

Section 3

Educational Resources

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3.1 Earthquake Education - Curricula Summary

<u>Name/Address</u>	<u>For Grades</u>	<u>Copyright</u>	<u>Content</u>	<u>Test Piloted</u>	<u>Cost</u>
<u>CALEEP Curricula</u> Lawrence Hall of Science Univ. of California at Berkeley Berkeley, CA 94720 More information can be found: 1. Dr. Wm Ritz Science & Math. Institute CSU Long Beach, CA 90840 2. Dr. Bonnie Brunckhorst Assoc. Prof. of Science Ed. CSU San Bernardino, CA 92407	4-8	1987, Funded by Legislative Act of the State of Calif.; CALEEP is a cooperative effort between Lawrence Hall of Science and the Calif. State Seismic Safety Commission. Available in Science/Engin- eering Library.	"Mini-Kit" consists of 14 Hands-On earthquake education activities: a. Teacher's Guide - including blackline masters b. Computer Disk - (Apple II+ and/or IIfx with disk drive) Quake: A Computer Simulation and Survival: A computer Simulation Game c. Filmstrip d. Audio Cassette Tape - disc jockey, Mr. Pate, experiencing 1964 Alaska Earthquake e. AAA map California Await the Quake Game can be purchased through the Lawrence Hall of Science Eureka catalog.	Have been field-tested throughout California in grades 4-8.	"Mini-Kit" \$30, plus \$5 shipping and handling.

3.1 Earthquake Education - Curricula Summary (Continued)

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I Can Make X the Difference Chair Emergency Preparedness Committee Utah State PTA 1037 E. South Temple Salt Lake City, UT 84102	Primary Grades, written at 4th grade reading level	1978 - <u>Index for Teachers</u> 1983 - <u>Elementary Curriculum</u>	This contains a series of units on a number of areas involving emergency preparedness: fire, earthquake, flood, nuclear war, and weather problems. Each unit is set up in the same format and includes: an introductory poem; "What Would I Do" exercises; "Things I Should Know;" and games and puzzles. The earthquake section includes a map showing Utah earthquakes, an earthquake word hunt, and safety rules crossword puzzle.	Text was piloted in 8 classrooms in 4 different schools.	\$3.50/copy plus postage.
<u>Crustal Evolution Education Project</u> available from: Ward's Natural Science Establish- ment, Inc. 5100 W. Henrietta Rd. P.O. Box 92912 Rochester, NY 14692-9012 (p.131-136) 1-800-962-2660	Designed Primarily for grades 7-12	Developed by the National Association of Geology Teachers with support from the National Science Foundation 1979	Consists of 33 individual activity modules designed to provide students with an understanding "of the concepts behind plate tectonics and the physical Earth." Each module is individual, self-contained and designed for the Earth Science classroom. Modules include: "Locating Active Plate Boundaries," "Earthquake Data," "Earthquakes and Plate Boundaries," "Plate Boundaries and Earthquake Prediction," "Hot Spots in the Earth's Crust," "Volcanoes: Where and Why?" and "Quake Estate," a board game to be played by two to four students, whose goal is, "to achieve success in net income based on accuracy of assessing earthquake risks" (copyright, 1979). The CEEP is not intended to be a complete curriculum but designed to supplement any teacher's curriculum.	Testing conducted in 3 stages. Third stage evaluation involved being tested nationwide in 15 test centers with students in grades 7-12: Calif., Colo., Fla., Georgia, Indiana, Iowa, Maryland, Mass., Minnesota, NY, Penna., Texas, Virginia, Washington, and Wisconsin.	Class Pack which contains 1 Teacher's Guide and 30 copies of Student Invest- igation Booklet - \$21.95, except for "Quake Estate"-\$29 and "The Eruption of Mount Saint Helen's"-\$31.

* Indicates principal authors

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<u>Earthquake</u> <u>Awareness and</u> <u>Preparedness</u> <u>Curriculum</u> Junior League of Oakland-East Bay 3730 Mt. Diablo Blvd. Suite 310 Lafayette, CA 94549 *Linda Grandt Patricia Monson	Pre-K-6; has been used with students up to 8th grade	1985; CALEEP and EV (1983) materials have individual copyrights	This is a 1 hour curriculum that anyone can pick up and do that is particularly aimed at elementary students. There is a curriculum guide that provides lessons for each grade level, an <u>Instructor's Guide</u> from Environmental Volunteers, Inc., and role playing situations from CALEEP. There are also supporting videotapes that show each level of the curriculum that were prepared by JLOEB, the Albany Unified School District, and the Audubon Nature Training Society: preschool level, middle school, highschool - adult (not included in the curriculum), and "School Facilitation." These can be borrowed from BAREPP.	The curriculum was developed in 1983, and in 1984 an 8-hour curriculum was tested in model schools. Results of questionnaires given to students aided in the revision of the curriculum to a 1-hour program.	\$10.00

3.1 Earthquake Education - Curricula Summary (Continued)

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<u>Earthquakes: A Teacher's Package for K-6/FEMA 159</u> Marilyn MacCabe FEMA - Earthquake Ed. (625) Washington, DC 20472 (202) 646-2812	K-6	Developed for FEMA by the National Science Teachers Association	This 280-page package was developed by the National Science Teachers Association. It contains hands-on classroom activities that support virtually all elementary subject areas. Designed for the classroom teachers with little or no background in earth science, the six-unit package focuses on: • Defining an earthquake; • Why and where earthquakes occur; • Physical results of earthquakes; • Measuring earthquakes; • Recognizing an earthquake; and • Earthquake safety and survival. The Teacher's Package includes Background, Earthquake Legends, Scope and Sequence Charts, and Line Masters. Also available: FEMA 88a <u>Earthquake Safety for Children</u>. This 4-part booklet for teachers contains excerpts from Units 5 and 6 of <u>Earthquakes - A Teacher's Package for K-6</u> (FEMA 159). It provides classroom activities designed to prepare students to cope safely when an earthquake occurs. The booklet covers: • What happens during an earthquake; • Hazard Hunts; • Assembling emergency kits; and • Earthquake simulation and drills.	Has been field tested in Alaska, Calif., Indiana, Maryland, Missouri, Montana, NY, So. Carolina, Tennessee, and Washington	Distribution of publications is limited to one free copy per school while supplies last. Send single copy requests on school letterhead to FEMA. Also available from NSTA (202) 328-5800, for \$15.00 soft cover (#PB-77/1) or 3-hole punch (#PB-77/2).

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<u>Earthquakes</u> (module) "Minorities in Engineering" Project Currently used by MESA Univ. of Washington 353 Loew Hall, FH-18 Seattle, Wash. 98195 •Dr. Tom Liao SUNY at Stony Brook	8-10	1980, developed by National Coordinating Center for Curriculum Development, College of Engineering and Applied Sciences, State University of New York at Stony Brook	This is a module designed to interest students in earthquakes through activities, modeling, engineering applications, and simulation strategies. Has 12 lessons: 1-5 introduce students to earthquakes; 6-9 talk about observed precursors of earthquakes and introduces seismograms; and 10-12 try to make earthquake investigation relevant to students. Includes directions for making related items and doing experiments, i.e. making your own tiltmeter, creepmeter, shoebox model of a fault simulator and trying liquefaction simulation, resonating building demonstration, and earthquake simulation. Includes reproducible charts and maps. Can be used in part or total in an earth science or general science course.	Test piloting of the entire project took place between 1976-1980, with 100,000 students; it has not been updated since this time.	Permission has been given to NCEER to copy the module on request.

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3.1 Earthquake Education - Curricula Summary (Continued)

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<u>Hands-On Earthquake Learning Package</u> Environmental Volunteers 2448 Watson Court Palo Alto, CA 94303 (415) 424-8035	K-12	First earthquake teaching kit - developed 1981; copyright 1983	1. Instructor's Guide a. 17 illustrated, plastic-protected Activity Folders b. 16 information/activity inserts (including quake myths, games, puzzles, math activity, "tremor tales"). c. Illustrated text on basic earthquake geology: <u>The Story of the Earth</u> <u>Red Cross' Safety and Survival in an Earthquake</u> "Getting Ready for a Big Quake" - <u>Sunset</u> magazine - Complete guide to school earthquake planning - Neighborhood Preparedness Guide "Plans for the Teaching Materials" 2. Hands-On Teaching Materials a. Plate Tectonics Globe (removable plates) b. Earth Hemisphere Model c. Plate Puzzle map (ocean floor features) d. Wood Plate/Fault Blocks e. 9 ft. sq. plate tectonics rug (pattern also available) f. Sea Floor Basalt rock sample g. Sea Floor spreading box h. Time cards, markers and time-tape i. Continental Drift film (computer-generated) j. Fault Zone Model k. Magni-tube Model l. Motor driven shaking table and accessories	Used in FEMA earthquake education center in Seattle, Charleston, and Memphis.	\$8,280 Total.
				Instructors' Guide \$200.	
				Shaking Table	
				Palo Alto and Sunnyvale, CA, have adopted HELP for use in their schools.	\$1,900.
				Currently involved in development of elementary curriculum with FEMA and National Science Teacher's Assoc.	Plate globe \$450.

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Northwest Earthquake Workshop for Teachers (N.E.W.T.) Washington State Division of Emergency Management 4220 East Martin Way Olympia, WA 98504 (206) 459-9191	Not organized by grade level; activities grouped in a conceptual hierarchy of simple concepts to more complex ones.		The goal of this curriculum is two-fold: to promote a better understanding of science processes through the investigation of Earthquake phenomena by providing conceptually sequenced, hands-on activities and to promote scientific literacy by encouraging the learner to develop and utilize the science process skills necessary for doing science and for living in a complex technological society. This curriculum is not organized by grade level. Within each section/concept, the activities are organized from the most simple to the most complex. Depending on the grade level taught, a teacher will tend to teach the activities listed near the beginning or ends of the sections. Concepts include: • The intensity of earthquake shaking within an area is directly affected by the local geology and soil type. • Structures behave differently during earthquake shaking due to differences in building size and shape, building materials and construction. • Earthquakes are a frightening experience. However, there are ways to minimize the risks and damage. Appendices include a pre-test, Resource List, and Earthquake Histories of Washington, Oregon, Idaho, Montana and Alaska.		Very limited availability For further information contact: Joel Aggergard, Washington State Division of Emergency Management (206) 493-2785.

3.1 Earthquake Education - Curricula Summary (Continued)

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<u>Plate Tectonic Cycle - Earth's Moving Force</u> Math Science Nucleus 3710 Yale Way Fremont, CA 94538 *Dr. Joyce Blueford	K-6	1991 Math/Science Nucleus, Second Edition	<u>Plate Tectonic Cycle</u> - Earth's Moving Force (259 pp., 72 lesson plans including 28 innovative hands-on lab activities; 12/grade level K-6). In the Plate Tectonic Cycle, students learn that the Earth is dynamic as it spins on its axis, revolving around the Sun. The Earth is restless inside, as it tries to cool its interior. The crust of the Earth is pulled and pushed causing earthquakes and volcanoes along the boundaries of plates. Hands-on activities teach students how scientists investigate the Earth by looking at data derived from earthquakes and volcanoes and to think about present theories about why the Earth's surface moves. Learning about earthquakes and volcanic hazards will help children to understand disasters that sometimes occur. This volume represents 4 weeks of a 34 week elementary science program per grade level called the Integrating Science, Math, and Technology (I. Science MaTe) Program.	Formally test piloted program for 8 years; currently used in schools throughout California.	<u>Plate Tectonic Cycle book</u> - \$17.95 plus \$2.50 shipping and handling (259 pp.). Hands-on material and children's books also available, request information sheet for current prices.
<u>Teaching Earthquake Safety in the Elementary Classroom</u> Utah Museum of Natural History University of Utah Salt Lake City, Utah 84112 *Deedee O'Brien	K-3	In process	A 1/2 hour session gives children basic earthquake information utilizing simple activities, myths and factual information. Includes Kamchatka Myth poster (originally obtained from CALEEP), Wasatch Fault poster and five follow-up activities (adapted from CALEEP to reflect the Utah scene.) A Fault Blockset available from NASCO science is recommended. Curriculum easily adaptable for general use outside of Utah. Note: Utah Museum of Natural History currently only source for CALEEP's Kamchatka Myth Posters.	Has been tested with 25 classrooms, kindergarten through grade three. Plan to use teacher workshops to disseminate this curriculum.	\$7.50 + postage.

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Utah Geologic Hazards Utah Museum of Natural History University of Utah Salt Lake City, Utah 84112	Grades 4 - Senior High School	1985	Includes a two-part slide presentation and a two foot square model of a section of the Wasatch Front. Part I - mountain leveling processes of rockfall, landslide, mudflow, flood, and lake level rises. Part II - mountain building process - earthquake. It gives a general explanation of earthquakes, reviews the situation in Utah and what could happen in a major earthquake. This is followed by an earthquake safety session. Follow-up activities on earthquake safety are left with the classroom teacher. These were adapted from CALEEP materials to reflect the Utah scene.	Tested during a 2 year period with 60 schools and 6,000 children in Grades 4-Senior High School.	\$25 for 2-1 hr. presentations in 1 classroom. \$5 for each additional classroom (up to three) same school, same day - Salt Lake City vicinity. Teachers in the Salt Lake area who have completed an inservice may check out the kit for a one-week period at a cost of \$5. 150 slides/text/ follow-up activities, \$95 + shipping. Model is not available.
*Deedee O'Brien					

3.2 Supplemental Informational Material

<u>Name/Address</u>	<u>Grade Level</u>	<u>Contents</u>	<u>Cost</u>
"Schools and Earthquakes - Building Schools to Withstand Earthquakes" Marilyn MacCabe FEMA - Earthquake Ed. (625) Washington, DC 20472 (202) 646-2812	School staff, PTA	This 14-minute video complements <u>Seismic Considerations: Elementary and Secondary Schools</u> (FEMA 149). It conveys the lifesaving and economic benefits of including earthquake resistant design in new school construction.	Videos are available for loan: Broadcast quality on 3/4" tape or standard 1/2" VHS.
<u>The School Earthquake Preparedness Handbook</u> * by Irene Groot Earthquake Resource Associates 6323 Paso Los Cerritos San Jose, CA 95120	School adminis- trators; Public safety officers; Parent groups	<u>The School Earthquake Preparedness Handbook</u> provides busy school administrators and other concerned individuals with a ready-to-implement system for preparing a school for an earthquake. Its clear, concise, easy-to-follow system includes such features as check lists, discussion guides, sample letters, signs, etc. Eighteen different planning areas are covered, including: staff readiness exam, hazard assessment checklist, drill procedures, student supervision, first aid, student release procedures, parents, communications, fire fighting, water, sanitation, search and rescue, student preparation, school bus operation, shelter, and writing the school plan. Each chapter is designed as a stand-alone action plan or as an integrated unit within a total school/district plan. Packaged in a notebook format for ease of use by planning teams.	\$40.00 for single copies; \$25.00 for quantities of 10 or more; 6.5% sales tax for California residents.

3.2 Supplemental Information Material (Continued)

<u>Name/Address</u>	<u>Grade Level</u>	<u>Contents</u>	<u>Cost</u>
"Be Brave! Earthquake!" KYOU-TV Santa Ana Community Television 2900 W. Edinger E-103 Santa Ana, CA 92704 (714) 667-3266	Ages 3-10	This is a 6 and one-half minute video designed for young children. Blossom the Clown discusses preparedness for natural disasters. Includes a lesson plan by Mary Picard.	\$20.00
"Big Bird Get Ready for Earthquakes" FEMA P.O. Box 70274 Washington, D.C. 20024 or Children's Television Workshop Dept. CES/NH One Lincoln Plaza New York, N.Y. 10023	K - 6 for parents/ caregivers to use with children	1. This kit* features a booklet for parents and children that contains information on how to prepare for and recover from an earthquake; a board game, "Quake" for adults and children ages 8-12 that presents scientific facts and safety issues; and an audio cassette with the song "Beating the Quake" and stories about earthquakes told by Sesame Street characters, for pre-schoolers. 2. "Big Bird Get Ready! For Hurricanes" Kit* includes a 16 page family booklet with essential information (also available in Spanish), "The Hurricane Force" board game, and a recording of the song, "Hurricane Blues." The emphasis is on helping parents and teachers talk to children about hurricanes in a way that is not frightening. Also available: "Big Bird Get Ready! For Floods" kit. 3. A videotape presenter's package is available which covers all three "Big Bird Get Ready" kits (hurricanes, earthquakes, floods) and provides information on the best way to work with children. 4. FEMA also has other related publications: FEMA 46, <u>Earthquake Safety Checklist</u>; FEMA 48, <u>Coping with Children's Reactions to Earthquakes and Other Disasters</u> (also available in Spanish - FEMA 66); and FEMA 88, <u>Guidebook for Developing a School Earthquake Safety Program</u>.	Single copies of kits are available at no charge from FEMA. For more than one copy and bulk orders (cost per copy includes postage and handling) contact CTW. Videotape is available only from CTW for \$19.95. To order other publications, send school letterhead, state FEMA # and title. Single copies are free.

<u>Name/Address</u>	<u>Grade Level</u>	<u>Contents</u>	<u>Cost</u>
"A Catalog of Earthquake Related Sounds" by Karl V. Steinbrugge Seismological Society of America 201 Plaza Professional Building El Cerrito, CA 94530		Contains 21 different entries, from 1954-1983. An accompanying catalog lists earthquake data, recording information, a commentary, and acknowledgements.	\$10.00
<u>Colors of the Earthquake*</u> <u>Quake Tales*</u> Carol Hill Mintie White School 515 Palm Watsonville, CA 95076 (408) 728-6321	K - 6	<u>Colors of the Earthquake</u> contains children's art illustrating Carol Moran's poem reflecting the emotions of the aftermath of the Loma Prieta earthquake. <u>Quake Tales</u> is an anthology of children's writings about their experiences during and after the Loma Prieta earthquake.	Each booklet is \$4.00 and includes price of shipping.
<u>Coping with Children's Reactions to Earthquakes and Other Disasters*</u> FEMA 48 (FEMA 66 Spanish version.) Marilyn MacCabe FEMA - Earthquake Ed. (625) Washington, DC 20472 (202) 646-2812	School staff, PTA	This pamphlet was developed by the San Fernando Valley Child Guidance Clinic after the 1971 San Fernando Earthquake. It is intended to help parents and teachers deal with children's fears and anxieties following a disaster.	One free copy/school while supplies last. Send single copy requests on school letterhead.

3.2 Supplemental Information Material (Continued)

<u>Name/Address</u>	<u>Grade Level</u>	<u>Contents</u>	<u>Cost</u>
"Critical Time; Earthquake Response Planning & Schools" Marilyn MacCabe FEMA - Earthquake Ed. (625) Washington, DC 20472 (202) 646-2812	School staff, PTA	This 14 minute videotape was produced for FEMA by the Missouri Emergency Management Agency. It is intended to complement the <u>Guidebook for Developing a School Earthquake Safety Program</u> (FEMA 88). It discusses the responsibilities of school administrators, teachers, and staff to acquire the knowledge and skills needed to protect and care for the student population until outside help is available.	Videos are available for loan: Broadcast quality on 3/4" tape or standard 1/2" VHS.
<u>Customized Disaster Survival Manuals</u> Disaster Survival Planning, Inc. Headquarters: 669 Pacific Cove Drive Port Hueneme, CA 93041 (805) 984-9547	Pre-school thru Grade 12.	Course # 902 "How To Prepare Classroom or Small School Plans:" A one-day workshop to teach representatives what information they need to gather under four categories: Location & Resources, Communications, Disaster Survival, and Training. At the end of the day, representatives will be equipped to prepare their own manuals for their school. The company also offers to send its representatives to your school to prepare the manuals for you.	Course #901 - \$200 per representative. Group discounts and on-site training are available. Rep. On-Site Fees: \$15 to \$25/hour.
<u>Disaster, Helping Your Child Cope*</u> (1985) by Dr. Karen Doudt Disaster Child Care Response Program P.O. Box 188 New Windsor, MD 21776	For Parents and Teachers	This pamphlet explains how children need their parents after a disaster, lists some behaviors that can occur in children after a disaster, and notes what parents can do to help children cope with their feelings. Available in Spanish and English. Disaster Child Care Response Program provides a 2-1/2 day training program for persons interested in becoming disaster child care givers.	
The Drift Globe The Little Star Montessori School Supply Star Route 86 Winthrop, WA 98862	Primary Grades through College	This globe measures 12" in diameter and has velcro fasteners every 15 degrees of longitude so that the velcro backed continental fragments can be positioned anywhere on it. Various areas are marked as reference points on the globe, i.e. the Tethys Seaway, the drift paths of the major continents, etc. Continents each show present-day coastlines and continental shelves and have positioning holes with orientation marks. Fifteen page brochure included.	\$160.00, postage paid. Write for further information.

* Copies available for viewing at NCEER

<u>Name/Address</u>	<u>Grade Level</u>	<u>Contents</u>	<u>Cost</u>
<u>Earthquake Hazards Around the Home*</u> CALEEP Lawrence Hall of Science University of California Berkeley, CA 94720 (415) 642-8718 FAX: (415) 642-1055	Primary Grades	A coloring book that features the rooms in a house and identifies potential earthquake hazards in each. Also available: • <u>Finding Earthquake Hazards Close to Home/Neighborhood Field Trip</u> • <u>Living Safely in Your School Buildings</u> - a pamphlet and activity guide for administrators to help them plan for earthquake preparedness in their schools. Includes: surveying the hazards at your school site, developing an emergency plan for your school, and earthquake awareness drills for schools.	\$5.00 for classroom set of 35. 100 brochures \$11.00 \$2.00
<u>Earthquake I Am Prepared*</u> One & Only Publishing 2221 Las Palmas "H" Carlsbad, CA 92009 (619) 931-7777, Toll free (1-800-451-6659)	K - 6 Coloring Workbook 7 - 9 Activity Workbook	1. A coloring workbook, designed for children in grades K-6, features Sid the Sealion, Shakey the Squirrel, Quakey the Quail. It includes what to do before, during, and after an earthquake as well as a page on "Plates" and a map of North and South America showing earthquake activity. 2. An earthquake preparedness workbook, developed for students in grades 7-9 includes what to do before, during, and after an earthquake, as well as a page on "Plates" and a map of North and South America showing earthquake activity. Both books are available in Spanish.	Sample books are available on request. Up to 1000 books, \$.25 each; 1000-2000 books, \$.22 each; 2001-3000 books, \$.19 each (plus shipping). Orders under \$40 must be prepaid, 2% less discount with prepaid orders.
<u>"Earthquake Information"</u> Geologic Inquiries Group U.S. Geological Survey 907 National Center Reston, VA 22092	Elementary, Middle and High School Classes	Selected References on Earthquakes (Bibliography). List includes material on specific earthquakes, general earthquakes, prediction and preparedness; lists catalogs and maps of earthquake occurrences.	Free

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3.2 Supplemental Information Material (Continued)

<u>Name/Address</u>	<u>Grade Level</u>	<u>Contents</u>	<u>Cost</u>
"Earthquake Information" Books & Open File Reports U.S. Geological Survey Box 25425, Federal Center Denver, Colorado 80225	Elementary, Middle and High School Classes Available from Books and Open- File Reports	Earthquakes (Booklet) San Andreas Fault (Booklet) Safety and Survival (Leaflet) Severity of an Earthquake (Leaflet)	Single copies available FREE from Books and Open-File Reports
"Earthquake Information" Superintendent of Documents (see address above)	Middle and High Schools Classes	<u>Preliminary Determination of Epicenter</u> . Gives date, time, location, depth, and region for worldwide earthquakes of magnitude 3 and above.	Annual subscription: \$21.00 (domestic); \$26.25 (foreign) Available from Superintendent of Documents. Single copies (\$3.00 domestic, \$3.50 foreign) available from USGS, Books & Open-File Reports.
"Earthquake Information" Superintendent of Documents U.S. Government Printing Office Washington, DC 20402	Middle and High School Classes	<u>Earthquakes and Volcanoes</u> is published bimonthly by the U.S. Geological Survey to provide current information on earthquakes and seismology, volcanoes, and related natural hazards of interest to both generalized and specialized readers.	Annual subscription rates: \$6.50 (domestic); \$8.15 (foreign). Make check or money order payable to the Superintendent of Documents. To order by VISA or MASTERCARD call 202-783-3238.

• Copies available for viewing at NCEER

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<u>Earthquake Planning and Preparedness Activities for Childcare Providers*</u> Bay Area Regional Earthquake Preparedness Project Metro Center, #152 101 8th Street Oakland, CA 94607		This contains a set of activities that Day Care Staff can use to help them develop their earthquake plan. These activities are presented with an interactive, participatory approach. Includes worksheets with masters on the following: Common Expectations About the Role of Emergency Activities After an Earthquake, Common Earthquake Hazards, Hazards Found in the Coalinga Schools After the Earthquake, Procedures to Reduce Earthquake Hazards, Emergency Procedures, Emergency Plans, Basic Brainstorming Rules, and Earthquake Plan Checklist.	\$7.00 + \$2.00 postage and handling.
"Earthquake-Predictable Disaster" Ztek Co. P.O. Box 1055 Louisville, KY 40201-1055 (800) 247-1603 FAX: (502) 584-9090		A NOVA videodisc documentary in which students can learn how certain scientists can be about the size, time and location of major earthquakes (L00475, available July, 1991). Also available: "Born of Fire," a National Geographic videodisc in which students can see how the movements of the plates of the earth's crust cause earthquakes and volcanic eruptions (L00014).	\$30 each.
<u>Earthquake Preparedness and Safety Tips</u> Emergency Management Section City of Santa Ana Fire Department 120 West Walnut Santa Ana, CA 92701	K-4	This is a 16 page, tri-lingual (English with Spanish and Vietnamese captions) coloring book.	Send 8½" x 11" self-addressed, stamped envelope for single copy.

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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>Earthquake Preparedness Handbook</u> Lafferty & Associates, Inc. P.O. Box 1026 La Canada, CA 91011 (818) 952-5483	Jr. High-College School Staff	A 32 page, comprehensive step-by-step guide on how to prepare for earthquakes. Available in English and Spanish. Also available from Lafferty & Associates, Inc.: "Shake, Rattle & Roll" videotape, or slide/cassette; "Be Ready" videotape, or slide/cassette; "Earthquake Sounds Tape" a 45 second tape composed of real earthquake sounds in combination with clanking and breaking glass, sloshing water; "How to Survive A Major Earthquake," a 30 minute tape dialogue on what can be done to prepare; "Table-Talk Tent Cards" (32 explanatory, stand-up cards to be used with actual objects as preparedness is explained); and "Earthquake Fault Map" of northern and southern California. Lafferty & Associates, Inc. also has: Business and Industry Preparedness, Community-Based Earthquake Preparedness Training Programs, and Instructor Training.	\$5.00/single copy. Quantity price list available. "Shake, Rattle & Roll" slide/cassette program \$150.00; Videotape \$175. "Earthquake Sounds Tape" \$10.00. "How To Survive A Major Earthquake" \$6.00. "Table-Talk Tent Cards" \$30.00. "Earthquake Fault Map" \$25.00 (rolled); \$50.00 (mounted).
"Earthquake Preparedness: The School Bus Driver" American Motion Pictures Company 2247 15th Avenue West Seattle, WA 98119 (206) 282-1776	School Bus Drivers, School District Administrators	This is a 16:44 minute videotape of an earthquake preparedness presentation targeted for school bus drivers. This videotape and support materials were developed by Seattle School District Support Services, Laidlaw Transit, Inc., EBI O'Ryan (a private enterprise), School Earthquake Safety & Education Project, and American Motion Pictures Company. It provides information on earthquake zones, typical earthquake damage and goes through a scenario of a morning school-bus route earthquake disaster. Ends with recommendations for appropriate actions.	\$20 including tax and shipping.

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<u>Name/Address</u>	<u>Grade Level</u>	<u>Contents</u>	<u>Cost</u>
"Earthquake - Ready" (Leaders Guide)(1983) CALEEP Lawrence Hall of Science University of California Berkeley, CA 94720	A book for use by leaders to help Girl Scouts to get an Earthquake- Ready patch (Juniors and Cadettes)	Seven activities must be completed to obtain the patch: 1. Act it Out 2. Improve Your EQ 3. Bedroom Hazard Hunt 4. Earthquake Drills a. Home b. Troop 5. First Aid 6. What Will Your Family Do After an Earthquake? 7. Reaching Out It also contains some informational appendices, i.e. "How to make a Search-And-Find Puzzle."	Single copies available free. Girls Scout leaders have permission to reproduce all printed materials girls need to use the program.
Earthquake Safety Checklist (FEMA 46) Marilyn MacCabe FEMA - Earthquake Ed. (625) Washington, DC 20472 (202) 646-2812	General	One of several pamphlets describing how to prepare for an earthquake, what to do during an earthquake, and what hazards to avoid afterwards. Also available: <u>Family Earthquake Safety - Home Hazard Hunt and Drill</u> (FEMA 113), a booklet of family preparedness activities which includes: • How to identify and correct hazards in the home; • Where to go for protection when your house starts to shake; • How to hold family earthquake drills; and • How to cope during the aftermath of the earthquake.	Distribution of publications is limited to one free copy per school while supplies last. Send single copy requests on school letterhead.
Earthquake Safety Guide For Children--What To Do if You Are Alone* Los Angeles Chapter, American Red Cross Contract Educational Services 2700 Wilshire Boulevard P.O. Box 57930 Los Angeles, CA 90057-0930	5 - 6	This brochure gives a child clear instructions for what to do before, during, and after an earthquake. It includes a page of notes for a parent or other adult to fill out with the child.	\$\$.10/copy Shipping charges: 1-25 copies - \$.25 total. 25-250 copies - \$1.00 total.

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3.2 Supplemental Information Material (Continued)

<u>Name/Address</u>	<u>Grade Level</u>	<u>Contents</u>	<u>Cost</u>
Earthquake Safety Teaching Modules Health Sciences Center for Educational Resources University of Washington SB-56 Seattle, Washington 98195 (206) 685-1186 FAX: (206) 543-8051	(1.) Pre-school - 3 (2.) 4 - 6	1. "When the Unusual Happens" consists of 3 lesson plans; 1 10-minute audio-visual presentation, "Habit Rabbit;" audiotape, "Earthquake Sounds;" masters of activity sheets; teacher's preparation materials on earthquake facts; vocabulary list of scientific terms related to earthquakes; common "What If" questions asked by young children and recommended responses; reference list of resource materials for students and teachers; and parent information letter. The intended audience for this module is Pre-school - 3rd Grade. 2. "Rumble Ready" consists of 3 lesson plans; 1 10-minute videotape, "Desk Nest;" masters of activity sheets; teacher's preparation materials on earthquake facts; vocabulary list of scientific terms related to earthquakes; reference list of resource materials for students and teachers; and a parent information letter. The intended audience for this module is 4th - 6th grades. ** Copies available for preview at Health Sciences Center for Educational Resources	(1.) Videotape* (10 min.) or slides and learning module: 3/4" cassette: \$120 ea. 1/2" Beta 1: \$120 ea. 1/2" Beta 2: \$120 ea. 1/2" VHS: \$120 ea. (2.) Video* and learning module: \$120 *Available in 1/2" VHS, 1/2" Beta 1 or 2, 3/4" videocassette.
Earthquake Sound Cassette Tape* Emergency Preparedness Committee Utah State PTA 1640 North 1400 West Provo, UT 84604 (801) 375-8416	K - 12	A one minute cassette tape of earthquake sounds beginning with a rumbling noise that includes sounds of breaking glass, books falling and walls creaking. No screaming, crying or sounds that may terrify children.	\$1.50 per tape includes mailing costs.

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Earthquake Watch Kit Seismograph Model Mount St. Helens Ash Set Seismograms for the 1964 Alaskan Earthquake Science Kit and Boreal Laboratories East Coast: 777 East Park Drive Tonawanda, NY 14150- 6782 West Coast: P.O. Box 2726 Santa Fe Springs, CA 90670-4490	For use in Earth Science Classes	The Earthquake Watch Kit contains a Pacific-centered, Mercator projection map on which students can plot location, time of occurrence, magnitude and depth of earthquakes. The map is 125 x 95 cm. and is shaded to indicate bathymetric contours and land relief (SK 66016-01). The seismograph model includes a recording needle, a support with a suspended weight, and a recording tape. It demonstrates the principles of seismograph recording, and comes with a teacher's guide (SK 64110). The Mount St. Helens Ash Set includes a 50 ml. flask of ash from Mount St. Helens, hand lens, illustrated brochure, and student activity sheet. The brochure lists facts about the mountain before and after eruption, volume of material expelled, composition of the ash, and illustrations of the structure of the mountain (SK 60147).	\$17.40 (SK 91/92 catalog) \$19.90 (SK 91/92 catalog) \$10.00 (SK 91/92 catalog)
NOTE: Earthquake Watch Kit and Seismograph Model are also available from: Fisher-Educational Materials Division (1-800-621-4769) Seismograph Model - Hubbard and Volcano Kit available from Nasco (1-800-558-9595)		The Seismograms for the 1964 Alaskan Earthquake Kit include 12 exact size copies of seismograms for a 48-hour period showing the 1964 earthquake and its aftershocks. Includes a 40 page teacher's guide with interpretations of the seismograms, suggested student activities, and black line masters of maps, charts, and tables (SK 60209).	\$25.50 (SK 91/92 catalog) <u>Fisher Educational</u> <u>Materials:</u> Earthquake Watch Kit - \$15.00 (88/89 catalog) Seismograph Model - \$19.95 (88/89 catalog)
		<u>Nasco:</u> Seismograph model- \$14.00 (1989 catalog) Volcano Kit - \$14.00 (1989 catalog).	

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3.2 Supplemental Information Material (Continued)

<u>Name/Address</u>	<u>Grade Level</u>	<u>Contents</u>	<u>Cost</u>
"Earthquake" What to Do!!! <u>When the Ground Shakes*</u> City of El Segundo Police Department 348 Main Street El Segundo, CA 90245	K - 3	Coloring book with easy to read tips about what to do during and after a quake. At the end there's a list of tips for parents, including basic home emergency supplies.	Single copies are free and can be copied.
"Earthquakes" Scott Resources P.O. Box 2121B Ft. Collins, CO 80522 (303) 484-7445 FAX: (303) 484-8067	7 - 12	This videotape is part of a series of videotapes available in both VHS or Beta format that focuses on the study of earth science topics. Each is a "video field trip" that explores a specific geologic process. This one focuses on the causes and effects of movement within the earth. Faults, fractures, epicenters, and P and S waves are discussed (20 minutes). Also have videotapes on: • "Faulting and Folding" - explores the processes that result in the faulting and folding of the Earth's crust. Uses footage from Loma Prieta earthquake of 1989 to illustrate the ways that faults and folds affect humans (15 minutes). • "Mount St. Helens: What Geologists Learned" - incorporates footage of the eruption of Mt. St. Helens and subsequent eruptions in exploring the causes of volcanism (grades 9-12) (40 minutes). • "Plate Tectonics - The Puzzle of the Continents" - explores the fundamentals of the Plate Tectonics Theory from Wegener's observations on continental drift to the latest computer analysis of movements at plate boundaries (15 minutes). • "Volcanoes of the United States" - takes students to the regions of the United States where volcanic activity has been most concentrated (20 minutes).	\$56.50 each for "Earthquakes," "Volcanoes of the United States," "Faulting and Folding," and "Plate Tectonics - The Puzzle of the Continents" \$79.95 for "Mount St Helens" (1991 catalog).
<u>Earthquakes and Volcanoes*</u> (1985) by Ruth Deery, illustrated by Sue Ellen Miller-Ray Good Apple Inc. Box 299 Carthage, IL 62321-0299	4 - 8	Part of the Natural Disaster Series, this is a workbook format containing reproducible student activity pages for classroom use: covers plate tectonics, earthquakes, tsunami, seismographs, etc. It includes chapters such as: "Two Myths About Earthquakes," "Three Kinds of Volcanoes," "Predicting Eruptions," and "Pangaea: Super Continent." Includes teacher's lesson notes to be used with the workbook. Other books in this series are: <u>Tornadoes and Hurricanes</u>, <u>Floods and Droughts</u>, and <u>Storms and Blizzards</u>.	\$6.95 for 48 pp. reproducible booklet, plus shipping and handling. Set of 4 titles: \$27.80

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"Earthquakes: Building a Plan for Preschools" Emergency Management Division City of Irvine, California P.O. Box 19575 Irvine, CA 92713 (714) 724-7149	School staff, PTA	This consists of five VHS videotapes of the City of Irvine's 1988 conference on emergency preparedness for preschools. Subjects covered include: The Earthquake Threat, Making a Plan, Non-Structural Hazards, Psychological, and Medical. Also available: "School Disaster Preparedness Workshop," three VHS videotapes of the Orange County Cities Emergency Management Organization's 1989 workshop for schools. Subjects covered include: Evaluating Hazards, Non-structural Hazard Mitigation, Team Concept/The Buddy System, American Red Cross and Schools, Working with your City, First Aid Team, Search and Rescue, How to Finance your Disaster Plan, Damage Assessment for Schools, Communications for Schools, How to Write a Disaster Plan and Student Release/Security.	\$35.00 \$20.00
"Earthquakes in Canada?" Mrs. Lesley Lynn Director of Public Information Emergency Preparedness Canada Second Floor, Jackson Building 122 Bank Street Ottawa, Ontario, Canada K1A 0W6	General	This public information videotape provides an overview of earthquakes in Canada; what causes them, and what to do before, during and after them to mitigate damage to life and property. Available in English and French.	English version available on request to agencies that might find it useful. Available for loan only in 1/2" and 3/4" 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>
"Earthquakes: Environments and Effects" CALEEP Lawrence Hall of Science University of California at Berkeley Berkeley, CA 94720 (415) 642-8718 FAX: (415) 642-1055	4-Adult	This 15 minute interactive videotape takes viewers on an exploration of various environments before and after earthquakes. Participants learn what to expect near oceans and bays, in hilly terrain, in cities, and in rural areas. A detailed leader's guide is provided. Questions and suggested stop points for discussion make the experience interactive for students.	\$20.00 (1/2" VHS).
<u>Earthquakes in Illinois</u> Illinois Emergency Services and Disaster Agency 110 East Adams Springfield, IL 62706	9-12	Pamphlet explains the more technical aspects of midwestern earthquakes. Also available: • <u>Earthquakes in the Illinois Area</u> - For students in grades 7-8, this pamphlet explains the origins of earthquakes and reviews the location of the New Madrid Fault. Safety tips are also included. • <u>Home Preparedness Kit List</u> - Reviews essential items to be included in a disaster survival kit. • <u>Modified Mercalli Map</u> - Shows counties at risk in Illinois from a Richter 7.6 event in the New Madrid Seismic zone.	Single copies free.
<u>Emergency 'Q' Tips #1 and #2*</u> Earthquake Education Center Charleston Southern University 9200 University Blvd. P.O. Box 10087 Charleston, SC 29411	Middle School, Junior, and Senior High School or at any Grade for distribution to parents	These 2 pamphlets give a condensed version of an emergency survival food list, first aid supplies, Quake Tips (Q-Tips) and emergency numbers. Also available from the Earthquake Education Center: "Home Hazard Hunt and Earthquake Drill," Word puzzles, "Earthquake History of South Carolina," an article on "Mini Car Survival Kit," "Earthquake Fact Sheet," <u>Coping with Children's Reactions to Earthquakes and Other Disasters</u> (FEMA 48/Sept. 1983), <u>Home Hazard Hunt</u> (FEMA 49/Sept. 1983), <u>Family Earthquake Drill</u> (FEMA 47/Sept. 1983) and <u>Earthquake Safety Checklist</u> (FEMA 46/Sept. 1983). The EEC at Charleston Southern University loans out films, slides, books, and three dimensional earth science models for demonstrations to schools in their area, and has a newsletter with activity suggestions.	Single copies free.

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"Get Up! We Need to See You Standing" Personal Touch Video 1525 Tudor Court Modesto, CA 95351 (209) 544-0186	General - for awareness for school staff	A videotape showing a dramatic, sensitive account of the earthquake of 1989 in Santa Cruz County, California. Also available is a sequel, "Prepare, Survive, Recover," which shows how the city of Santa Cruz, California dealt with a major disaster and is now recovering.	\$29.95 + California sales tax if California resident.
<u>Guidebook for Developing a School Earthquake Safety Program/FEMA 88*</u> Marilyn MacCabe FEMA - Earthquake Ed. (625) Washington, DC 20472 (202) 646-2812	Designed to assist school community to develop and tailor an earthquake safety program for the school.	This 50-page guide is designed to assist the school community of principal, teachers, staff, students, and parents develop and tailor an earthquake safety program for their school. The guide takes a step-by-step approach to: • Identify potential earthquake hazards; • Prepare and conduct earthquake drills; • Plan for immediate response and care requirements; • Develop alternative plans for communication with emergency service personnel; and • Plan for the aftermath of a damaging earthquake and the long-term shelter and care requirements. Also available: "Critical Time; Earthquake Response Planning & Schools," a 14 minute videotape produced for FEMA by the Missouri Emergency Management Agency, intended to complement the <u>Guidebook for Developing a School Earthquake Safety Program</u>.	Distribution of publications is limited to one free copy per school while supplies last. Send single copy requests on school letterhead to FEMA. Videos are available for loan: Broadcast quality on 3/4" tape of standard 1/2" VHS.

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