuller (reprint)
"How to Build and Use Your
Earthquake Liquefaction Model"
The Effects of Earthquakes in the
Central United States

"Emergency 'Q' Tips" 1 & 2
Information about earthquakes
in South Carolina

Emergency Management Division
City of Irvine
One Civic Center Plaza
Irvine, CA 92713
(714) 724-7149

Emergency Preparedness Canada
Public Information
2nd floor, Jackson Building
122 Bank Street
Ottawa, Ontario
Canada K1A 0W6
(613) 991-7077

Environmental Volunteers
2448 Watson Court
Palo Alto, CA 94303
(415) 424-8035

Federal Emergency Management Agency
Earthquake and Natural Hazards Division
SL-NT
500 C Street, S.W.
Washington, D.C. 20472
(202) 646-2800

Geological Survey of Canada
601 Booth Street
Ottawa, Ontario
Canada K1A 0E8
(613) 995-5745

Lafferty & Associates, Inc.
4529 Angeles Crest Hiway
Suite 308, P.O. Box 1026
La Canada, CA 91011
(818) 952-5483

Math/Science Nucleus
3710 Yale Way
Fremont, CA 94538
(415) 490-MATH

Officer Ollie's Earthquake Show -
videotape; Zoo Friends Earthquake
Safety Tips; videotapes of school
preparedness workshops

Earthquakes in Canada
videotape; also emergency
preparedness booklets in
French & English

Hands-On Earthquake Learning
Package with hands-on teaching
materials including motor
driven shaking table

Guidebook for Developing a
School Earthquake Safety
Program (FEMA 88), (FEMA 88A)
Earthquakes: A Teachers
Package for K-6 (FEMA 159)
Big Bird Get Ready for
Earthquakes (CTW)

References on Earthquakes;
Tectonics, Maps and Earthquake
occurrences

Preparedness handbook;
videotapes: "Shake,
Rattle, & Roll," "How to
Survive a Major Earthquake"

"Plate Tectonic Cycle"
curriculum (K-6)

Ministry of Education
620 Superior Street
Victoria, B.C.
Canada V8V 2M4
(604) 356-7821

National Center for Earthquake
Engineering Research
State University of New York at Buffalo
Red Jacket Quadrangle
Buffalo, NY 14261
(716) 636-3391

National Research Council of Canada
Institute for Research in Construction
Building M-22, Montreal Road
Ottawa, Ontario
Canada K1A 0R6
(613) 993-2607

Quake Safe
700 State Drive
Los Angeles, CA 90037
(213) 744-2008

Seismological Society of America
201 Plaza Professional Building
El Cerrito, CA 94530
(415) 525-5474

Southern California Earthquake
Preparedness Project (SCEPP)
P.O. Box 50310
Pasadena, CA 91115-3010
(818) 795-9055

University of British Columbia
Centre for Human Settlements
2206 East Mall
Vancouver, B.C.
Canada V6T 1W5
(604) 228-5254

Seismic Upgrading for
School Buildings; School
Earthquake Safety Guidebook

Bibliography of Earthquake
Education Materials
Fact Sheets
Earthquake Engineering
Publications

Earthquake Building Codes;
Guidelines for Building

Newsletter, programs for
children

"A Catalog of Earthquake
Related Sounds" - tape with
21 entries

Pre-School Earthquake
Preparedness Guide

Catalog of Emergency
Preparedness and Earthquake
Information

University of California at Los Angeles
(UCLA) Extension
10995 Le Conte Avenue
Suite 639
Los Angeles, CA 90024-2883
(213) 825-4191

Videotapes, certificate program
and classes in school
earthquake preparedness

U.S. Geological Survey
Public Inquires Office
302 National Center
Reston, VA 22092
(703) 648-6891

References on earthquakes;
catalogs, maps of earthquake
occurrences.